The original documents are located in Box 2, folder "Atomic Energy - Uranium Enrichment (1)" of the Presidential Handwriting Subject File at the Gerald R. Ford Presidential Library.

THE WHITE HOUSE

WASHINGTON

September 3, 1974

[redacted]/GDS

MEMORANDUM FOR: SECRETARY KISSINGER
ROY L. ASH

FROM: JERRY H. JONES

SUBJECT: Uranium Enrichment

Your memoranda to the President on the above subject have been reviewed. Secretary Kissinger's recommendation -- that a study of policy issues relating to private ownership of our future uranium enrichment capacity be conducted in coordination with OMB and other interested agencies and departments -- was approved provided the decision can be made within 60 days.

Please follow-up with the appropriate action.

Thank you.

Attachments

cc: Al Haig

[redacted]L/GDS

KR 4/1/88

EXECUTIVE OFFICE OF THE PRESIDENT

OFFICE OF MANAGEMENT AND BUDGET

WASHINGTON, D.C. 20503

AUG 22 1974

MEMORANDUM FOR THE PRESIDENT

THROUGH: ROY L. ASH

FROM: FRANK G. ZARB

SUBJECT: Endorsement of present policy to move responsibility for future uranium enrichment capacity to private industry

AEC's capacity to enrich uranium fuel for nuclear powerplants is now fully committed, and therefore AEC is no longer taking orders. In anticipation of this, the Government, beginning in 1971, took a strong public position that the enrichment of uranium need no longer be a Governmental function and that the responsibility for providing additional capacity for the 1980's and beyond can and should be undertaken by private industry.

Industry has responded seriously to this challenge (one firm is ready to take orders as a basis for commitment to a $2.8 billion plant) but is encountering obstacles, as follows:

- Industry's terms and conditions for future supply do not appear to be as attractive as those now provided by AEC because industry must price its product to reflect real costs, and AEC has not been able to do this because of statutory limitations. Therefore the electric utility customers have so far been hesitant to buy the services now being offered; they appear to want to force the Government to build additional capacity.

- The utilities' posture is encouraged by the facts that some congressional attitudes on private entry range from apathy to opposition and that Craig Hosmer is advocating a Government corporation to operate the existing AEC plants and build new plants. Such a Government corporation would effectively terminate private interest and would probably perpetuate uranium enrichment as a Government function for decades to come. Such an outcome would have a severely adverse impact on the Federal budget, amounting to billions of dollars in this decade alone.

Despite the difficulties enumerated, AEC and we are persevering in our efforts to bring about private entry within the next 8-10 months. We are proceeding on the assumption that the course which we are now pursuing reflects your own views.

Agree _____ Disagree GRF See me _____

00432

THE WHITE HOUSE

WASHINGTON

August 30, 1974

~~CONFIDENTIAL~~

MEMORANDUM FOR: AL HAIG

FROM: JERRY H. JONES

SUBJECT: Uranium Enrichment

Attached at Tab A is a recent Ash memo on this subject. Tab B is Kissinger's response.

In essence, OMB feels strongly that we should push ahead in getting private sector involvement in the uranium enrichment service. Kissinger is apparently quite concerned about this policy and would like to have it reviewed. The crunch, of course, is the time delay involved in such a review because of the present and increasing shortage situation of enriched uranium.

I am sure you will want to discuss this in some detail with the President.

~~CONFIDENTIAL~~

Pres has approved study provided decision can be made w/in 60 days. A

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

AUG 22 1974

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Agree _____ Disagree GR.F See me _____

MEMORANDUM

THE WHITE HOUSE

WASHINGTON

ACTION

[redacted]/GDS

X-3704

MEMORANDUM FOR: THE PRESIDENT

FROM: HENRY A. KISSINGER

SUBJECT: Assumption of Uranium Enrichment by the Private Sector

With regard to Roy Ash's proposal concerning the movement of future enriched uranium production from the government into the private sector, I believe that a number of important questions must be addressed. These questions relate, for example, to the potential security and safeguard problems connected with the multiplication of domestic enrichment facilities outside direct government control, the foreign policy implications of altering our intergovernmental relationships and commitments in the nuclear fuel area, the increased risk of foreign nuclear weapon proliferation if private international trading in enrichment technology develops, the implication of possible radical new enrichment technology, and finally the possible impact on the surety of U.S. energy supply.

The countervailing issues are, of course, the budgetary implications of any new governmental construction and the desire to minimize direct government involvement in commerce. At this point, however, the private commitment is very tentative and there is a strong likelihood that government subsidy may have to be provided, at least during a transition phase.

In light of the complexity of this issue and the considerable uncertainty that exists on it within the government and private sector, it would seem advisable to examine further the policy issues relating to private ownership of our future uranium enrichment capacity. The study would be very closely held so as not to disturb any discussions now underway.

With your approval, I will issue the study request at Tab A. The study will be conducted in coordination with OMB and other interested agencies and departments and forwarded for your consideration.

APPROVE_____ DISAPPROVE_____

[redacted]/GDS

KR 4/1/68

What are the prospects and implications (for example, for trade benefits and proliferation) if private activity were to result in business arrangements abroad through which enriching technology becomes subject to transfer, sale, or licensing?

Can satisfactory oversight of private industry be established and adequate mechanisms developed to facilitate the planning and long-range actions necessary to maintain the appropriate U.S. stockpile of enriched uranium?

What are the organizational alternatives to private assumption of enriching services? (Each alternative should include discussion of its legislative, cost, and budget implications, probable congressional and utility reaction, and impact on the nuclear industry.)

Based on the above analysis and other relevant factors, the study should outline the policy options open to the President and their advantages and disadvantages.

This study should be carried out by an Ad Hoc Group comprised of representatives of the addressees and chaired by the representative of the Atomic Energy Commission. The study should be conducted on a close-hold basis. It should be forwarded to the President for his consideration no later than October 1, 1974.

Henry A. Kissinger

cc: The Secretary of the Treasury
The Secretary of Commerce
Counsellor to the President for Economic Policy
The Administrator, Federal Energy Administration
The Chairman, Joint Chiefs of Staff

THE WHITE HOUSE

ACTION MEMORANDUM WASHINGTON LOG NO.:

Date: August 26, 1974 Time:

FOR ACTION: Brent Scowcroft cc (for information):

FROM THE STAFF SECRETARY

DUE: Date: Thursday, August 29, 1974 Time: 5:00 p.m.

SUBJECT:

Zarb/Ash memo (8/22/74) re: Endorsement of present policy to move responsibility for future uranium enrichment capacity to private industry

ACTION REQUESTED:

____ For Necessary Action

____ Prepare Agenda and Brief

X For Your Comments

X For Your Recommendations

____ Draft Reply

____ Draft Remarks

REMARKS:

8/30 - ok to go in
(see DG filing)

PLEASE ATTACH THIS COPY TO MATERIAL SUBMITTED.

If you have any questions or if you anticipate a delay in submitting the required material, please telephone the Staff Secretary immediately.

Jerry H. Jones
Staff Secretary

THE WHITE HOUSE

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FOR ACTION: Brent Scowcroft cc (for information):

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DUE: Date: Thursday, August 29, 1974 Time: 5:00 p.m.

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X For Your Comments

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____ Draft Reply

____ Draft Remarks

REMARKS:

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Jerry H. Jones
Staff Secretary

EXECUTIVE OFFICE OF THE PRESIDENT

OFFICE OF MANAGEMENT AND BUDGET

WASHINGTON, D.C. 20503

AUG 22 1974

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Despite the difficulties enumerated, AEC and we are persevering in our efforts to bring about private entry within the next 8-10 months. We are proceeding on the assumption that the course which we are now pursuing reflects your own views.

Agree _____ Disagree _____ See me _____

THE WHITE HOUSE

WASHINGTON

August 30, 1974

~~CONFIDENTIAL~~

MEMORANDUM FOR: AL HAIG

FROM: JERRY H. JONES

SUBJECT: Uranium Enrichment

Attached at Tab A is a recent Ash memo on this subject. Tab B is Kissinger's response.

In essence, OMB feels strongly that we should push ahead in getting private sector involvement in the uranium enrichment service. Kissinger is apparently quite concerned about this policy and would like to have it reviewed. The crunch, of course, is the time delay involved in such a review because of the present and increasing shortage situation of enriched uranium.

I am sure you will want to discuss this in some detail with the President.

~~CONFIDENTIAL~~

MEMORANDUM

THE WHITE HOUSE

WASHINGTON

3704X

~~CONFIDENTIAL~~

August 29, 1974

MEMORANDUM FOR: JERRY JONES

FROM: BRENT SCOWCROFT

SUBJECT: Comments on the Ash/Zarb Memo on Uranium Enrichment

Secretary Kissinger believes that important policy questions should be addressed prior to a decision on reaffirming USG policy to move uranium enrichment services to the private sector. He requests that the attached memorandum, proposing an interagency study on the issues involved, be forwarded to the President as a companion to the Ash memorandum.

Attachment

~~CONFIDENTIAL~~

MEMORANDUM

THE WHITE HOUSE

WASHINGTON

ACTION

[redacted]/GDS

X-3704

MEMORANDUM FOR: THE PRESIDENT

FROM: HENRY A. KISSINGER

SUBJECT: Assumption of Uranium Enrichment by the Private Sector

With regard to Roy Ash's proposal concerning the movement of future enriched uranium production from the government into the private sector, I believe that a number of important questions must be addressed. These questions relate, for example, to the potential security and safeguard problems connected with the multiplication of domestic enrichment facilities outside direct government control, the foreign policy implications of altering our intergovernmental relationships and commitments in the nuclear fuel area, the increased risk of foreign nuclear weapon proliferation if private international trading in enrichment technology develops, the implication of possible radical new enrichment technology, and finally the possible impact on the surety of U.S. energy supply.

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In light of the complexity of this issue and the considerable uncertainty that exists on it within the government and private sector, it would seem advisable to examine further the policy issues relating to private ownership of our future uranium enrichment capacity. The study would be very closely held so as not to disturb any discussions now underway.

With your approval, I will issue the study request at Tab A. The study will be conducted in coordination with OMB and other interested agencies and departments and forwarded for your consideration.

APPROVE_____ DISAPPROVE_____

[redacted]/GDS

KR 4/7/86

NATIONAL SECURITY COUNCIL
WASHINGTON, D.C. 20506

[redacted]L/GDS

National Security Study Memorandum

TO: The Secretary of Defense
The Director, Office of Management and Budget
The Deputy Secretary of State
The Director of Central Intelligence
The Chairman, Atomic Energy Commission
The Director, Council on International Economic Policy

SUBJECT: Policy on the Development of Future Uranium Enrichment Capacity

The President has directed that the issues associated with a shift to private ownership of part of our future uranium enrichment capacity be reexamined. The study should consider but not be limited to the following:

What is the outlook for private sector assumption of the enrichment business with present and prospective technologies?

What are the prospects for adequate production resources being developed to meet the long-term projected increasing demand for uranium enrichment facilities?

What governmental actions (and associated costs) would be required to facilitate private entry and to ensure future supply?

What would be the implications of private control of enrichment for U.S. foreign policy, trade and energy policies, domestic and international nuclear safeguards, and non-proliferation?

What are the costs and implications of the U.S. governmental commitments to worldwide supply, assurance of timely availability, and nondiscriminatory access? How can it be ensured that the private sector would meet and sustain such commitments, and what would be the foreign policy implications if these commitments were not met?

[redacted]/GDS

KR 4/7/89

What are the prospects and implications (for example, for trade benefits and proliferation) if private activity were to result in business arrangements abroad through which enriching technology becomes subject to transfer, sale, or licensing?

Can satisfactory oversight of private industry be established and adequate mechanisms developed to facilitate the planning and long-range actions necessary to maintain the appropriate U.S. stockpile of enriched uranium?

What are the organizational alternatives to private assumption of enriching services? (Each alternative should include discussion of its legislative, cost, and budget implications, probable congressional and utility reaction, and impact on the nuclear industry.)

Based on the above analysis and other relevant factors, the study should outline the policy options open to the President and their advantages and disadvantages.

This study should be carried out by an Ad Hoc Group comprised of representatives of the addressees and chaired by the representative of the Atomic Energy Commission. The study should be conducted on a close-hold basis. It should be forwarded to the President for his consideration no later than October 1, 1974.

Henry A. Kissinger

cc: The Secretary of the Treasury
The Secretary of Commerce
Counsellor to the President for Economic Policy
The Administrator, Federal Energy Administration
The Chairman, Joint Chiefs of Staff

NATIONAL SECURITY COUNCIL
WASHINGTON, D.C. 20506

~~CONFIDENTIAL~~/GDS

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~~CONFIDENTIAL~~/GDS

KR 4/7/88

THE WHITE HOUSE

WASHINGTON

January 3, 1975

Dear Craig:

I want to thank you again for the information on the uranium enrichment problem which you provided me several weeks ago. I have referred it to those actively involved with this matter, and they will give it full consideration.

I know that you will soon retire from the Congress. In my judgment, you have rendered a very great public service, particularly in the area resulting from your extensive and perceptive understanding of the intricacies of uranium enrichment. You have done much to advance the objective of participation by private enterprise in the future of this important segment of our national energy complex, and you have thrown much light on the problems involved and on alternative ways of proceeding.

It has always been a pleasure to work with you, and I wish you everything good in your future activities.

Sincerely,

Jerry Ford

The Honorable Craig Hosmer
House of Representatives
Washington, D.C. 20515

P.S. I will continue to monitor myself.

J.

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Sincerely,

JERRY FORD

The Honorable Craig Hosmer
House of Representatives
Washington, D.C. 20515

32 - Role in Uranium Enrichment Problems.

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

DEC 17 1974

MEMORANDUM FOR JERRY H. JONES

FROM: ROY L. ASH

Attached is a memorandum to the President in response to your memo to me of November 8 regarding papers on uranium enrichment left by Rep. Craig Hosmer.

Attachment

THE WHITE HOUSE

WASHINGTON

DEC 17 1974

ACTION

MEMORANDUM FOR THE PRESIDENT

FROM: ROY L. ASH

Subject: Rep. Hosmer's papers on uranium enrichment

This is in response to your note to me, attached to some papers on uranium enrichment recently left with you by Rep. Craig Hosmer, with the notation "What should I do about this?" The papers comprise a) two pages of tabular analysis and b) copies of Hosmer's two recent "essays" on uranium enrichment.

The essential message of the tabular analysis is roughly as follows: "If AEC's uranium enrichment charge to industry is raised to commercial levels, the revenues received over the next 20 years will be sufficient to cover all costs, repay the Treasury for the capital value of its plants, and facilitate creation of a private enrichment industry in the U.S.

Based on our discussion with AEC, Rep. Hosmer's analysis appears to be generally valid over the long term. The draft legislation to enable AEC to raise its charges is nearly ready for transmission to the Congress.

Rep. Hosmer's two "essays" in essence argue that private entry into the uranium enrichment business can succeed only if AEC/ERDA preproduces, over the next 4-8 years, a sufficiently large stockpile of enriched uranium, at considerable cost, to "backstop" the fledgling private firms. We are very much aware of this need.

The Joint Committee on Atomic Energy has recently completed hearings on Rep. Hosmer's bill (H.R. 17418) to create a Government corporation to take over the operation of the AEC plants and to facilitate private entry. The Hosmer bill and the hearing record will apparently be left as a kind of legacy to the 94th Congress.

At NSC's request, there is now in preparation NSSM 209, which will refine and re-evaluate the options for providing future increments of uranium enrichment capacity.

Attached for your signature is a suggested letter to Rep. Hosmer to thank him for the information he provided you.

Attachment

THE WHITE HOUSE

WASHINGTON

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It has always been a pleasure to work with you, and I wish you everything good in your future activities.

Sincerely,

Honorable Craig Hosmer
House of Representatives
Washington, D. C. 20515

OFFICE OF THE PRESIDENT

WASHINGTON, D.C.

From the President:

To: Roy Ash

Date: Time a.m. p.m.

What should I do about this?

THE WHITE HOUSE

WASHINGTON

November 8, 1974

ADMINISTRATIVELY CONFIDENTIAL

MEMORANDUM FOR: ROY L. ASH

FROM: JERRY H. JONES

The attached material was returned in the President outbox with the following notation to you:

-- What should I do about this?

Please follow-up with the appropriate action and return your response to the Office of the Staff Secretary.

Thank you.

cc: Don Rumsfeld

C. HOSMER

GOVERNMENT ENRICHING COMPLEX

Twenty-Year Financial Summary

Plant Value - $ 5 Billion
Inventory - $ 1 Billion

27.8 Million S.W.U. capacity
plus 1 million centrifuges

Total Revenues @ $70/swu		36,001,000,000
Operating Costs		
Power @ 10 mills.	12,202,000,000	
Labor	1,525,000,000	
Misc. R&D	1,525,000,000	
In lieu State taxes	1,028,600,000	
		16,280,600,000
Payments to U.S.		
Royalty @ $3/swu	1,542,900,000	
In lieu Inc. Tax @ $6/swu	3,050,200,000	
Interest & Amortization (8%)	13,577,700,000	
		18,170,800,000
Subtotal		34,451,400,000
Net Income (To finance CIP/CUP @ $1 Billion and subsidize front end costs of U.S. Centrifuge enriching industry):		1,550,600,000

G. Hosmer

U. S. ATOMIC ENERGY COMMISSION

Revenue Estimates Related to Uranium Enrichment Services 1/
(In Millions)

	FY 1976	FY 1977	FY 1978	FY 1979	FY 1980	FY 1981	FY 1982	FY 1983	FY 1984	FY 1985
anium enrichment activity services	$ 0.9	$ 0.9	$ 1.0	$ 1.0	$ 1.0	$ 1.0	$ 1.0	$ 1.0	$ 1.0	$ 1.0
les, consumption, etc.	25.2	24.8	24.3	23.9	23.5	23.2	22.8	22.4	22.0	21.7
anium enrichment services										
Toll enriching	446.4	714.9	764.9	1,076.8	1,376.6	1,733.5	1,793.2	1,854.8	2,089.6	2,309.8
Advance Payments on New Enrichment Contracts	190.3	11.6	-41.9	-99.9	-117.7	-170.8	-162.1	-1.4	-	-
Subtotal Uranium Enrichment Services	636.7	726.5	723.0	976.9	1,258.9	1,562.7	1,631.1	1,853.4	2,089.6	2,309.8
tal Revenues Related to Uranium Enrichment Services	$ 662.8	$ 752.2	$ 748.3	$1,001.8	$1,283.4	$1,586.9	$1,654.9	$1,876.8	$2,112.6	$2,332.5

1/ The revenue estimates assume that customers holding requirements contracts will convert to long-term fixed commitment contracts prior to FY 1976. The estimates are based on the recently announced price increase to $42.10 per SWU for long-term fixed commitment contracts and the changes per SWU have been increased at a rate of 2% semiannually in accordance with the revised pricing schedule. Sales of SWU's are estimated on the basis of deliveries under contracts and assume contracting to a sustaining capacity of 320,000 MW(e) pending decision on plutonium recycle. The sales projection for any given year is subject to adjustment depending upon the actual status of power reactor construction and/or operations.

Downpayments:	FY 1974	FY 1975	FY 1976	FT 1977	TOTALS	
Domestic	$ 139.5	162.6	158.9	24.2	485.2	
Foreign	41.8	65.3	55.7	21.5	184.3	(27.5%)
Total	181.3	227.7	214.6	45.7	669.5	

'74-'77 $2/3 Bil

Revenue @ 42.10/swu $2,332.5
i. @ 84.20/ $4,665

September 11, 1974

E. Hosmer

U. S. ATOMIC ENERGY COMMISSION

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(In Millions)

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74-77 ⅔ 83.1

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September 11, 1974

C. HOSMER

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2217 Rayburn Bldg., D.C. 20515
(202) 225-2415

For Release on Receipt
Mailed September 9, 1974

TWO ESSAYS ON ENRICHING URANIUM

by

Rep. Craig Hosmer (R-Calif.)

ESSAY #1: Bridging the Gap*

The United States has yet to make a reasoned, knowledgeable and long-range examination of where its national interests lie respecting the future structure of the uranium enrichment industry. Therefore, piecemeal efforts to move away from total governmental responsibility for enriching services, such as the recently announced Demonstration Centrifuge Enriching Facilities Program, are likely to fail for lack of proper economic and philosophical underpinnings.

Inquiry into these subjects was premature in the 1950's when the Atomic Energy Commission's enriching complex was completed, but operating at only a fraction of capacity because the invention of the H-bomb had drastically reduced requirements for enriched uranium for A-bombs. The emergence of a viable nuclear power industry during the 1960's drew attention to a future need for new enriching capacity for nuclear fuel purposes, but the need was not imminent. Sufficient for those times were planning the cascade improvement and uprating programs, plus a modest investment in preproduction of enriched uranium to somewhat delay the day when additional new capacity might be wanted.

By the start of the Nixon Administration in 1969 matters were coming into focus, but still not clearly. It was predictable that new enriching capacity would be needed by the mid-1980's or earlier. Due to technical and economic unknowns, it seemed that planning, promoting, financing and building of initial units might consume up to 10 years' lead time. That still left opportunities for study and decision making. Yet, with no more than an offhand look at the situation, Nixon's spokesman early and often announced a policy that "the next increment of enrichment capacity shall be supplied by private enterprise." The policy did not prove durable. It was not based on thoughtful study, knowledge and reasoned analysis. It ignored the need for a bridge to facilitate a transition from government enterprise to private enterprise. This omission was tacitly admitted during the Nixon Administration's final days when the Centrifuge Demonstration program was at last outlined to encourage industry by offering (without defining) some "assurance of supply" and some cash "assistance" to those who would enter the enriching game.

Unfortunately the scheme only nibbles at aiding and encouraging the construction of no more than six small centrifuge demonstration plants. AEC's hope seems to be that demonstration plants owners on their own will be able to expand their 100-300 ton demonstration facilities to an economic size of around 3 million annual separative work units** of capacity. AEC's plans for aid to private industry's gaseous diffusion plants are even more spartan, but no less ambiguous. To the Uranium Enrichment Associates who want to build a 9 million swu plant, no cash is offered, only a vague "assurance of supply" of separative work for UEA's customers in case the plant is delayed or fails to function at planned capacity. In either case, the Commission intends to recoup the cost of its aid by a suitable boost in charges for separative work.

---

*Essay #2: An Exercise in Aidsmanship will be distributed in a few days.

**Separative work is the effort needed to enrich uranium above its natural (.7%) U^{235} content for use as nuclear fuel. It is measured in arbitrarily defined units.

In addition, AEC would like to "promulgate" the climate in which the uranium enrichment industry will operate by pricing its enriching services on a commercial scale rather than upon the current cost recovery basis.

Neither the Demonstration proposal nor the UEA proposal stems from a sound evaluation of the amount or kind of aid that might encourage enterprisers to build enriching plants or manufacturers to incur heavy front end costs for production lines to make components for them. AEC expects electric utilities to acknowledge their self interest in having a supply of nuclear fuel by paying a considerable premium for separative work out of demonstration plants from which full scale facilities would evolve. But the utilities are in a sorry business state. Additionally, they have little funds left for that kind of thing following AEC's recent passing of the hat for millions to carry forward its LMFBR demonstration program. AEC also expects the entrepreneurs and component manufacturers to put in something extra before it will discuss an amount of cash it would consider contributing to a centrifuge demonstration plant. But these people already have stretched themselves to the limit to make a decision to move forward. It seems unrealistic to expect them also to put something extra in the pot for the privilege of running technological and economic risks to pioneer a new industry. Moreover, cash assistance to the new industry may not really be what it most needs. Aid in the form of separative work could be infinitely more helpful.

Such details, and, in fact, the structuring of the uranium industry for the highest national interest, cannot be determined until a consensus obtains as to what that interest really is. Is it federal expansion of the existing governmental enriching complex to meet all future needs? Is it immediate and total transfer of the entire industry to private industry? Or, is it something between these extremes? Testimony given during the year-long, three-phase hearings of the Joint Committee on Atomic Energy rejected both extremes, but it failed to indicate clearly just where between them the national interest lies.

My own feeling is that it lies in deliberate movement toward a predominately private industry structure, but still retaining governmental responsibility for a few appropriate functions. For example, there is a continuing need for the state to control its sources of enriched material for nuclear weapons and naval reactors. Should this need dissipate, then government still must retain a lengthy responsibility to dispose of its huge enriched uranium stockpile in an orderly way, so as not to bankrupt private enrichers. There will be a growing demand for fully enriched uranium fuel for high temperature gas cooled reactors and precautions against diversion of this potential weapons material from peaceful hands indicates a need to keep its production as a government function. Government may also be needed to buffer the emerging private industry against risks of instant technological obsolescence from new isotope separation techniques such as laser developments. And, most certainly, government will be needed for some time to afford the help in the form of "assurance of supply" which even AEC finally has conceded is necessary for the emergence of private enrichment enterprises. Inquiry will also show government must be a factor to effectuate the "assistance" which AEC similarly concedes private industry should have for the transition.

The Commission has not revealed how much "assurance of supply" or how much cash "assistance" it will provide and, because it still operates under OMB's current policy of getting by on the cheap, it is unlikely to do so. Therefore, I offer my own estimates in order to begin quantifying these tasks.

Since it is unrealistic to expect beggarly assistance to six, small 100,000 to 300,000 swu centrifuge plants to suffice to get that industry on its feet, I will assume that "assurance of supply " is needed for all six plants on a full scale of 3 million swu's each, a total of 18 million swu's. The corresponding figure for UEA's diffusion plant is 9 million swu's.

Probably the worst that could happen to the UEA plant is a delay of 2 years, losing 18 million swu's production. But, since there is no more than a 50% chance for a delay of that length, it should be safe to "assure" against no more than a single year's loss of 9 million swu's. Less is known about centrifuge technology. Still, probably a two-year delay is the worst that could be expected, but the chance of getting it might move up to 75%. This indicates a need for, say, a 14 million swu stockpile to "assure supply" for customers of the six plants. According to these assumptions, UEA and the centrifuges together will require a 23 million swu preproduction stockpile for "assurance of supply" purposes. Add to that AEC's own need for a plant inventory of some 5 million swu's and a contingency stockpile of about 10 million swu's. Together AEC, UEA and the centrifuges will thus need a preproduction stockpile of 38 million swu's on hand by 1982, the date AEC has fixed for new capacity requirements. This is a physically attainable figure according to the AEC projections of its preproduction capabilities recently furnished JCAE.

However, attaining preproduction levels of that magnitude depend upon receipt of AEC's expected power deliveries and upon the availability of more feed material than currently anticipated. Boosting the stockpile above the 38 million swu figure in order to offer new private enriching enterprises really meaningful "assistance" in addition to "assurance of supply" would necessitate deliberately aggressive investments in both power and feed material. These are justified because aid in the form of preproduction can keep the new firms in business. It is much preferable to aid in the form of cash which only comforts their creditors. But AEC's present management is limited by annual budgets and a cautiously bureaucratic outlook. It is difficult to imagine AEC becoming aroused and inspired enough to take on an aggressive preproduction program of such size. Yet it is needed because the prosperity of the utility business and millions of people and businesses throughout the land who use electricity depends on adequate supplies of nuclear fuel. Such adequacy can be assured only by the success of the new enriching enterprises who would supply the new nuclear fuel demands. In turn, the success of these enterprises will depend heavily upon the existence of a sizeable enough preproduction stockpile to give them "assistance" during their early years in addition to affording the utilities "assurance of supply" of their nuclear fuel.

Thus it is apparent that very sound management and very certain financial procedures for the AEC's enriching complex must be insisted upon. Although sound management characterizes the AEC today, under several administrations sound management has not been a notable characteristic of the higher ups from whom AEC takes its orders. Even within AEC, as its business and burdens expand, the fragmentation of enrichment responsibility between loosely coordinated offices for part time attention could create difficulties.

But as serious as organization difficulties may be, they are small in comparison to AEC's problem of getting adequate funding for its enrichment activities via the annual budgeting, authorization and appropriations route. In the critical years between now and 1982, when aggressive programs for power and feed material

should be pursued, the entire system could be shattered by the stroke of some Budget Director's red pen. If it is, there will be no nuclear fuel and there will be no transition to private enriching enterprises.

Moreover, if the ERDA reorganization comes about and enriching activities are buried in a strange corner of this newborn bureaucracy, few people expect much more than disaster for the enrichment program.

All of which indicates a need to get uranium enrichment under certain controls and adequate financing procedures. So far no suggestion heard by the JCAE other than that for a United States Enrichment Corporation promises this accomplishment.

-- 0 --

NOTE: Essay #2 will reach you in a few days. It will be an exercise in aidsmanship showing how, with certain control and adequate financing, it may be possible by 1982 to accumulate the desired stockpile of swu's to "assure supply," guarantee against other contingencies, "assist" private enrichers to become viable and profitable producers, recoup portions of the overseas market, and make a little money for Uncle Sam in the process.

2217 Rayburn Bldg., D.C. 20515
(202) 225-2415

For Release on Receipt
Mailed September 16, 1974

TWO ESSAYS ON ENRICHING URANIUM

by

Rep. Craig Hosmer (R-Calif.)

ESSAY #2: An Exercise in Aidsmanship

This essay explores means to remove barriers to private industry assuming responsibility for new United States uranium enriching needs in 1982 and thereafter when the demand for nuclear fuel will begin to exceed AEC's ability to supply it.

One barrier is the chance that new enriching plants will be delayed coming on line or fail to operate at expected capacities. Utilities cannot risk being without needed nuclear fuel. Nor can plant owners risk being without revenues they need to pay back creditors and investors. In fact, they cannot finance their plants until this risk is removed. An impasse between the two has been created by the plant owners' effort to shift the risk by proposing a contract requiring utilities to pay whether or not they get their separative work.

Until enough new enriching plants are built to resolve the technological and economic unknowns underlying this impasse, a program should be adopted to lift these risks from utilities and plant owners alike. This can be done easily by accumulating a suitable stockpile of preproduced enriched uranium from AEC enriching plants which will otherwise be operating at less than capacity until around the end of 1982.

A second private enterprise barrier, peculiar to the centrifuges, is the heavy front end cost involved in setting up a new industry. It will fall on plant owners directly and indirectly via front end costs for putting in new production lines that component suppliers will be passing upward. To win the objective of bringing such plants into being under private sponsorship, reasonable cash "assistance" to overcome this hurdle is worthwhile. This "assistance" also can be readily managed, along with the program for "assurance of supply".

Assurance of Supply

The 9 million swu diffusion plant proposed by Uranium Enrichment Associates ought to dispel the engineering and economic unknowns for that technology. For the centrifuges, it is safe to assume that six 3 million swu plants will do the same job. AEC will be supporting its own 15 million swu stockpile for flywheel and contingency purposes. With the probable availability of that in mind during an emergency, preproduction of 27 million swu's, a year's planned production of the seven new private plants, seems ample to "assure" the fuel supply of customers and revenues of owners of new plants running into trouble. (It is 4 million swu's over the amount assumed for this purpose in Essay #1.) The risk of total failure of these plants is not regarded as likely and not here "assured"against. That magnitude of failure would have national consequences calling for prompt Federal intervention with a mini-Manhattan Project.

Exercise A (pages 3-4) is based on one of AEC's alternate operating plans. It is well within the physical capabilities of its complex. The Exercise shows that a 27 million swu "assurance of supply" stockpile can be built up and worked off for a surcharge to AEC customers of less than $1/swu. *But to do so demands quick and decisive adoption of an "assurance" program and, from beginning to end, its aggressive operation and zealous financing.* Only with these characteristics can such a program create and maintain credible "assurance of supply". These characteristics do not mark AEC's present decision making mechanisms and financing resources. Prompt restructuring of the government's enriching activities to incorporate them is essential

Assistance

Exercise B (pages 5-6) is based on an AEC operating plan which preproduces an extra 12.4 million swu, changes tails assays and buys 21,000 short tons of added natural uranium feed. The new centrifuge plants would get preproduction at its cost of about $56/swu and allowed to market it at the commercial price, say $80/swu, thus being "assisted" by the $24 differential. Against an approximate $1 billion investment for a 3 million swu plant, the scheme nets less than $54 million in "assistance" It is no bargain.

The most efficient way to raise money to "assist" these new plants is by the straightforward addition of a surcharge to AEC sales. Over the 1975-1987 operating period of my hypothetical "Assurance of Supply"/"Assistance" Program, AEC will perform about 285 million swu's of enriching services. The "assistance" value to each of the six new plants of a $1.00 boost in swu charge is $47.5 million, calculated as follows:

$$285 \times \$1 = \frac{\$285}{6} = \$47.50$$

Thus, a $5 surcharge will garner $237.5 million in aid for each new plant, a sum likely to far exceed all the conceivable front end costs of getting this new industry on its feet.

The Real World

Exercises A and B are only hypotheses based on assumptions. In the real world, actual circumstances such as these must be dealt with:

- We must stop thinking in terms of "AEC" and start thinking in terms of "the government" as it may be ERDA or USEC or another authority which soon takes over responsibility for U.S. enriching activities and stockpiles.
- Scuttling the government's split-tails operation is inevitable and the sooner the better for the "assurance" program and the health of the mining, milling and conversion link of the nuclear fuel chain.
- The government probably can find legal ways to boost its swu charges toward commercial levels. It's a good idea to start moving nearer to reality and away from extant Alice-in-Wonderland swu pricing criteria.
- Exercise A shows that AEC Plant 3 1/2 is not needed. Accordingly, I am dropping authority for any new government enriching capacity from USEC.
- USEC, now better than ever, is still the only game in town effecting the restructure of government enriching activities requisite for a credible "assurance of supply" program.

Other realities also must be coped with, such as the fact that utilities are slowing down their nuclear programs. By 1982, in relation to what they have contracted for, there is a likely delay in nuclear fuel demand aggregating 30 to 40 million swu's of separative work. Dealing with the responsibilities and seizing the opportunities presented by that, and any other unexpected nuclear fuel developments seem quite beyond the present AEC's room for maneuvering.

Utilities bound to contracts for the delayed separative work will be hard pressed to take and pay for it on schedule, only to bear added carrying charges until they start using it. A scheme to somewhat relieve their burden could be built around the government picking up this excess for stockpile purposes in lieu of otherwise preproducing part or all of the "assurance" stockpile. These swu's would come at the regular $50 production cost rather than (text continues at page 7)

EXERCISE A

("Assurance of Supply" 27 million swu)

	Preproduction 10^6 swu	Incremental Cost @ $30 10^6 $	10%/Yr Carrying Charge 8 Yrs to 1 Yr
1975	5.1	153	122.4
1976	7.1	213	149.1
1977	2.7	81	48.6
1978	4.8	144	72
1979	3.2	96	38.4
1980	1.5	45	13.5
1981	1.1	32	6.6
1982	1.5	45	4.5
Totals	27.0	809	455.1

This preproduction stockpile of 27 million swu's cost $1265.1 million by the end of year 1982 ($810 for enriching and $455.1 for carrying charges).

The scheme for working off this stockpile is based on EEI's estimate that UEA's 9 million swu plant will handle load growth for 1 1/2 years after 1982 and that thereafter the new capacity requirement will average 6 million swu's annually.

This means that the 9 million swu's accumulated for "assurance of supply" for the UEA plant will, in 1983, go either physically to UEA's utility customers if the plant fails to get on line, or if it succeeds, AEC ~~would~~ will reduce its 1983 production by 9 million swu's to effect the cutback. The 18 million swu's accumulated to "assure supply" for customers of the 6 centrifuge plants ~~would~~ will be worked off as these plants are assumed to coming on line to meet load growth, i.e. 3 million swu in 1983, 6 million each in 1984 and 1985, and the final 3 million in 1986.

(Exercise A - continued)

Thereupon the total cost of this "assurance of supply" program may be calculated as follows:

	Stockpile Size in 10^6 swu's	Year's Carrying Charge 10%
1983	18	84.4
1984	15	70.1
1985	9	42.2
1986	3	14.1
1987	--	--
Investment Through 1982	--	1265.1
	Total	$1475.9

AEC's 1975 - 1982 Separative Work Production

Units		Investment	Avg./swu
126.7	for customers	$6335	$50.000000
27	for preproduction	1475.9	54.662962
153.7	total	$7810.9	$50.819128

Surcharge for operating the stockpile

NOTES:

(1) Exercise A is based on AEC's alternative operating Plan 2 in Table 3 appended to George F. Quinn's testimony submitted to JCAE June 25, 1974, except that it requires 1.5 million swu preproduction in 1982 vice .4 million.

(2) The cummulative stockpile achieved in 1982 by all AEC preproduction is 42 million swu's of which, in this Exercise, 27 million is allocated to "assurance of supply" and 15 million to AEC's own purposes, i.e., 5 million flywheel and 10 million for contingencies. The carrying charge for this 15 million is included in the assumed $50/swu charge to AEC's regular customers.

(3) The assumed cost of $50/swu for regular production is arbitrary and the $30/swu incremental cost for preproduction is based on $2.50 for labor and $27.50 for power @ 11 mills. Any 1 mill change in power cost effects about a $2.50 change in swu cost.

EXERCISE B

("Assurance of Supply" 27 million swu - "Assistance" 12.4 million swu)

	Preproduction 10^6 swu	Cost @ $30 ($10^6$ $)	10%/Yr Carrying Charge 8 Yrs to 1 Yr	Feed & Conversion 10^6 (Short Tons)	Cost @ $20/lb	10%/Yr Carrying Charge 7 Yrs to 1 Yr
1975	6.4	192	153.6	---	---	---
1976	7.1	213	149.1	1.5	60	42
1977	4.5	135	81	7.5	300	180
1978	6.8	204	102	11.2	448	224
1979	5.7	171	68.4	8.3	332	132.8
1980	3.7	111	33.3	5.1	204	61.2
1981	3.5	105	21	4.1	164	32.8
1982	1.7	51	5.1	.8	32	3.2
Totals	39.4	1182	613.5	38.5	1540	676

This preproduction stockpile of 39.4 million swu's cost $2471.5 million by the end of 1982 (for enriching $1182, for carrying charge on enriching $613.5, and for carrying charges on feed purchases $676. The cost of feed is not included in the total since this exercise is solely for the purpose of determining swu costs. Feed cost -- equivalent to $39.086284 for each swu -- would be recovered from customers at the time enriched uranium is delivered.)

The scheme for working off this stockpile is based on EEI's estimate that UEA's 9 million swu plant will handle load growth for 1 1/2 years after 1982 and that thereafter the new capacity requirement will average 6 million swu's annually.

This means that the 9 million swu's accumulated for "assurance of supply" for the UEA plant will, in 1983, go either physically to UEA's utility customers if the plant fails to get on line, or if it succeeds, AEC would reduce its 1983 production by 9 million swu's to effect the cutback. The 18 million swu's accumulated to "assure supply" for customers of the 6 centrifuge plants would be worked off as these plants are assumed to coming on line to meet load growth, i.e. 3 million swu in 1983, 6 million each in 1984 and 1985, and the final 3 million in 1986.

It is arbitrarily assumed that the 12.4 swu's accumulated to "assist" the centrifuge entrepreneurs will be worked down as follows: .4 in 1982, and 3 million during each of the years 1983, 1984, 1986 and 1987.

Thus the 5 year campaign to dispose of the combined "assurance of supply" and "assistance" stockpiles would be as follows: 9.4 million in 1983, 6 million in 1984, 9 million each in 1985 and 1986, and 3 million in 1987. Total: 39.4 million.

(Exercise B - continued)

Thereupon the total cost of the "assurance" and "assistance" programs may be calculated as follows:

	Stockpile Size in 10^6 swu's	Year's Carrying Charge 10%
1983	30	188.2
1984	24	150.5
1985	15	94.1
1986	6	37.7
1987	--	--
Investment Through 1982		2471.5
	Total	$2942

AEC's 1975 - 1982 Separative Work Production

Units		Investment	Avg./swu
126.7	for customers	$6335	$50.000000
39.4	for preproduction	2942	74.670050
166.1	total	$9277	$55.851896

NOTES:

(1) Exercise B is based on AEC's alternative operating Plan 1A in Table 5 appended to George F. Quinn's testimony submitted to JCAE June 25, 1974.

(2) See notes (2) and (3) to Exercise A for explanations of AEC's responsibility for 15 million swu's of the stockpile and assumptions re swu costs. The assumed average feed and conversion cost equivalent to \$20/lb U_3O_8 is a best guess.

the $30 incremental cost. Another consideration is that the government's complex must have feed to work on and the utilities will have to deliver it according to contract schedules, irrespective of their delayed need for separative work.

How would the $30/$50 swu differential be fairly adjusted? How should the utilities' burden for carrying charges on the feed be eased, if at all?

These, and a host of other unknowns that the future will reveal, will have to be resolved by whoever is in charge of the U.S. government's enriching activities. This must be done aggressively in a financially responsible manner, promptly, skillfully, intelligently, flexibly, effectively, and always with the overall national interest foremost in mind.

All of which serves to emphasize what was earlier written, to wit: "USEC ... is still the only game in town effecting the restructure of government enriching activities requisite for a credible "assurance of supply" program."

-0-

THE WHITE HOUSE

WASHINGTON

November 5, 1974

ACTION

MEETING WITH REP. CRAIG HOSMER (R-CAL)
2:00 - 2:15 p.m. (15 minutes)
Wednesday, November 6, 1974
The Oval Office

From: William E. Timmons BT

I. PURPOSE

To allow Hosmer to discuss his views on atomic energy programs.

II. BACKGROUND, PARTICIPANTS AND PRESS PLAN

A. Background:

1. Hosmer is retiring from Congress after his term this year. He has been a good supporter of the Administration, is ranking GOP on House Interior Committee and has a reputation of being an expert on atomic energy matters (he also serves on the Joint Atomic Energy Committee).

2. Craig requested the meeting to discuss uranium enrichment and the "future structure" of this industry. He is believed to be interested in heading up a quasi government organization (like TVA) which would produce atomic energy.

B. Participants:

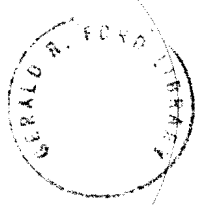
The President, Rep. Hosmer and Frank Zarb (OMB).

C. Press Plan:

The meeting to be announced by the Press Office. White House photographer only.

III. TALKING POINTS

The paper in tab A was prepared by OMB and coordinated with Domestic Council.



URANIUM ENRICHMENT (Meeting with Craig Hosmer)

Background:

AEC plants have reached their capacity to enrich uranium fuel for nuclear power plants and are no longer taking orders from domestic and foreign companies. (We believe, however, that we will be able to meet all foreign and domestic needs through 1982.) In 1971, the former Administration embarked on a policy of encouraging private industry to undertake uranium enrichment.

Industry has attempted to enter this field and one company (Bechtel) is ready to commit to build a $2.8 billion plant if it can get enough orders, but it is running into trouble. Part of the problem lies in Bechtel's extreme contracting terms, however, a problem is also posed by potential AEC competition if the government further increases its uranium enriching capacity beyond its current commitment. The electric utilities are unlikely to make commitments to private companies as long as there is any chance of getting a cheaper product from the government.

Craig Hosmer has introduced a bill which would create a government corporation to operate existing AEC plants and provide limited assistance to private industry to build new plants.

There are serious problems with this approach:

- Treasury objects to the financing feature which would allow this government corporation to compete in the money markets.
- Such a bill would likely be amended to enable the corporation to build new plants and this would certainly be the death blow to the private company initiatives.
- If the government corporation were excluded from the money market there is a potential for a very large outlay impact on the federal budget in the beginning years, however, we will at the same time be realizing increased income from the existing three plants.

Talking Points

- You are recognized as a leading authority on uranium enrichment and I am anxious to hear your views on this important subject.
- I generally favor a policy of encouraging private industry to provide additional enrichment capacity. However, you raise some good points. As you know, this is under intensive review by AEC, NSC (impact on foreign requirements) and others (OMB). I expect to ultimately review these studies prior to any federal decision.
- This subject will fall within ERDA's jurisdiction under the legislation I signed last month. I hope Bob Seamans is confirmed and gets on board in time to review the enrichment question and provide me with his recommendation.

THE WHITE HOUSE

ACTION MEMORANDUM WASHINGTON LOG NO.:

Date: December 18, 1974 Time:

FOR ACTION: Ken Cole
Brent Scowcroft
Bill Timmons
Roland Elliott

cc (for information):

FROM THE STAFF SECRETARY

DUE: Date: Friday, December 20, 1974 Time: cob

SUBJECT:

Ash memo (12/17/74) re: Rep. Hosmer's papers on uranium enrichment

ACTION REQUESTED:

____ For Necessary Action
____ Prepare Agenda and Brief
__X__ For Your Comments
__X__ For Your Recommendations
____ Draft Reply
____ Draft Remarks

REMARKS:

12/19 Elliott (WSC) - ok
RE - changes

PLEASE ATTACH THIS COPY TO MATERIAL SUBMITTED.

If you have any questions or if you anticipate a delay in submitting the required material, please telephone the Staff Secretary immediately.

Jerry H. Jones
Staff Secretary

THE WHITE HOUSE

WASHINGTON

December 20, 1974

MEMORANDUM FOR: WARREN HENDRIKS

FROM: MAX L. FRIEDERSDORF

SUBJECT: Action Memorandum - Log No.
Ash memo (12/17/74) re: Rep. Hosmer's papers on uranium enrichment.

The Office of Legislative Affairs concurs in the attached proposal and has no additional recommendations.

Attachment

THE WHITE HOUSE

ACTION MEMORANDUM WASHINGTON LOG NO.:

Date: December 18, 1974 Time:

FOR ACTION: Ken Cole
Brent Scowcroft
Bill Timmons
Roland Elliott

cc (for information):

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Jerry H. Jones
Staff Secretary

THE WHITE HOUSE

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Jerry H. Jones
Staff Secretary

THE WHITE HOUSE

WASHINGTON

Dear Craig:

I want to thank you again for the information on the uranium enrichment problem which you provided me several weeks ago. I have referred it to those actively involved with this matter, and they will give it full consideration.

I know that you will soon retire from the Congress, (In my judgment,) you have ~~in my judgment~~ rendered a very great public service, ~~including conspicuously~~ particularly in the area resulting ~~that stemming~~ from your extensive and perceptive understanding of the intricacies of uranium enrichment. ~~I think~~ You have done much to advance the objective of participation by private enterprise in the future of this important segment of our national energy complex, and you have thrown much light on the problems involved and on alternative ways of proceeding.

It has always been a pleasure to work with you, and I wish you everything good in your future activities.

Sincerely,

Honorable Craig Hosmer
House of Representatives
Washington, D. C. 20515

THE WHITE HOUSE

ACTION MEMORANDUM WASHINGTON LOG NO.: 6224

Date: December 18, 1974 Time:

FOR ACTION: Ken Cole
Brent Scowcroft
Bill Timmons
Roland Elliott

cc (for information):

FROM THE STAFF SECRETARY

DUE: Date: Friday, December 20, 1974 Time: cob

SUBJECT: [redacted]

Ash memo (12/17/74) re: Rep. Hosmer's papers on uranium enrichment

ACTION REQUESTED:

____ For Necessary Action
____ Prepare Agenda and Brief
__X__ For Your Comments
__X__ For Your Recommendations
____ Draft Reply
____ Draft Remarks

REMARKS:

PLEASE ATTACH THIS COPY TO MATERIAL SUBMITTED.

If you have any questions or if you anticipate a delay in submitting the required material, please telephone the Staff Secretary immediately.

Jerry H. Jones
Staff Secretary

THE WHITE HOUSE

WASHINGTON

DEC 17 1974

ACTION

MEMORANDUM FOR THE PRESIDENT

FROM: ROY L. ASH

Subject: Rep. Hosmer's papers on uranium enrichment

This is in response to your note to me, attached to some papers on uranium enrichment recently left with you by Rep. Craig Hosmer, with the notation "What should I do about this?" The papers comprise a) two pages of tabular analysis and b) copies of Hosmer's two recent "essays" on uranium enrichment.

The essential message of the tabular analysis is roughly as follows: "If AEC's uranium enrichment charge to industry is raised to commercial levels, the revenues received over the next 20 years will be sufficient to cover all costs, repay the Treasury for the capital value of its plants, and facilitate creation of a private enrichment industry in the U.S.

Based on our discussion with AEC, Rep. Hosmer's analysis appears to be generally valid over the long term.. The draft legislation to enable AEC to raise its charges is nearly ready for transmission to the Congress.

Rep. Hosmer's two "essays" in essence argue that private entry into the uranium enrichment business can succeed only if AEC/ERDA preproduces, over the next 4-8 years, a sufficiently large stockpile of enriched uranium, at considerable cost, to "backstop" the fledgling private firms. We are very much aware of this need.

The Joint Committee on Atomic Energy has recently completed hearings on Rep. Hosmer's bill (H.R. 17418) to create a Government corporation to take over the operation of the AEC plants and to facilitate private entry. The Hosmer bill and the hearing record will apparently be left as a kind of legacy to the 94th Congress.

At NSC's request, there is now in preparation NSSM 209, which will refine and re-evaluate the options for providing future increments of uranium enrichment capacity.

Attached for your signature is a suggested letter to Rep. Hosmer to thank him for the information he provided you.

Attachment

THE WHITE HOUSE

WASHINGTON

Dear Craig:

I want to thank you again for the information on the uranium enrichment problem which you provided me several weeks ago. I have referred it to those actively involved with this matter, and they will give it full consideration.

I know that you will soon retire from the Congress. You have in my judgment rendered a very great public service, including conspicuously that stemming from your extensive and perceptive understanding of the intricacies of uranium enrichment. I think you have done much to advance the objective of participation by private enterprise in the future of this important segment of our national energy complex, and you have thrown much light on the problems involved and on alternative ways of proceeding.

It has always been a pleasure to work with you, and I wish you everything good in your future activities.

Sincerely,

Honorable Craig Hosmer
House of Representatives
Washington, D. C. 20515

C. HOSMER

GOVERNMENT ENRICHING COMPLEX

Twenty-Year Financial Summary

Plant Value - $ 5 Billion
Inventory - $ 1 Billion

27.8 Million S. W. U. capacity
plus 1 million centrifuges

Total Revenues @ $70/swu		36,001,000,000
Operating Costs		
Power @ 10 mills.	12,202,000,000	
Labor	1,525,000,000	
Misc. R&D	1,525,000,000	
In lieu State taxes	1,028,600,000	
	16,280,600,000	
Payments to U. S.		
Royalty @ $3/swu	1,542,900,000	
In lieu Inc. Tax @ $6/swu	3,050,200,000	
Interest & Amortization (35%)	13,577,700,000	
	18,170,800,000	
Subtotal		34,451,400,000
Net Income (To finance CIP/CUP @ $1 Billion and subsidize front end costs of U.S. Centrifuge enriching industry):		1,550,600,000

Enclosure B

C. Horner

U. S. ATOMIC ENERGY COMMISSION

Revenue Estimates Related to Uranium Enrichment Services 1/

(In Millions)

	FY 1976	FY 1977	FY 1978	FY 1979	FY 1980	FY 1981	FY 1982	FY 1983	FY 1984	FY 1985
ium enrichment activity services	$ 0.9	$ 0.9	$ 1.0	$ 1.0	$ 1.0	$ 1.0	$ 1.0	$ 1.0	$ 1.0	$ 1.0
s, consumption, etc.	25.2	24.8	24.3	23.9	23.5	23.2	22.8	22.4	22.0	21.7
ium enrichment services										
ll enriching	446.4	714.9	764.9	1,076.8	1,376.6	1,733.5	1,793.2	1,854.8	2,089.6	2,309.8
vance Payments on New Enrichment Contracts	190.3	11.6	-41.9	-99.9	-117.7	-170.8	-162.1	-1.4	-	-
Subtotal Uranium Enrichment Services	636.7	726.5	723.0	976.9	1,258.9	1,562.7	1,631.1	1,853.4	2,089.6	2,309.8
l Revenues Related to Uranium Enrichment Services	$ 662.8	$ 752.2	$ 748.3	$1,001.8	$1,283.4	$1,586.9	$1,654.9	$1,876.8	$2,112.6	$2,332.5

The revenue estimates assume that customers holding requirements contracts will convert to long-term fixed commitment contracts prior to FY 1976. The estimates are based on the recently announced price increase to $42.10 per SWU for long-term fixed commitment contracts and the changes per SWU have been increased at a rate of 2% semiannually in accordance with the revised pricing schedule. Sales of SWU's are estimated on the basis of deliveries under contracts and assume contracting to a sustaining capacity of 320,000 MW(e) pending decision on plutonium recycle. The sales projection for any given year is subject to adjustment depending upon the actual status of power reactor construction and/or operations.

...repayments:	FY 1974	FY 1975	FY 1976	FY 1977	TOTALS	
Domestic	$ 139.5	162.6	158.9	24.2	485.2	
Foreign	41.8	65.3	55.7	21.5	184.3	(27.5%)
Total	181.3	227.7	214.6	45.7	669.5	

'74-'77 $ 2/3 Bil

Revenue @ 42.10/swu $2,332.5

in @ 84.20/ $4,665

September 11, 1974

2217 Rayburn Bldg., D.C. 20515
(202) 225-2415

For Release on Receipt
Mailed September 9, 1974

TWO ESSAYS ON ENRICHING URANIUM

by

Rep. Craig Hosmer (R-Calif.)

ESSAY #1: Bridging the Gap*

The United States has yet to make a reasoned, knowledgeable and long-range examination of where its national interests lie respecting the future structure of the uranium enrichment industry. Therefore, piecemeal efforts to move away from total governmental responsibility for enriching services, such as the recently announced Demonstration Centrifuge Enriching Facilities Program, are likely to fail for lack of proper economic and philosophical underpinnings.

Inquiry into these subjects was premature in the 1950's when the Atomic Energy Commission's enriching complex was completed, but operating at only a fraction of capacity because the invention of the H-bomb had drastically reduced requirements for enriched uranium for A-bombs. The emergence of a viable nuclear power industry during the 1960's drew attention to a future need for new enriching capacity for nuclear fuel purposes, but the need was not imminent. Sufficient for those times were planning the cascade improvement and uprating programs, plus a modest investment in preproduction of enriched uranium to somewhat delay the day when additional new capacity might be wanted.

By the start of the Nixon Administration in 1969 matters were coming into focus, but still not clearly. It was predictable that new enriching capacity would be needed by the mid-1980's or earlier. Due to technical and economic unknowns, it seemed that planning, promoting, financing and building of initial units might consume up to 10 years' lead time. That still left opportunities for study and decision making. Yet, with no more than an offhand look at the situation, Nixon's spokesman early and often announced a policy that "the next increment of enrichment capacity shall be supplied by private enterprise." The policy did not prove durable. It was not based on thoughtful study, knowledge and reasoned analysis. It ignored the need for a bridge to facilitate a transition from government enterprise to private enterprise. This omission was tacitly admitted during the Nixon Administration's final days when the Centrifuge Demonstration program was at last outlined to encourage industry by offering (without defining) some "assurance of supply" and some cash "assistance" to those who would enter the enriching game.

Unfortunately the scheme only nibbles at aiding and encouraging the construction of no more than six small centrifuge demonstration plants. AEC's hope seems to be that demonstration plants owners on their own will be able to expand their 100-300 ton demonstration facilities to an economic size of around 3 million annual separative work units** of capacity. AEC's plans for aid to private industry's gaseous diffusion plants are even more spartan, but no less ambiguous. To the Uranium Enrichment Associates who want to build a 9 million swu plant, no cash is offered, only a vague "assurance of supply" of separative work for UEA's customers in case the plant is delayed or fails to function at planned capacity. In either case, the Commission intends to recoup the cost of its aid by a suitable boost in charges for separative work.

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*Essay #2: An Exercise in Aidsmanship will be distributed in a few days.

**Separative work is the effort needed to enrich uranium above its natural (.7%) U_{235} content for use as nuclear fuel. It is measured in arbitrarily defined units.

In addition, AEC would like to "normalize" the climate in which the uranium enrichment industry will operate by pricing its enriching services on a commercial scale rather than upon the current cost recovery basis.

Neither the Demonstration proposal nor the UEA proposal stems from a sound evaluation of the amount or kind of aid that might encourage enterprisers to build enriching plants or manufacturers to incur heavy front end costs for production lines to make components for them. AEC expects electric utilities to acknowledge their self interest in having a supply of nuclear fuel by paying a considerable premium for separative work out of demonstration plants from which full scale facilities would evolve. But the utilities are in a sorry business state. Additionally, they have little funds left for that kind of thing following AEC's recent passing of the hat for millions to carry forward its LMFBR demonstration program. AEC also expects the entrepreneurs and component manufacturers to put in something extra before it will discuss an amount of cash it would consider contributing to a centrifuge demonstration plant. But these people already have stretched themselves to the limit to make a decision to move forward. It seems unrealistic to expect them also to put something extra in the pot for the privilege of running technological and economic risks to pioneer a new industry. Moreover, cash assistance to the new industry may not really be what it most needs. Aid in the form of separative work could be infinitely more helpful.

Such details, and, in fact, the structuring of the uranium industry for the highest national interest, cannot be determined until a consensus obtains as to what that interest really is. Is it federal expansion of the existing governmental enriching complex to meet all future needs? Is it immediate and total transfer of the entire industry to private industry? Or, is it something between these extremes? Testimony given during the year-long, three-phase hearings of the Joint Committee on Atomic Energy rejected both extremes, but it failed to indicate clearly just where between them the national interest lies.

My own feeling is that it lies in deliberate movement toward a predominately private industry structure, but still retaining governmental responsibility for a few appropriate functions. For example, there is a continuing need for the state to control its sources of enriched material for nuclear weapons and naval reactors. Should this need dissipate, then government still must retain a lengthy responsibility to dispose of its huge enriched uranium stockpile in an orderly way, so as not to bankrupt private enrichers. There will be a growing demand for fully enriched uranium fuel for high temperature gas cooled reactors and precautions against diversion of this potential weapons material from peaceful hands indicates a need to keep its production as a government function. Government may also be needed to buffer the emerging private industry against risks of instant technological obsolescence from new isotope separation techniques such as laser developments. And, most certainly, government will be needed for some time to afford the help in the form of "assurance of supply" which even AEC finally has conceded is necessary for the emergence of private enrichment enterprises. Inquiry will also show government must be a factor to effectuate the "assistance" which AEC similarly concedes private industry should have for the transition.

The Commission has not revealed how much "assurance of supply" or how much cash "assistance" it will provide and, because it still operates under OMB's current policy of getting by on the cheap, it is unlikely to do so. Therefore, I offer my own estimates in order to begin quantifying these tasks.

Since it is unrealistic to expect beggarly assistance to six, small 100,000 to 300,000 swu centrifuge plants to suffice to get that industry on its feet, I will assume that "assurance of supply " is needed for all six plants on a full scale of 3 million swu's each, a total of 18 million swu's. The corresponding figure for UEA's diffusion plant is 9 million swu's.

Probably the worst that could happen to the UEA plant is a delay of 2 years, losing 18 million swu's production. But, since there is no more than a 50% chance for a delay of that length, it should be safe to "assure" against no more than a single year's loss of 9 million swu's. Less is known about centrifuge technology. Still, probably a two-year delay is the worst that could be expected, but the chance of getting it might move up to 75%. This indicates a need for, say, a 14 million swu stockpile to "assure supply" for customers of the six plants. According to these assumptions, UEA and the centrifuges together will require a 23 million swu preproduction stockpile for "assurance of supply" purposes. Add to that AEC's own need for a plant inventory of some 5 million swu's and a contingency stockpile of about 10 million swu's. Together AEC, UEA and the centrifuges will thus need a preproduction stockpile of 38 million swu's on hand by 1982, the date AEC has fixed for new capacity requirements. This is a physically attainable figure according to the AEC projections of its preproduction capabilities recently furnished JCAE.

However, attaining preproduction levels of that magnitude depend upon receipt of AEC's expected power deliveries and upon the availability of more feed material than currently anticipated. Boosting the stockpile above the 38 million swu figure in order to offer new private enriching enterprises really meaningful "assistance" in addition to "assurance of supply" would necessitate deliberately aggressive investments in both power and feed material. These are justified because aid in the form of preproduction can keep the new firms in business. It is much preferable to aid in the form of cash which only comforts their creditors. But AEC's present management is limited by annual budgets and a cautiously bureaucratic outlook. It is difficult to imagine AEC becoming aroused and inspired enough to take on an aggressive preproduction program of such size. Yet it is needed because the prosperity of the utility business and millions of people and businesses throughout the land who use electricity depends on adequate supplies of nuclear fuel. Such adequacy can be assured only by the success of the new enriching enterprises who would supply the new nuclear fuel demands. In turn, the success of these enterprises will depend heavily upon the existence of a sizeable enough preproduction stockpile to give them "assistance" during their early years in addition to affording the utilities "assurance of supply" of their nuclear fuel.

Thus it is apparent that very sound management and very certain financial procedures for the AEC's enriching complex must be insisted upon. Although sound management characterizes the AEC today, under several administrations sound management has not been a notable characteristic of the higher ups from whom AEC takes its orders. Even within AEC, as its business and burdens expand, the fragmentation of enrichment responsibility between loosely coordinated offices for part time attention could create difficulties.

But as serious as organization difficulties may be, they are small in comparison to AEC's problem of getting adequate funding for its enrichment activities via the annual budgeting, authorization and appropriations route. In the critical years between now and 1982, when aggressive programs for power and feed material

should be pursued, the entire system could be shattered by the stroke of some Budget Director's red pen. If it is, there will be no nuclear fuel and there will be no transition to private enriching enterprises.

Moreover, if the ERDA reorganization comes about and enriching activities are buried in a strange corner of this newborn bureaucracy, few people expect much more than disaster for the enrichment program.

All of which indicates a need to get uranium enrichment under certain controls and adequate financing procedures. So far no suggestion heard by the JCAE other than that for a United States Enrichment Corporation promises this accomplishment.

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NOTE: Essay #2 will reach you in a few days. It will be an exercise in aidsmanship showing how, with certain control and adequate financing, it may be possible by 1982 to accumulate the desired stockpile of swu's to "assure supply," guarantee against other contingencies, "assist" private enrichers to become viable and profitable producers, recoup portions of the overseas market, and make a little money for Uncle Sam in the process.

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For Release on Receipt
Mailed September 16, 1974

TWO ESSAYS ON ENRICHING URANIUM
by
Rep. Craig Hosmer (R-Calif.)

ESSAY #2: An Exercise in Aidsmanship

This essay explores means to remove barriers to private industry assuming responsibility for new United States uranium enriching needs in 1982 and thereafter when the demand for nuclear fuel will begin to exceed AEC's ability to supply it.

One barrier is the chance that new enriching plants will be delayed coming on line or fail to operate at expected capacities. Utilities cannot risk being without needed nuclear fuel. Nor can plant owners risk being without revenues they need to pay back creditors and investors. In fact, they cannot finance their plants until this risk is removed. An impasse between the two has been created by the plant owners' effort to shift the risk by proposing a contract requiring utilities to pay whether or not they get their separative work.

Until enough new enriching plants are built to resolve the technological and economic unknowns underlying this impasse, a program should be adopted to lift these risks from utilities and plant owners alike. This can be done easily by accumulating a suitable stockpile of preproduced enriched uranium from AEC enriching plants which will otherwise be operating at less than capacity until around the end of 1982.

A second private enterprise barrier, peculiar to the centrifuges, is the heavy front end cost involved in setting up a new industry. It will fall on plant owners directly and indirectly via front end costs for putting in new production lines that component suppliers will be passing upward. To win the objective of bringing such plants into being under private sponsorship, reasonable cash "assistance" to overcome this hurdle is worthwhile. This "assistance" also can be readily managed, along with the program for "assurance of supply".

Assurance of Supply

The 9 million swu diffusion plant proposed by Uranium Enrichment Associates ought to dispel the engineering and economic unknowns for that technology. For the centrifuges, it is safe to assume that six 3 million swu plants will do the same job. AEC will be supporting its own 15 million swu stockpile for flywheel and contingency purposes. With the probable availability of that in mind during an emergency, preproduction of 27 million swu's, a year's planned production of the seven new private plants, seems ample to "assure" the fuel supply of customers and revenues of owners of new plants running into trouble. (It is 4 million swu's over the amount assumed for this purpose in Essay #1.) The risk of total failure of these plants is not regarded as likely and not here "assured" against. That magnitude of failure would have national consequences calling for prompt Federal intervention with a mini-Manhattan Project.

Exercise A (pages 3-4) is based on one of AEC's alternate operating plans. It is well within the physical capabilities of its complex. The Exercise shows that a 27 million swu "assurance of supply" stockpile can be built up and worked off for a surcharge to AEC customers of less than $1/swu. *But to do so demands quick and decisive adoption of an "assurance" program and, from beginning to end, its aggressive operation and zealous financing.* Only with these characteristics can such a program create and maintain credible "assurance of supply". These characteristics do not mark AEC's present decision making mechanisms and financing resources. Prompt restructuring of the government's enriching activities to incorporate them is essential.

Assistance

Exercise B (pages 5-6) is based on an AEC operating plan which preproduces an extra 12.4 million swu, changes tails assays and buys 21,000 short tons of added natural uranium feed. The new centrifuge plants would get preproduction at its cost of about $56/swu and allowed to market it at the commercial price, say $80/swu, thus being "assisted" by the $24 differential. Against an approximate $1 billion investment for a 3 million swu plant, the scheme nets less than $54 million in "assistance" It is no bargain.

The most efficient way to raise money to "assist" these new plants is by the straightforward addition of a surcharge to AEC sales. Over the 1975-1987 operating period of my hypothetical "Assurance of Supply"/"Assistance" Program, AEC will perform about 285 million swu's of enriching services. The "assistance" value to each of the six new plants of a $1.00 boost in swu charge is $47.5 million, calculated as follows:

$$285 \times \$1 = \frac{\$285}{5} = \$47.50$$

Thus, a $5 surcharge will garner $237.5 million in aid for each new plant, a sum likely to far exceed all the conceivable front end costs of getting this new industry on its feet.

The Real World

Exercises A and B are only hypotheses based on assumptions. In the real world, actual circumstances such as these must be dealt with:

- We must stop thinking in terms of "AEC" and start thinking in terms of "the government" as it may be ERDA or USEC or another authority which soon takes over responsibility for U.S. enriching activities and stockpiles.
- Scuttling the government's split-tails operation is inevitable and the sooner the better for the "assurance" program and the health of the mining, milling and conversion link of the nuclear fuel chain.
- The government probably can find legal ways to boost its swu charges toward commercial levels. It's a good idea to start moving nearer to reality and away from extant Alice-in-Wonderland swu pricing criteria.
- Exercise A shows that AEC Plant 3 1/2 is not needed. Accordingly, I am dropping authority for any new government enriching capacity from USEC.
- USEC, now better than ever, is still the only game in town effecting the restructure of government enriching activities requisite for a credible "assurance of supply" program.

Other realities also must be coped with, such as the fact that utilities are slowing down their nuclear programs. By 1982, in relation to what they have contracted for, there is a likely delay in nuclear fuel demand aggregating 30 to 40 million swu's of separative work. Dealing with the responsibilities and seizing the opportunities presented by that, and any other unexpected nuclear fuel developments seem quite beyond the present AEC's room for maneuvering.

Utilities bound to contracts for the delayed separative work will be hard pressed to take and pay for it on schedule, only to bear added carrying charges until they start using it. A scheme to somewhat relieve their burden could be built around the government picking up this excess for stockpile purposes in lieu of otherwise preproducing part or all of the "assurance" stockpile. These swu's would come at the regular $50 production cost rather than (text continues at page 7)

EXERCISE A

("Assurance of Supply" 27 million swu)

	Preproduction 10^6 swu	Incremental Cost @ $30 10^6 $	10%/Yr Carrying Charge 8 Yrs to 1 Yr
1975	5.1	153	122.4
1976	7.1	213	149.1
1977	2.7	81	48.6
1978	4.8	144	72
1979	3.2	96	38.4
1980	1.5	45	13.5
1981	1.1	32	6.6
1982	1.5	45	4.5
Totals	27.0	809	455.1

This preproduction stockpile of 27 million swu's cost $1265.1 million by the end of year 1982 ($810 for enriching and $455.1 for carrying charges).

The scheme for working off this stockpile is based on EEI's estimate that UEA's 9 million swu plant will handle load growth for 1 1/2 years after 1982 and that thereafter the new capacity requirement will average 6 million swu's annually.

This means that the 9 million swu's accumulated for "assurance of supply" for the UEA plant will, in 1983, go either physically to UEA's utility customers if the plant fails to get on line, or if it succeeds, AEC ~~would~~ *will* reduce its 1983 production by 9 million swu's to effect the cutback. The 18 million swu's accumulated to "assure supply" for customers of the 6 centrifuge plants would be worked off as these plants are assumed to coming on line to meet load growth, i.e. 3 million swu in 1983, 6 million each in 1984 and 1985, and the final 3 million in 1986.

(Exercise A - continued)

Thereupon the total cost of this "assurance of supply" program may be calculated as follows:

	Stockpile Size in 10^6 swu's	Year's Carrying Charge 10%
1983	18	84.4
1984	15	70.1
1985	9	42.2
1986	3	14.1
1987	--	---
Investment Through 1982	--	1265.1
	Total	$1475.9

AEC's 1975 - 1982 Separative Work Production

Units		Investment	Avg./swu
126.7	for customers	$6335	$50.000000
27	for preproduction	1475.9	54.662962
153.7	total	$7810.9	$50.819128

Surcharge for operating the stockpile

NOTES:

(1) Exercise A is based on AEC's alternative operating Plan 2 in Table 3 appended to George F. Quinn's testimony submitted to JCAE June 25, 1974, except that it requires 1.5 million swu preproduction in 1982 vice .4 million.

(2) The cummulative stockpile achieved in 1982 by all AEC preproduction is 42 million swu's of which, in this Exercise, 27 million is allocated to "assurance of supply" and 15 million to AEC's own purposes, i.e., 5 million flywheel and 10 million for contingencies. The carrying charge for this 15 million is included in the assumed $50/swu charge to AEC's regular customers.

(3) The assumed cost of $50/swu for regular production is arbitrary and the $30/swu incremental cost for preproduction is based on $2.50 for labor and $27.50 for power @ 11 mills. Any 1 mill change in power cost effects about a $2.50 change in swu cost.

EXERCISE B

("Assurance of Supply" 27 million swu - "Assistance" 12.4 million swu)

	Preproduction 10^6 swu	Cost @ $30 ($10^6$ $)	10%/Yr Carrying Charge 8 Yrs to 1 Yr	Feed & Conversion 10^6 (Short Tons)	Cost @ $20/lb	10%/Yr Carrying Charge 7 Yrs to 1 Yr
1975	6.4	192	153.6	---	---	---
1976	7.1	213	149.1	1.5	60	42
1977	4.5	135	81	7.5	300	180
1978	6.8	204	102	11.2	448	224
1979	5.7	171	68.4	8.3	332	132.8
1980	3.7	111	33.3	5.1	204	61.2
1981	3.5	105	21	4.1	164	32.8
1982	1.7	51	5.1	.8	32	3.2
Totals	39.4	1182	613.5	38.5	1540	676

This preproduction stockpile of 39.4 million swu's cost $2471.5 million by the end of 1982 (for enriching $1182, for carrying charge on enriching $613.5, and for carrying charges on feed purchases $676. The cost of feed is not included in the total since this exercise is solely for the purpose of determining swu costs. Feed cost -- equivalent to $39.086284 for each swu -- would be recovered from customers at the time enriched uranium is delivered.)

The scheme for working off this stockpile is based on EEI's estimate that UEA's 9 million swu plant will handle load growth for 1 1/2 years after 1982 and that thereafter the new capacity requirement will average 6 million swu's annually.

This means that the 9 million swu's accumulated for "assurance of supply" for the UEA plant will, in 1983, go either physically to UEA's utility customers if the plant fails to get on line, or if it succeeds, AEC would reduce its 1983 production by 9 million swu's to effect the cutback. The 18 million swu's accumulated to "assure supply" for customers of the 6 centrifuge plants would be worked off as these plants are assumed to coming on line to meet load growth, i.e. 3 million swu in 1983, 6 million each in 1984 and 1985, and the final 3 million in 1986.

It is arbitrarily assumed that the 12.4 swu's accumulated to "assist" the centrifuge entrepreneurs will be worked down as follows: .4 in 1982, and 3 million during each of the years 1983, 1984, 1986 and 1987.

Thus the 5 year campaign to dispose of the combined "assurance of supply" and "assistance" stockpiles would be as follows: 9.4 million in 1983, 6 million in 1984, 9 million each in 1985 and 1986, and 3 million in 1987. Total: 39.4 million.

(Exercise B - continued)

Thereupon the total cost of the "assurance" and "assistance" programs may be calculated as follows:

	Stockpile Size in 10^6 swu's	Year's Carrying Charge 10%
1983	30	188.2
1984	24	150.5
1985	15	94.1
1986	6	37.7
1987	--	--
Investment Through 1982		2471.5
	Total	$2942

AEC's 1975 - 1982 Separative Work Production

Units		Investment	Avg./swu
126.7	for customers	$6335	$50.000000
39.4	for preproduction	2942	74.670050
166.1	total	$9277	$55.851896

NOTES:

(1) Exercise B is based on AEC's alternative operating Plan 1A in Table 5 appended to George F. Quinn's testimony submitted to JCAE June 25, 1974.

(2) See notes (2) and (3) to Exercise A for explanations of AEC's responsibility for 15 million swu's of the stockpile and assumptions re swu costs. The assumed average feed and conversion cost equivalent to \$20/lb U_3O_8 is a best guess.

the $30 incremental cost. Another consideration is that the government's complex must have feed to work on and the utilities will have to deliver it according to contract schedules, irrespective of their delayed need for separative work.

How would the $30/$50 swu differential be fairly adjusted? How should the utilities' burden for carrying charges on the feed be eased, if at all?

These, and a host of other unknowns that the future will reveal, will have to be resolved by whoever is in charge of the U.S. government's enriching activities. This must be done aggressively in a financially responsible manner, promptly, skillfully, intelligently, flexibly, effectively, and always with the overall national interest foremost in mind.

All of which serves to emphasize what was earlier written, to wit: "USEC ... is still the only game in town effecting the restructure of government enriching activities requisite for a credible "assurance of supply" program."

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CORRESPONDENCE PROFILE

DOC MO	DOC DA	RECD MO	RECD DA	RECD HR	LOG NBR	INITIAL ACTION O
12	18	12	18	11	7406224	Clerk

SOURCE/CLASS/DESCRIPTION

TO: PRES _____ KISSINGER _____ SCOWCROFT F DAVIS _____

FROM: KISSINGER, H _____ COLBY, W _____ SCHLESINGER, J _____ ST EX SEC _____

REFERENCE: S/S _____ OTHER _____

CIRCLE AS APPROPRIATE: (UNCLAS) LOG IN/OUT; LOU NO FORN NODIS; C EYES ONLY EXDIS; S CODEWORD; TS SENSITIVE

SUBJECT: NSC Items requested on Dent Memo re Rep. Hosmer's 8 pages on Thurmond enrichment -- NSSM 209

DISTRIBUTION/INITIAL ACTION ASGMT

INTERNAL ROUTING AND DISTRIBUTION	ACTION	INFO	REC CY FOR
ADVANCE CYS TO HAK/SCOWCROFT			
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UNITED NATIONS			
ECONOMIC			
SCIENTIFIC	X		
PROGRAM ANALYSIS			
NSC PLANNING		X	
CONGRESSIONAL		X	
OCEANS POLICY			
INTELLIGENCE			

ACTION REQUIRED

MEMO FOR HAK ..... ( )
MEMO FOR PRES ..... ( )
REPLY FOR _____ ( )
APPROPRIATE ACTION ..... ( )
MEMO _____ TO _____ ..... ( )
RECOMMENDATIONS ..... to Jerry Jones * ( )
JOINT MEMO ..... ( )
REFER TO _____ FOR: _____ ( )
ANY ACTION NECESSARY? ..... ( )
CONCURRENCE ..... ( )
DUE DATE: 12-20

COMMENTS: (INCLUDING SPECIAL INSTRUCTIONS)
by phone if appropriate
12-19-74 Clearance given by phone. D.E

SUBSEQUENT ROUTING/ACTIONS

DATE	FROM	TO	S	SUBSEQUENT ACTION REQUIRED (OR TAKEN):	CY TO
12/19				Concurred by phone per Elliott	
12/19			C	Elliott concurred by phone	

NSC/S DISP INSTR

DISPATCH _____
CY RQMTS: SEE ABOVE PLUS: _____
NOTIFY Jones & DATE 12/19 BY Elliott
SPECIAL DISPOSITION: _____
CROSS REF W/ _____
SUSPENSE CY ATTACHED: X FOLDER: _____

MICROFILM & FILE RQMTS:
M/F'D _____ BY _____
CRT ID:
OPEN _____
CLOSE [illegible]

SA [redacted] HP NS WH EP PA DY

(NBC-74-21 533-147)

AT 2

THE PRESIDENT HAS SEEN.

THE WHITE HOUSE

WASHINGTON

May 26, 1975

MEMORANDUM FOR THE PRESIDENT

THROUGH: DONALD RUMSFELD

FROM: RICHARD B. CHENEY

SUBJECT: Inclusion of Statement on Uranium Enrichment in Proposed Television Speech

After Saturday's meeting on the issue of uranium enrichment, you instructed me to have language drafted which could be used in your TV address tomorrow night when you will announce your decision to impose the second dollar tariff on oil imports.

I would recommend, however, that you not discuss the issue in tomorrow night's address. Frank Zarb and others of FEA believe that discussing uranium enrichment will detract from the basic message of tomorrow night's speech, namely that Congress has failed to adopt an energy program and, therefore, you are going to move administratively to reduce oil imports and increase production.

FEA's arguments are attached.

Should you decide to make some reference to uranium enrichment, I have also attached draft language prepared by FEA.

Make No Reference to Uranium Enrichment

Include Statement on Uranium Enrichment _____

Attachments

FEDERAL ENERGY ADMINISTRATION
WASHINGTON, D.C. 20461

May 26, 1975

OFFICE OF THE DEPUTY ADMINISTRATOR

MEMORANDUM TO DICK CHENEY

FROM: JOHN A. HILL

SUBJECT: Inclusion of Statement on Uranium Enrichment in President's May 27 Energy Speech

ISSUE

Should the President's May 27 Energy Speech include a reference to uranium enrichment?

ANALYSIS

The purpose of the President's energy speech is to announce his decisions on the second dollar on import fees and to frame that decision within the context of Congressional inaction on his or any other energy program. The intended results are (1) to insure success of the second dollar (to avoid losing the veto vote); (2) to again underscore problems with the vetoed strip mining bill and to enhance our chances for sustaining the veto; and (3) to spur the public to work on their Congressmen during the recess to act on energy legislation when they return.

Uranium enrichment does not fit particularly well within the overall purposes of the May 27 speech:

1. The Administration has made no proposal to Congress regarding uranium enrichment; it may even be somewhat vulnerable to the charge that it has dragged its feet on this issue.

2. Uranium enrichment is a highly technical issue and its relationship to overall energy policy is both indirect and difficult to perceive by the average citizen.

3. Given items (1) and (2), inclusion of uranium enrichment in the speech is likely to detract (both substantively and in terms of overall impact) from the speech by including items not understood by the public and give Congress an issue they can focus on in response to the speech that would allow them to beg the real issues of energy policy.

The only rationale for including uranium enrichment in the President's speech would be to support Kissinger's statement on uranium enrichment at the IEA meeting this week in Paris. Although this could be an important signal to foreign nations, it is doubtful that it would tell foreign nations something they do not know already -- that the U.S. intends to be a major player in the international enrichment market. The need to include the statement therefore in a speech aimed at the homefront is thus not compelling.

RECOMMENDATION

FEA recommends that uranium enrichment not be included in the President's May 27 energy speech.

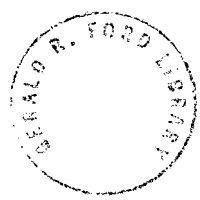
If it is included, FEA would recommend the language provided in the attachment.

Attachment

SUGGESTED STATEMENT ON
URANIUM ENRICHMENT

Although much of the energy debate to date has focused on the need to increase the supply and constrain the demand of our scarce fossil fuels, attention must also be given to the nuclear situation. I have recently submitted legislation that would expedite the siting and licensing of nuclear power plants, and will shortly submit a proposal to extend existing protections to the public in the unlikely event of a nuclear accident. I will also decide by June 30 how the Nation should increase its capacity for enriching uranium, not only to meet the future fuel needs of domestic utilities but also those of foreign nations. Although my recommendations in this area could involve either private sources of supply or the continuation of the Government's past monopoly, the objective must be to add to our capacity to enrich uranium.

I am hopeful that Congress will be able to act on these proposals without the delays we have encountered in my comprehensive energy program. At stake is this Nation's ability to ultimately eliminate its vulnerability by relying increasingly on the production of power from nuclear sources.



THE WHITE HOUSE
WASHINGTON

Date 5/26/75

TO: DICK CHENEY

FROM: JERRY H. JONES

For your information.

AT2

THE PRESIDENT HAS SEEN...

THE WHITE HOUSE

WASHINGTON

INFORMATION

May 27, 1975

MEMORANDUM FOR: THE PRESIDENT

FROM: JIM CANNON

SUBJECT: Status Report: Uranium Enrichment

The purpose of this memorandum is to:

-- Follow up on the meeting you called on Uranium Enrichment at the request of the Domestic Council.

-- Give you a status report on developments since the meeting, and

-- Provide a timetable for completing negotiations and preparing a decision paper.

1. Negotiations with UEA to come up with a minimum Government assistance package are under way.

   -- Jim Connor has been designated coordinator of the negotiations.

   -- John Hill, Deputy to Frank Zarb (who is in Paris with Secretary Kissinger) is chairing the negotiations until Zarb returns.

   -- Dr. Seamans has assigned Roger Legassie, who is ERDA's expert on uranium enrichment, to represent him at the negotiations.

   -- Gerald Komes, president of a Bechtel group, will lead the negotiations for UEA.

2. Frank Zarb and Bob Seamans will meet with the negotiators Wednesday night upon their return to Washington.

   -- It is my understanding that the negotiation team is to deliver the UEA's minimum Government assistance package to the Domestic Council on Friday, May 30, 1975.

3. While the negotiations with UEA are going on --

-- We are working with Max Friedersdorf and his staff to get a reading on Congressional attitudes toward the expansion of uranium enrichment capacity.

-- We are also working with FEA, ERDA, OMB and NSC to refine and more completely evaluate the possible options in the light of Saturday's discussion, so that we can begin a preliminary draft of a decision paper.

4. Timetable

-- On Friday, May 30, 1975, the negotiations team is to deliver a minimum assistance package.

-- On Saturday, May 31, the Domestic Council will draft a decision paper.

-- On Sunday, June 1, we will circulate to the senior staff (by DEX to those travelling with the President) the draft decision paper.

-- On Monday, June 2, we expect to have comments in from the senior staff.

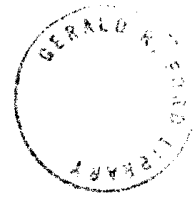
-- On Tuesday, June 3, we will complete the decision paper in final form, and have it ready upon your return.

cc: Don Rumsfeld
Frank Zarb
Dr. Robert Seamans
Jim Lynn
Brent Scowcroft

MEETING ON URANIUM ENRICHMENT

Friday, June 6, 1975

2:00 P. M.



THE PRESIDENT HAS SEEN

THE WHITE HOUSE

WASHINGTON

June 6, 1975

ADMINISTRATIVELY CONFIDENTIAL

MEMORANDUM FOR: JIM CANNON

FROM: JERRY H. JONES

SUBJECT: Providing Additional U.S. Uranium Enrichment Capacity

Your memorandum to the President on the above subject has been reviewed and Alternative #1 -- immediate privatization -- was approved.

Please follow-up with the appropriate action.

Thank you.

cc: Don Rumsfeld
Henry Kissinger
Phil Buchen
Jim Lynn
Jack Marsh
Bill Seidman
Jim Connor
Alan Greenspan
Robert T. Hartmann
Max Friedersdorf

THE PRESIDENT HAS SEEN.

THE WHITE HOUSE

WASHINGTON

DECISION

MEMORANDUM FOR: THE PRESIDENT

FROM: JIM CANNON

SUBJECT: PROVIDING ADDITIONAL U.S. URANIUM ENRICHMENT CAPACITY

The Issue

The narrow issue for your decision is whether to propose that the plant to provide the next increment of U.S. uranium enrichment capacity be:

1. A privately-owned diffusion plant financed, built and operated by a consortium, backed up by a Federal commitment to assume assets and liabilities of the project, if necessary and under stated conditions, prior to its commercial operation; or

2. A Government-owned diffusion plant added on to an existing ERDA plant.

In deciding this issue, you are also making broader determinations:

- Whether the emphasis on future U.S. production of enriched uranium will be by private enterprise, or by the Federal government.

- Whether, and how, the United States will maintain its leadership as the free world's supplier of enriched uranium.

Developments Since Your May 23rd Meeting

During your May 23rd meeting, you directed that discussions be held immediately with the UEA and that alternatives for a firm Administration commitment by June 30 for the next increment of enrichment capacity be presented to you for decision. This memorandum completes those actions.

-- UEA has submitted a substantially modified proposal for back-up Government support for their venture which provides a considerably improved basis for a legislative proposal covering this and future increments of capacity. This proposal (outlined below as Alternative #1) is generally responsive to the major objectives on which Zarb, Seamans, Connor and your other advisers all agree:

- An early commitment to build additional capacity so that the U.S. will be perceived as a reliable supplier of uranium enrichment services -- so that the Nation can retain a large share of the world market and leadership in the nuclear field.

- Early private commercial involvement in the expanding market for uranium enrichment services -- ending the current Government monopoly.

- Minimum Federal budgetary impact, short and long term.

- Adequate Federal control over the export of uranium enrichment services to satisfy national security and international energy policy objectives.

-- The new UEA proposal is novel and making it work will require care in presentation, effort in selling, and close oversight by the Government as it proceeds. The risks connected with it are:

- The question of acceptability to Congress.

- Some uncertainty that UEA can complete all the necessary arrangements, to make it a going concern.

- Some Congressional delay, compared to a Government plant.

However, the UEA proposal itself and the additional steps developed by ERDA would minimize these risks.

-- In view of the risks, there is also presented for your consideration the alternative (#2 below) of a Government add-on diffusion plant -- which reduces the risks but which also eliminates the chance of immediate private enrichment and increases the Federal budget impact. Preparations for this approach have been underway in ERDA for some time and can be continued as a contingency measure.

-- Your advisers have also agreed that:

- The Administration should not consider proposing that all future enrichment capacity be provided by the Government or a Government corporation because we must avoid perpetuating a Government monopoly. However, this alternative needs to be kept in mind because it undoubtedly will be considered by the Congress, and it provides a useful baseline for evaluating the two alternatives presented for your decision.

- The legislative proposal covering the next increment of capacity should also cover future follow-on increments built by industry, probably with Federal backup arrangements similar to those proposed for UEA. The legislation must not be applicable solely to UEA.

- ERDA's program to establish a competitive industry should be intensified to assure that several private firms will be ready to build subsequent plants using centrifuge technology, and should also be announced on June 30. (ERDA proposes to move promptly under either alternative on this follow-on activity.)

- A legislative proposal authorizing an increase in the price of ERDA's Government subsidized enrichment services to a level more nearly comparable to a commercial rate (from current $53 per unit to approximately $75) should be sent immediately to the Congress.

-- The alternatives have been discussed with selected members of Congress (Brief report on reactions at Tab A).

Considerations Bearing Upon Both Alternatives:

A number of considerations are essentially equal with respect to either alternative and need not be considered further here. These include:

- The date when the next increment of capacity must be on line (now estimated at 1983), and the likelihood that the capacity will be ready when needed.

- Nuclear materials safeguards (non-proliferation) in terms of both the physical security of the plant and continued Federal control over exports.

- Impact on the Government's stockpile of enriched uranium.

- Customers for the next increment of capacity which are expected to be predominately foreign.

- Opposition from nuclear power opponents -- who may try to prevent any new increment of capacity as another way of slowing nuclear power (but who will be vulnerable to the counter argument that failure to build means dependence on foreign sources of uranium enriched services).

- The ability to accommodate foreign investment in an enrichment plant on a non-discriminatory basis.

Alternatives

The principal features of the two alternatives are described below. Budgetary impacts are summarized at Tab B and a comparative timetable for the two alternatives is provided at Tab C.

. Alt. #1. UEA would construct a free-standing 9 million unit diffusion plant in Alabama. Both this alternative and Alt. #2 would be followed by industry construction of succeeding plants, probably using centrifuge technology, and with backup Government arrangements similar to those now proposed by UEA. Details of the alternative, including the new UEA proposal are at Tab D.

Briefly:

- UEA intends to build the plant at a cost of $3.5 billion in 1976 dollars ($2.75 billion in 1974 dollars) with full operation attained in 1983; sell 40% of the output to domestic utilities and 60% to foreign organizations on long term contracts; and finance the venture on an 85%-15% debt-equity ratio. Investment will be 40% domestic and 60% foreign but U.S. owners will have control through 55% of the voting rights.

- The Government would sell to UEA essential components which are produced exclusively by the Government; supply information on diffusion technology and warrant its operation; and agree to buy from or sell to UEA enriched uranium from the U.S. Government stockpile

to accommodate a start up date earlier or later than planned. The Government would be paid at cost for components and technical assistance and receive a royalty for the technology.

- UEA proposes that, prior to commercial operation, there be available authority through new legislation for the Government to assume assets and liabilities of the project if the venture threatened to fail -- at the call of UEA or the Government, and with compensation to UEA ranging from full reimbursement to total loss of its equity interest, depending upon circumstances leading to the threat of failure.

- If it became necessary to assume assets and liabilities, control of the multinational project would then rest with the Federal Government, much as it would if the enterprise had been launched as a Federal project.

ERDA has proposed several steps to minimize the risks of delays in UEA's completion of its organizational, financial and design steps, and help assure that a national commitment to new capacity is perceived by potential foreign customers -- because Congress may be slow to approve such a novel approach. ERDA proposes:

- A letter agreement with UEA, under existing authority to permit UEA to proceed about July 1 with preliminary design and with financial and other arrangements.

- Assurances (perhaps a Presidential statement) to domestic and foreign customers that orders placed with U.S. suppliers would result in assured U.S. supply -- either through a successful UEA project or through the U.S. Government.

- These steps be implemented only after consultation with the Joint Committee on Atomic Energy.

ERDA will look for additional steps that might be announced on June 30 to help assure industry an adequate market, so that the private centrifuge program moves ahead quickly.

- Alt. #2. ERDA would construct a $1.2 billion diffusion plant with a capacity of up to 5 million units as an add-on to its existing 9 million unit plant at Portsmouth, Ohio. This would be followed by private industry construction of centrifuge plants, starting with competitive proposals from 3 or 4 firms. This alternative would involve a request to Congress for:

- authorization and appropriations (beginning in FY 76) for construction of the add-on diffusion plant.

- authorization for Government back-up arrangements for centrifuge plants similar to those proposed by UEA for the diffusion plant. (This facet would parallel the succeeding centifuge plant aspects of Alternative #1.)

This alternative is presented in more detail at Tab E.

Arguments

. Alternative #1: (Immediate privatization)

- For

. Explicitly maintains momentum built up over the past 3 years under an Executive Branch policy committed to having industry build the next increments of capacity.
. Takes the major step necessary toward achieving the objective of a private, multi-firm enrichment industry; in effect "breaks trail" for subsequent private plants.
. Minimizes the Federal budget impact in the next few years by avoiding a Government plant -- assuming takeover proves unnecessary. Budgetary impacts of the two alternatives are summarized at Tab B.
. Provides an adequate signal to foreign customers of U.S. commitment to be a reliable supplier, and adequate control over exports to meet national security and international energy goals.
. Constitutes a bold step, demonstrating innovative leadership and shows the Administration's intent of relying on private industry rather than Government for the large capital investments that will be needed for U.S. energy independence.

- Against

. If UEA fails, the Government would end up with a free-standing plant that is larger and more expensive than the add-on plant that we would start out with under the Government plant alternative.
. Congressional approval will be more difficult to obtain than for a Government-owned plant, and will take longer (probably by at least 2 to 3 months).

- We will not know for another 7 to 10 months whether UEA will be successful in putting its deal together (getting foreign and domestic equity partners, debt financing and customers).
- UEA does not yet have an assured power supply and plans to use nuclear plants which may face uncertainty and delay.
- It will be viewed as favored treatment for one firm.
- UEA equity investor risks are minimal because:
  - little or no competition in short term;
  - return on investment guaranteed by cost-plus contracts with customers, and
  - limited incentives to construct and operate the plant more efficiently than planned
- UEA would have to obtain licenses that the Government would not have to obtain. If buy-out were required because UEA cannot obtain necessary licenses (e.g., because of environmental or safety problems) -- an event considered unlikely -- it is conceivable that the Government would choose not to override the objections and not proceed to operate the plant.

. Alternative #2 (Government Plant)

- For

  - Better chance of early Congressional approval.
  - Better chance of being perceived abroad as a firm U.S. commitment to be a reliable supplier, and at an earlier date.
  - Smaller diffusion plant will reduce the likelihood of capturing part of the market that would otherwise be available for early starts on centrifuge plants.
  - Slightly easier to assure export controls necessary to achieve safeguards and international energy strategies.

- Against

  - The major step that must be taken to achieve commercialization would be deferred and the policy of the past three years reversed, leaving doubt in industry as to whether any future Government attempts to privatize should be considered credible.

- Loss of momentum (UEA would fold). The opportunity for immediate private entry would be lost.
- Most obstacles and objections now being raised may reappear when the follow-on opportunity. Further, at that time, private entry will be even more difficult because of the need to use new technology (centrifuge).
- There is no assurance that a 5 million unit diffusion plant would be adequate to get us to the stage of centrifuge demonstration plants. If centrifuge commercialization is less successful than hoped, a larger Government plant would be needed.
- Domestic electric utilities have benefited from the existing Government monopoly. Commitment now to another Government plant would strengthen their hopes that the present Government monopoly can be perpetuated.
- Certain to have a significant Federal budget impact, particularly through 1981 (details at Tab B).
- Difficulties are expected in getting clean fuel and meeting environmental standards for the fossil fueled power supply needed for the Government plant.

Recommendations and Decision

_____ Alternative #1. Immediate Privatization.

Connor
Friedersdorf
Greenspan
Hartmann
Lynn
Marsh
Seidman
Zarb

_____ Alternative #2. Government plant.

Buchen
Kissinger (views at Tab F)
Seamans (views at Tab G)

CONGRESSIONAL OUTLOOK

Members of the House and Senate are, for the most part, not familiar with the complex issues involved in the expansion of uranium enrichment facilities, thus reaction is mixed at this point.

A great deal of briefings and consultation should be undertaken before an Administration proposal is sent to the Hill.

There may be considerable opposition to any expansion of facilities -- partly because of environmental concerns, partly because of the fear of any proliferation of material that might be converted into nuclear explosives.

But members who are well informed about the importance of uranium enrichment facilities believe that production should be expanded as quickly as possible.

Here are comments from individual members:

Senator Baker indicated that he preferred building a Government enrichment plant now, essentially for reasons of speed. He said, however, that he would keep an open mind on the private approach and if the President chooses that option, he would review the details without prejudice. He indicated that expansion of a consortium may face some difficulties in the Joint Committee.

Congressman McCormack indicated that he could go along with the private approach, but that there were several caveats he wished to make. First, he suggested that some time down the road there might be a demand for nationalization of the entire nuclear fuel cycle. Second, he thought that it might be desirable to explore going ahead with both the UEA option and the building of additional Government capacities at Portsmouth. When it was pointed out that this might slow down the development of centrifuge technology, he indicated that perhaps it might not be necessary to do both, but still we ought to think about it.

Congressman Rhodes strongly supports the private Option, and felt that privatization would not be achieved unless it were achieved now.

Senator Pastore feels that the only way to proceed expeditiously is to undertake some form of federal funding. "If you go with private contracts, you face another Comsat filibuster by starry-eyed members of the Senate who will rip any private contract to shreds." Pastore suggests an informal meeting with members of the Joint Committee on Atomic Energy so they can sit around in private and let their hair down on the issue.

Senator Tower said we should develop our increase in production under private auspices, perhaps with some form of federal incentives.

Senator McClure would rather see the undertaking exclusively private, but the reality of situation is that private sector will not be able to come up with the tremendous investment required. Accordingly, he would support a combined funding by private sources, to the extent possible, and federal back-up to get the operation started.

Senator Fannin said we should push our efforts as strongly as possible in the private sector.

Senator Hugh Scott leans toward combination of private enterprise plus government.

Senator Curtis leans to private enterprise method for production.

Congressman Cederberg said the government should have some hand in production.

Congressman Price said he will talk with Chet Holifield and Craig Hosmer . . . they're the experts. Would not mind private control. Quasi-government control while business is being nursed into it. Must move immediately but business needs to be eased into the responsibility.

Congressman Bud Brown is inclined to go with private sector approach.

Congressman Conable agrees with acceleration of production. To meet capital requirements, the approach must be quasi-government easing toward private sector control.

Senator Abourezk said that development is at the bottom of his priorities because of waste disposal. He is very concerned about the environment, and does not favor exports. If there is an expanded program, he wants strong governmental control (ostensibly for national security reasons).

Senator Bartlett is in favor of expansion, and private sector development.

Senator Bumpers is cautious about nuclear power development and concerned about current safeguards. He probably would not oppose export to non-proliferation treaty signers.

Senator Church is quite favorable to development, perhaps because of provincial Idaho interest. His prime concerns are facility safety and waste disposal. His attitude is not clear on exports, but the Senator has expressed worry about shipments to the Near East. His feelings are mixed on sponsorship. If Government controls, he does not want to give public utilities free fuel.

Senator Glenn said he has not given the matter enough serious study for hard answers. However, he is concerned about exports, and would most likely be for quasi-governmental operation and against private.

Senator Hansen is very favorable. He is concerned about exports because of need to fill domestic needs. He is alert to balance of payment problems. Even though he is normally completely pro private sector, because of control necessities, he would tend toward quasi-governmental operation.

Senator Hatfield feels we should not add new foreign agreements (in addition to present ones). He does feel we should beef up our domestic capacity. He gave no firm response on sponsorship but does feel certain that Government will have to take the first step.

Senator Johnston felt it was strictly a private sector on fossil fuels, but is also concerned about safety problems.

Senator Stone wants more nuclear generation. He would be in sympathy, but has safety concerns.

Senator Metcalf is negative. He is concerned with the whole nuclear program and fears a monopoly like oil. His big worry is on safety. No to exports. He sees no need to answer questions on whom should run the program because there should not be a program. He wants concentration on "clean" energy production: geothermal, solar, wind, etc. He says it is a crying shame that Interior and ERDA have not pushed oil recycling.

Congressman Udall would probably favor private development with Government regulation.

Congressman Roncalio favors expanded uranium enrichment. He would probably like to see a mix between public and private development.

Congressman Steelman is undergoing a learning process and wants to remain open and uncommitted. He probably would favor expansion and private development with Government regulation.

Congressman Skubitz leans toward anti-nuclear development ever since the AEC tried to store nuclear waste in Kansas. He feels that ERDA is controlled by the same type of people who used to run AEC.

Congressman Symms would favor private development.

Congressman Miller (D-Calif.) seems to favor nuclear development and would support public development more than private.

FEDERAL BUDGETARY IMPACT OF THE TWO ALTERNATIVES

SUMMARY

During the period through 1981:

- Alternative #1 (UEA plant) would likely cost the Government essentially nothing. The contingent requirement to assume UEA assets and liabilities may require about $1.4 billion of contract authority (BA) initially but the outlays would be expected to be zero.
- Alternative #2 (Government plant) would involve about $761 million in net outlays.

For the period through 1990 (about 8 years of operation):

- Alternative #1 could involve:
  - $300 million in outlays to purchase resalable uranium enrichment services from UEA for the Government stockpile which would be sold off about 1990.
  - revenues of about $570 million from royalty payments ($140 million) and UEA income tax payments ($430 million) during the period from 1984 through 1990.
- Alternative #2 would involve outlays of about $508 million.

Regardless of the alternative selected, the Federal Government will continue to receive considerable revenues from uranium enrichment services carried on in the 3 existing plants. These revenues will be increased if Congress approves the commercial charge legislation which is now being readied for transmittal. These revenues can be viewed as offsetting the cost of another Government plant or simply as additional Federal income.

The attached table shows the obligations, outlays and revenues by year through 1990 for the two alternatives and the revenues from the existing plants, assuming approval of the commercial charge legislation.

The table does not include:

- The expected revenues that would be received from income taxes and royalties under Alternative #1.
- The requirements for electrical power which:
  - under alternative #1, could involve an additional Government obligation for assumption of UEA long-term purchase agreements for power from 2 nuclear plants servicing UEA - if acquisition of UEA assets and liabilities became necessary, but power is resalable.
  - under alternative #2, the cost of power for the add-on plant.

June 2, 1975

Comparative Analysis of Budgetary Impact on ERDA of Uranium Enrichment Capacity Expansion Alternatives
(in millions of FY 1976 dollars)

	FY 1976	TQ	FY 1977	FY 1978	FY 1979	FY 1980	FY 1981	FY 1982	FY 1983	FY 1984	FY 1985	FY 1986	FY 1987	FY 1988	FY 1989	FY 1990	Total
A. Alternative 1 (ERDA assistance to the 9 million SWU venture, estimated by UEA to cost $3.5 billion)[1]																	
Obligations																	
1. Performance assurance, net of revenues ..	33	-3	-14	-20	-4	-8	-8	-31									-55
2. Stockpile backup/ load leveling [2][3]									60	60	60	60	60				300
3. Government buyout (contingent)[4] ...	See footnote 4 below																
Total		-3	-14	-20	-4	-8	-8	-31	60	60	60	60	60				245
Outlays																	
1. Performance assurance, net of revenues ..	-1	0	-1	-2	-4	-8	-8	-31									-55
2. Stockpile backup/ load leveling [2][3]									60	60	60	60	60				300
3. Government buyout (contingent)	See footnote 4 below																
Total	-1	0	-1	-2	-4	-8	-8	-31	60	60	60	60	60				245
B. Alternative 2 (Construction and operation of add-on 5 million SWU diffusion plant by ERDA, at estimated capital cost of at least $1.2 billion)																	
Obligations	16	21	109	169	269	289	247	165	158	160	150	150	150	150	150	150	2,503
Outlays	15	6	34	79	229	294	313	247	191	195	150	150	150	150	150	150	2,503
Revenues			-15	-50	-70	-55	-19				-161	-374	-253	-265	-400	-333	- 1,995
Net outlays	15	6	19	29	159	239	294	247	191	195	-11	-224	-103	-115	-250	-183	508
C. Net revenues(-) from 3 existing ERDA plants[5] (for reference only)	164	139	294	-41	-436	-820	-1,107	-1,222	-743	-1,053	-1,137	-1,053	-660	-990	-1,013	-984	-10,662[5]

Footnotes

Note:

a. All figures assume "most likely" case, rather than minimum or maximum estimates.

b. Follow-on increments of capacity in either alternative are expected to be provided by private industry (using centrifuge technology), with Government assistance (at least for the first few plants). The cost of such an assistance program is not yet known but would be essentially the same under both alternatives. However, such an assistance program might well occur a little later under Alt. 1.

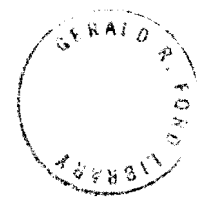
1/ Includes about $800 million for certain business costs which would not be incurred in Alternative 2.

2/ Government costs would be recoverable through sale of these excess SWUs, probably in the late 1980's or beyond.

3/ Assumes excess uranium feed (yellow cake) available from ERDA stocks. If such feed must instead be purchased by ERDA at $30/lb. U_3O_8, an additional $500 million would be required. Furthermore, potential maximum obligation proposed by UEA could cost the Government $1.2 billion.

4/ Covers contingent buy-out of domestic share of UEA project by ERDA. Assuming UEA project cost of $3.5 billion (1976 dollars), this feature could cost the Government up to 40% of $3.5 billion, or $1.4 billion for domestic debt and equity. If the Government should be obligated only to buy domestic equity (15% of the domestic share), this feature would cost the Government up to $210 million. It would probably be necessary to seek BA initially unless Congress were willing to approve, and UEA were willing to accept, authorization of appropriation of "such amounts as may be necessary" when and if contingency arises. In any event, the "most likely" outlay projection would be zero.

5/ Assumes commercial-type charge for enrichment services and maintaining current contract schedules.



COMPARATIVE TIMETABLE - ALTERNATIVES #1 AND #2

	Alt #1 UEA - Private Plant	Alt #2 Government Add-On Plant
o Conceptual design began	Jan 74	June 74
o Presidential meeting on alternatives	June 5, 75	June 5, 75
o Consultations, Legislation, message preparation, briefings, etc.	June 5-25, 75	June 5-25, 75
o Presidential message transmitting legislation	June 30, 75	June 30, 75
o U.S. intent to reopen order book clearly established	June 30, 75	June 30, 75
o Sign first letter agreement	July 5, 75	na
o Congressional approval	Nov 75	Sept 75
o Second letter agreement with UEA covering procurement and backup support	Dec 75	na
o Obtains commitment to supply electric power	Dec 75	Mar 76
o UEA has equity partners and foreign and domestic customers and financing - UEA ready to go	Mar 76	na
o UEA files first part (environmental report) of construction permit application with NRC	Jul 76	na
o ERDA files draft environmental impact statement	na	Mar 76*
o Complete UEA-Government agreement	Jul 76	na
o Site preparation begins	Jul 77	Mar 77
o Production begins	Jul 81	Apr 83
o Full production achieved	Jul 83	Jan 84

* Environmental import statement may be necessary before order book can be opened.

SUMMARY: Working Paper re Uranium Enrichment Associates

UEA intends to:

1. Build as a private enterprise venture a 9 million SWU uranium enrichment facility in Alabama, estimated to cost $2,750,000,000 in 1974 dollars with full operation to be attained in 1983. Within reasonable limits the actual plant size will be determined by the market.

2. Sell to domestic utilities (40% of the output) and to foreign organizations (60% of the output) on long-term (25 year) contracts, at a price sufficient to pay all costs and provide an appropriate return to the investors.

3. Finance the 40% domestic capacity from normal commercial sources in US on an 85% debt - 15% equity ratio. Finance the 60% foreign sources on the credit of the foreign coustomers and with the same debt equity ratio.

USG has been requested to:

1. Supply, at cost, essential mechanical components, presently produced exclusively by USG.

2. Supply USG's diffusion technology and warrant its satisfactory operation.

3. Provide during first years of operation limited access to and from USG's stockpile of enriched material to balance significant start-up loading problems.

UEA proposes that:

1. Prior to commercial operation a standby USG financial backup lasting for the critical construction period plus one year is proposed to offset the current weak credit position of the U.S. utility industry and give confidence to commercial lenders. UEA may require USG to provide such financial backup if UEA cannot complete the plant or bring it into commercial operation, but such a call is at the risk of loss to UEA of its equity interest. USG at such call of UEA, has the right to acquire UEA's domestic equity position and the obligation to assume UEA's liabilities and debt.

2. USG may also require UEA to release the project to USG if the government's interest demands and thereby will be obligated to assume UEA's liabilities and debt.

3. The consideration for acquisition of UEA's domestic equity position in either case can range from loss of equity for uncorrected gross mismanagement of UEA to full fair compensation for causative outside UEA's reasonable control.

USG will have appropriate rights to approve certain matters to be agreed upon.

URANIUM
ENRICHMENT
ASSOCIATES

Address Replies to:
50 Beale Street
San Francisco, CA 94105

May 30, 1975

Dr. Robert C. Seamans, Jr.
Administrator
Energy Research & Development Agency
Washington, D. C. 20545

Dear Bob:

Uranium Enrichment Associates has for two years been engaged in developing a privately financed, owned and operated uranium enrichment venture in response to the Government's invitation to do so. During that period, a great deal of work has been done and many tentative agreements have been reached. In the attached paper entitled "Working Paper Re Uranium Enrichment Associates" dated May 30, 1975 and in meetings conducted with the USG inter-agency group during the week, we have summarized our present situation and proposed a program of Government contingency back-up to the credit worthiness of United States utilities which we believe will enable us to successfully proceed with this undertaking.

The actions proposed anticipate no expenditure of Government funds unless our project cannot be completed in the private sector, an eventuality we believe most unlikely. If our project cannot be so completed, provision is made for Government possession and ownership of the facility and other assets, so that the national objective of providing enrichment capacity will be preserved. We believe the actions proposed for the Government will lead to provision of the next increment of enrichment capacity at the lowest possible involvement and cost to the Government and in a manner most consistent with national policy; and we, therefore, most urgently solicit early favorable decision.

To permit the project to proceed as expeditiously as possible under the general principles outlined in the attached paper, we urge that, in the event the Government favorably considers these

proposals, such action be confirmed in the form of a brief interim agreement to be effective while more definitive agreements are negotiated.

We are most anxious to bring other equity participants into the project, to advance negotiations with the customers who have shown interest and to move on all other of the complex management, financial and marketing undertakings necessary to assure completion of the venture.

We assure you of the interest and dedication of our parent organizations to UEA and to private enterprise and to this project; although in the limited time available and in view of the uncertainties of the Government's position, we have not yet obtained formal approval of the Boards of the participating companies to this specific proposal.

We stand ready to follow-up on this matter in any way we can and will be available to discuss the matter further at your convenience.

Very truly yours,

J. W. Komes

R. A. Jay

Attachments
(Working Paper)
(Summary)

WORKING PAPER RE URANIUM ENRICHMENT ASSOCIATES

Uranium Enrichment Associates (UEA) has been formed in response to the expressed policy of the United States Government (USG) to develop the first private enrichment plant in the United States following the CIP/CUP programs of ERDA. UEA is confident this can be accomplished with financing based upon long-term non-cancellable contracts with United States and foreign organizations who require enrichment services. Recent months, however, have demonstrated that the credit of U. S. utilities has deteriorated. To give confidence to investors, back-up assurances will be required from the United States Government. Such assurances would be compatible with the commitment of this country to be a continuing and reliable source of enrichment services.

The general plan for proceeding with a private uranium enrichment venture involves the construction and operation of a large gaseous diffusion enriching plant located on the Chattahoochee River in southeastern Alabama, where a site has been optioned.

A plant of 9 million SWU per year capacity is planned. Within reasonable limits the actual plant size will be determined by the market. A preliminary estimate of the cost of the 9 million SWU plant is $2,750,000,000 in 1974 dollars, with full operation to be attained in 1983. Power in the amount of about 2500 MWe is expected to be supplied from a dedicated nuclear power facility, to be financed differently.

Based on marketing efforts undertaken to date, about 40% of the plant capacity will be taken by domestic utilities, and the balance by non-US organizations. For both domestic and foreign customers, UEA will supply toll enrichment service under long-term (25 year) contract.

Each customer will be charged for its percentage of the total cost of operation of the facility on a "take or pay" basis and will supply and retain title to the required feed material.

Project financing utilizing an 85% debt, 15% equity ratio is contemplated both for the non-US share of the plant and for the domestic share of the plant.

As now foreseen, about 60% of the project will be contracted to foreign reactor needs. The UEA contracts with foreign customers will require that each such customer provide, on a firm basis, all of the capital investment proportional to each customer's subscription to the output from the enrichment plant. Such capital investments will include equity and debt and must be provided by the customer from its own sources of capital and the obligation of repayment rests with the customer. Prospective foreign customers understand these conditions and also understand that voting control (55%) will be in the hands of the United States investors.

The United States portion of the equity will be supplied by US investors who are expected to be a group of substantial industrial concerns acceptable to USG. U.S. debt financing during the construction period will be by interim

SECOND, events involving:

A. Gross mismanagement by UEA;

B. Wilful misconduct by UEA; or

C. Gross negligence by UEA,

which significantly threatens satisfactory completion and capacity of the project and for which UEA, after formal written request from USG, does not take reasonable steps toward correction. In such an event, no cash compensation would be paid for the rights of UEA's equity holders.

THIRD, events which do not fall within the first two categories. In such an event, appropriate compensation, if any, would be determined utilizing agreed formulas for the recognition of UEA's compliance with its commitments, the efforts of UEA and the degree of fault, if any, in foreseeing and dealing with the particular situation. The preliminary determination of compensation shall be made by USG and the basis thereof reviewed with UEA.

As noted, UEA's domestic financing obligations would be assumed by USG in the event of a transfer of ownership, which UEA understands will invoke the full faith and credit of the United States. UEA intends to assure that all its domestic debt will be callable, without premium, in case of a transfer of ownership.

UEA has proceeded on the basis that there will be a firm and continuing policy of the United States Government with reference to the participation of foreign investors in enrichment facilities located in the United States and in the sale of enriching services to foreign customers. It has been taken that the policy of the Government has been to encourage such international relationships, and it is expected that the present areas of doubt will be clarified with a strong and positive statement reexpressing the United States policy. UEA will continue to advise prospective foreign customers that their participation in UEA, either as an investor or client for enriching services, would be subject to U.S. laws, regulations and licenses. UEA intends in all respects to operate as a private industry venture using high quality standards of commercial procedure, practice and control.

In recognition of the USG guarantee of equipment, process and the like, UEA will develop the design of the plant in full cooperation with USG and permit USG full opportunity to be aware of, have access to and approval of the manner in which the process is engineered, installed in the plant and operated.

any reason, to physically complete the plant or otherwise bring it into commercial operation, as agreed, despite its best efforts; or USG in its opinion for the same reasons, or if UEA has defaulted in meeting specified and agreed conditions. The right to require a transfer and the obligation to accept would terminate one year after the plant has achieved full-scale steady commercial operation.

The consideration to be paid by USG for the acquisition of the rights of the domestic holders of UEA's equity would be determined by reference to whether the reason for the transfer fell within one of three categories, but the consideration would, in any event, include assumption of liabilities. The three categories are:

FIRST, events caused by USG or otherwise beyond the reasonable control of UEA as listed below. In such cases UEA's domestic equity holders would be entitled to full compensation, that is, return of their original investment and additional compensation, as determined by USG, to reflect the results achieved to the date of transfer.

A. Failure of warranted USG technology to operate so as to permit the plant to achieve commercial operation within the agreed upon time period and costs, despite reasonable efforts of both UEA and USG.

B. Failure of governmental licenses to be obtained in a timely manner or the application of law or regulation so as to prevent the plant from achieving commercial operation within the agreed upon time period and costs, despite reasonable efforts of both UEA and USG.

C. Interposition by USG for reasons of national interest in the matter of contractual relationships between UEA and previously approved customers to a degree which significantly threatens the economic viability of the project.

D. The inability of UEA, because of lack of customer credit worthiness, to raise capital for construction or long-term financing despite reasonable efforts of UEA to do so.

E. Such other events as may be mutually agreed upon.

2. Access to USG's stockpile of enriched material: 9 million SWU equivalent to be available from USG stockpile for lease or sale to UEA during start-up period to cushion against delays or interruption of plant operation and to assist UEA in matching capacity with orders during the first few years; and a commitment that USG will purchase from UEA enriching service up to 6 million SWU during the first 5 years of UEA operation, to balance over-capacity due to scheduling of first core loadings or other significant factors which affect the reasonable balance of production capacity and the then current demand. The quantity of USG material held in stockpile for UEA would be decreased annually after start-up of the UEA plant, so that after 5 years of operation no further requirement would exist.

Specific provisions defining the conditions under which material would be furnished from or to the USG stockpile as well as repayment arrangements, if any, prices, terms and other conditions will be negotiated on a mutually acceptable basis.

In addition to these transactions, UEA and ERDA will work out mutually acceptable arrangements for the exchange of SWU's to permit UEA to serve customers requiring highly enriched HTGR fuel and to assist an economical plant start-up.

3. The supply at cost of technical assistance and knowhow for the installation and operation of USG's diffusion process. USG will guarantee that the manufactured items and process technology will operate as expected and will accept the obligation to complete or cause completion of the plant if UEA is unable to satisfactorily complete because of a breach of USG's warranty. Such obligation shall continue until one year after demonstration of full-scale steady commercial operation.

4. An undertaking by USG to provide back-up support with respect to the financing of the plant and the obligations to complete and operate the plant which is anticipated to be through a "transfer of ownership" from UEA to USG, as outlined below.

This undertaking would provide the needed assurance, from a credit worthy source, that additional capital can be available to provide for completion of the project or that the investors have the opportunity to recover their investment if the project can not reasonably be brought into commercial operation.

"Transfer of ownership" would be the acquisition by USG of the owners' rights of the domestic holders of UEA equity and the control of UEA. USG will also thereby assume the liabilities and obligations, including responsibilities for repayment of the domestic debt, of UEA. Either UEA or USG could require a transfer of ownership; UEA, if in its opinion it were unable, for

loans from commercial banks with final take-out financing from the U.S. commercial bond market. The security for long-term debt will be the firm contracts from the purchasers of the enrichment services.

UEA proposes to use all reasonable commercial back-up arrangements within the private sector in support of the project. A program of insurance has been developed which will provide substantial coverage from the risks of physical damage, business interruption, and general liability. Extended risk coverage to the limit of $1 billion, business interruption with a limit of $100 million and general liability insurance up to $50 million now have been assured.

It is also proposed to establish a contingency reserve fund which will accumulate from an addition to the unit cost of separative work performed for customers of the plant. The reserve fund is intended to provide protection against unforeseen financial requirements during the operation of the enrichment facility. Amounts unused in the reserve fund for such purpose and collected from U.S. customers will ultimately serve to offset their debt service through the latter years of debt obligation. Sufficient funds are expected to accumulate to permit this reserve fund to pay for debt service during the last 10 to 12 years of the debt obligation. At that point, the customer's cost of separative work would be reduced by elimination of payments to the reserve fund as well as of charges for debt service.

Under the contracts with the customers of the plant, the cost of separative work will provide full recovery of the total costs of owning, financing, operating, and maintaining the project, including provision for an after tax return on equity computed at 15% of initial equity investment with such adjustment as may be necessary to attract quality equity participants.

The above basic terms have been discussed at length with interested U.S. utilities and foreign customers, and they are in general agreement. These terms coupled with the following areas of government assistance will produce conditions which, in our opinion, will allow private entry into uranium enrichment.

It must be recognized that the technology and the key components of the gaseous diffusion process are classified government information not generally accessible to either the private investor or to the utility customer. Accordingly, the UEA plant will be founded on confidence in government supply of key components, government processes and government knowhow. USG will charge a royalty during the first 17 years of operation of the UEA plant.

Consequently, certain government assurances are reasonable to support the transition to private industry. UEA, therefore, requests the following assurances:

1. The supply by USG to UEA, at cost, of essential mechanical components of the plant such as barriers and seals which, for security reasons, are presently produced exclusively by USG;

In recognition of USG interests and because of the USG support of the financial position of the project, UEA will arrange to have its procedures, practices and controls reviewed by an independent audit firm of recognized competence and secure and file with the USG their opinion of the adequacy of these elements. UEA will also obtain USG approval of actions and agreements to be undertaken by UEA which could significantly affect the interests of USG. UEA and USG will define the types of such actions and agreements and specify them to the extent possible.

Description of the Government Plant Alternative (#2)

Alternative 2 is similar to Alternative 1 insofar as the development of private centrifuge enriching capacity is concerned; it differs only in the method of providing the needed early increment of Government diffusion capacity. Under Alternative 2 the Government would proceed promptly to undertake the construction of an add-on increment of capacity to the existing ERDA plant at Portsmouth, Ohio. While the increment would be sized nominally at 5 million-separative work units per year, the firming (within the next year or so) of future demand, and of plans of private centrifuge enrichers to supply enriching services, would permit some adjustment of this capacity target before major construction had begun. The add-on plant would be scheduled for completion by about 1983 assuming project authorization and initial funding in FY 1976. The add-on increment would be designed to be an integral part of the entire Government enriching complex; it could not operate independently to produce a nuclear power reactor grade product. Because of this it would utilize a single size of equipment, thus have a lower per SWU capital cost than would a "full gradient" plant. The total cost of the add-on plant is projected to be $1.2 billion in 1976 dollars.

Under Alternative 2, just as under Alternative 1, ERDA would launch concurrently an intensified program to assure that several firms will be ready to build subsequent private plants using the new centrifuge technology. The private centrifuge program envisages early ERDA issuance of a Request for Proposals (RFP) from the private sector to achieve several centrifuge projects in the 2-3 million SWU/year range in the mid-1980's. While such projects would likely commence with smaller modules, perhaps a tenth that size, the program would contemplate the smooth expansion of these projects to achieve the capacity at which further expansion could occur without Government assistance and in response to the need of the marketplace. Response to the RFP would be expected to identify the Government assistance required. This is likely to include similar provisions to those requested by UEA under Alternative 1 and would therefore require appropriate authorizing legislation. A period of negotiation with individual proposers is anticipated leading to firm contractual commitments to the program by several companies before the end of FY 1976.

Alternative 2 would achieve the objective of early resumption of firm U.S. contracting by ERDA promptly seeking (a) amendment by the Joint Committee on Atomic Energy of the criteria upon which it is now permitted to contract, and (b) formal Congressional authorization of and appropriations for the add-on project. Then firm contracting could resume.

Alternative 2, like Alternative 1, also contemplates the prompt request to the Congress for authority to charge for Government enriching services on a more nearly commercial basis. While this is justifiable in its own right, it has a corollary benefit with respect to stimulation of private enrichment projects and the willingness of utility customers to negotiate with private enrichers.

TAB F

MEMORANDUM 3784

THE WHITE HOUSE

WASHINGTON

June 2, 1975

MEMORANDUM FOR: JIM CANNON

FROM: HENRY A. KISSINGER

SUBJECT: Views for the Uranium Enrichment Paper

The following are views that I would like to have incorporated in the decision paper on uranium enrichment.

It is difficult to overstate the decline, during the last year, in the foreign perception of the U.S. as the world's reliable supplier of nuclear fuel. We have moved from a position of nearly absolute leadership to one where our credibility is questioned in virtually every country pursuing the nuclear energy option. Not only are we losing significant nuclear trade, but the leverage that our nuclear position afforded us in achieving other energy objectives, and in guiding non-proliferation efforts, has been weakened.

This decline has resulted largely from our actions of closing the order book for enriched uranium a year ago, failing to take concrete steps to expand our enrichment capacity, and offering "conditional" enrichment contracts to some forty foreign customers, only to have the basis for firming up these contracts postponed for several years by regulatory action.

To rectify this state of affairs, it is imperative that we take immediate actions to allow firm U.S. enrichment contracts to be granted. In my view, this requires a commitment now to an add-on plant to the present government facilities. The other course of trying to establish UEA is far less certain of success, given the possibility of (1) Congressional disapproval after protracted debate, (2) failure of UEA after another year of marketing to obtain the customer commitment (presale of 80% of the output for 25-years) it requires before undertaking plant construction, or (3) intervention by environmentalist to block construction of a large new plant at a new site. These risks are not worth the limited potential gain of setting up a private enrichment company that is basically in a monopoly position. It seems better to deal forthrightly with our immediate problem of credibility by building the last gaseous diffusion plant as a government add-on, and looking to the several centrifuge companies to establish a competitive enrichment industry.

If you decide, however, to support the UEA approach, it is vital that as a first order of business we seek Congressional authority to guarantee the enrichment contracts that UEA negotiates. In the event of UEA failure to undertake plant construction, the government would then stand behind the contracts by building and supplying from a new facility.

TAB G

UNITED STATES
ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
WASHINGTON, D.C. 20545

June 3, 1975

The President
The White House
Washington, D.C. 20500

Dear Mr. President:

I have believed, from the beginning, that our essential national objectives for expanding U.S. enrichment capacity are to:

1. Get the U.S. order book open in a convincing way so as to maintain the U.S. leadership position in world supply, and to support growth of the utility industry in this country.

2. Establish a competitive private enrichment industry.

3. Commercialize our most competitive technology, centrifuge enrichment, at the earliest date.

I continue to believe that option #2 (minimum government gaseous diffusion plant and active pursuit of centrifuge commercialization) is the surest and most direct way to achieve our central objectives. Option #1 (UEA gaseous diffusion plant and centrifuge commercialization) is less sure of success because it requires more coordinated effort to implement and it presents more risk of Congressional rejection. In paying this price, option #1 provides two benefits:

1. Commercialization of the next increment of capacity. However, I believe putting a sole source into an old technology may draw criticism.

2. Lower Federal outlays in the near term. However, we would set a government price to recoup these outlays, with interest, over the life of the plant.

Although I support option #2, I believe option #1 is potentially workable, now that UEA has substantially modified their proposal. If we are to open the U.S. order book using option #1, we must immediately obtain agreement by the Joint Committee on Atomic Energy of the proposal, outlined in the decision memorandum. In addition, this option depends on:

1. A strong display of Administration support and the vigorous assistance of the Department of State with foreign customers.

2. An active follow-through on centrifuge commercialization to minimize the adverse consequences of seeming to support a single private firm as compared to a competitive industry. This requires the continuing support of FEA and OMB.

Consequently, if we are to proceed with option #1, the necessary State, OMB, and FEA support must be considered part of the decision.

I am, of course, prepared to pursue vigorously your decision on either option.

Respectfully yours,

Robert C. Seamans, Jr.
Administrator