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Friday 5/23/75

Meeting
5/24/75
8:45 a.m.

7:10 Mr. Cannon's office advises there will be a meeting
with the President in the Cabinet Room at 8:45 a.m.
Saturday 5/24 -- with the following people --
subject: uranium:

General Scowcroft

Mr. Seidman

Mr. Marsh

Mr. Lynn

Mr. Zarb

Dr. Seamans

Mr. Cannon

Mr. Conner

Mr. Rumsfeld/Mr. Cheney

Mr. Greenspan (probably won't be there as he is on
his way to New York)

CONTAINS
CONFIDENTIAL
ATTACHMENT

THE WHITE HOUSE
WASHINGTON

DECISION

May 23, 1975

MEMORANDUM FOR THE PRESIDENT

FROM:

JIM CANNON 

SUBJECT:

Expansion of the Production of Enriched Uranium

The importance of enriched uranium to future energy production can be summarized in this way: From the early 1980's to the year 2000, enriched uranium is likely to be as significant to energy production as oil is today.

The U.S. need to expand its capability to enrich uranium presents two issues:

The immediate issue is how Secretary Kissinger can, at the May 27 Ministerial Meeting of the International Energy Agency, demonstrate that the U.S. is committed to maintaining United States leadership as the free world's supplier of enriched uranium and U.S. dominance in nuclear affairs.

The long-term issue is whether enriched uranium, the fuel for the atomic energy utility plants that are expected to be built by the hundreds from now until 2000, will be produced by the United States government, by private enterprise or by a combination of the two.

BACKGROUND

The United States is now enriching uranium in three ERDA-owned plants - at Paducah, Kentucky, Oak Ridge, Tennessee, and Portsmouth, Ohio. These plants, now being expanded, can supply the initial fuel and replacement fuel for 270 nuclear electric plants.

Each of the three enriching plants uses the World War II diffusion process, which is proved in technique, but very costly in electric consumption.

The capacity of all three plants is fully committed - about 2/3 for domestic utilities, 1/3 for foreign. In fact, for almost a year, the United States has not been able to take any more orders for enriching uranium.

The world-wide demand for enriched uranium in the foreseeable future would require, according to best estimates, 20 additional plants of about the size of each of the ERDA plants. To meet U.S. demand and about half of foreign free world demand (the informal U.S. target) will require the construction in the U.S. over the next twenty years of about ten plants, each the size of an existing ERDA plant.

Clearly, we need additional production capacity, both for domestic needs and to compete for foreign markets.

The policy of the previous Administration was to encourage private financing and construction of additional uranium enrichment plants.

Last Fall you approved a study to reevaluate that policy.

The alternatives have now come down to these:

1. Assist private industry, through technical assistance and some Federal guarantees, in building the next diffusion plant, at a cost of about \$3 billion of private capital.
2. Have ERDA expand its Ohio diffusion plant (at a cost of about \$1.2 billion) while encouraging private industry to build additional plants using a new centrifuge technique. The centrifuge process of enrichment is an experimental success and uses less than one-fifth the electricity of diffusion. But it has not yet been proved commercially. (EXXON, Garrett Corp., and ENI-Atlantic Richfield are among those which have indicated a strong interest in building centrifuge plants.)
3. Have ERDA build all the additional uranium enriching plants the United States needs for domestic and foreign markets.

Current Situation

The eight-month evaluation has not brought about a consensus. Your principal advisers with responsibilities in this field are in disagreement.

1. Secretary Kissinger and Dr. Seamans (Tab I) state that:
 - (a) Immediate domestic and international needs for additional

uranium enriching plants require immediate expansion of ERDA's capacity as soon as Congress approves.

- (b) The President should decide that, if at all possible, the next enrichment plants built in the U.S. would be private, either centrifuge or gaseous diffusion.
- (c) Thus we need not make a judgment now whether or not the one private consortium attempting to build a diffusion plant, Uranium Enrichment Associates, can get the financing, or the Congressional support for Federal guarantees against losses, necessary to build a plant that will cost \$3 billion or more. (UEA includes Bechtel, Goodyear, and is expected to include 3-5 other U.S. firms, with capital participation by Iran, Jordan, and other nations.)
- (d) We cannot continue to delay expanding production, for we are already losing orders to Russia, (which we believe has one plant and a stockpile of fuel), France, and Germany. We are also losing dominance over the provision of enriching services, which we would like to retain for national security reasons.

2. Jim Lynn and Frank Zarb (Tab II) take this position:

- (a) As a matter of principle and policy, we should encourage private industry to enter uranium production as soon as possible.
- (b) The substantive decisions as to how we obtain further production -- public or private ownership, diffusion versus centrifuge -- should be made on the basis of an options paper being developed through interagency efforts during the past few months, which can be ready in early July.
- (c) In order to properly assess the pros and cons of the UEA option, its proposal needs further definition, including the extent of assistance UEA believes it would need from the Federal Government. This should be worked out by negotiation. Lynn recommends that you direct Frank Zarb and

Dr. Seamans to find out and report to you within thirty days what UEA's minimum requirements for Federal assistance would be. Without such work, the UEA option will not be definitive enough to be an option.

- (d) By no later than mid-July, you would be in a position to make the decisions based on the interagency option paper, including the UEA option.
- (e) An Administration commitment now to expand ERDA production would discourage UEA from going ahead with its diffusion plant and probably cause its members to dissolve the consortium. If UEA withdraws, then other private firms would be reluctant to try later.

OBJECTIVES

From our discussions with your advisers and study of the attached memoranda, it appears that these are desirable objectives:

1. To provide Secretary Kissinger with specifics that make credible what the United States is doing to expand production, and enable him to make commitments as to future deliveries of enriched uranium.
2. To provide the opportunity for private enterprise to engage in uranium production as soon as possible.
3. To be ready to expand ERDA's production if that is necessary.

OPTIONS

1. Authorize announcement simultaneously here and by Dr. Kissinger in Europe on May 27 that U.S. Government will build the next addition to U.S. uranium enrichment capacity. (Supported by Secretary Kissinger and Dr. Seamans)

_____ Agree

_____ Disagree

2. Authorize Dr. Kissinger to announce on May 27 that

- (a) U.S. Government will cause to be built, preferably through private ownership, but by the Federal Government if necessary, additional enrichment capacity (along the lines of the speech outline at Tab III.)
- (b) direct that negotiations with UEA be conducted promptly, and
- (c) direct the final options paper on the substantive issues --government versus private, diffusion versus centrifuge, etc. -- to be delivered to you no later than July 5.

(Supported by Jim Lynn, Frank Zarb, Phil Buchen, Jack Marsh Bob Hartmann, and Alan Greenspan.)

_____ Agree

_____ Disagree

WASHINGTON

SECRET ATTACHMENTACTION

May 10, 1975

MEMORANDUM FOR: THE PRESIDENT

FROM: HENRY A. KISSINGER *B*

SUBJECT: Uranium Enrichment

Last fall you requested an interagency study (NSSM 209) of the steps the U.S. might take to meet future domestic and foreign demand for uranium enrichment services (the fuel for nuclear reactors). One of the main questions was whether or not there are private companies who would take over this business and relieve the Government of the responsibility. The study is completed and could be forwarded for your decision within two weeks. However, OMB is asking that instead of reaching a decision now, you direct ERDA to pursue negotiations with one company (UEA) for the purpose of trying to reduce the list of Government supports the company requires to get into business. (These Government supports involve a guarantee loan -- up to \$3 billion -- if UEA bonds cannot be sold; a guarantee that the plant will work technically; the assumption of cost overruns; a buy out of UEA if the plant cannot operate because of licensing, regulation, or judicial action; taking over the contracts of defaulting customers; buying up to 15% of the plant's output for the first three years; terminating enough of the ERDA contracts with current customers so that UEA can acquire them and be assured of having its product sold out; and allowing UEA to borrow enriched uranium from the U.S. stockpile.)

Bob Seamans (in a letter to you at Tab A) opposes negotiation because he feels that he has adequately assessed the UEA proposal (Tab C). Such negotiations would take a number of months (time we do not have, for reasons outlined below), would highlight the chosen instrument character of UEA and undercut already dubious Congressional support, and are unlikely to produce the major changes in the assistance package necessary to make the company's demands acceptable. Further, it is quite conceivable that even with Government supports UEA will fail a year from now to commit to plant construction. There is little support among U.S. electric utilities for UEA (hence the need for UEA to try to sell 60% of its output to foreign customers) and the company is thinly financed (the organizers are putting up only 6% equity investment).

SECRET ATTACHMENT

Seamans believes that it is possible to establish a competitive private enrichment industry using a new technology (centrifuge). This strategy would require that an add-on be built to one of the Government gaseous diffusion facilities to handle orders for enrichment services over the next year or two, while the centrifuge companies are firming up. In Seamans' view, this course would be more preferable than committing to UEA (which would use current technology) and thereby creating a virtually risk-free monopoly propped up with Government supports, which would effectively delay the evolution of a competitive enterprise. (The cost of the Government add-on would be \$1.5 billion over eight years, but could be largely offset by revenues from our present plants.)

The State Department (Tab B) is particularly concerned that, whatever decision is reached, the commitment be immediate. The U.S. has been the free world's supplier of nuclear fuel and the dominant leader in nuclear affairs. A year ago, when we stopped accepting fuel orders, our credibility as a reliable supplier sank precipitously. Since then several of our allies have turned to the USSR for this fuel, major investments have been made abroad in enrichment facilities that will compete with the future U.S. enrichment industry, and reactor sales, which are tied to fuel contracts, have gone to foreign companies. (Because of our fuel contract hiatus, Brazil just signed up with Germany for \$4 billion in reactors and equipment that would have been expected to go to GE or Westinghouse -- see Tab D.)

In addition to trade and other energy policy considerations, we want to maintain foreign reliance on the U.S. nuclear supply because this permits us to exercise special controls to inhibit the proliferation of nuclear weapon development. Because of the dual character of nuclear technology, we cannot deal with it simply on a commercial level.

It would be very useful in reestablishing our nuclear position if we could announce at the May 27 Ministerial Meeting of the International Energy Agency that a U.S. commitment has been made to build additional enrichment capacity and that we will be accepting fuel contracts as soon as general Congressional approval is obtained. This would necessitate a basic decision on your part before that time.

RECOMMENDATION:

That ERDA not be directed to negotiate further with UEA and that the decision paper on the next U.S. uranium enrichment facility, based on the interagency review of the issue, be forwarded to you within two weeks.

Approve _____

Disapprove _____



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

May 8, 1975

The President
The White House

Dear Mr. President:

Jim Lynn has advised me that he is recommending that you direct ERDA to pursue negotiations with the Uranium Enrichment Associates in an effort to determine what would be the minimum federal assistance necessary to bring this private enrichment venture into being. He feels this added information is required to enable you to make a decision between the several alternatives for obtaining uranium enrichment capacity.

ERDA has already conducted an extensive review of the UEA proposal and has reviewed its findings in detail with the OMB and other members of your staff. It is my view that we have sufficient information today to decide on a viable course of action -- a course which I believe best serves our objective of introducing private industry into this sector of the nuclear power business and meets the critical consideration of timing. An immediate decision is essential to our own economy and to our balance of trade. Our inability for the past year to take orders has added uncertainty to our domestic utility industry and to our foreign position on the sale of uranium fuel and nuclear power reactors.

In light of these considerations, I have in recent weeks presented my views to Jim Lynn, recommending:

- Rejection of the UEA proposal;
- Commitment to add enrichment capacity to an existing government facility in order to take immediate orders, both domestic and foreign;
- Initiation of private enriching capacity on a competitive basis using centrifuge rather than gaseous diffusion separation methods. This advanced technology has much greater energy efficiency, and is more flexible in terms of meeting shifting demand.

The UEA approach is not the best alternative available to the government.

--- As it now stands, the UEA proposal represents both a sole source procurement and such a high federal liability and low private risk that it would set an undesirable precedent for future commercial ventures. For this reason, Congressional support will be most difficult to achieve and, even if such authorization is achieved, 9-12 months will have passed without an assured program for meeting demand for enriched uranium.

--- Negotiations with UEA would require a number of months and -- even if their position proved more acceptable -- would still not of itself speed the re-opening of the "order book" nor establish private enrichment on a competitive basis.

In our plan, we would immediately seek Congressional authorization for added government capacity and for industrial cooperation for privately financed centrifuge facilities. We would then initiate the design and procure the long lead items for the expansion of government facilities. We would tailor the size of the add-on government plant to the minimum needed to give private industry time to get established. I believe that this approach constitutes better policy and is a more defensible proposal because it:

--- Applies government guarantees more appropriately in support of the establishment of a competitive enrichment industry rather than a single, sole-source supplier, such as UEA, and buys a better result. Attractive proposals utilizing centrifuge techniques have already been presented to ERDA by EXXON, Garrett Corporation and ENI-Atlantic Richfield.

--- Reopens the "order book" sooner as a result of building the add-on plant.

On the basis of current estimates, our proposed add-on plant is expected to have a net budget impact of not more than \$100 million total before the higher enrichment charges already planned will off-set new plant costs beginning in 1980.

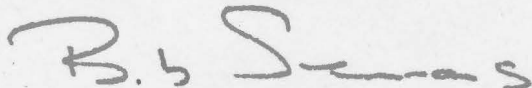
The President

- 3 -

ERDA has the responsibility to produce and sell enriched uranium, to develop new and improved enrichment processes, and to utilize industrial capability to the maximum extent consistent with other national interests. We recognize, in this regard, that our objectives cannot be isolated from broader considerations of energy policy and, therefore, will continue to consult with the Energy Resources Council and its individual members as we discharge our responsibilities.

We have attempted to consider all important issues in arriving at our recommendations. However, you may have further questions and we will be most happy to discuss such matters with you or anyone you may designate.

Respectfully yours,

A handwritten signature in dark ink, appearing to read "R. C. Seamans". The signature is fluid and cursive, with the first name "R." and last name "Seamans" clearly distinguishable.

Robert C. Seamans, Jr.
Administrator

ITEM WITHDRAWAL SHEET
WITHDRAWAL ID 01328

Collection/Series/Folder ID : 001900369
Reason for Withdrawal : NS,National security restriction
Type of Material : BRP,Briefing Paper(s)
Description : State Department views on U.S. uranium enrichment policy
Creation Date : 05/1975?
Volume (pages) : 2
Date Withdrawn : 06/29/1988

SUMMARY REPORT

UEA REQUEST FOR GOVERNMENT ASSISTANCE

I. Introduction

Uranium Enrichment Associates (UEA) for nearly two years has actively sought to establish a project for a large gaseous diffusion uranium enrichment plant. It has made substantial progress in establishing the technical basis for the project and has conducted extensive marketing activities with prospective domestic and foreign customers. A project financing structure (Figure 1) has been developed conceptually and employed as a basis for the UEA marketing efforts. It has been determined by UEA and its financial advisors (Salomon Brothers) that, due to the unique nature of the project (secret process, no commercial history, very large capital requirements), it cannot be financed and operated commercially without certain forms of Government assistance and assurance.

The Project Board - Private Uranium Enrichment, through extensive discussions with UEA and others, has evaluated the types of assistance requested and the likely (and maximum theoretical) obligation that could result to the Government. It is accepted by UEA that costs incurred by the Government in providing the requested assistance would be repaid by UEA, except in one case in which the Government might acquire a salable asset. This brief summary provides highlights of the Board's evaluation of each requested area of assistance. UEA has stated that there may be alternative ways in which the objective of commercial project financing can be achieved and that its positions, as expressed to the Board, are open to further discussion. The Board, however, has been obliged to evaluate UEA's expressed positions as to the Government assistance required to insure project viability.

In addition to evaluation of the assistance requested from the Government, the Board considered other key aspects of the project including: prospects for domestic equity partners, anti-trust review considerations, other regulatory considerations, market prospects both domestic and foreign, project financial structure and the conceptual financing plan which is based upon the assumed type of Government assistance, alternative ways of resolving some of the problems which are raised, project power supply, project completion schedule and time schedule for obtaining the necessary legislative authority. Board review and discussion of these items is contained in its final draft report.

FIGURE 1

CONCEPTUAL FINANCIAL STRUCTURE
(ASSUMES \$5 BILLION PROJECT COST)

DOMESTIC 40 PERCENT

- TOTAL SHARE - \$2 BILLION
- 15 PERCENT EQUITY - \$0.3 BILLION
- 4-8 U.S. COMPANIES
- SWU PRICE STIPULATES MINIMUM 15 PERCENT NET RETURN
- 85 PERCENT DEBT - \$1.7 BILLION
- DEBT SECURITY
 - LONG-TERM CONTRACTS
 - GOVERNMENT ASSISTANCE PACKAGE
- SWU PRICE REFLECTS COST OF DEBT, EQUITY AND GOVERNMENT ASSISTANCE

FOREIGN 60 PERCENT

- TOTAL SHARE - \$3 BILLION
- 85 PERCENT DEBT, 15 PERCENT EQUITY
- THREE OR MORE FOREIGN PARTICIPANTS
- INDIVIDUAL CAPITAL PROVIDED:
 - FROM FOREIGN SOURCES
 - PROPORTIONAL TO OFFTAKE
 - THROUGH IRREVOCABLE "LETTER OF CREDIT" HELD IN U.S.
- SWU PRICE REFLECTS INDIVIDUAL SERVICING OF CAPITAL
- TOTAL FOREIGN VOTING RIGHTS
 - LIMITED TO 45 PERCENT
 - BALANCE OF EQUITY - "PREFERRED STOCK"

II. Requested Government Assistance

A. Performance Assurance

UEA seeks an adequate supply of specialized materials and components (e.g., barrier) now manufactured by ERDA plus Government technical expertise and assistance to assure that the technical basis of the project is sound and that obstacles can be overcome most effectively in order that the project will perform technically. Recognizing that this approach would, in effect, make the Government a technical partner in the undertaking, UEA is willing to accept whatever Government overview, including "veto power", is necessary to protect the Government's interest during design, construction and startup. The Board's best judgment of the cost of needed Government functions is \$150-\$200 million; this includes costs of a 100-man Government review team. It is assumed that Government costs would be reimbursed on a current basis during construction.

Problems of risks involve potential early authorization of additional Government barrier production capacity, ERDA scarce manpower allocations between CIP/CUP and the UEA project, Government liabilities under warranties for its products and the practical problems which could be created by dual project controls (increases in cost, schedule delays).

B. Completion Guarantee

1. Contingent Government Loan Guarantee

UEA seeks an arrangement which will assure its ability to borrow funds for the project. According to its concept, the chief condition to invoking the contingent loan guarantee would be an inability of UEA to market securities at an interest rate equivalent to an "A" bond rating or above. At that point the Government would back subsequent UEA securities through a loan guarantee during the construction period to assure their marketability. This would apply only to the domestic debt portion (85% of 40%) up to a project cost limit. This limit would be based upon a joint UEA/ERDA estimate of ultimate project cost, escalated in an agreed manner and with application of a contingency factor appropriate to the quality of the estimate, plus an additional overrun allowance. The loan guarantee would not apply to purely commercial debt already secured and all debts would be of equal stature. According to UEA, this feature is necessary to the financability of the project since it will assure UEA's ability to obtain sufficient funds to complete the plant (and thereby assure customers, PUC's and lenders of an operable plant). In concept it would also minimize the amount or duration of Government involvement in project financing. While there would be no direct cost to the Government (except in the event of default),

the loan guarantee feature may increase Government debt and might possibly impact the Federal debt ceiling.

Problems or risks involve the following:

- The plan is preliminary and has not been reviewed by Salomon Brothers marketing staff or tested in the marketplace.
- The contingent loan guarantee may adversely influence (Treasury initial reaction) or improve (Salomon Brothers view) the availability of purely commercial debt. If the former, the Government runs the risk of guaranteeing most, if not all, domestic debt.
- Domestic utility rejection of UEA contracts, especially "hell or high water" provision, would erode basis for securing and servicing long-term debt. This could lead to Government guarantee of all domestic debt for the full 25 year term, if the project proceeded at all. (There is evidence that some may accept, others may reject, this provision.)
- The uncertainty of foreign participation up to the 60 percent target, and the potential inability of UEA to compensate with increased domestic capital, raises the potential Government liability, if the project proceeds.

2. Overrun Funding

UEA requests assurance of funding overruns, in the event the project cost limit is exceeded, by further Government guaranteed loans, or direct loans to be repaid by UEA, possibly after payment of private debt. UEA would undertake to match such funding with 15 percent equity funds on a "best efforts" basis. According to UEA, the overrun feature would assure its ability to obtain the large amounts of debt and equity capital required for the project which otherwise would be impossible since it will be necessary to employ a project cost estimate based only upon conceptual design. The costs of such assurance are probably zero if, as is likely, Government guaranteed loans would be involved, since in the absence of a condition of "economic frustration" (see below), one can safely assume that successful completion of the project is technically feasible. However, there is a potential budgetary impact of up to \$2 billion which represents a 40 percent overrun.

With respect to problems or risks, there is great doubt that open ended assumption of funding overruns by the Government probably would be approved by Congress. Even if overrun funding were tied to a limit, it would tend to reduce credibility of project estimate

limit to the Congress and endanger approval. UEA's lack of firm commitment to provide additional equity in the event of overruns to maintain 85 percent debt/15 percent equity ratio may be unacceptable to Congress and it eliminates a risk incentive to UEA for efficient management and control of costs. There is some verbal evidence that UEA may be willing to make a stronger commitment in this area than it has so far made to the Board.

3. Economic Frustration

UEA requests Government assurance against risk of "economic frustration" of the project, i.e., unacceptable postponement of return on, or recovery of, equity due to (1) completion of plant delayed beyond some agreed relatively late date, (2) prohibition or indefinite suspension of construction or operation by judicial or administrative action or (3) other causes which effectively prevent economic realization of the project, such as inability to obtain power. In such event, the Government would assume U.S. debt and provide "fair compensation" to U.S. equity investors and would assume control of the project in order to bring it to a successful conclusion. According to UEA, they might not be able to obtain necessary debt-equity capital in the face of such risk without this assurance. The costs to the Government could range up to all domestic capital, i.e., 40 percent of the project costs.

With respect to problems or risks, in the event of "economic frustration" due only to unacceptable delay in completion of the project, U.S. could then become an equity partner with other foreign equity partners, thereby possibly presenting political problems in the administration of the project. There exists a potential Government liability for all domestic capital with a risk of not having an operable plant, although with Government's participation in key phases of the project such risk appears remote. The concept may present difficulty in negotiation of mutually acceptable criteria for "economic frustration" and "fair compensation". Non-assumption by equity capital of the risk of economic frustration would imperil Congressional approval, remove a risk incentive to UEA for efficient management and create a significant precedent regarding Government assistance.

C. Stockpile Backup and Load Leveling

UEA requests access to the Government SWU stockpile, on a lease or purchase basis, for up to two million SWU's over the first four years after startup, and nine million SWU's at the outset and decreasing to zero five years after the plant achieves "successful" operation.

Additionally, ERDA is requested to agree to purchase up to a total of six million SWU's (UEA estimates four million most likely) during the first five-year operational phase of the plant. The amount would be agreed five years in advance of the proposed first delivery. Prior to firm-up, UEA would attempt to sell the excess to others. These features will permit UEA customer contract needs to be met in the event of startup delays or interruptions and will levelize the commitments on the plant due to irregular early customer demand prior to achieving a steady-state operation. If the ERDA purchase obligation were four million SWU's, and on a time schedule presently viewed as most likely, cost to the Government could be \$300-\$500 million. In a time frame that would require Government feed purchases, this could rise to \$600-\$1400 million. This asset should, however, be resalable.

Problems and risks in this area concern the expected adequacy of the Government SWU stockpile in relation to all anticipated needs and the probable need, in the late 1970's, to seek appropriations for purchase of SWU's and any needed feed. On the other hand, use of surplus Government feed in the UEA plant, if possible timewise, represents an opportunity to nearly double the amount of enriched uranium produced.

D. Termination of ERDA Contracts

UEA requests that ERDA terminate a sufficient number of its long-term enrichment services contracts with utilities to assure that the UEA plant would be effectively sold out - on the assumption that terminated customers would then sign with UEA. The Government has already agreed that it would honor voluntary requests for termination. Involuntary termination requires that certain criteria be met. However, on the assumption that the criteria to allow the necessary terminations would be met, there would be no cost to the Government since operating conditions in Government plants would be adjusted to compensate.

Problems and risks relate to domestic requests for voluntary termination being tied to the imposition of an ERDA commercial SWU price, to doubts as to whether involuntarily terminated customers would sign with UEA, and to possible need to make a formal "reasonableness" finding concerning UEA contract terms and conditions. Further, termination of ERDA contracts beyond a certain point would result in uneconomic costs to remaining ERDA customers.

E. Defaulting Utility Protection

UEA requests that, in the event of a default by a domestic utility and inability of UEA to sell the services to others, the Government assume the obligations of the defaulting utility up to a limit of 50 percent of the domestic utility share of plant output. ERDA's

obligation would terminate when a substitute customer is found or their long-term debt retired, whichever is earlier. Any amounts recovered from defaulted utilities would accrue to ERDA. UEA's objective is to protect the debt and equity investors by assuring revenues to cover operating costs, debt requirements, and a 15 percent net return on equity. Assumption of obligations by ERDA overcomes the utilities' refusal, because of legal and financial reasons, to accept increases in costs caused by a utility defaulting its obligations (cross-guarantee of another utility). The potential cost to ERDA (assuming \$100/SWU plus feed) for each large reactor of a defaulting utility could be in the order of \$20 million a year or \$500 million over the maximum 25-year period. Maximum exposure for 50 percent of the domestic utility share of the project would be about \$360 million a year or \$ 9 billion over the 25-year period. Also, ERDA would be required to maintain a contingency stockpile of feed material as insurance even if no utilities default.

With respect to problems and risks, it is not apparent that a "cross-guarantee" by ERDA is necessary because the potential risk, although large, is not likely to materialize as (1) the utility industry is not apt. to crumble, (2) the reactor would likely still need fuel (even if the utility were bankrupt), and (3) there is a growing demand for power which would suggest that enriching services could be marketed elsewhere. It would appear that assumption of the obligations of defaulting utilities places risks on ERDA which could and should be assumed by the UEA equity investors and/or UEA customers, especially in view of the low probability of there being a problem in this area.

III. Government Assistance Budget Impact

The summary shown in Figure 2 is the Board's collective judgment regarding the likely impact of those elements of Government assistance which UEA feels are necessary to insure project viability.

FIGURE 2

GOVERNMENT ASSISTANCE BUDGET IMPACT (\$ Millions).

	<u>Most Likely</u>	<u>Potential Maximum</u>	
A. Performance Assurance	150-200	150-400	Reimbursable, generally current basis
B. Completion Guarantee	0	0-2000	Probably recoverable, economic frustration remote
C. Stockpile Backup - Load Leveling (no feed)	300-500	600-1400	Purchased SWU's represent a resalable asset
D. Termination of ERDA Contracts	0	0	Operating conditions adjusted
E. Defaulting Utility Protection	0-40 (1 contract for 2 years)	0-9000	Potential maximum obligation if 1/2 of all domestic customers default for full 25-year period

MARKET ASSESSMENT

DOMESTIC

- Demand is consistent with the 40 percent of plant output target assumed by UEA.
- Four "Letters of Intent to contract" have been received from domestic utilities; three-four more expected shortly, with all "intent" letters expected to total about 1.2 million SWU's/year.
- Remaining utility commitments probably dependant upon utility views of UEA contract (presently not positive).
- However, if Government support to the project is given, domestic customers are likely to follow.

FOREIGN

- Iran - Commitment likely for up to 30 percent of plant output or such less percent as U.S. Government policy may allow.
- Japan - Commitment of 22 percent of plant output probable if there is strong U.S. utility or Government support to the project.
- France - Commitment of 11 percent spoken of, but may well be contingent upon technology sharing and reciprocal ownership arrangement with EURODIF, thus highly questionable.
- West Germany - Commitment of 10 percent spoken of, but no solid information to assess probability.
- Others - Taiwan, Spain, Brazil, Australia possible; capital financing or other problems may be impediment.
- Conclusion - Given uncertainty of U.S. policy on allowable foreign participation, other foreign conditions, the timely firm achievement of the 60 percent target is doubtful thus jeopardizing timely achievement of "Go" decision (requires commitment to 75 percent of plant output).

ITEM WITHDRAWAL SHEET
WITHDRAWAL ID 01329

Collection/Series/Folder ID : 001900369
Reason for Withdrawal : NS,National security restriction
Type of Material : BRP,Briefing Paper(s)
Description : re possible agreement between Bra
zil and West Germany on nuclear energy
Creation Date : 04/24/1975
Volume (pages) : 2
Date Withdrawn : 06/29/1988

BUREAU OF OCEANS AND INTERNATIONAL
ENVIRONMENTAL AND SCIENTIFIC AFFAIRS

January 17, 1974

MEMORANDUM OF TELEPHONE CONVERSATION

PARTICIPANTS: Christopher Makins
First Secretary, Embassy of Great Britain
Nelson R. Sievering, Jr.
Program Coordinator, OES/SCI

SUBJECT: UK Purchase of Soviet Uranium Enrichment
Services Vice U.S.

Chris Makins telephoned late this afternoon to advise that the UK's Central Electric Generating Board (CEGB) has contracted with the USSR for enriching services for the supply of enriched uranium contemplated in the two conditional supply contracts offered by the USAEC last summer.¹ I said I didn't understand his emphasis on the conditional aspect of the contracts because President Nixon has assured all contract holders, conditional or otherwise, that their needs would be met; and, while a country who did not understand the complexity of the uranium enrichment business might seek to cover its conditional contracts I really didn't understand the UK motivation. Chris Makins responded that it is really just "dirty commercial business". The Soviets were offering firm contracts at attractive prices, something the U.S. was not now doing. I asked whether the contracts were long-term. He said it was his understanding that they covered the same quantities of fuel involved in the conditional contracts, but that he had no further details. The contract details would be furnished to COCOM.

He asked that this information, which he was conveying to a number of interested agencies, be held in confidence; that its announcement would probably be made on the occasion of the Prime Minister's visit to Moscow around mid-February.

¹ These two conditional enriching service contracts would have covered the long-term supply of enriched uranium for two 400-600 MW megawatt nuclear power plants and were open for signature by the CEGB until March 1975.



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

MAY 6 1975

Signature

MEMORANDUM FOR THE PRESIDENT

FROM:

JIM LYNN

SUBJECT:

Further development of an alternative for
provision of additional uranium enrichment
capacity

The Administration must decide soon how additional national capacity for enriching uranium to fuel foreign and domestic nuclear power plants will be provided, in order to meet domestic needs and to retain our foreign markets.

In 1971, the Executive Branch established a policy of having private industry, rather than the Federal Government, provide additional uranium enrichment capacity when needed. Last September, the Secretary of State became concerned that this policy might not provide capacity in time to serve both domestic and foreign policy interests. You approved a study of the issue which will be completed within the next few weeks.

This memo is to (a) report on the status of the three alternatives being explored, and (b) request your decision as to whether further work should now be undertaken which is essential to determine the viability of one of these alternatives.

The need for additional capacity

Three Energy Research and Development Administration-owned uranium enrichment plants have provided the basis for the United States' virtual free world monopoly on uranium enrichment services. ERDA's plant capacity is now fully committed. Western European interests are now moving to build two large plants, but this need not prevent the U.S. from capturing a substantial share of the foreign market, provided we can move ahead this fall with the detailed planning necessary to have additional capacity on line in the mid-eighties.

Meeting future demand, both foreign and domestic, is expected to require about ten U.S. plants equivalent in capacity to any one of the three existing plants. These new plants would cost about \$3 billion each in 1975 dollars.

Alternatives being evaluated

Studies - under ERDA and NSC auspices - have largely been directed toward the evaluation of three alternatives:

1. To enable private industry to move immediately to build additional capacity, and subsequent plants as necessary.
2. To have ERDA build the next increment of additional capacity at a cost of about \$3 billion (in 1975 dollars), while continuing to pursue the private entry objective for subsequent plants, beginning about 1979, using new technology now under development by ERDA.
3. To abandon the private entry objective forthwith and have ERDA build additional plants as necessary.

Status of 1971 policy and the response to it

Under the first alternative, a consortium (UEA) composed of Bechtel and Goodyear has already developed plans, with foreign financial participation, to build a \$3 billion plant. But UEA is finding it necessary to seek some degree of Government backing or recoverable assistance to secure private financing and to accommodate its domestic utility customers. Private financiers want rigorous conditions of sale to justify a high percentage of debt financing, but such rigorous conditions are difficult for the electric utilities because of their current financial condition.

Dr. Seamans' evaluation of the UEA proposal is that the UEA plan can be made to work if it has adequate Government support; but ERDA is concerned about how much Government assistance would be reasonable, how acceptable that assistance would be to the Congress, and how long it would take to consummate arrangements. (However, detailed negotiations with UEA have not yet begun.) ...Dr. Seamans would prefer Alternative 2, but in a version (yet to be fully developed) which would split the next increment of capacity between (a) Government construction and (b) later, private construction using a new enrichment technology still under development by ERDA.

Having met personally with the top people at Bechtel and Goodyear, I am impressed with their aggressiveness and tenacity, despite

formidable obstacles. However, UEA has already invested nearly \$9 million, and its willingness to persevere is beginning to wear thin. Moreover, it is inherently important for the Nation that the issue be resolved soon one way or another, so that the U.S. can meet its own needs and also convince other countries that we will continue to be a reliable supplier of enrichment services. Absent some signal from the Administration and some degree of progress on the legislative front, I believe that the UEA consortium may expire by mid-summer.

I recognize that congressional approval of an assistance package will not be easy to achieve, even though the alternative is early appropriation of several billion dollars for another Government plant. Nevertheless, private entry has strong attractions, as follows:

- . uranium enrichment is the kind of activity which need not remain in the public sector;
- . UEA is ready and willing to move, given strong encouragement and some limited assistance;
- . success of the UEA venture would, I believe, serve to "break trail" for subsequent private ventures, three of which are already in the planning stages; and
- . additional Government construction now might discourage future private involvement.

The immediate problems

Full evaluation of the UEA venture (in effect, Alternative 1) depends upon finding out through expedited, serious negotiations, what UEA's minimum requirement for Federal assistance would actually be. Unless this is done, time will run out without Alternative 1 being in shape for decision.

A related problem is that of who will conduct such UEA negotiations. ERDA is the logical agency to do this, but Dr. Seamans appears not comfortable about having the responsibility for the major effort that would be required to bring about private industry's construction of the next plant, because of his doubts about the UEA venture. A decision to proceed with negotiations should be accompanied by a directive to establish a negotiating team that is fully committed to a major effort to elevate the UEA venture to a real option.

Since I believe that there is no substitute for ERDA's mainline involvement, I believe the best solution would be to give co-responsibility to Dr. Seamans and Frank Zarb, who was extensively involved in the private entry objective when he was in OMB.

In my judgment, such negotiations will not proceed in the expedited, serious way required unless you signal that it has an important priority. Accordingly, I recommend you sign the attached memorandum to Dr. Seamans and Frank Zarb.

Attachments

THE WHITE HOUSE

WASHINGTON

MEMORANDUM FOR FRANK ZARB

FROM: THE PRESIDENT

SUBJECT: Negotiations with Private Consortium for Uranium
Enrichment Venture

I am advised that one of the three policy alternatives being explored to provide the needed additional national capacity for enriching uranium is that of immediate private entry. I also understand that one consortium, Uranium Enrichment Associates (UEA), is now prepared to proceed with a private venture, provided that reasonable Government assistance is offered. In order that this alternative may be properly developed for my consideration, as against other alternatives, I believe that negotiations should now be initiated with UEA directed toward determining the minimum level of Government assistance needed to realize the venture--if that alternative were to be chosen. Since time is of the essence in moving forward with this problem, such negotiations should proceed immediately and effectively.

Because you have already had extensive prior experience in dealing with UEA on the subject of private uranium enrichment and in view of FEA's responsibilities for developing national energy resources, it is appropriate that you work with Dr. Seamans in completing the necessary negotiations. I would expect ERDA to continue to provide the necessary staff assistance to ensure expeditious handling of these negotiations.

cc: Robert Seamans

THE WHITE HOUSE

WASHINGTON

MEMORANDUM FOR ROBERT SEAMANS

FROM: THE PRESIDENT

SUBJECT: Negotiations with Private Consortium for Uranium
Enrichment Venture

I am advised that one of the three policy alternatives being explored to provide the needed additional national capacity for enriching uranium is that of immediate private entry. I also understand that one consortium, Uranium Enrichment Associates (UEA), is now prepared to proceed with a private venture, provided that reasonable Government assistance is offered. In order that this alternative may be properly developed for my consideration, as against other alternatives, I believe that negotiations should now be initiated with UEA directed toward determining the minimum level of Government assistance needed to realize the venture--if that alternative were to be chosen. Since time is of the essence in moving forward with this problem, such negotiations should proceed immediately and effectively.

Because Frank Zarb has already had extensive prior experience in dealing with UEA on the subject of private uranium enrichment and in view of FEA's responsibilities for developing national energy resources, it is appropriate that you work with him in completing the necessary negotiations. I would expect ERDA to continue to provide the necessary staff assistance to ensure expeditious handling of these negotiations.

cc: Frank Zarb

Uranium Enrichment

1. The U.S. recognizes the important role nuclear power plays in reducing the world's reliance on oil and other fossil fuels and the growing demand for nuclear power in many nations. With respect to the provision of uranium enrichment services for nuclear power plants, I wish to emphasize that the United States will continue to be the major and most reliable supplier of such services.
2. Our existing capacity, including expansion already underway, is now fully committed to foreign and U.S. domestic customers. This condition has clearly been anticipated, and ever since 1971 activity has been underway to plan for the very large expansion of U.S. capacity which must occur over the next two decades.
3. Several private ventures are active in the U.S., using either gaseous diffusion or gas centrifuge technology. And, as a matter of public policy, we want to provide for uranium enrichment by private industry as soon as possible. Concurrently, the U.S. Government is pursuing the development of advanced uranium enrichment processes. (covered below)
4. The increased use of nuclear power is a central element in my country's plan for meeting its energy needs. For this reason alone, a major expansion of our uranium enrichment capacity will be necessary.
5. We know that nuclear power is equally central to the energy strategies of numerous other nations, and we believe that we can be very useful in helping those nations to meet their needs for uranium enrichment services. The U.S. recognizes its responsibility to continue the provision of such services under long-term orders. Moreover, the sale of uranium enrichment services is for us an important export business. For these reasons, I can assure you that the U.S. as a nation is firmly committed to a substantial, timely and continuing expansion of its enrichment capacity.
6. The President presently has under consideration several alternative specific means of accomplishing expansion of U.S. uranium enrichment services. As soon as a choice is made, he will make appropriate recommendations to the Congress, and we expect that by mid-July a clear path will have been defined. In any event, the United States Government will take steps to assure that the U.S. will remain in the role of the major, reliable supplier of world-wide needs for enrichment services. We expect that negotiations on firm contracts between

producer and consumer will be initiated well before the end of this year.

7. The President would welcome the cooperation of foreign entities in these developmental ventures in accord with principles agreed on by the International Energy Agency.

THE WHITE HOUSE
WASHINGTON

May 23, 1975

Cabinet Room
meeting
DECISION

5/24/75
8:45
am.

(see
uranium
file
in
safe

MEMORANDUM FOR THE PRESIDENT

FROM: JIM CANNON

SUBJECT: Expansion of the Production of Enriched Uranium

The importance of enriched uranium to future energy production can be summarized in this way: From the early 1980's to the year 2000, enriched uranium is likely to be as significant to energy production as oil is today.

The U.S. need to expand its capability to enrich uranium presents two issues:

The immediate issue is how Secretary Kissinger can, at the May 27 Ministerial Meeting of the International Energy Agency demonstrate that the U.S. is committed to maintaining United States leadership as the free world's supplier of enriched uranium and U.S. dominance in nuclear affairs.

The long-term issue is whether enriched uranium, the fuel for the atomic energy utility plants that are expected to be built by the hundreds from now until 2000, will be produced by the United States government, or by free, competitive enterprise.

BACKGROUND

The United States is now enriching uranium in three ERDA-owned plants - at Paducah, Kentucky, Oak Ridge, Tennessee, and Portsmouth, Ohio. These plants, now being expanded, can supply the initial fuel and replacement fuel for 270 nuclear electric plants.

Each of the three enriching plants uses the World War II diffusion process, which is proved in technique, but very costly in electric consumption.

The capacity of all three plants is fully committed - about 2/3 for Domestic Utilities, 1/3 for Foreign. In fact, for almost a year, the United States has not been able to take any more orders for enriching uranium.

The world-wide demand for enriched uranium in the foreseeable future would require, according to best estimates, 20 additional plants of about the size of the ERDA plants. To meet U.S. demand and about half of foreign free world demand (the informal U.S. target) will require the construction in the U.S. over the next twenty years of about ten plants, each the size of an existing ERDA plant.

Clearly, we need additional production capacity, both for domestic needs and to compete for foreign markets.

The policy of the previous Administration was to encourage private financing and construction of additional uranium enrichment plants.

Last Fall you approved a study to reevaluate that policy.

The alternatives have now come down to these:

1. Assist private industry, through technical assistance and some Federal guarantees, in building the next diffusion plant, at a cost of about \$3 billion of private capital.
2. Have ERDA expand its Ohio diffusion plant (at a cost of about \$1.2 billion) while encouraging private industry to build additional plants using a new centrifuge technique. The centrifuge process of enrichment is an experimental success and uses less than one-fifth the electricity of diffusion. But it has not yet been proved commercially. (EXXON, Garrett Corp., and Atlantic Richfield are among those which have indicated a strong interest in building centrifuge plants.)
3. Have ERDA build all the additional uranium enriching plants the United States needs for domestic and foreign markets.

Current Situation

The eight-month evaluation has not brought about a consensus. Your principal advisers with responsibilities in this field are in disagreement.

1. Secretary Kissinger and Dr. Seamans (Tab I) state that:
 - (a) Immediate domestic and international needs for additional

uranium enriching plants require immediate expansion of ERDA's capacity as soon as Congress approves.

- (b) The one private consortium attempting to build a diffusion plant, Uranium Enrichment Associates, cannot get the financing, or the Congressional support for Federal guarantees against losses, necessary to build a plant that will cost \$3 billion or more. (UEA includes Bechtel, Goodyear, and is expected to include 3-5 other U.S. firms, with capital participation by Iran, Jordan, and other nations.)
- (c) We cannot continue to delay expanding production, for we are already losing orders to Russia, (which we believe has one plant and a stockpile of fuel), France, and Germany. We are also losing control over the provision of most enriching services, which we would like to retain for national security reasons.

2. Jim Lynn and Frank Zarb (Tab II) take this position:

- (a) As a matter of principle and policy, we should encourage private industry to enter uranium production as soon as possible.
- (b) The substantive decisions as to how we obtain further production -- public or private ownership, diffusion versus centrifuge -- should be made on the basis of an options paper being developed through interagency efforts during the past few months, which can be ready _____.
- (c) In order to properly assess the pros and cons of the UEA option, its proposal needs further definition, including the extent of assistance UEA believes it would need from the Federal Government. This should be worked out by negotiation. Lynn recommends that you direct Frank Zarb and Dr. Seamans to find out and report to you within thirty days what UEA's minimum requirements for Federal assistance would be. Without such work, the UEA option will not be definitive enough to be an option.

- (d) By no later than mid-July, you would be in a position to make the decisions based on the interagency option paper, including the UEA option.
- (e) An Administration commitment now to expand ERDA production would discourage UEA from going ahead with its diffusion plant and probably cause its members to dissolve the consortium. If UEA withdraws, then other private firms would be reluctant to try later.

OBJECTIVES

From our discussions with your advisers and study of the attached memoranda, it appears that these are desirable objectives:

1. To provide Secretary Kissinger with specifics that make credible what the United States is doing to expand production, and enable him to make commitments as to future deliveries of enriched uranium.
2. To provide the opportunity for private enterprise to engage in uranium production as soon as possible.
3. To be ready to expand ERDA's production if that is necessary.

OPTIONS

1. Authorize Dr. Kissinger to announce on May 27 that U.S. Government will build the next addition to U.S. uranium enrichment capacity (thus foreclosing the UEA option). (Supported by Secretary Kissinger and Dr. Seamans.)

_____ Agree

_____ Disagree

2. Authorize Dr. Kissinger to announce on May 27 that
 - (a) U.S. Government will cause to be built, preferably through private ownership, but by the Federal Government if necessary, additional enrichment capacity (along the lines of the speech outline at Tab III.)

(b) direct that negotiations with UEA be conducted promptly,
and

(c) direct the final options paper on the substantive issues
-- government versus private, diffusion versus centri-
fuge, etc. -- to be delivered to you no later than July 5.

(Supported by Jim Lynn, Frank Zarb and Jack Marsh).

_____ Agree

_____ Disagree