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THE WHITE HOUSE

WASHINGTON

June 17, 1975

MEMORANDUM FOR:

PHIL BUCHEN
JIM CONNOR
MAX FRIEDERSDORF
ALAN GREENSPAN
ROD HILLS
JIM LYNN
JACK MARSH
JIM MITCHELL
BRENT SCOWCROFT
BILL SEIDMAN

THROUGH:

JIM CAVANAUGH

FROM:

GLENN SCHLEEDE

SUBJECT:

Uranium Enrichment - Message,
Bill, Economic Impact Statement

Enclosed are draft materials received from ERDA, including:

- . Draft bill
- . Transmittal letter
- . Draft economic impact statement
- . Rough Draft Presidential Statement

The draft bill does not yet take into account the questions and problems raised over the past few days by Rod Hills. OMB (Loweth) is developing a paper on the Congressional approval issue for early discussion.

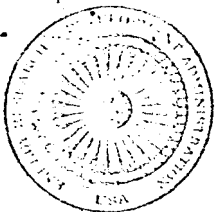
OMB is circulating the draft bill and transmittal letter through the regular legislative clearance system.

Note also that the ERDA package assumes the bill would be transmitted by Seamans rather than the President, a question we have not yet addressed.

With respect to the draft message, would you please let me have your recommendations by noon, Wednesday, June 18, on any basic changes that should be made before the draft is turned over to Messrs. Hartmann and Theis.

Attachment

cc: ~~Jim~~ Cannon



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

JUN 16 1975

Honorable James T. Lynn, Director
Office of Management and Budget

Dear Mr. Lynn:

Transmitted herewith is an Energy Research and Development Administration legislative proposal to carry out the decision of the President to provide necessary government assistance to establish a competitive private industry to provide additional increments of enriched uranium needed for commercial nuclear reactors in this country and abroad.

The proposed legislation would amend Section 161 of the Atomic Energy Act of 1954, as amended, to authorize cooperative arrangements with private enterprise for the provision of facilities for the production and enrichment of uranium enriched in the isotope 235.

Although the impact of the enactment of the proposed legislation upon the Federal budget is not at this time susceptible to precise estimate, it is believed that with the assistance provided under this legislation private capital can provide the funds necessary to the establishment of a competitive private enrichment industry.

We would appreciate your advice as to whether the proposed legislation is in accord with the program of the President.

Sincerely,

Robert C. Seamans, Jr.
Administrator

Enclosures:
As stated





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

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Administrator

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As stated



Honorable Nelson A. Rockefeller
President of the Senate
U. S. Senate

Honorable Carl B. Albert
Speaker of the House
House of Representatives



The Energy Research and Development Administration is pleased to submit for the consideration of the Congress the enclosed draft bill to amend Section 161 of the Atomic Energy Act of 1954, as amended, to authorize cooperative arrangements with private enterprise for the provision of facilities for the production and enrichment of uranium enriched in the isotope 235.

This proposal would carry out the President's policy stated in his message to the Congress on June __, 1975, to foster, through limited forms of Government assistance, the creation of a competitive private industry to supply enriched uranium for the new nuclear power reactors which will be needed in the 1980's and beyond to help meet both domestic and foreign requirements for energy. The purposes underlying this policy are stated fully in the President's message and will not be repeated here.

The Energy Research and Development Administration, and its predecessor, the Atomic Energy Commission, have been conducting discussions over the past several years with private companies interested in entering the uranium enrichment business. These discussions indicated that various forms of Government assistance

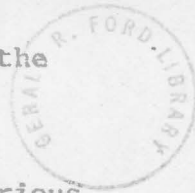
were prerequisites to private companies undertaking to design, construct, own and operate such facilities, whether or not the technology employed was that of the gas centrifuge or gaseous diffusion process. Thus, all prospective entrants into the private enrichment industry perceived a need for the Government to furnish certain technical assistance, classified information, and equipment which are not available from sources other than the Government. They indicated a need for facility performance assurances, materials and equipment warranties. Many indicated a need for Government purchase, for a limited period and amount, of enriching services during initial operations in order to service their debt and provide a return on equity should they not have sufficient customer demand during the initial period. All stated the need for Government provision of enriching services from the Government stockpile to meet their commitments to supply their customers requirements should their facilities fail to commence operations as scheduled or for a limited period suffer interruptions in operation.

The basic characteristics of the uranium enrichment business include high capital intensity; long lead times for planning, engineering and construction; an economic environment involving many uncertainties; a technology which has been developed by the Government on a classified basis, is subject to rapid improvement, and has not yet been proven on a commercial basis; customers (electric power companies) which are regulated as to price, have a capital structure designed for minimal risk, and which face unprecedented capital commitments. Under these



circumstances, many prospective entrants asserted the need for Government assurances against certain risks to enable securing the large amounts of capital, both debt and equity, that would be required for such undertaking. For this purpose they sought various forms of undertakings by the Government to acquire their equity interest in and to assume their obligations, liabilities and debt arising out of their undertaking the design, construction, ownership or initial operation of an enrichment facility in the event they could not complete the enrichment facility or bring it into commercial operation. Assurance of such undertakings would, it was believed, be essential to attract sufficient private investment and orders from enrichment customers.

The proposed amendment would enable the Energy Research and Development Administration to provide such assistance as is determined to be necessary and in the best interests of the Government after detailed negotiation with selected individual proposers of enrichment services. It would be the Government's intention in such negotiations to make the most advantageous agreement for the Government and to place the largest risk on the private proposer consistent with the need to create several viable private enterprises to provide enrichment services. For this purpose there would be negotiated suitable and effective incentives to the private proposer to build and operate an enrichment facility under specific costs and schedules. In this way, there would be established a competitive private domestic enrichment industry essential to support the manifold growth in nuclear



power which is expected to take place over the next several decades. Appropriate Congressional oversight of each arrangement would be provided by requiring that the proposed basis for any arrangement be submitted to the Joint Committee on Atomic Energy and a period of forty-five days elapse prior to execution of any such arrangement.

Inherent in the authorization which would be provided by this legislation is assumption of an obligation to provide enrichment services. However, it would not necessarily be required in every case that the Government complete or operate the facility if other provision can be made to meet the obligation, including, for example, transfers from the Government stockpile or transfer to other enrichment plants capable of meeting contract requirements. Should it be desirable for the Government to modify, complete, operate or dispose of an enrichment facility, a plan therefor would be submitted to the Joint Committee on Atomic Energy for a period of forty-five days prior to implementation. Appropriations would be authorized to carry out the obligations and plans undertaken under the authority of this legislation.

United States enrichment capacity must be increased to meet the growing needs for nuclear power of the United States and the free world. Should we not achieve the transition of responsibility for provision of enrichment services from Government monopoly to private industry, the Government will have to provide the needed increments of additional enrichment capacity costing several billions of dollars.

Although the impact of the enactment of the proposed legislation upon the Federal budget is not at this time susceptible to precise estimate, it is anticipated that private capital can provide the funds necessary

to the establishment of a competitive private enrichment industry and it will not be necessary to exercise the obligations to complete and operate individual plants.



In accordance with Executive Order No. 11821, there is also enclosed an inflation impact assessment, which concludes that the effects of the proposed legislation will be to minimize inflationary pressures on the economy and possibly to lead to lower costs than the alternatives of increased use of fossil fuels or expansion of Government enrichment facilities.

In accordance with the National Environmental Policy Act, a draft environmental impact statement on Additional Uranium Enrichment Capacity has been prepared as a part of the planning process leading to this legislative proposal. This statement will be submitted to the Congress in the near future and also released for public comment under expedited procedures approved by the Council on Environmental Quality. In connection with any particular plant which may be built by private industry under the authority of this legislation, specific environmental impact statements for the plant concerned will be submitted and considered in the licensing process conducted by the Nuclear Regulatory Commission.

The Energy Research and Development Administration urges the Congress to consider and enact this legislation promptly. We are prepared to appear before the appropriate Committee or Committees at their

earliest convenience and to furnish any information relating to this proposal which may be desired.

The Office of Management and Budget has advised that enactment of this legislation would be in accord with the program of the President.

Sincerely,

Robert C. Seamans, Jr.
Administrator

Enclosures as stated

1. Draft Bill



DRAFT BILL

To amend the Atomic Energy Act of 1954, as amended, to authorize cooperative arrangements with private enterprise for the provision of facilities for the production and enrichment of uranium enriched in the isotope 235, and for other purposes.

Be it enacted by the Senate and the House of Representatives of the United States of America in Congress assembled, That Section 161 of the Atomic Energy Act of 1954, as amended, is amended by adding at the end thereof the following subsection:

"x.(1). Without regard to the provisions of Section 3679 of the Revised Statutes, as amended, and Section 169 of this Act, enter into cooperative arrangements with any person or persons for such periods of time as the Administrator of the Energy Research and Development Administration may deem necessary or desirable for the purpose of providing such assistance as the Administrator may deem appropriate and necessary to encourage and facilitate the design, construction, ownership and operation by private enterprise of facilities for the production and enrichment of uranium enriched in the isotope 235 in such amounts as will assure the common defense and security and encourage widespread development and utilization of atomic energy to the maximum extent consistent with the common defense and security and with the health and safety of the public; including specifically, in the discretion of the Administrator,

furnishing technical assistance, information, enriching services materials, and equipment on the basis of recovery of costs;

providing warranties for materials and equipment furnished;

providing facility performance assurances;
purchasing enriching services;

undertaking to acquire the interest of such person or persons in, and to assume the obligations and liabilities (including debt) of, such person or persons arising out of the design, construction, ownership, or operation for a defined period of an enrichment facility in the event such person or persons cannot complete that enrichment facility or bring it into commercial operation; and

determining to modify, complete and operate that enrichment facility as a Government facility or to dispose of the facility at any time, as the interest of the Government may appear, subject to the other provisions of this Act and to the provision of appropriations (which are hereby authorized) to fulfill the obligations undertaken under the authority of this subsection.

(2) Before the Administrator enters into any arrangement or amendment thereto under the authority of this subsection, or before the Administrator acquires the interest of any person or determines to modify, or complete and operate any facility or to dispose thereof, the basis for the proposed arrangement or amendment thereto which the Administrator proposes to execute (including the name of the proposed participating person or persons with whom the arrangement is to be made, a general description of the proposed facility, the estimated amount of cost to be incurred by the participating person or persons, the incentives imposed by the agreement on the person or persons to complete the facility as planned and operate it successfully for a defined period, and the general features of the

proposed arrangement or amendment), or the plan for such acquisition, modification, completion, operation or disposal by the Administrator, as appropriate, shall be submitted to the Joint Committee on Atomic Energy, and a period of forty-five days shall elapse while Congress is in session (in computing such forty-five days, there shall be excluded the days on which either House is not in session because of adjournment for more than three days) unless the Joint Committee by resolution in writing waives the conditions of, or all or any portion of, such forty-five day period: Provided, however, that any such arrangement or amendment thereto, or such plan, shall be entered into in accordance with the basis for the arrangement or plan, as appropriate, submitted as provided herein."



EVALUATION OF INFLATIONARY IMPACT OF LEGISLATION
AUTHORIZING COOPERATIVE ARRANGEMENTS WITH PRIVATE
ENTERPRISE FOR THE PROVISION OF FACILITIES FOR
PRODUCTION AND ENRICHMENT OF URANIUM

In accordance with the provisions of (1) Executive Order 11821 requiring a statement which certifies that the inflationary impact of major proposals for legislation has been evaluated, (2) OMB Circular A-107 which implements Executive Order 11821, and (3) the draft regulations of the ERDA, the undersigned hereby certifies that an evaluation of the inflationary impact of the proposed legislation to authorize cooperative arrangements with private enterprise for the provision of facilities for the production and enrichment of uranium enriched in the isotope 235 has been made.

If the objectives of the legislation are fully realized, we foresee the establishment of a competitive private industry providing enrichment services on reasonable terms. This would facilitate the fullest exercise of the nuclear option and result in a larger domestic energy supply at lower cost to the public. If the legislation does not meet with this measure of success, the alternatives are either to continue our heavy dependence on ^{domestic} fossil fuels, ^{and imports} or to continue, and expand, the monopoly role of the Government in the provision of enrichment services. Clearly, the need to rely more heavily on fossil fuels, foreign or domestic, will result in a higher total energy

cost for the American consumer. If the Government were to expand its enrichment operations to provide the additional services required, the costs of services might appear lower if no provision is made for the taxes, insurance, risk, and other normal costs of private business operations. Assuming that capital costs of new enrichment plants would be the same in the private or public sector and given the expectations of increasing efficiency in privately-operated ^{competitive} facilities, we conclude that the effects of this legislation will be to minimize inflationary pressures on the economy and possibly to lead to substantially lower costs than under any other alternative.


Date: 6/13/75

original signed by
Signature: R.W. LeCassie

DRAFT PRESIDENTIAL STATEMENT

To the Congress:

For the past two decades, the Federal Government has supplied all the fuel needed to power nuclear reactors in this country and for many commercial reactors elsewhere in the world. But the demand for nuclear fuel both here and abroad has grown so vast that all our capacity is now fully committed. Yet our needs and those of other nations for reliable electric energy sources will continue to rise sharply. Because it takes many years to bring new power plants and fuel sources into operation, we must plan now to provide the means to be able to meet those needs. In my judgment, it is time to turn to American private enterprise to build and operate, under necessary safeguards, the nuclear fuel supply plants which will be essential in the future. If the Government helps--in the right way--competitive private industry can do the job--and without significant costs to the Federal budget. I call upon the Congress today to give us the necessary authorization to get started.



This nation is now engaged in a major effort to achieve a greater degree of self-sufficiency in the critical field of energy supply. We also are working vigorously with the other oil consuming nations to reduce our alarming and growing dependence on imports of foreign petroleum products. Few areas of effort are of more vital importance to the health and prosperity of the Free World. Together with other nations, we are engaged in major efforts to conserve and better utilize our energy resources, and develop near and long-term alternatives to imported fuels.

Energy self-sufficiency will require us to explore many roads, and we cannot afford to overlook any of them. In the longer term, we must develop and apply new technologies based on virtually inexhaustible resources, such as solar electric energy, the harnessing

of nuclear fusion, and breeder reactors which are safe, environmentally sound, and reliable. We have developmental programs in all these areas, but until we know whether these promising technologies can in fact provide us with the energy we will need--and it will be a long time before we know--we must exploit other technologies to carry us through. Conservation in all forms, solar heating and cooling of buildings, greatly increased use of coal in solid, liquid and gaseous forms, improved methods of extracting more gas and oil from our existing fields--all are going to be necessary.

But it takes time for promising technologies to become widely used in our society. As we work to accelerate technological development, we need also to make sure our existing domestic energy supplies continue to grow to meet the demands placed on them. This means that, among other things, we must assure the continued growth of nuclear power.

If we are to preserve the nuclear option, then we must move aggressively on a number of fronts. We need to accelerate our efforts to find new reserves of uranium that can be economically mined. We need to stabilize reactor technology so we can design and build plants more quickly and economically. We need to improve our utilization of reactor capacity. And we need to manage more effectively the nuclear fuel cycle, from safeguarding the plutonium products of reactor operation to disposing of reactor wastes safely and forever.

The Energy Research and Development Administration has programs in all these areas and is going to intensify them as integral parts of the comprehensive energy R&D plan it will shortly report to the Congress.

We must take the steps now to make nuclear energy available for greater use over the next 25 years. Based on the past 10 years of experience, commercial nuclear power has had an unparalleled record of safe operation. Nuclear power now costs between 25 to 50 percent less than electricity produced from fossil fuels. Nuclear power is not vulnerable to the whims or price decrees of foreign energy



suppliers. While plainly not the only source of energy, it is nevertheless an essential element of the total mix of energy sources necessary to meet the goal of greater self-sufficiency in the near term.

This is a perception that is shared not only by the United States but by many other nations as well. With this in mind, Secretary Kissinger at the Ministerial meeting of the International Energy Agency last month, highlighted the importance of moving urgently and decisively to ensure that nuclear power will indeed contribute to greater reliability of energy sources for major energy consumers and help all nations husband the world's supply of oil.

An essential first step in fostering the continued safe growth of nuclear power is to ensure we have adequate supplies of nuclear fuel. Nuclear reactors run on uranium that has been slightly enriched from the concentrations that occur in nature. And we in the United States have run out of capacity to produce this essential fuel.

For over 20 years the United States Government has been the exclusive supplier, through its three enrichment plants, of the enriched uranium that is necessary to fuel nuclear power stations here and in many foreign countries. This fact is of considerable importance to our foreign friends, and accordingly we have consistently endeavored to be an attractive and reliable supplier. We have felt a responsibility towards enabling other nations to utilize the benefits of nuclear power under secure and prudent conditions. We also have felt that our role as an enriched uranium supplier has been extremely important in inducing other nations to accept international safeguards and to forswear nuclear weapons. Moreover, foreign sales have returned hundreds of millions of dollars to the United States.

Uranium enrichment is an area in which we have been the world leader, and our technology is the most proven and advanced in the

world. Our gaseous diffusion plants have run reliably for more than a quarter of a century and have seen many improvements in their efficiency. We have under way two major improvement and uprating programs costing over \$1 billion to increase their capacity over 50 percent. A new process, which separates fissionable from non-fissionable uranium through the use of centrifuges, has been under intensive development for more than a decade and is now also ready to be scaled up, demonstrated, and brought into commercial use.

Although the U.S. is now committed to supply the fuel needs of several hundred nuclear power plants coming on the line by the early 1980's, we have, since August 1974, been unable to accept new orders for enriched uranium because our capacity--even with the projected increases--is fully committed. As a practical matter, plans cannot be made for private financing of new domestic reactors without a reasonably assured source of enriched uranium. Potential foreign customers have the same problem. And, since it takes at least 7-8 years to provide new enrichment plants, it is essential that the United States begin immediately to construct new capacity if we are to preserve our ability to meet our total domestic goals in energy and our ability to meet our foreign responsibilities as a reliable supplier.

For a number of years it has been the stated objective of the Executive Branch that new enriching capacity should be provided by the private sector, since electric utilities are served by these plants and since uranium enrichment is a function that is clearly industrial in nature. Furthermore, if new enrichment plants can be provided by the private rather than public sector, this will reduce the pressures on the Federal budget for new construction monies amounting to billions of dollars.

The development of a competitive, broadly based, private enrichment industry, which is our objective, also will provide an increased measure of assurance to all customers that the growth of nuclear power will not be inhibited by inadequate enriching

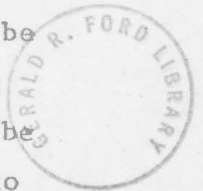


capacity. It is one of the strengths of the American free enterprise system that it is able to consider and respond to unusual challenges and opportunities with ingenuity and vigor. This is what is now happening with respect to uranium enrichment.

The technology of uranium enrichment is secret and shall remain subject to continued classification, safeguards and export controls. However, for several years a number of qualified U.S. companies have been granted access to the Government's work under carefully controlled conditions in order to make their own assessment of the commercial potential for private enriching plants. One group has chosen the well-demonstrated gaseous diffusion production process. Several others are interested in the potential of the newer gas centrifuge process which, though it is not yet in large production operation, is believed to possess advantages and to be ready for commercial application.

The centrifuge process, which uses substantially less power than the older process, appears to be well suited to the creation of competitive industry, both because the individual plants can be smaller and more flexibly adopted to market demands, and because there is a continuing need for replacement components which can be made by many manufacturers. While Government work is going on to develop other enrichment processes which may have some future applications, they are a long way from practical realization, and diffusion and the centrifuge now provide the only solid technological bases for meeting our near-term commitments.

Because centrifuge technology cannot be implemented quickly enough to close the immediate gap in enrichment capacity, our next plant must be of the gaseous diffusion type. One industry group, Uranium Enrichment Associates (UEA), has presented a proposal to construct a \$3 billion, privately financed gaseous diffusion enrichment plant, capable of serving about 90 large nuclear power reactors both here and abroad, when it becomes operational in the early 1980's. This project, if successful, would meet the need for



early new capacity. We also have highly promising expressions of interest by several other companies in the construction of privately financed commercial centrifuge enrichment plants. We are confident that there will be more than adequate market demand for the output from these plants including Government purchases as necessary for stockpile purposes.

I believe we must move now on both fronts to encourage private entry into the enrichment business. We should build a private gaseous diffusion plant to provide the urgently needed first increment of capacity, and we should simultaneously embark on building a centrifuge industry with several suppliers. Only in this way can we open the U.S. order book promptly, reassert our position as the world's major supplier of enriched uranium, and develop a competitive private enrichment industry.

Nevertheless, there are some difficult hurdles to be overcome that will require a unique kind of cooperative arrangement between Government and industry during a transitional period. This is required because of the very large capital requirements and long payouts for plants of such large size and complexity. It also is needed because the technology is and must remain secret, and because the process "know-how" presently rests within the Government. Moreover, the Government has a vital interest in assuring that these projects do, in fact, perform as expected and are able to meet their commitments to domestic and foreign customers on a timely basis.

Accordingly, at my direction, the Energy Research and Development Administration will, within the next few days, submit to the Congress proposed new legislation that will permit the necessary degree of Government support to private enriching projects. On the basis of the proposed legislation, the Energy Research and Development Administration will enter into immediate detailed negotiations with Uranium Enrichment Associates, and with prospective centrifuge enrichers after more definitive proposals are received in response

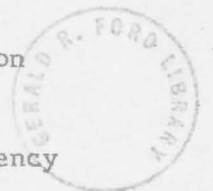


to a Request for Proposals issued today. It is my desire that several centrifuge projects proceed in parallel as rapidly as selection of companies can be made and details negotiated.

Although enactment of the legislation is necessary now as a clear signal of our national intent, details of the finally negotiated packages would be subject to Congressional scrutiny in the next session of Congress. I anticipate minimal budgetary impact during FY 1976 and, although future years cannot yet be predicted with absolute assurance, it appears likely that our involvement can be achieved without significant future demands for federal funds.

Under our proposed arrangements significant opportunities for foreign investments in U.S. private plants will be welcomed, although the plants will remain firmly under U.S. control, and there will be limitations on the amount of capacity each plant can commit to foreign customers. Also, all exports of the plant products will, as in the past, have to take place pursuant to Agreements for Cooperation with other Nations and will be subjected to appropriate safeguards to preclude use for other than agreed peaceful purposes. Foreign investors and customers would not have access to secret technology. In addition, the fuel produced would be suitable only for commercial power reactors, and no weapons grade material could be produced without substantial modification to the plant, which would be readily apparent to any monitor.

We believe the factors I have mentioned underscore the urgency of prompt action in this area. They also highlight the need for a Government contingency backup to the private plants that are contemplated. There is only a minimal possibility that the proposed private plants, starting with the initial gaseous diffusion plant, will not come on stream. After all, we have more than 25 years' experience with the U.S. diffusion process, and it is the most proven enrichment process in the world. We also feel confident that U.S. centrifuge technology will prove to be commercially



reliable and economic. And we believe that when submitted for necessary review, the potential suppliers will meet all licensing, anti-trust, and environmental requirements.

However, in the remote event that the proposed private plants cannot be properly initiated or completed, our legislative package would enable the Government to stand fully behind the private fuel assurances that will be given to domestic and foreign customers.

I am confident that the U.S. private sector is equal to the challenge I am laying before it today. But lest there be any doubt that potential purchasers of enriched uranium can begin to deal today with U.S. industry for assured sources of supply, I offer these additional assurances.

First, I have instructed ERDA to continue design of a Government enrichment plant, in the remote event that industry falters. This Government backup will ensure the U.S. has new plant capacity by the 1980's.

Second, as part of its design work, ERDA will purchase from UEA services for the design of components common to both the private and Government plants. This action will help ensure that work on the private plant can begin promptly.

Third, I pledge to anyone that places orders with our private suppliers that the USG will--in the unlikely event that the private venture fails--assure that these orders will be filled. Those who are first in line with our private sources will be first in line to receive supplies under this assurance.

Finally, I will shortly propose to the Congress that prices for Government-supplied enriched uranium be set to recover our full costs on an unsubsidized basis. This step will, I believe, underscore the essentially commercial nature of producing enriched uranium.

The program I have proposed takes maximum advantage of the strength and resourcefulness of industry and Government in the United States and the world leadership we now enjoy in a new and

increasingly significant technology. It builds upon that base in a way which promises to maintain that leadership in the face of vigorous competition from abroad. I ask the Congress for early authorization of the program to meet our urgent needs and to demonstrate to the world our determination to pursue energy self-sufficiency. This action is urgent if we are to maintain our position of world leadership in enriching technology, if we are to remain a responsible and reliable supplier of enriching services, and if we are to closely collaborate with the other major oil consumers as well as with all nations seeking to develop alternative energy sources.



Atom-Fuel Plant Costing \$1 Billion Proposed to U.S.

Unit of Electro-Nucleonics,
Atlantic Richfield Would
Use Centrifuge Process

By a WALL STREET JOURNAL Staff Reporter
NEW YORK — The first firm industry

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By a WALL STREET
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tional based natural-gas
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THE WHITE HOUSE

WASHINGTON

June 24, 1975

MEMORANDUM FOR:

PHIL BUCHEN
JIM CONNOR
MIKE DUNN
MAX FRIEDERSDORF
ALAN GREENSPAN
ROD HILLS
JIM LYNN
JACK MARSH
JIM MITCHELL
BRENT SCOWCROFT
ROBERT SEAMANS
FRANK ZARB

THROUGH:

JIM CAVANAUGH

FROM:

Glenn
GLENN SCHLEEDE

SUBJECT:

URANIUM ENRICHMENT - FINAL DRAFT
FACT SHEET AND Q's AND A's

Enclosed are the latest drafts of the fact sheet and Q's and A's -- which we expect to put in final form early tomorrow. The Q's and A's will be made available to Administration spokesmen.

Thanks very much for your help and that of your staff in putting them together.

If there are any final corrections that are necessary, please have your staff call before noon on Wednesday, June 25.

Attachments

Fact Sheet

SUMMARY FACT SHEET

THE PRESIDENT'S PLAN FOR A COMPETITIVE
NUCLEAR FUEL INDUSTRY

The President's Action

The President today announced administrative actions and a legislative proposal to:

- . Increase the United States' capacity to produce enriched uranium to fuel domestic and foreign nuclear power plants.
- . Retain U.S. leadership as a world supplier of uranium enrichment services and technology for the peaceful use of nuclear power.
- . Assure the creation, under appropriate controls of a private, competitive uranium enrichment industry in the U.S. -- ending the current Government monopoly.
- . Accomplish these objectives with little or no cost to taxpayers and with all necessary controls and safeguards.

Background

- . The U.S. capacity for refining or "enriching" uranium to make fuel for nuclear electric generating plants is now fully committed.
- . Work on constructing new capacity must begin soon so that plants will be ready to meet domestic and foreign requirements by about 1983.
- . Efforts to encourage the creation of a competitive uranium enrichment industry have shown that certain forms of Government cooperation and temporary assurances are necessary to permit private firms to enter the industry.
- . The need for added capacity provides the opportunity for specific actions by the Government to encourage private entry.

Highlights of the Plan

The President's plan includes:

- . A legislative proposal, the Competitive Nuclear Fuel Supply Act of 1975, which would authorize the Government to enter into certain cooperative arrangements with private industrial firms that wish to finance, build and operate plants to provide uranium enrichment services.
- . A pledge by the President to foreign and domestic customers that the Government will assure that orders placed with private producers will be fulfilled as services are needed.
- . All necessary controls and safeguards concerned with (a) preventing the diversion of nuclear materials and the spread of sensitive technology, (b) foreign investment, (c) environmental impact, (d) safety, and (e) anti-trust.

6/23/78
draft.

FACT SHEET

THE PRESIDENT'S PLAN FOR A
COMPETITIVE NUCLEAR FUEL INDUSTRY

Page

The President's Announcement	
Background	
Plan Announced by the President	
- Objectives	
- Principal Elements of the Plan	
. Legislative Authority for Cooperative Arrangements with Private Firms	
. Assurances for Customers	
. Controls and Safeguards	
. Preventing the Diversion of Nuclear Materials and spread of sensitive technology	
. Foreign Investment	
. Environmental Impact, Safety and Anti-Trust	
Implementing Actions	
- Negotiations for a Diffusion Plant	
- Request for Proposal for Centrifuge Plants	
- Environmental Impact Statement	
- Contingency Planning	
- Diffusion Plant Design Work	
Specifics of the Legislative Proposal	
- Authorizing Legislation	
. Cooperative Agreements	
. Congressional Review	
- Contract Authority - Appropriations Request	
Developments Leading to the President's Plan	
- U.S. Leadership in Uranium Enrichment Technology	
. Gaseous Diffusion	
. Gas Centrifuge	
. Laser Separation	
- Existing U.S. Capacity	
- The Growing Market	

- Potential Foreign Suppliers
- The Program to Develop a Competitive Industry
 - . Diffusion Plant
 - . Centrifuge Plant
- Obstacles to the Entry of Private Industry
- Alternatives to Private Entry
- The Proposal from Uranium Enrichment Associates (UEA)
- Centrifuge Enriching Projects -- Request for Proposals

Other Actions Related to Uranium Enrichment

Capacity

- Increasing ERDA's Charge for Uranium Enrichment Services
- Contract Relief for Current ERDA Enrichment Customers
- ERDA Conditional Contracts for Enrichment Services

Attachment:

- #1 - Summary of UEA Plan and Proposal to ERDA
- #2 - Uranium Enrichment as a Part of the Nuclear Fuel Cycle

THE PRESIDENT'S ANNOUNCEMENT

The President today announced administrative actions and a legislative proposal to (a) increase the United States' capacity to produce enriched uranium to fuel domestic and foreign nuclear power plants, (b) retain U.S. leadership as a world supplier of uranium enrichment services and nuclear power plants, (c) assure the creation, under appropriate controls of a private, competitive uranium enrichment industry in the U.S. -- ending the current Government monopoly; and (d) accomplish these objectives with little or no cost to taxpayers and with all necessary controls and safeguards.

BACKGROUND

- . Natural uranium from U.S. and foreign mines must be refined or "enriched" before it can be used to make fuel for nuclear power plants which are used in the United States and in many foreign nations to generate electricity.

3

- . U.S. capacity for enriching uranium which now supplies all domestic and most foreign needs, consists of three Government-owned plants, located at Oak Ridge, Tennessee; Paducah, Kentucky; and Portsmouth- Ohio.
- . Since mid-1974, the entire capacity of the three plants has been fully committed under long-term contracts. New enrichment capacity must be "on-line" beginning in about 1983 to meet the growing domestic and foreign demand for nuclear fuel.
- . The potential U.S. market abroad has begun to erode as some potential foreign customers have started looking to sources such as the U.S.S.R., France and a West European consortium for uranium enrichment.
- . Since 1971, the Executive Branch has followed policies and programs directed toward assuring that private industry -- rather than the Federal Government -- builds the next increments of U.S. uranium enrichment capacity.
- . Several industrial firms have sought to enter the uranium enrichment field but all have found that some forms of Government cooperation and temporary assurances are needed to overcome the initial obstacles to private industry involvement.

THE PLAN

Objectives. The plan announced by the President is designed to meet the objectives of assuring that:

- . The next increments of U.S. uranium enrichment capacity will be available when needed to meet the growing demand for fuel for nuclear powered generating plants in the U.S. and in other nations.
- . The U.S. maintains its role as a major world supplier of uranium enrichment services and nuclear power plants -- a role that is important to:
 - Our economy and our world trade position.
 - Our efforts to obtain the commitment of additional nations to accept international safeguards and the principle of nuclear non-proliferation.
 - Our cooperation with other major oil consuming nations which are looking to nuclear power to help reduce their dependence on foreign oil imports.

- 4
- Our longer range goal of developing technology and energy resources to supply a significant share of the free world's energy needs.
 - . All future increments of capacity will be built, financed and operated by private industry -- rather than by the Federal Government -- so that a competitive industry will exist at the earliest possible date.
 - . There will be little or no cost to the taxpayer and that the Government will receive increased revenue in corporate taxes and compensation for the use of its inventions and discoveries.
 - . All necessary domestic and international controls over nuclear materials and classified technology will be maintained, as they would be if the Government were to own the new plants.

Principal Elements of the Plan.

- . Legislative Authority for Cooperative Arrangements with Private Firms. The President is asking the Congress to enact promptly the additional legislative authority needed to enable the Energy Research and Development Administration (ERDA) to negotiate and enter into cooperative arrangements with private industrial organizations that wish to build, own and operate uranium enrichment plants.
 - Negotiations would be directed toward the arrangements most advantageous to the Government and the public interest and with a degree of risk to the private firm that is consistent with the objective of creating a private, competitive uranium enrichment industry.
 - These arrangements would provide for certain forms of Government cooperation and temporary assurances found to be necessary after detailed negotiations with firms submitting proposals. Arrangements could include:
 - . Supplying and warranting Government-owned inventions and discoveries in enrichment technology -- for which the Government will be paid.
 - . Selling certain materials and supplies on a full cost recovery basis which, because of their classified nature, are available only from the Federal Government.

- . Buying enriching services from private producers or providing enriching services to producers from the Government stockpile to accommodate plant start-up and loading problems.
 - . Assuring the delivery of uranium enrichment services to customers which have placed orders with private enrichment firms.
 - . Assuming the assets and liabilities (including debt) of a private uranium enrichment project if the venture threatened to fail -- at the call of the private venture or the Government, and with compensation to domestic investors in the private ventures ranging from full reimbursement to total loss of equity interest, depending upon the circumstances leading to the threat of failure.
- The arrangements would be spelled out in a detailed contract which would be subject to Congressional review.
 - Assurances would end after one full year of commercial operation of a plant.
 - The Government would monitor progress carefully so that it can be sure that the plant will function properly and will be completed on time and within cost estimates.
- . Assurances for Customers. The President announced his pledge to domestic and foreign customers who place orders with private U.S. suppliers that the Government will assure that orders will be filled as services are needed. Those first in line with private suppliers will be first in line to receive services from the Government -- if it were necessary for the Government to take over and complete a private project.
 - . Controls and Safeguards. The President announced that all necessary controls and safeguards will be maintained in all arrangements with private firms. Such controls and safeguards include:
 - Preventing the Diversion of Nuclear Materials or Un-Controlled Spread of Sensitive Technology. All necessary measures will be taken to safeguard the use of the products of plants and to protect sensitive classified technology. These measures include:

- . Effective domestic safeguards and physical security measures to the plants and their products.
 - . Continued requirements that exports take place pursuant to appropriate international agreements for cooperation and be subjected to safeguards to prevent diversions.
 - . Continued classification and protection of sensitive enrichment technology
- Foreign Investment. Foreign investment in private enrichment ventures will be encouraged, but control will remain with U.S. interests. Foreign investors would not require or have access to classified information. Any proposals for sharing technology would be considered separately and would be subject to Governmental review and approval.
- Environmental Impact, Safety and Anti-Trust. Private ventures wishing to build plants will have to obtain from the Nuclear Regulatory Commission (NRC) a construction permit and operating license. As a part of its review, the NRC must evaluate environmental, safety and anti-trust considerations as well as assure that control of the proposed new ventures remain in the U.S. -- as now required by the Atomic Energy Act. NRC also will have responsibility for assuring that the plants are appropriately safeguarded. The Justice Department participates in the review of anti-trust considerations.

IMPLEMENTING ACTIONS

The President announced several administrative actions that are being taken now:

- . Negotiations for a Diffusion Plant. ERDA is responding formally to a proposal from the Uranium Enrichment Associates (UEA) offering to enter into negotiations which could lead to the construction by UEA of a \$3.5 billion (1976 dollars) plant which would make use of gaseous diffusion technology and which would be on line by 1983.
- . Request for Proposal for Centrifuge Plants. ERDA is issuing a new request for proposals from industrial firms interested in constructing enrichment facilities making use of centrifuge technology.

- . Environmental Impact Statement. ERDA will on June 30 issue for public review and comment a draft environmental impact statement covering its actions concerned with the expansion of uranium enrichment capacity.
- . Contingency Planning. ERDA will continue with backup contingency measures to help assure that capacity will be ready in the unlikely event that industrial efforts falter. These measures include continuation of Government plant conceptual design activities, research and development on enrichment technologies, and technological assistance to the private sector on a cost recovery basis.
- . Diffusion Plant Design Work ERDA plans to purchase from UEA design work on components for the private diffusion plant that could be used in a Government plant -- if the private venture were unable to proceed.

SPECIFICS OF THE LEGISLATIVE PROPOSAL

Authorizing legislation. The basic enabling legislation proposed today by the President would:

- . Authorize Cooperative Agreements.
 - It would permit ERDA to negotiate and enter into cooperative arrangements with firms wishing to build own and operate uranium enrichment facilities.
 - It would provide authorization for appropriations for amounts up to \$8 billion -- which is an estimate of the total potential cost to the Government in the unexpected event that all Government assured diffusion and centrifuge ventures failed and it were necessary for the Government to assume assets and liabilities of these ventures, take over plants, and compensate domestic investors. The Administration's expectation is that none of these funds would have to be expended, but the authorization is necessary under the recently enacted Budget Reform Act and to provide assurance to customers and to potential producers of the Federal Government's commitment.
- . Provide for Congressional Review. Once contracts were negotiated the Joint Committee on Atomic Energy (JCAE) would be notified and a period of 45 days would have to elapse before a contract would be valid -- to allow an opportunity for Congressional review of the basis for ERDA's arrangements with private firms.

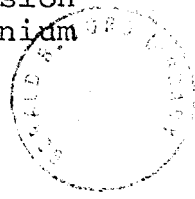
- 8
- Contract Authority-Appropriations Request. The President will later request an appropriation of contract authority to cover the estimated maximum Federal Government exposure for specific projects in the event that it were necessary to assume assets and liabilities. Again, expenditure of these funds is not considered likely.

DEVELOPMENTS LEADING TO THE PRESIDENT'S PLAN

U.S. Leadership in Uranium Enrichment Technology. The United States is the recognized world leader in technology for refining or "enriching" natural uranium to a form that can be used to make fuel for nuclear power reactors. Natural uranium contains only a small amount (approximately .7%) of the fissionable isotope U-235. In order to be useful to make fuel for most nuclear reactors, the concentration of U-235 must be increased to about 2-4% through a process of separating off other isotopes. The technology was developed and is owned by the Federal Government. Certain parts of the technology are classified. Principle U.S. technologies are:

- Gaseous Diffusion. This technology which is now used in the three existing government-owned enrichment plants was developed in the 1940's. Over 30 years of large scale operating experience and process improvement have made the technology the most reliable and economical now available for commercial scale operations. The next increment of capacity must make use of this technology.
- Gas centrifuge. The gas centrifuge process of uranium enrichment provides an alternative to gaseous diffusion. Full operation of a Government pilot plant is scheduled for early 1976. If the projected economics of the process are realized, gas centrifuge is expected to be used as subsequent increments of commercial capacity are added.
- Laser Separation ERDA is conducting a basic research program to determine whether this technology is technically or commercially feasible. Even if successful, the technology will not be available in time to be used for the next several increments of needed enrichment capacity.

Existing U.S. Capacity. The three Government-owned uranium enrichment plants will, when currently authorized expansion is completed, have the capacity to produce enriched uranium needed to fuel about 300 large nuclear-powered electric generating plants in the U.S. and foreign countries.



The Growing Market. Current estimates are that the U.S. will require added enrichment capacity by 1990 equal to 3 to 5 plants the size of any one of the three existing plants and that added capacity for the total market served by the U.S. will equal 5 to 8 similar size plants. The demand will continue to grow after 1990.

Potential Foreign Suppliers. The principal existing capacity for enriching uranium outside the U.S. is in the Soviet Union. A french-led diffusion plant project (Eurodif) is expected to begin production in 1979 and its capacity is reported to be fully committed. A British-German-Dutch consortium (Urenco) plant will also begin expanded operations in 1979. Plans for additional plants are being discussed by France, Canada, South Africa, Japan, Australia and Brazil.

The Program to Develop a Competitive Industry. The Atomic Energy Act of 1946 provides that "the development, use and control of atomic energy should be directed so as to ... strengthen free competition in private enterprise". An Executive Branch policy to encourage private industry to build the next increments of uranium enrichment capacity was announced in June 1971. Beginning in 1973, the Atomic Energy Commission (AEC) asked private firms to consider building, owning and operating enrichment plants and granted qualified U.S. firms access to classified aspects of the Government's work, under carefully controlled security conditions, in order that they might make their own assessment of the commercial potential for private enriching plants. A number of firms responded to the invitation from which several consortia have emerged which are interested in pursuing the possibility of building enrichment plants.

- . Diffusion Plant. One consortium -- the Uranium Enrichment Associates (UEA) -- is interested in constructing a \$3.5 billion gaseous diffusion plant equivalent to the expanded capacity of one of the 3 existing Government-owned plants.
- . Centrifuge Plant Other firms and consortia -- Centar, Exxon Nuclear and Garrett Corporation -- have expressed interest in cooperative arrangements with the Federal Government which would lead to demonstration gas centrifuge plants which could be expanded in the future to commercial scale plants. The AEC (predecessor to ERDA) requested proposals from industry to advance the demonstration of centrifuge technology. A modified request for proposals is being issued today.

Obstacles to the Entry of Private Industry. All firms interested in building, owning and operating a private plant have concluded that some form of Government cooperation and temporary assurances are essential to begin the transition to a private competitive industry. Among the factors that have contributed to this conclusion are:

- . The complexity of the undertaking, including the Federal ownership and the classification of the technology.
- . The large financial commitment required and the difficulty encountered in trying to obtain private financing.
- . The inherent difficulties of ending a Government monopoly.
- . The recent adverse financial situation of U.S. electrical utilities which are the customers for a plant. (Their long term contracts for uranium enrichment services must provide security for the long term financing required.)
- . Some uncertainty as to whether the Government would follow through on its commitment to achieve privatization.

Alternatives to Private Entry. The principal alternatives to an immediate effort to achieve privatization include:

- . All future additions to capacity financed, built and owned by the Federal Government, thus continuing indefinitely the existing monopoly.
- . Government financing and ownership of one or more additional increments of capacity, followed by another attempt to achieve privatization.

A thorough review indicated that, regardless of the alternative selected:

- . The next increment of capacity can be on line when needed (now estimated about 1983).
- . Controls and safeguards involving classified technology and non-proliferation of nuclear materials can be maintained.
- . Customers for the next increment are expected to be primarily foreign.
- . Foreign investments in an enrichment plant can be accommodated.

This review led to the conclusion that the task of explaining and implementing the plan for achieving a private industry would be difficult and that a substantial effort would be required by both the Congress and the Executive Branch, but that the benefits of privatization justified the effort. The benefits of privatization include:

- . Little or no cost to taxpayers - compared to \$20 to \$30 billion for plants that should be on line by 1990, if the Federal Government were to own the plants. (These funds would not be recovered to the Treasury for many years.) Under the President's plan, revenue of about \$90 to \$100 million per plant per year would flow to the Federal Treasury from industry, principally from taxes and payments for the use of Government inventions and discoveries.
- . An early end to the Government monopoly in a type of commercial activity.
- . Avoiding expansion of the public sector when industry is willing and able to do the job.
- . Competition which would provide incentives for lower costs and additional improvements in technology.

The Proposal from Uranium Enrichment Associations (UEA). Uranium Enrichment Associates is a consortium currently consisting of Bechtel Corporation and the Goodyear Tire and Rubber Company. On May 30, 1975, UEA submitted a revised proposal to ERDA calling for cooperative arrangements with the Federal Government. The principal features of the UEA proposals are summarized in Attachment #1. A contract containing the details of a cooperative agreement would be negotiated by UEA and ERDA.

Centrifuge Enriching Projects -- Request for Proposals.

- . In August of 1974 the Government announced a program expected to lead to several relatively small industry constructed demonstration projects.
- . Gas centrifuge technology has not yet been applied on a production scale sufficient to permit full industry commitment to large plants. At least three companies are interested in undertaking private centrifuge enriching projects now which would be scaled up progressively from small demonstration modules to a capacity the economies of scale for centrifuge enriching are expected to be largely realized. These are expected to be 1/3 to 1/2 the capacity of the planned diffusion plant.

- . Government-industry cooperative arrangements similar to that required for the UEA diffusion project may be required.
- . A Request for Proposals for this program which extends and elaborates upon the earlier program is being issued today:
 - Proposals will be due on October 1, 1975 and it is the Government expectation that several proposals could be accepted to proceed more or less in parallel with each other and with the UEA project.
 - Proposers will describe their proposed project in detail, including plant design, size, location and schedules and specify the type and magnitude of Government support necessary to proceed.
 - Small initial modules, perhaps 200-300 thousand units per year could be in operation in the early 1980's with 2-3 million unit commercial scale plants achieved in the mid-1980's on a time frame consistent with the growth of the market.
- . Centrifuge technology permits adding small capacity increments as required to closely follow market needs.
- . Proceeding with several centrifuge demonstration projects in the same time frame as the gaseous diffusion plant will further the objective of developing a private, competitive enriching industry and maintaining U.S. world leadership in this field.

OTHER ACTIONS RELATED TO URANIUM ENRICHMENT CAPACITY

Increasing ERDA's Charge for Uranium Enrichment Services.

- . The current price charged by ERDA for uranium enrichment is based on a statutory formula which says that ERDA's charge must be established on the basis of the recovery of the Government's costs over a reasonable period of time. Application of the formula has resulted in a present charge of \$42 and \$48 per separative work unit, depending on the type of contract a customer has with ERDA. This price will rise by the end of 1975 to \$53 and \$60 per unit. These prices reflect the low cost of construction during the 1940's and 1950's for plants built primarily for military purposes. These prices are much lower than the quoted world market prices of enrichment services of between \$75 to \$100 per unit.

The President announced in his 1976 Budget his intention to propose legislation to the Congress to permit ERDA to raise the price of enrichment services from its plants. The new price would be established to recover the Government's costs and place the pricing of Government enriching services on a more business-like basis. This step would encourage private sector interest in building enrichment facilities and end an unjustifiable subsidy to both foreign and domestic customers. The new price would include a rate of return on investment more appropriate to the private sector than the Government's rate of return, an allowance equivalent to corporate income taxes and also include other costs typical of private operations. On this basis the new price per separative work unit will be approximately \$75.

This legislation has been submitted to the Congress by ERDA.

Contract Relief for Current ERDA Enrichment Customers.

Present ERDA enrichment contracts require customers to commit to a fixed delivery schedule and to make prepayments amounting to about \$3 million several years prior to the first delivery of enriched fuel. Since these contracts were signed, many nuclear power plants whose fuel was covered by these contracts have been postponed or cancelled.

As a result, many utilities now face the prospect of having to pay for uranium enrichment services well in advance of the revised completion dates for the reactors.

In order to free both ERDA and the enrichment customers from unrealistic commitment, ERDA, after notifying to the Joint Committee on Atomic Energy (JCAE), has announced that it will:

- Grant customers the right within a 60-day period to serve notice that they wish to terminate their contract with no cancellation fee and with refund of any payments.
- Permit those wishing to defer deliveries (rather than terminate contracts) to have a one-time adjustment of contract commitments without penalty.
- Permit a similar one-time adjustment of the rate at which uranium feed should be sent to the enriching plants to coincide in part with the slipped enrichment requirements.

These actions would:

- Result in a larger U.S. stockpile of enriched uranium for use as an inventory to support the new private uranium enrichment plants with backup supplies of enriched material, should any delays occur in their initial operation.
- Establish a more realistic data base for evaluating future domestic and foreign enrichment requirements.
- Grant short-term financial relief to the utility industry.

ERDA Conditional Contracts for Enrichment Services.

- . Some customers placing orders with AEC (predecessor to ERDA) in mid-1974 were given conditional contracts; i.e., contracts contingent upon the approval by U.S. regulatory authorities (now the Nuclear Regulatory Commission) of the use of recycled plutonium as a nuclear reactor fuel. These conditional contracts were backed up by announcement that the U.S. would have expanded capacity available that could fulfill requirements, if needed.
- . The expanded U.S. capacity that will result from the President's plan will provide sources of supply that can be tapped by the holders of conditional contracts.

SUMMARY OF THE URANIUM ENRICHMENT
ASSOCIATES (UEA) PLAN AND PROPOSAL TO ERDA FOR
A COOPERATIVE ARRANGEMENT

Physical Description of the Project.

- . A 9 million separative work unit per year gaseous diffusion plant would be built near Dothan, Alabama on a 1720 acre site on the Chattahoochee River.
- . When in full operation the plant could provide enriching services for about 90 large nuclear power reactors.
- . The plant will require about 2500 megawatts of electrical power which will be supplied from a dedicated nuclear power facility located nearby.
- . Project cost estimate (exclusive of the power project) has been estimated by UEA to be \$3.5 billion in 1976 dollars.
- . UEA projects continuation of design work now underway on the project during the next several years with construction scheduled to commence in 1977.
- . Full production from the plant is projected in 1983 with limited production starting in 1981.
- . Nearly 50 million construction manhours are estimated for the project. A peak construction labor force of about 7000 workers will be reached in 1979-80 and the permanent operating staff of the project is expected to be about 1100.
- . The plant will be processing and upgrading natural uranium and thus will have essentially no radiation hazard. It will be similar to a large materials handling plant except that the product material will be much more valuable.

Financial Structure of UEA Project.

- . UEA expects that two to six companies in addition to Bechtel and Goodyear will comprise the consortium that will undertake the project. These companies are expected to be identified within the next few months.
- . Based upon marketing efforts to date, UEA projects about 40 percent of plant capacity will be taken by U.S. domestic utilities and the balance by non-U.S. organizations in countries with which the United States has Agreements for Cooperation permitting the transfer or disposition of enriched uranium. (Under the Atomic Energy Act voting control for such a project must remain in the hands of the United States investors at all times and the project is so structured. The secrecy of the process will be protected and foreign customers or investors will not have access to classified technology or information.)
- . Project financing using an 85 percent debt, 15 percent equity ration is contemplated for the project.
- . The equity corresponding to the domestic portion of plant output will be supplied by UEA and the debt financing will be raised in the commercial market primarily on the basis of the security of long-term (25 year) non-cancelable enrichment service contracts with domestic utilities.
- . Both equity and debt for the foreign share of plant output is to be supplied from the foreign customers' own sources of capital.
- . Pricing of product from the plant is based upon the recovery of all operating costs servicing of debt and an after-tax return of approximately 15 percent on equity.
- . A 3 percent payment, based on gross sales would be paid to the Government for use of taxpayer-developed technology.

Customers.

- . A number of United States' utilities have executed contingent letters of intent with UEA to purchase uranium enriching services from the new plant and a number of additional utilities are now evaluating their requirement for services.

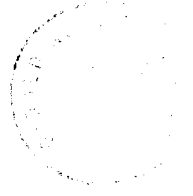
- . UEA has made extensive marketing contacts overseas and anticipates that foreign commitments will be forthcoming from Iran, Japan, West Germany, France, Spain, Taiwan and other countries.

Cooperative Arrangements.

- . Due to the unique nature of the project, the very large capital requirements, and long payout periods, UEA has concluded that it would not be possible to move ahead without certain forms of Government backup assistance.
- . UEA has proposed that the Government:
 - Supply, at cost, essential components presently produced exclusively by the Government.
 - Supply the Government's gaseous diffusion technology and warrant its satisfactory operation.
 - 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 has also proposed that:
 - The Government provide standby financial backup assistance lasting for the critical construction period plus one year to offset the current weak credit position of the U.S. utility industry and the Government 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. In this event, the Government has the right to acquire UEA's domestic equity position and the obligation to assume UEA's liabilities and debt.
 - The Government may also require UEA to release the project to the Government if the Government's interest so demands. In this event, the Government would be obligated to assume UEA's liabilities and debt.
 - 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 events outside UEA's reasonable control.



- All of the above forms of backup assistance would be subject to contract negotiations between ERDA and UEA. UEA believes that the plant can be completed within the private sector with no net expenditure of Government funds.



Uranium Enrichment as Part of the Nuclear Fuel Cycle

The attached chart depicts the nuclear fuel cycle for Light Water Reactors, (the type of reactors mostly commonly used in the U.S.). About 97% of the reactors obtaining enrichment services from the ERDA gaseous diffusion plants are Light Water Reactors; a similar fuel cycle exists for the other present reactor type -- the High Temperature Gas Cooled Reactor.

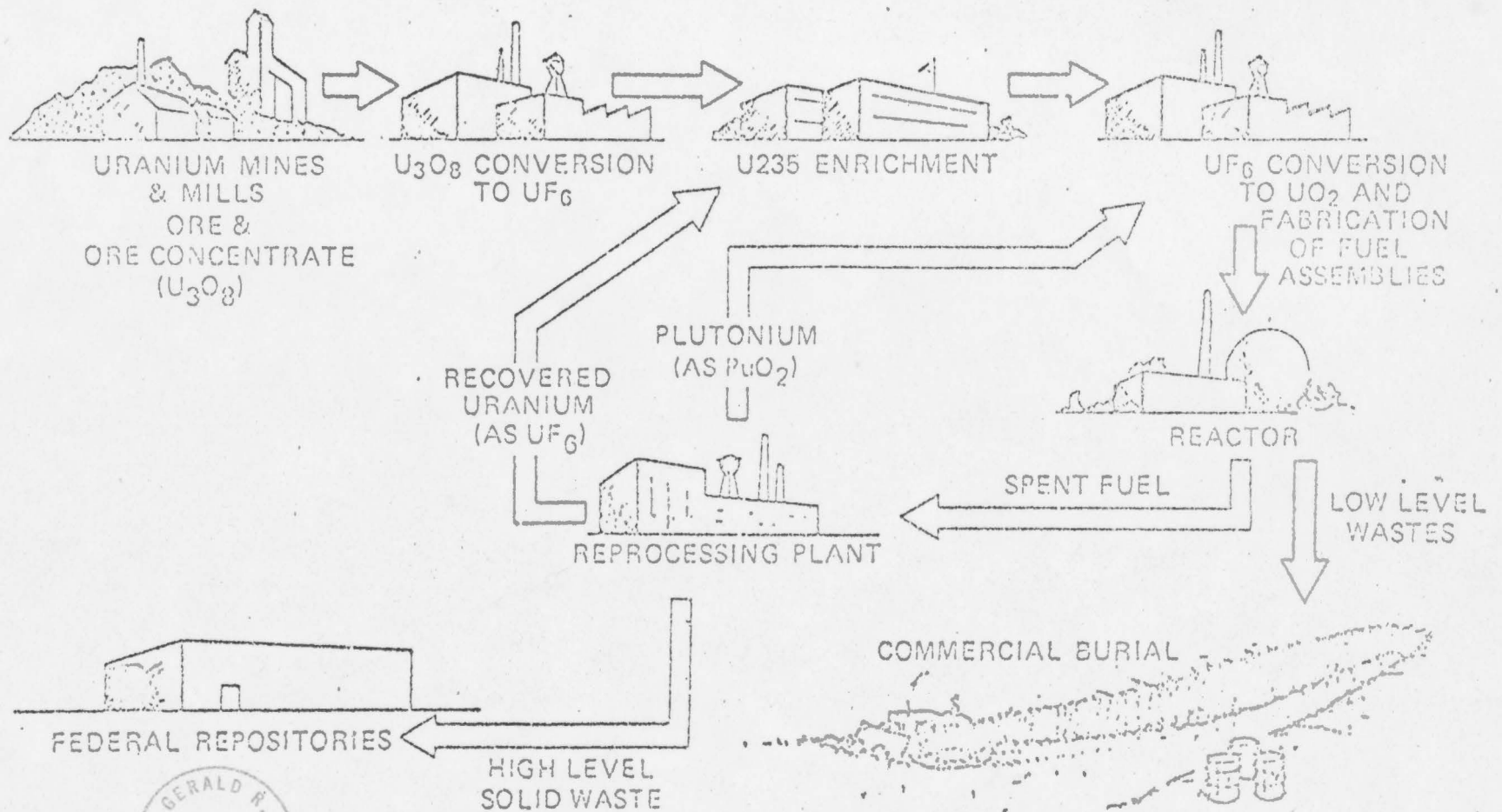
Prior to the enrichment step, uranium ore is mined from the earth's crust and sent to a mill where uranium concentrate is produced. This concentrate is often referred to as yellowcake, or by the chemical symbol, U_3O_8 . There are 14 mills presently operating in the U.S. The uranium concentrate is then sent to a converter where it is converted to uranium hexafluoride, or UF_6 . This is the only simple form of uranium that can be gaseous at conditions near room temperatures and pressures. There are two UF_6 conversion plants operating in the U.S.

The uranium hexafluoride is then sent to an uranium enrichment plant. There are two processes under consideration for commercial use in the U.S. -- the established gaseous diffusion process, used in the ERDA plants, and the gas centrifuge process. The UEA will use the gaseous diffusion process. In the process, the uranium hexafluoride gas is pumped through a semipermeable membrane. The desirable fissionable isotope, U-235, diffuses through the membrane more readily than the nonfissionable isotope, U-238. A stream depleted in U-235 is collected from the plant and sent to storage. A stream enriched in U-235 is collected from the plant and sent to a fuel fabrication plant. In this plant, the uranium hexafluoride is converted to uranium dioxide UD_2 , formed into pellets, and placed in zirconium tubes. The tubes are assembled into bundles and sent to nuclear power plants. Seven U.S. companies are involved in the fabrication of nuclear fuel.



After the fuel is used in the nuclear power plant, it is discharged and allowed to cool in a large water basin at the plant. The spent fuel will then be sent to a chemical reprocessing plant. In this step, the uranium and reactor-produced plutonium will be separated from the highly radioactive fission products generated while the fuel is in the nuclear power plant. The radioactive wastes in proper form will be sent to a repository. The recovered uranium will be converted again to the hexafluoride and reinserted into the enrichment plants for reenrichment. Plutonium is also a fissionable material that can be used as fuel in a nuclear power plant. If use of the plutonium is granted by the Nuclear Regulatory Commission, it would be sent to the fuel fabrication plants; there it would be mixed with the uranium and formed into pellets for nuclear power plant fuel. There are currently no commercial chemical reprocessing plants operating in the U.S.; one plant is shut down for modification and another is under construction.

THE NUCLEAR FUEL CYCLE
FOR LIGHT WATER REACTORS



Q's & A's

URANIUM ENRICHMENT
QUESTIONS AND ANSWERS

1. Why Privatization?
2. Why Privatization Now?
3. Why Government Assistance?
4. Cut-off date (on attempts to get private entry) ?
5. When will the U.S."Order Book"Open?
6. NRC Safeguards and Safety Controls
7. Spread Classified Technology (to private industry)?
8. Unanswered Nuclear Safety and Environmental Questions?
9. Foreign Investment without Foreign Control?
10. Foreign Customer Conditional Contracts with ERDA
11. Foreign Purchases without Investment?
12. U.S. Share of the Free World Market?
13. Payments by Industry for Government-owned Technology
14. What Happens if a Private Plant Doesn't Work?
15. What Happens if a Private Plant Isn't Licensed?
16. Does UEA have Customers?

6/24/75

WHY PRIVATIZATION ?

Question:

ERDA (and AEC before it) is doing a good job of supplying uranium enrichment services. Why not simply continue the present arrangements and build new Government facilities rather than set up a complicated new arrangement?

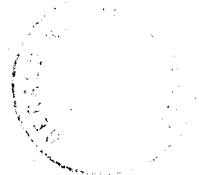
Answer:

There are many important reasons for proceeding with the creation of competitive nuclear fuel supply industry. The principle reasons are:

- (1) The provision of uranium enrichment services is now essentially a commercial/industrial activity, not inherently a Government type of activity.
- (2) We should not end the Government monopoly and continue to expand Governmental responsibilities within our economic system when private industry is able and willing to provide the service.
- (3) Construction of uranium enrichment plants -- which could cost \$20 to \$30 billion in new capacity through 1990 - should not compete in the Federal Budget with other areas -- such as social services and defense preparedness -- which can only be financed by the Government.
- (4) Continuing to have enrichment under the direct Federal control would centralize to an unprecedented degree operating control by the Government over the Nation's electrical energy, as nuclear power grows. This would present an opportunity for abuse and is poor public policy.
- (5) Private investment will insure that supply meets demand through operation of the market mechanism.

- (6) Private operation will avoid the delays and uncertainties associated with the Government's budget and appropriations processes to finance new increments of capacity every year or two.
- (7) Private competition will provide incentives - over the long term - for lower costs, improved efficiencies, and technological advancement.
- (8) Private ventures will generate substantial revenues to the Treasury through payment of Federal income taxes and compensations for Government-owned discoveries and inventions used by industry.

6/24/75



WHY PRIVATIZATION NOW?

Question:

Why not build another Government plant now and bring private industry in for subsequent increments of capacity when the new gas centrifuge technology is ready for use?

Answer:

There are several reasons for moving to private entry immediately:

- . In line with the private entry policy announced by the President in 1971, several industrial firms have undertaken substantial efforts to prepare for building, owning and operating plants to enrich uranium. This momentum would be lost if policy were reversed and another Government plant built.
- . The UEA venture is the first to reach a stage where it can propose construction of a plant and begin taking orders. It has lined up customers, and made detailed plans to proceed, including options on land and electrical power. This plant would use diffusion technology.
- . Other ventures have been organized and are making plans to propose demonstration plants using centrifuge technology to provide the next increments of capacity.

The diffusion plant venture will fulfill immediate needs for a commitment to new capacity and also serve to "break trail" for subsequent ventures using the less proven centrifuge technology.

There are substantial benefits to moving ahead now with private entry and no convincing reasons for a delay. One of the benefits of private entry is being able to bring on new capacity with little or no cost to taxpayers. If we were to build another plant taxpayers would have to advance the money -- from the U.S. Treasury.

6/24/75

WHY GOVERNMENT ASSISTANCE?

Question:

Why should it be necessary for the Government to provide any assistance to get private industry to get involved in uranium enrichment if it is really a commercial operation?

Answer:

The President's program contemplates Government cooperation and temporary assurances to overcome rather well defined obstacles to privatization:

- . Uranium enrichment, as a Government monopoly, has no commercial private-sector history. Many process details are and must remain classified. Under these conditions, commercial lenders are unwilling to consider risking the very large amounts required for this capital-intensive activity, without credible assurances that the plant will be completed and operational.
- . The technology is owned by the Government and a substantial royalty will be paid for its use by the private sector. It is reasonable for the Government to warrant that the technology will work and be prepared to back this warranty up in the unlikely event that problems are encountered.
- . The Government would supply, on a full cost recovery basis key pieces of classified equipment upon which the plant performance depends and which are available early from the Federal Government.
- . Since enriched uranium is essential to operating nuclear plants, Government measures are needed to assure electric utility customers, both foreign and domestic, that their orders for nuclear fuels will be filled. This in turn is essential to meeting the growing domestic demand for electricity, a substantial part of which must be met from nuclear power if oil consuming nations are to reduce their dependence on imported oil. Government assurance that orders will be filled is a logical part of the proposed program. This assurance is especially important to foreign customers and will help the U.S. maintain its leadership role in the supply of enrichment services abroad.

The only present source of back up supplies of enriched uranium large enough to back-stop the initial period of operation of new plants is the existing Government stockpile of this material and the Government can provide such back-stopping.

CUT-OFF DATE?Question:

Is there a specified "cut-off" date when, if the UEA project seemed to falter, the Government would decide to proceed with an add-on diffusion plant?

Answer:

First, the risk of UEA failure is considered very small.

Second, there is no one specified, pre-set date for such a decision.

The approach to privatization selected by the President calls for very close monitoring by the Government at every stage to assure that the Government could step in if the private effort threatened to fail -- an event considered very unlikely. This close monitoring will prevent any significant loss of time, if something were to go wrong, and thus assure that additional capacity can be brought on line by the time it is needed, around 1983.

If the Government had to step in, the question of the plant that would be built -- that is, a 5 million unit add-on plant, or a 9 million unit free-standing plant -- would depend on when intervention proved necessary. For example:

If Congress failed to pass the authorizing legislation needed for the private enrichment industry approach and instead, passed authorization and appropriations for a Government plant, it probably would be desirable to proceed with the add-on plant approach.

If at some time prior to March 1976 when UEA is expected to complete financial, customer and power supply arrangements, UEA found that it could not proceed, the Government would need to determine whether it would be best to proceed with an add-on plant or with the planned 9-million unit free-standing plant.

If at some later time, the Government has to step in and assume UEA assets and liabilities, the Government would have to decide the best step. At some point it would be more advantageous for the Government to proceed with the free-standing plant than an add-on.

6/24/75

WHEN WILL THE "ORDER BOOK" OPEN?

Question:

When will customers be able to negotiate fuel contracts with private US enrichers? That is when will the "order book" open?

Answer:

A number of private US firms, particularly the CEA which is well advanced, will be in a position to accept service contracts and financial participation arrangements immediately, consistent with the trust of the President's Plan. These contracts would be contingent upon legislative approval, to become firm, but, in any event, they would be covered by the Presidential supply assurances.

In short, the US enrichment "order book" is about to be opened to provide assured and timely nuclear fuel to domestic and foreign customers.

6/24/75

NRC SAFEGUARDS AND SAFETY CONTROLSQuestion:

What types of domestic safeguards and safety controls will NRC apply to the UEA and private centrifuge ventures?

Answer:

NRC is expected to require essentially the same types of safeguards and safety procedures as are now successfully employed in Government-owned facilities.

Also, it is to be noted that the UEA plant will be designed to produce only low enriched uranium and, consequently, the safeguards problems for this plant will be even smaller than for the present government plants.

6/24/75

SPREAD CLASSIFIED TECHNOLOGY ?

Question:

Would privatization mean that sensitive classified nuclear technology would now become available to private firms instead of remaining confined to the Government?

Answer:

Rigid controls are and will continue to be maintained over access to sensitive classified technology.

Access by selected private industry people is not new. Existing enrichment plants, though owned by the Government, were constructed and are operated by private contractors.

We expect that rigid classification and safeguards controls will be applied to the privately-owned capacity proposed in this program.

Even if the Government were to build additional plants private contractors would be heavily involved in their design, construction and operation. Privatization would result in no significant additional access to classified nuclear technology than if the Nation's enrichment requirements were to be met by more government-owned capacity.

6/24/75

UNANSWERED SAFETY AND ENVIRONMENTAL QUESTIONSQuestion:

Why is the Ford Administration working to increase the supply of nuclear fuel when there are still significant unanswered questions regarding the safety and environmental impact of nuclear power plants.

Answer:

All commercial nuclear power plants in this country are licensed by the Nuclear Regulatory Commission (NRC) after a full review, including the opportunity for public participation, of safety and environmental questions.

While there are safety and environmental matters requiring continued attention, but the NRC applies conservative criteria to ensure safe performance. The safety record of commercial nuclear power plants has been excellent. There has been no member of the public killed or injured by any accident or occurrence at a commercial nuclear power plant in this country. The overwhelming majority of technical experts in the field are satisfied as to the safety of nuclear power plants. However, as added assurance, we are pursuing every opportunity to improve even further the safety of these power plants and waste management. Our safety research program in the Nuclear Regulatory Commission will spend over \$80 million in FY 1976. ERDA expenditures aimed at assuring environmentally sound fuel waste disposal amounts to \$36 million in FY 1976.

6/24/75

FOREIGN INVESTMENT WITHOUT FOREIGN CONTROLQuestion:

You have indicated that there will be substantial foreign investment in the proposed project -- including investment from OPEC nations. What safeguards do we have to protect us against potential abuses of foreign investors?

Answer:

First of all substantial foreign investment in this project is desirable to help ease the difficulty of raising the large amounts of capital required for the project. Furthermore, to the extent that funds from OPEC countries are involved, this is precisely the type of constructive use of OPEC money that we would like to encourage.

As a target, the UEA plan contemplates 60% foreign investment, and centrifuge ventures could also involve foreign contributions. These foreign investments result in access as customers to product output of the plant. The product is made available under Government Agreements for disposition of Cooperation and export licenses are required. The investments do not result in access to the classified US technology or in a majority voting right in project management.

U.S. ownership and control is required by U.S. law and will be a necessary condition of obtaining a license from the Nuclear Regulatory Commission. Foreign participation in the UEA project is designed to assure both that no single foreign investor can have a dominant voice in the project, and also that no group of foreign investors, voting as a bloc, can impose their views on U.S. investors.

6/24/75

FOREIGN CUSTOMER CONDITIONAL CONTRACTS WITH ERDAQuestion:

What happens to these foreign customers who have contracts with ERDA that are conditional on plutonium recycle and subject to termination?

Answer:

Holders of such contracts have a Presidential assurance that they will be able to obtain their fuel needs from a U.S. source of supply. The existence of a viable UEA project and commercial centrifuge projects will afford this opportunity. Indeed, a number of countries currently holding conditional contracts are already prospective investors in UEA.

6/24/75

FOREIGN PURCHASES WITHOUT INVESTMENT?Question:

Will foreign customers be able to obtain uranium enrichment services without an investment in a plant?

Answer:

Foreign investment, subject to U.S. policy regulations, would be welcomed. Foreign investors will be able to purchase fuel in proportion to their investment. It is anticipated that foreign customers who do not invest will be able to contract for uranium enrichment services, within the limits of plant capacity and if judged by enrichers to be compatible with their ventures.

6/24/75

U.S. SHARE OF THE FREE WORLD MARKETQuestion:

How much of the foreign enrichment market might the U.S. expect to capture.

Answer:

We cannot predict our share of the foreign market for enrichment services at this time. That share will be determined by our ability to compete with other suppliers. We hope that our sophisticated technological leadership developed over the past 30 years and our proven ability to provide enrichment services will put us in a good position to be a reliable supplier at reasonable prices.

6/24/75

PAYMENTS BY INDUSTRY FOR GOVERNMENT-OWNED TECHNOLOGYQuestion:

Given the heavy investments made by the U.S. taxpayers in the U.S. enrichment program, what compensation is the Government likely to receive for the technology?

Answer:

It is expected that the U.S. Government will charge 3% of the gross revenues of private producers as compensation for the use of its inventions and discoveries. For example, should UEA generate gross revenues of one billion dollars per year, the Government would receive compensation payments of about \$30 million per year in license fees and income taxes of about \$50 to \$70 million per year per plant. Revenues from these industry payments will increase as other private plants--probably using centrifuge technology--begin production.

6/24/75

WHAT HAPPENS IF A PRIVATE PLANT DOESN'T WORK?Question:

What happens if the proposed private diffusion plant doesn't work?

Answer:

The plant will work.

The private diffusion plant will use a process that has been proven and perfected over a quarter century of large scale Government operation. Governmental specialists will be involved in the details of the project and the Government will supply on a full cost recovery basis the key components which are available only from the Government. Again, the project will work.

6/24/75

WHAT HAPPENS IF A PRIVATE PLANT ISN'T LICENSED ?

Question:

What happens if a private plant isn't licensed?

Answer:

There is little reason to believe that the plant would not be licensed. From a health safety and environmental standpoint the project is expected to be much simpler to license than a nuclear power reactor.

Licensability of projects will, however, be a key consideration from the outset and should any difficulties appear they will be recognized early. Under the proposed terms of the cooperative arrangements, the Government would be able to take over a project if a license were not granted.

6/24/75

DOES UEA HAVE CUSTOMERS?Question:

Does the proposed private diffusion plant project (UEA) have all the customers it needs to go forward?

Answer:

We understand UEA has letters of intent from domestic utilities covering about 15% of plant output. Several foreign governments have expressed reasonably firm interest in significant amounts of plant output. As the project is accepted as the next United States enriching plant, it is very likely that customers will begin subscribing to the remaining available plant output.

6/24/75

<u>Action</u>	<u>Date</u> <u>Begin</u> <u>Today</u>	<u>Responsibili</u>	<u>Work to</u> <u>Be Done By</u>
<u>Congressional Briefings</u>		Friedersdorf	Congressional Relations Staff, Seamans, Fri, Zar, Morton, Connor, Schleede
<u>Legislation</u>			
- ERDA draft-due to OMB	June 17	Hills	ERDA, OMB, FEA,
- Final clearance	June 21	Lynn	Hills, AG, Connor NSC
<u>Presidential Message/ Statement</u>			
- ERDA draft due to Domestic Council	June 16	Fri	ERDA, OMB, NSC, Hills, FEA, Conno: Domestic Council
- Domestic Council draft to Hartmann/ Theis	June 18	Cannon	
- Draft for Presidential Review	June 21	Hartmann	
- Final Draft	June 24	Hartmann	
<u>Fact Sheet and Q & A</u>			
- Domestic Council draft	June 16	Cavanaugh	Schleede, ERDA,
- Final Draft	June 18	Cannon	OMB, NSC, FEA, Connor
<u>Complete Negotiations with Private Sector Participants</u>	June 21	Fri	Fri, Hills, Jim Mitchell, Schleed
<u>Economic Impact State- ment</u>			
- Draft	June 18	OMB	CEA, Treasury,
- Final	June 21	Seidman	OMB, ERDA, FEA
<u>Environmental and Regulatory Evaluation</u>	June 18	Cavanaugh	EPA, ERDA, NSC, FEA, Schleede



<u>Action</u>	<u>Date</u>	<u>Responsibility</u>	<u>Work to Be Done By</u>
. <u>Non-Proliferation Evaluation</u>	June 21	Scowcroft	Fri, Schleede Elliott
. <u>Press Briefings</u>	June 18 to 25	Nessen	Connor, Seamans Fri
. <u>Briefing for Business and Labor Groups</u>	June 23- 24	Baroody	Lynn, Seamans, and Fri
. <u>Overall Coordination</u>			Cannon



FOR IMMEDIATE RELEASE

JUNE 26, 1975

OFFICE OF THE WHITE HOUSE PRESS SECRETARY

THE WHITE HOUSE

REMARKS OF THE PRESIDENT
UPON SIGNING
THE URANIUM ENRICHMENT MESSAGE

THE CABINET ROOM

11:23 A.M. EDT

I will read a statement before signing the message or messages that will go to the Congress.

Because our oil and natural gas resources are fast being depleted, we must rely more and more on nuclear power as a major source of energy for the future.

Today, I am asking the Congress to join me in embarking the Nation on an exciting new course of action which will help to assure the energy independence that we need, and significantly strengthen our economy at home, at the same time.

I am referring to the establishment of an entirely new competitive industry to provide uranium enrichment service for nuclear power reactors. The legislation that I am seeking will reinforce the world leadership we now enjoy in uranium enrichment technology.

It will help insure the continued availability of reliable energy for America. It will move America one big step nearer energy independence.

This legislation will insure that the billions of dollars required for the construction of new enrichment plants will be borne by the private sector, not by the American taxpayer.

But all of us will benefit directly from the service which private enterprise will provide.

I urge the Congress to act swiftly and favorably on this important new energy initiative. With this comprehensive approach, the United States can reopen its uranium enrichment order book, reassert its supremacy as the world's major supplier of enriched uranium, and develop a strong private enrichment industry to help bolster the national economy.

MORE

Page 2

So it is with pleasure and hope that I sign the message to go to both the House and the Senate, and ask the Congress to move as rapidly as possible in order that we can achieve the objectives which are so important.

Thank you very much.

END

(AT 11:25 A.M. EDT)

June 26, 1975

Office of the White House Press Secretary

THE WHITE HOUSE

SUMMARY FACT SHEET

THE PRESIDENT'S PLAN FOR A COMPETITIVE
NUCLEAR FUEL INDUSTRY

The President's Action

The President today announced administrative actions and a legislative proposal to:

- . Increase the United States' capacity to produce enriched uranium to fuel domestic and foreign nuclear power plants.
- . Retain U.S. leadership as a world supplier of uranium enrichment services and technology for the peaceful uses of nuclear power.
- . Assure the creation, under appropriate controls of a private, competitive uranium enrichment industry in the U.S. -- ending the current Government monopoly.
- . Accomplish these objectives with little or no cost to taxpayers and with all necessary controls and safeguards.

Background

- . The U.S. capacity for refining or "enriching" uranium to make fuel for nuclear electric generating plants is now fully committed.
- . Work on constructing new capacity must begin soon so that plants will be ready to meet domestic and foreign requirements by about 1983.
- . Efforts to encourage the creation of a competitive uranium enrichment industry have shown that certain forms of Government cooperation and temporary assurances are necessary to permit private firms to enter the industry.

more

- . The need for added capacity provides the opportunity for specific actions by the Government to encourage private entry.

Highlights of the Plan

The President's plan includes:

- . A legislative proposal, the Nuclear Fuel Assurance Act of 1975, which would authorize the Government to enter into certain cooperative arrangements with private industrial firms that wish to finance, build, own and operate plants to provide uranium enrichment services.
- . A pledge by the President to foreign and domestic customers that the Government will assure that orders placed with private producers will be fulfilled as services are needed.
- . Opportunities for foreign investment, with control of these plants remaining in U.S. hands.
- . All necessary controls and safeguards concerned with (a) preventing the diversion of nuclear materials and the spread of sensitive technology, (b) environmental impact, (c) safety, and (d) antitrust.

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more

(OVER)

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MORE

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MORE

JUNE 26, 1975

OFFICE OF THE WHITE HOUSE PRESS SECRETARY

THE WHITE HOUSE
PRESS CONFERENCE
OF
FRANK G. ZARB
ADMINISTRATOR OF THE
FEDERAL ENERGY ADMINISTRATION
ROBERT C. SEAMANS
ADMINISTRATOR OF THE
ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
AND
ROBERT FRI
DEPUTY ADMINISTRATOR OF THE
ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION
THE BRIEFING ROOM

11:30 A.M. EDT

MR. NESSEN: I think you got the idea from Jim's pool report of the importance with which the President views this legislation.

In the conversations here about this legislation, it is looked upon as something that 20 years from now, when we look back on this legislation, this proposal will seem to be one of the most important proposals of these times. It is a subject that we have not really talked about very much in these briefings.

To give you some background on what it means and what the importance of it is, we have first of all Frank Zarb, the head of the FEA; Dr. Robert Seamans, who is the Administrator of the Energy Research and Development Administration; and his deputy, Robert Fri.

They will explain to you what it is that the President is proposing today, and will answer your questions about it.

MR. ZARB: Just to open it with a general statement, in this morning's meeting, when we met with the Joint Committee, we pointed out that while this had a great deal to do with uranium enrichment and our ability to satisfy both domestic and export needs in this category, it had farther reaching complications.

It is probably the first test of our commitment to use the financial base, the management capability and the technical skills of American industry in a way which would have technology that was developed within the framework of the Federal Government transferred in some form from Government to the private sector.

MORE

(OVER)

The most conservative calculations as to what it is going to cost to achieve reasonable independence or invulnerability by 1985 and lead toward the further developments required in the 1990s, is a \$600 billion bill. I emphasize that that is a conservative number.

It certainly can and probably will grow larger as we get closer to the 1980s. So the ability to tap the broad base of private capital, plus their technical capabilities and management abilities, is an important factor here to recognize in that this particular step is a move in that direction and one of many others that could occur downstream.

You all know Dr. Bob Seamans, who is the Administrator of ERDA, and he will give an overview of this particular piece of legislation, which the President said will be sent up today.

MR. SEAMANS: Thanks, Frank.

One of the most pressing issues that we faced when ERDA was formed was what to do about the nuclear industry, and particularly what to do about fuel for our present electric generating plants. This, most of you know, involves the enrichment of the uranium as one of the very important steps because when you get the ore from the ground the U-235 is only about seven-tenths of one percent and you have to get up to three or four percent in order to energize one of our reactors.

The problem that we faced was that we have in this country three plants. Each one of these is a large-scale operation. They exist at Oak Ridge; another one is at Paducah, Kentucky; and another one is at Portsmouth, Ohio. All three of these are fully committed to the generating plants that are either now in operation -- 55 in number -- or those that are under construction, and are in the planning state, the total numbering about 235.

On top of that, we have some foreign commitments, and between the domestic and the foreign we have not been able to take on additional orders for the last year. It seemed to us extremely important, as we looked ahead, as we must work more and more towards independence, cut down our import of oil, that we increase our capacity to generate electricity using a nuclear fuel.

The next step in our thinking had to do with what type of plant to build. As you know, the technology moves on. The three plants that we have involve gaseous diffusion. These are plants that have been in operation in the order of 30 years. We feel that the new technology that we have making use of a centrifuge is just about ready to go, and that we should avail ourselves of this capability and move ahead and develop plants that will use less energy to drive them, that can be built in smaller units, and will be more attractive to industry in the longrun.

MORE

Third, is the question of how are we going to proceed with the financing and the management. Here we felt very strongly that we ought to ease the taxpayer's burden and have this a private venture, and also we liked the idea of the competition, although if I do say so, I think the Government has done a pretty good job with its processing plants.

There is always room for innovation, and you tend to get that when you go to competition. So the plan in brief is to proceed down two courses: one, to build modern gaseous diffusion plants, and at the same time to go out in the competition for the centrifuge type plant.

We have at least three companies or consortia that are interested in bidding. There may be more.

As far as the gaseous diffusion plant, the plan is to negotiate with the Uranium Enrichment Associates. These Associates are made up of the Bechtel Corporation and Goodyear. You will, undoubtedly, be bringing in additional partners.

We have for the bold outline of what they propose, but we obviously have to get into some hard negotiation before we are certain that this is the way to go. We believe it will. We believe it must get started. We could discuss with you in any detail you want what the plans entail.

I think one thing that is important is that there are bound to be some risks involved at any private operation coming in because they must rely on technology and supply of certain of the classified materials, and so on, from the Government, and in looking this over we felt that the best way to proceed, and this has been agreed to, would be to provide an arrangement whereby either party -- the Government or the private company -- could, if they wish, back out and transfer the obligation over to the Government.

We don't expect this will take place, but if for any reason there should be on one extreme a moratorium on nuclear energy, obviously the company could not then go ahead. On the other hand, there could be some management problems. Whatever it might be there would be this clause that would permit reversion of the operation to the Government.

If that should occur, the equity might be made up to the company on the basis that it was not anything over which they had any control. On the other hand, if it were a matter over which we felt they did have control, say mismanagement, then they would not get their equity back.

MORE

On this kind of basis, we feel that we have built in what will be acceptable to the investor, and will be acceptable to the buyer of the material, because the main objective here, as the President said, is to get going and open the order book.

I think with that maybe you have enough of the background that we can go to any questions that you might have.

Q Sir, does this allow or make it easier for terrorists, people who would endanger us, to get hold of these supplies and misuse them?

MR. SEAMANS: It won't make any difference. The same safeguards will be applied that are already applied in our Government operation, and we will have exactly the same type safeguards at home and abroad in the case of the private operation.

Q Sir, what about the royalty fees? What level of royalty fees will the private companies have to pay?

MR. SEAMANS: Of course, that is going to be part of the negotiation. One of these plants is going to cost on the order of \$3.5 billion on that basis.

Looking at the probable returns, we can expect that there will be of the order of \$90 million to \$100 million coming in each year to the Government, in part for royalties and in part in the form of taxes on profit.

Q What level, what percentage are you looking at?

MR. FRI: The royalties on the percent of the cost to the Government technology sold to the gaseous diffusion operator -- we anticipate royalties in the range of \$30 million a year, but I really can't run out the percentage in my head.

MR. ZARB: I think we ought to point out that the legislation not only to accomplish this in a macro form is going forward, but the legislation within it requires the Government, the Executive Branch to put before the Congress for 45 days any contract that they are going to enter into so the Congress can look at the individual details of any given contract at any given time.

Q Does this mean you are going to sell to foreign countries, too, foreign nationals?

MORE

MR. SEAMANS: Yes, we do now and that should continue. That is a very important part of opening up the order book.

We feel that not only do we welcome the opportunity for foreign sale, just from the standpoint of gold flow, but we also feel it is extremely important that there be an opportunity for the potential foreign buyer to come to this country where we are going to insist on appropriate safeguards.

We think if we are not involved that then that opens up all kinds of issues over which we will have absolutely no control.

Q Is that \$3.5 billion you mentioned for the gaseous diffusion plant?

MR. SEAMANS: Yes, that is the estimated cost in present dollars.

Q What do they figure the centrifuge plants might run?

MR. SEAMANS: These are still rough estimates, but they will cost of the same order of magnitude.

Q Mr. Zarb, you said that Congress would have an opportunity to look at individual contracts. Could you explain? Does that relate to UEA alone? Does it relate to centrifuge as well? Would Congress, under this legislation, have the right to disapprove any such contract in advance?

MR. ZARB: That is per the legislative process, but they will look at each contract. They will have an opportunity to review each contract and presumably will have an opportunity to either modify or to disapprove it.

Q Could you elaborate on that? What do you mean by presumably? What would the legislation specify?

MR. FRI: Well, the contract would lie before the Joint Committee for 45 days. Disapproval would require action by the Congress. The form of disapproval is a technical matter. It would probably take the form of voting an authorization, and an appropriation bill, to fund the contingent liability involved in the contract.

The Congress has a formal crack at it through that process. It is legislatively kind of complicated, but they get an up or down shot at it.

MORE



Q A technical matter to allow authorization on an appropriation bill; is that what you said?

MR. FRI: This involves the concept of contract authority which means they would have to authorize and appropriate against a contingent liability of the Government, which we hope and anticipate we will never have to spend any money on it.

Procedurally, on the Hill, it is a little complicated, but it is just as if you were voting on an appropriation bill.

MR. SEAMANS: This would be the liability that the Government might have to take over the operation, which we don't anticipate, but you have to cover that with a Congressional bill.

Q Does that apply to centrifuge as well as the UEA?

MR. SEAMANS: Yes, it would, of course.

Q Mr. Zarb, the environmentalists have been fighting the building of new nuclear power plants in a number of areas around the country. Do you think they will also fight construction of the new uranium enrichment plants?

MR. ZARB: I really can't guess on what one group will do or not in one area of the country or not. I think the point that Dr. Seamans made a moment ago is awfully critical.

The extent to which the United States Government and the United States enterprise system can become a factor here in the world marketplace, it will have an opportunity to insure certain safeguards and certain controls that it will not have if it is not a major factor and a participant in the nuclear enrichment program.

That is awfully clear. It is clear that other nations are looking toward the development of their own capacity to become exporters of this particular service and product.

So I would think that those concerned with some of the issues raised by the environmental group and others would feel more comfortable with the United States keeping a firm total in the overall marketplace, and thereby being able to exert its influence.

MORE

Q Mr. Zarb, a couple of years ago there was talk of the Japanese coming in and providing half the capital to build a gaseous diffusion plant in the United States somewhere. Is that still being discussed? Is there still a possibility?

MR. SEAMANS: The Uranium Enrichment Associates have been talking to a number of foreign countries. They include Japan, Iran, West Germany and I guess a few others. That is a real possibility, but that will have to be negotiated by UEA and subject to our approval. The Japanese are considered as a possible investor in this gaseous diffusion plant.

Q There is one thing on the financing I don't understand. You say that if this thing falls through so that the Government has to assume the total financial obligation, it will be \$8 billion, but on page 2 of the message, it says the alternative is continued Federal monopoly of this service at a cost to the taxpayers of at least \$30 billion over the next 15 years.

Could you explain the difference there?

MR. FRI: We anticipate that something like eight to ten additional enrichment plants, probably one gaseous diffusion and the balance centrifuge, will be built to meet demand for the balance of this century. The total cost of those plants is in the order of \$30 billion.

MORE



The \$8 billion figure you have is based on an estimate that the gaseous diffusion plant of UEA and three initial centrifuge plants would all enter into this kind of an arrangement with the Government; all would fall through simultaneously.

The maximum liability for those four plants, to the Government, if they had to step in and take it over, would be on the order of \$8 billion.

Q One other thing. Does not the Government make money now by selling the enriched fuel that it provides private industry, and how much does that amount to?

MR. FRI: We receive revenue. There is some debate over whether we make money. The revenue is on the order of \$750 million a year. We announced yesterday we would probably ask the Joint Committee in Congress to increase that price by another \$10 or so per unit of enriched uranium.

MR. ZARB: I just would like to make one point in following up your first question. We spent an awful lot of time in "what if" type contingencies, which were designed to answer those questions, knowing that they would be raised. What would happen if there were a problem with financing or some other form of delays in this particular industry?

None of us mean to emphasize that we anticipate those occurrences, but they had to be a major part of the legislation to be able to answer the obvious questions that will be raised in this endeavor.

Q What about cost overruns? That happens all the time with this type of thing.

MR. SEAMANS: I think one of the important features of the arrangement that we are contemplating is that it is not done by committee, that either one party or the other is fully responsible. As long as UEA has that responsibility, which they would if they raised the capital, it is up to them to take care of their own overruns, and there is no commitment on the part of the Government to help them out.

Q Concurrently, is the Government expanding its facility at Portsmouth?

MR. SEAMANS: No we are not. We are considering this as a possibility and we will, according to plan, continue with some backup design work in the eventuality that everything does not proceed as we expect.

MORE

Every expectation is that the UEA will proceed and that we will then follow that with centrifuge plants.

Q Dr. Seamans, what will this do to mining of uranium? What will it do to production?

MR. SEAMANS: Because one of the issues the country faces is the extent of our uranium reserves, part of ERDA's responsibility is to come up with the best estimate. We are actually increasing our exploration for uranium to get the best possible fix that we can.

Our expectation is that with our uranium reserves that we can keep going through this century, and we have reserves sufficient to build up to the order of 700 or 800 generating plants.

Q Dr. Seamans, does the \$3.5 billion estimate include the building of power plants to supply energy to the thing?

MR. SEAMANS: No, it does not.

Q Dr. Seamans, I am puzzled about this expansion of your enriched uranium. We seem to see nothing but opposition to generation of power by nuclear plants.

Why are you so certain that you are going to be able to expand this?

MR. SEAMANS: Why are we certain that we are going to expand our nuclear capability in this country?

Q The generating of power by nuclear plants.

It seems to be going very slowly. You are anticipating quite a large expansion.

MR. SEAMANS: We currently have 55 plants on operation, and they are operating very efficiently. Those that are fortunate to be served by a nuclear plant are getting their electricity at less cost than they are if it is a fossil fuel plant. The reliability is of the same order as other type plants.

We are obviously not satisfied and some of our basic technological work in ERDA will be in support of the kind of problems that actually do exist, material type problems, and so on. None of these affect safety, but some of these do cause increased down time.

MORE

Looking ahead, if we don't increase our capacity to generate electricity, other than oil and gas, we are going to be in deep trouble. The two alternatives are coal and nuclear. We have got to use both because, in addition, coal has got to be used to develop a synthetic fuel, along with shale. So we have to use the nuclear, in our view.

We have got to use coal and we have to work as hard as we can on conservation. These are going to be the keys, in my estimation, for the future of this country.

MR. ZARB: In answer to your marketing question, the orders for uranium enrichment are backed up in that there is a harder demand for uranium enrichment worldwide than there is capability to satisfy our own domestic capability is sold out eight years hence.

Q I remember reading four and five years ago about projections of the number of plants we were going to have. It is way beyond anything we have now. The course has been very erratic in developing them, and I don't understand how you are going to overcome this opposition.

MR. ZARB: By answering legitimate and reasoned questions and getting any technological issues solved, such as the disposal of nuclear waste and the basic safeguards question, which are both technical issues and both can be solved as we continue to develop our nuclear capability.

Q Presumably, the production of enriched uranium will be profitable or otherwise these companies will not be interested. In fact, I think I saw one estimate from revenues of foreign sales over the next five years will reach \$5 billion.

My question is this: Why should not the United States as a whole enjoy the revenues from technology developed at taxpayer expense? I think the royalties he describes seem rather small compared to the potential profit.

MR. ZARB: I will take the first shot at that one, and then Bob may want to add to it.

When American industry gets involved in constructing plants and making a product and a service available worldwide, the American economy benefits. American workers and American capital at work -- the money stays here and it is to the benefit of all Americans.

MORE

If you are asking why that should not be done by Government, I will go back to what I said earlier. We have, conservative, \$600 billion required for investment in energy areas between now and 1985, if we are going to achieve any real degree of independence.

We are going to have to rely on the capital-based American industry to move us in that direction, and we miss an awful lot of technological capability and other management skills if we don't tap into that great base of talent and financial resource.

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Q Except in this area there seems to be two differences, and maybe you can explain it. One is that the technology is developed by the Government, at taxpayer's expense, and two that there is a Government guarantee against loss of equity. You are not expected to do that for all development of energy, are you?

MR. ZARB: I think the royalty question is something that will be debated in the Congress, and not only in terms of the basic legislation, but in the contract by contract.

That issue may be raised and maybe there will be some movements on those numbers. I think that is an area that should be looked at very carefully, but keep in mind, when you look at what was developed at Government expense, we are talking about rubber tires and all the technological activity that has come out of the space program that have moved from Government development into the private sector to be more fully developed there.

Anyway, as we look at solar and shale and gasification and liquefaction, we are looking also at technologies which have been financed in their very early stages by the Government, but have to make the transition into the American industry or they are not going to grow and we are not going to have them where they are going to be needed in the late 1980s.

MR. SEAMANS: Just looking at enrichment alone, we are talking about not one or two or three more plants. We are talking about the possibility of eight to ten plants by the year 2000. The question is, where is the capital going to come from?

I think we often overlook the fact that you build up your capital through your profit system. If you don't have the profit, then the taxpayer is going to be burdened directly with that capital cost.

In other words, there is going to have to be financed as the first plants were financed. I think the taxpayer is a lot better off to see this turned over to a competitive system.

Q Dr. Seamans, as you make this available to foreign countries, how can you be assured that they will follow safety precautions and keeping it out of the hands of terrorists?

MR. SEAMANS: The way we are proceeding now.

MORE

Q How do you do it now?

MR. SEAMANS: With Government-to-Government agreements, with the use of the nonproliferation treaty, with inspection by the international Atomic Energy Agency; all of these methods.

Q That does not keep terrorists from getting it, does it? Isn't that a real danger?

MR. SEAMANS: Sure, it is a matter of obvious concern to us, and we have a variety of programs for safeguarding nuclear material in this country. We are making this available to all those with whom we have agreements, invite them in to show them what we are doing, encourage them to increase their safeguards and have a method for reviewing and inspecting on an international basis how well they are doing.

Q Mr. Seamans, since there are problems currently with security and waste disposal at nuclear power plants, why don't you solve those first before embarking on a gigantic program like this that you may end up having hundreds of power plants and still have not solved the other problems?

MR. SEAMANS: These two have got to be done in parallel. We have to move ahead and increase our capability and not let the requirement for imports build up and build up.

Q Where are your proposals to improve the waste problem and safety problems? Why aren't you proposing something simultaneously?

MR. SEAMANS: We are about to present a plan to the Congress next Monday and it will address itself to these issues.

Q Dr. Seamans, two questions, if I may. The first is, would a collapse of the world enriched uranium market be found for giving companies back their money? The second one is, isn't there a contradiction between what you are announcing today and your parallel efforts to stop the spread and the export of enrichment in new processing plants to third countries? In other words, aren't you trying to create an American monopoly?

MR. SEAMANS: I don't think we are, and I think this has been discussed, but I will re-emphasize it. First, as to the terms, these have got to be carefully worked out ahead of time on what conditions can the equity be reimbursed to UEA.

MORE

This will be part of the negotiation that will work that out. We can see in broad outline what the extremes are, but there may be some middle ground that we want to have worked out in advance.

As to your second question, it is no longer possible to completely cap the situation. The Germans, for example, we understand are going to sell a processing capability to Brazil. This is one example. The only way that this situation can be brought under control, we believe, is to be participating in the market arena at the same time we are participating country by country and with agreements as well as jointly with the blocs of countries.

MR. CARLSON: At 1 o'clock this afternoon at the FEA, there will be a more detailed, more technical briefing for those of you who are interested. We also have a 22-page fact sheet we will now make available.

These gentlemen must leave. If we can cut it off now, Ron Nessen will be down in about five minutes.

END (AT 11:57 A.M. EDT)

June 26, 1975

Office of the White House Press Secretary

THE WHITE HOUSE

FACT SHEET

THE PRESIDENT'S PLAN FOR A
COMPETITIVE NUCLEAR FUEL INDUSTRY

	<u>Page</u>
The President's Announcement	3
Background	3
Plan Announced by the President	4
- Objectives	
- Principal Elements of the Plan	
. Legislative Authority for Cooperative	
Arrangements with Private Firms	
. Assurances for Customers	
. Controls and Safeguards	
. Preventing the Diversion of Nuclear	
Materials and spread of sensitive	
technology	
. Foreign Investment	
. Environmental Impact, Safety and	
Anti-Trust	
Implementing Actions	7
- Negotiations for a Diffusion Plant	
- Request for Proposal for Centrifuge Plants	
- Environmental Impact Statement	
- Contingency Planning	
- Diffusion Plant Design Work	
Specifics of the Legislative Proposal	8
- Authorizing Legislation	
. Cooperative Agreements	
. Congressional Review	
- Appropriations Request	
Developments Leading to the President's Plan	9
- U.S. Leadership in Uranium Enrichment	
Technology	
. Gaseous Diffusion	

more

(OVER)

- . Gas Centrifuge
- . Laser Separation
- Existing U.S. Capacity
- The Growing Market
- Potential Foreign Suppliers
- The Program to Develop a Competitive Industry
 - . Diffusion Plant
 - . Centrifuge Plant
- Obstacles to the Entry of Private Industry
- Alternatives to Private Entry
- The Proposal from Uranium Enrichment Associates (UEA)
- Centrifuge Enriching Projects -- Request for Proposals

Other Actions Related to Uranium Enrichment

- Capacity 13
- Increasing ERDA's Charge for Uranium Enrichment Services
 - Contract Relief for Current ERDA Enrichment Customers
 - ERDA Conditional Contracts for Enrichment Services

Attachment:

- #1 - Summary of UEA Plan and Proposal to ERDA 16
- #2 - Uranium Enrichment as a Part of the Nuclear Fuel Cycle 20

more

THE PRESIDENT'S ANNOUNCEMENT

The President today announced administrative actions and a legislative proposal to (a) increase the United States' capacity to produce enriched uranium in order to meet the needs of domestic and foreign nuclear power plants, (b) retain U.S. leadership as a world supplier of uranium enrichment services and nuclear power plants, (c) assure the creation, under appropriate controls of a private, competitive uranium enrichment industry in the U.S. -- ending the current Government monopoly; and (d) accomplish these objectives with little or no cost to taxpayers and with all necessary controls and safeguards.

BACKGROUND

- . Natural uranium from U.S. and foreign mines must be refined or "enriched" before it can be used to make fuel for nuclear power plants which are used in the United States and in many foreign nations to generate electricity.
- . U.S. capacity for enriching uranium which now supplies all domestic and most foreign needs, consists of three Government-owned plants, located at Oak Ridge, Tennessee; Paducah, Kentucky; and Portsmouth, Ohio.
- . Since mid-1974, the entire capacity of the three plants has been fully committed under long-term contracts. New enrichment capacity must be on "on-line" beginning in about 1983 to meet the growing domestic and foreign demand for nuclear fuel.
- . The potential U.S. market abroad has begun to erode as some potential foreign customers have started looking to sources such as the U.S.S.R., France and a West European consortium for uranium enrichment.
- . Since 1971, the Executive Branch has followed policies and programs directed toward assuring that private industry -- rather than the Federal Government -- builds the next increments of U.S. uranium enrichment capacity.

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Several industrial firms have sought to enter the uranium enrichment field but all have found that some forms of Government cooperation and temporary assurances are needed to overcome the initial obstacles to private industry involvement.

THE PLAN

Objectives. The plan announced by the President is designed to meet the objectives of assuring that:

- . The next increments of U.S. uranium enrichment capacity will be available when needed to meet the growing demand for fuel for nuclear powered generating plants in the U.S. and in other nations.
- . The U.S. maintains its leadership role in enrichment technology and its role as a major world supplier of uranium enrichment services and nuclear power plants -- a role that is important to:
 - Our economy and our world trade position.
 - Our efforts to obtain the commitment of additional nations to accept international safeguards and the principle of nuclear non-proliferation.
 - Our cooperation with other major oil consuming nations which are looking to nuclear power to help reduce their dependence on foreign oil imports.
 - Our longer range goal of developing technology and energy resources to supply a significant share of the free world's energy needs.
- . All future increments of capacity will be built, financed and operated by private industry -- rather than by the Federal Government -- so that a competitive industry will exist at the earliest possible date.
- . There will be little or no cost to the taxpayer and that the Government will receive increased revenue in corporate taxes and compensation for the use of its inventions and discoveries.
- . All necessary domestic and international controls over nuclear materials and classified technology will be maintained, as they would be if the Government were to own the new plants.

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Principal Elements of the Plan.

- . Legislative Authority for Cooperative Arrangements with Private Firms. The President is asking the Congress to enact promptly the Nuclear Fuel Assurance Act to provide the additional legislative authority needed to enable the Energy Research and Development Administration (ERDA) to negotiate and enter into cooperative arrangements with private industrial organizations that wish to build, own and operate uranium enrichment plants.
 - Negotiations would be directed toward the arrangements most advantageous to the Government and the public interest and with a degree of risk to the private firm that is consistent with the objective of creating a private, competitive uranium enrichment industry.
 - These arrangements would provide for certain forms of Government cooperation and temporary assurances found to be necessary after detailed negotiations with firms submitting proposals. Arrangements could include:
 - . Supplying and warranting Government-owned inventions and discoveries in enrichment technology -- for which the Government will be paid.
 - . Selling certain materials and supplies on a full cost recovery basis which are available only from the Federal Government.
 - . Buying enriching services from private producers or selling enriching services to producers from the Government stockpile to accommodate plant start-up and loading problems.
 - . Assuring the delivery of uranium enrichment services to customers which have placed orders with private enrichment firms.
 - . Assuming the assets and liabilities (including debt) of a private uranium enrichment project if the venture threatened to fail -- at the call of the private venture or the Government, and with compensation to domestic investors in the private ventures ranging from full reimbursement to total loss of equity interest, depending upon the circumstances leading to the threat of failure.

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- The arrangements would be spelled out in a detailed contract, and the basis for arrangements would be subject to Congressional review.
- It is intended that any undertaking by the Government to acquire assets or interest and to assume liabilities of a private venture would end after approximately one full year of commercial operation of a plant. The precise period would be determined in the negotiation of definitive agreements.
- The Government would monitor progress carefully so that it can be sure that the plant will function properly and will be completed on time and within cost estimates.

Assurances for Customers. The President announced his pledge to domestic and foreign customers who place orders with private U.S. suppliers that the Government will assure that orders will be filled as services are needed. Those first in line with private suppliers will be first in line to receive services from the Government -- if it were necessary for the Government to take over and complete a private project.

Controls and Safeguards. The President announced that all necessary controls and safeguards will be maintained in all arrangements with private firms. Such controls and safeguards include:

- Preventing the Diversion of Nuclear Materials or Un-Controlled Spread of Sensitive Technology. All necessary measures will be taken to safeguard the use of the products of plants and to protect sensitive classified technology. These measures include:
 - . Effective domestic safeguards and physical security measures to the plants and their products.
 - . Continued requirements that exports take place pursuant to appropriate international agreements for cooperation and be subjected to safeguards to prevent diversions.

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- . Continued classification and protection of sensitive enrichment technology.

Foreign Investment. Foreign investment in private enrichment ventures will be encouraged, but control will remain, as required by law, with U.S. interests. Foreign investors would not require or have access to classified information. Any proposals for sharing technology would be considered separately and would be subject to Governmental review and approval.

Environmental Impact, Safety and Anti-Trust. Private ventures wishing to build plants will have to obtain from the Nuclear Regulatory Commission (NRC) a construction permit and operating license. As a part of its review, the NRC must evaluate environmental, safety and anti-trust considerations as well as assure that control of the proposed new ventures remain in the U.S. -- as now required by the Atomic Energy Act. NRC also will have responsibility for assuring that the plants are appropriately safeguarded. The Justice Department participates in the review of anti-trust considerations.

IMPLEMENTING ACTIONS

The President announced several administrative actions that are being taken now:

- . Negotiations for a Diffusion Plant. ERDA is responding formally to a proposal from the Uranium Enrichment Associates (UEA) offering to enter into negotiations which could lead to the construction by UEA of a \$3.5 billion (1976 dollars) plant which would make use of gaseous diffusion technology and which would be on line by about 1983.
- . Request for Proposal for Centrifuge Plants. ERDA is issuing today a new request for proposals from industrial firms interested in constructing, owning and operating enrichment facilities making use of centrifuge technology.
- . Environmental Impact Statement. ERDA will on June 30 issue for public review and comment a draft environmental impact statement concerned with the expansion of uranium enrichment capacity to be attained through ERDA's implementation of this action.

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- . Contingency Planning. ERDA will continue with backup contingency measures to assure that capacity will be ready in the unlikely event that industrial efforts falter. These measures include continuation of Government conceptual design activities, research and development on enrichment technologies, and technological assistance to the private sector on a cost recovery basis.
- . Diffusion Plant Design Work. ERDA plans to purchase from UEA design work on components for the private diffusion plant that could be used in a Government plant -- if the private venture were unable to proceed.

SPECIFICS OF THE LEGISLATIVE PROPOSAL

Authorizing legislation. The basic enabling legislation proposed today by the President would:

- . Authorize Cooperative Agreements.
 - It would permit ERDA to negotiate and enter into cooperative arrangements with firms wishing to build, own and operate uranium enrichment facilities.
 - It would provide authorization for contract authority for amounts up to \$8 billion as may be approved in an appropriation act -- which is an estimate of the total potential cost to the Government in the unexpected event that all Government assured diffusion and centrifuge ventures were to fail, and it was then necessary for the Government to assume assets and liabilities of these ventures, take over plants, and compensate domestic investors. The Administration's expectation is that none of these funds would have to be appropriated or expended for the assumption of private ventures, but the authorization is necessary to provide assurance to customers and to potential producers of the Federal Government's commitment to create a competitive industry.
- . Provide for Congressional Review. Once contracts were negotiated the Joint Committee on Atomic Energy (JCAE) would be notified and a period of 45 days would have to elapse before a contract would be executed -- to allow an opportunity for Congressional review of the basis for ERDA's arrangements with private firms.

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Appropriations Request. The President will later request an appropriation of contract authority which is required by the proposed bill before a contract can be executed, in order to cover the estimated maximum Federal Government exposure for specific projects in the event that it were necessary to assume assets and liabilities. Again, expenditure of these funds for assumption of any private venture is not considered likely.

DEVELOPMENTS LEADING TO THE PRESIDENT'S PLAN

U.S. Leadership in Uranium Enrichment Technology. The United States is the recognized world leader in technology for refining or "enriching" natural uranium to a form that can be used to make fuel for nuclear power reactors. Natural uranium contains only a small amount (approximately .7%) of the fissionable isotope U-235. In order to be useful to make fuel for most nuclear reactors, the concentration of U-235 must be increased to about 2-4% through a process of separating off other isotopes. The technology was developed and is owned by the Federal Government. Certain parts of the technology are classified. Principal U.S. technologies are:

- . Gaseous Diffusion. This technology which is now used in the three existing government-owned enrichment plants was developed in the 1940's. Over 30 years of large scale operating experience and process improvement have made the technology the most reliable and economical now available for commercial scale operations. The next increment of capacity must make use of this technology.

- . Gas centrifuge. The gas centrifuge process of uranium enrichment provides an alternative to gaseous diffusion. Full operation of a Government pilot plant is scheduled for early 1976. If the projected economics of the process are realized, gas centrifuge technology is expected to be used as subsequent increments of commercial capacity are added.

- . Laser Separation. ERDA is conducting a basic research program to determine whether this technology is technically or commercially feasible. Even if successful, the technology will not be available in time to be used for the next several increments of needed enrichment capacity.

Existing U.S. Capacity. The three Government-owned uranium enrichment plants will, when currently authorized expansion is completed, have the capacity to produce enriched uranium needed to fuel about 300 large nuclear-powered electric generating plants in the U.S. and foreign countries.

The Growing Market. Current estimates are that the U.S. will require for domestic needs added enrichment capacity by 2000 equal to 6 to 9 plants the size of any one of the three existing plants and that added capacity for the total market served by the U.S. will equal 9 to 12 similar size plants.

Potential Foreign Suppliers. The principal existing capacity for enriching uranium outside the U.S. is in the Soviet Union. A French-led diffusion plant project (Eurodif) is expected to begin production in 1979 and its capacity is reported to be fully committed. A British-German-Dutch consortium (Urenco) plant will also begin expanded operations in 1979. Plans for additional plants are being discussed by France, Canada, South Africa, Japan, Australia and Brazil.

The Program to Develop a Competitive Industry. The Atomic Energy Act of 1954 provides that "the development, use and control of atomic energy shall be directed so as to ... strengthen free competition in private enterprise". An Executive Branch policy to encourage private industry to build the next increments of uranium enrichment capacity was announced in June 1971. Beginning in 1973, the Atomic Energy Commission (AEC) asked private firms to consider building, owning and operating enrichment plants and granted qualified U.S. firms access to classified aspects of the Government's work, under carefully controlled security conditions, in order that they might make their own assessment of the commercial potential for private enriching plants. A number of firms responded to the invitation from which several consortia have emerged which are interested in pursuing the possibility of building enrichment plants.

Diffusion Plant. One consortium -- the Uranium Enrichment Associates (UEA) -- is interested in constructing a \$3.5 billion gaseous diffusion plant equivalent to the expanded capacity of one of the 3 existing Government-owned plants.

Centrifuge Plants. Other firms and consortia -- Centar, Exxon Nuclear and Garrett Corporation -- have expressed interest in cooperative arrangements with the Federal Government which would lead to demonstration gas centrifuge plants which could be expanded in the future to commercial scale plants. The AEC (predecessor to ERDA) requested proposals from industry to advance the demonstration of centrifuge technology. A modified request for proposals is being issued today by ERDA.

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Obstacles to the Entry of Private Industry. All firms interested in building, owning and operating a private plant have concluded that some form of Government cooperation and temporary assurances are essential to begin the transition to a private competitive industry. Among the factors that have contributed to this conclusion are:

- . The complexity of the undertaking, including the Federal ownership and the classification of the technology.
- . The large financial commitment required and the difficulty encountered in trying to obtain private financing.
- . The inherent difficulties of ending a Government monopoly.
- . The recent adverse financial situation of U.S. electrical utilities which are the customers for a plant. (Their long term contracts for uranium enrichment services must provide security for the long term financing required.)
- . Some uncertainty as to whether the Government would follow through on its commitment to achieve privatization.

Alternatives to Private Entry. The principal alternatives to an immediate effort to achieve privatization include:

- . All future additions to capacity financed, built and owned by the Federal Government, thus continuing indefinitely the existing monopoly.
- . Government financing and ownership of one or more additional increments of capacity, followed by another attempt to achieve privatization.

A thorough review indicated that, regardless of the alternative selected:

- . The next increment of capacity can be on line when needed (now estimated about 1983).
- . Controls and safeguards involving classified technology and non-proliferation of nuclear materials can be maintained.
- . Customers for the next increment are expected to be largely foreign.
- . Foreign investments in an enrichment plant can be accommodated

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This review led to the conclusion that the task of explaining and implementing the plan for achieving a private industry would be difficult and that a substantial effort would be required by both the Congress and the Executive Branch, but that the benefits of privatization justified the effort. The benefits of privatization include:

- . Avoiding a cost to taxpayers of \$40 to \$50 billion for plants that should be on line by 2000, if the Federal Government were to finance and own the plants. (These funds would not be recovered to the Treasury for many years.) Under the President's plan, revenue of about \$90 to \$100 million per plant per year would flow to the Federal Treasury from industry, principally from taxes and payments for the use of Government inventions and discoveries.
- . An early end to the Government monopoly in a type of commercial activity.
- . Avoiding expansion of the public sector when industry is willing and able to do the job.
- . Competition which would provide incentives for lower costs and additional improvements in technology.

The Proposal from Uranium Enrichment Associates (UEA). Uranium Enrichment Associates is a consortium currently consisting of Bechtel Corporation and the Goodyear Tire and Rubber Company. On May 30, 1975, UEA submitted a revised proposal to ERDA calling for cooperative arrangements with the Federal Government. The principal features of the UEA proposals are summarized in Attachment #1. A contract containing the details of a cooperative agreement would be negotiated by UEA and ERDA.

Centrifuge Enriching Projects -- Request for Proposals.

- . In August of 1974 the Government announced a program expected to lead to several relatively small industry constructed demonstration projects.
- . Gas centrifuge technology has not yet been applied on a production scale sufficient to permit full industry commitment to large plants. At least three companies are interested in undertaking private centrifuge enriching projects now which would be scaled up progressively from small demonstration modules to a capacity the economies of scale for centrifuge enriching are expected to be largely realized. These are expected to be 1/3 to 1/2 the capacity of the planned diffusion plant.

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- . Government-industry cooperative arrangements similar to that required for the UEA diffusion project may be required.
- . A Request for Proposals for this program which extends and elaborates upon the earlier program is being issued today:
 - Proposals will be due on October 1, 1975 and it is the Government expectation that several proposals could be accepted to proceed more or less in parallel with each other and with the UEA project.
 - Proposers will describe their proposed project in detail, including plant design, size, location and schedules and specify the type and magnitude of Government support necessary to proceed.
 - Small initial modules, perhaps 200-300 thousand units per year could be in operation in the early 1980's with 2-3 million unit commercial scale plants achieved in the mid-1980's on a time frame consistent with the growth of the market.
- . Centrifuge technology permits adding small capacity increments as required to closely follow market needs.
- . Proceeding with several centrifuge demonstration projects in the same time frame as the gaseous diffusion plant will further the objective of developing a private, competitive enriching industry and maintaining U.S. world leadership in this field.

OTHER ACTIONS RELATED TO URANIUM ENRICHMENT CAPACITY

Increasing ERDA's Charge for Uranium Enrichment Services.

- . The current price charged by ERDA for uranium enrichment is based on a statutory formula which says that ERDA's charge must be established on the basis of the recovery of the Government's costs over a reasonable period of time. Application of the formula has resulted in a present charge of about \$42 to \$48 per separative work unit, depending on the type of contract a customer has with ERDA. This price will rise by the end of 1975 to about \$53 and \$60 per unit. These prices reflect the low cost of construction during the 1940's and 1950's for plants built primarily for military purposes. These prices are much lower than the quoted world market prices of enrichment services of between \$75 to \$100 per unit.

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The President announced in his 1976 Budget his intention to propose legislation to the Congress to permit ERDA to raise the price of enrichment services from its plants. The new price would be established to recover the Government's costs and place the pricing of Government enriching services on a more business-like basis. This step would encourage private sector interest in building enrichment facilities and end an unjustifiable subsidy to both foreign and domestic customers. The new price would include a rate of return on investment more appropriate to the private sector than the Government's rate of return, an allowance equivalent to corporate income taxes and also include other costs typical of private operations. On this basis the new price per separative work unit will be approximately \$76.

This legislation has been submitted to the Congress by ERDA.

Contract Relief for Current ERDA Enrichment Customers.

Present ERDA enrichment contracts require customers to commit to a fixed delivery schedule and to make prepayments amounting to about \$3 million per plant several years prior to the first delivery of enriched fuel. Since these contracts were signed, many nuclear power plants whose fuel was covered by these contracts have been postponed or cancelled.

As a result, many utilities now face the prospect of having to pay for uranium enrichment services well in advance of the revised completion dates for the reactors.

In order to free both ERDA and the enrichment customers from unrealistic commitment, ERDA, after notifying the Joint Committee on Atomic Energy (JCAE), has announced that it will:

- Grant customers the right within a 60-day period to serve notice that they wish to terminate their contract with no cancellation fee and with refund of any payments.
- Permit those wishing to defer deliveries (rather than terminate contracts) to have a one-time adjustment of contract commitments without penalty.
- Permit a similar one-time adjustment of the rate at which uranium feed should be sent to the enriching plants to coincide in part with the slipped enrichment requirements.

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. These actions would:

- Result in a larger U.S. stockpile of enriched uranium for use as an inventory to support the new private uranium enrichment plants with backup supplies of enriched material, should any delays occur in their initial operation.
- Establish a more realistic data base for evaluating future domestic and foreign enrichment requirements.
- Grant needed short-term financial relief to the utility industry.

ERDA Conditional Contracts for Enrichment Services.

- . Some customers placing orders with AEC (predecessor to ERDA) in mid-1974 were given conditional contracts; i.e., contracts contingent upon the approval by U.S. regulatory authorities (now the Nuclear Regulatory Commission) of the use of recycled plutonium as a nuclear reactor fuel. These conditional contracts were backed up by announcement that the U.S. would have expanded capacity available that could fulfill requirements, if needed.
- . The expanded U.S. capacity that will result from the President plan will provide sources of supply that can be tapped by the holders of conditional contracts.

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SUMMARY OF THE URANIUM ENRICHMENT
ASSOCIATES (UEA) PLAN AND PROPOSAL TO ERDA FOR
A COOPERATIVE ARRANGEMENT

Physical Description of the Project.

- . A 9 million separative work unit per year gaseous diffusion plant would be built near Dothan, Alabama on a 1720 acre site on the Chattahoochee River.
- . When in full operation the plant could provide enriching services for about 90 large nuclear power reactors.
- . The plant will require about 2500 megawatts of electrical power which will be supplied from a dedicated nuclear power facility located nearby.
- . Project cost estimate (exclusive of the power project) has been estimated by UEA to be \$3.5 billion in 1976 dollars.
- . UEA projects continuation of design work now underway on the project during the next several years with construction scheduled to commence in 1977.
- . Full production from the plant is projected in 1983 with limited production starting in 1981.
- . Nearly 50 million construction manhours are estimated for the project. A peak construction labor force of about 7000 workers will be reached in 1979-80 and the permanent operating staff of the project is expected to be about 1100.
- . The plant will be processing and upgrading natural uranium and thus will have essentially no radiation hazard. It will be similar to a large materials handling plant except that the product material will be much more valuable.

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Financial Structure of UEA Project.

- . UEA expects that two to six companies in addition to Bechtel and Goodyear will comprise the consortium that will undertake the project. These companies are expected to be identified within the next few months.
- . Based upon marketing efforts to date, UEA projects that about 40 percent of plant capacity will be taken by U.S. domestic utilities and the balance by non-U.S. organizations in countries with which the United States has Agreements for Cooperation permitting the transfer or disposition of enriched uranium. (Under the Atomic Energy Act voting control for such a project must remain in the hands of the United States investors at all times and the project is so structured. The secrecy of the process will be protected and foreign customers or investors will not have access to classified technology or information.)
- . Project financing using an 85 percent debt, 15 percent equity ratio is contemplated for the project.
- . The equity corresponding to the domestic portion of plant output will be supplied by UEA and the debt financing will be raised in the commercial market primarily on the basis of the security of long-term (25 year) non-cancelable enrichment service contracts with domestic utilities.
- . Both equity and debt for the foreign share of plant output is to be supplied from the foreign customers' own sources of capital.
- . Pricing of product from the plant is based upon the recovery of all operating costs, servicing of debt and an after-tax return of approximately 15 percent on equity.
- . A 3 percent payment, based on gross sales would be paid to the Government for use of taxpayer-developed technology.

Customers.

- . A number of United States' utilities have executed contingent letters of intent with UEA to purchase uranium enriching services from the new plant and a number of additional utilities are now evaluating their requirement for services.

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- .. UEA has made extensive marketing contacts overseas and anticipates that foreign orders will be forthcoming.

Cooperative Arrangements.

- . Due to the unique nature of the project, the very large capital requirements, and long payout periods, UEA has concluded that it would not be possible to move ahead without certain forms of Government backup assistance.
- . UEA has proposed that the Government:
 - Supply, at cost, essential components presently produced exclusively by the Government.
 - Supply the Government's gaseous diffusion technology and warrant its satisfactory operation.
 - Buy enriching services from UEA or sell enriching services to UEA from the Government stockpile to accommodate plant start-up and loading problems.
- . UEA has also proposed that:
 - The Government provide standby financial backup assistance lasting for the critical construction period plus approximately one additional year to offset the current weak credit position of the U.S. utility industry. The Government provide financial backup if UEA cannot complete the plant or bring it into commercial operation. A call on this financial backup is made at the risk of loss to UEA of its equity interest. In this event, the Government has the right to acquire UEA's domestic equity position and the obligation to assume UEA's liabilities and debt.
 - The Government may also require UEA to release the project to the Government if the Government's interest so demands. In this event, the Government would be obligated to assume UEA's liabilities and debt.
 - 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 events outside UEA's reasonable control.

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All of the above forms of backup assistance would be subject to contract negotiations between ERDA and UEA. UEA believes that the plant can be completed within the private sector with no net expenditure of Government funds.

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Uranium Enrichment as Part of the Nuclear Fuel Cycle

The attached chart depicts the nuclear fuel cycle for Light Water Reactors, (the type of reactors most commonly used in the U.S.). About 97% of the reactors obtaining enrichment services from the ERDA gaseous diffusion plants are Light Water Reactors, a similar fuel cycle exists for the other present reactor type -- the High Temperature Gas Cooled Reactor.

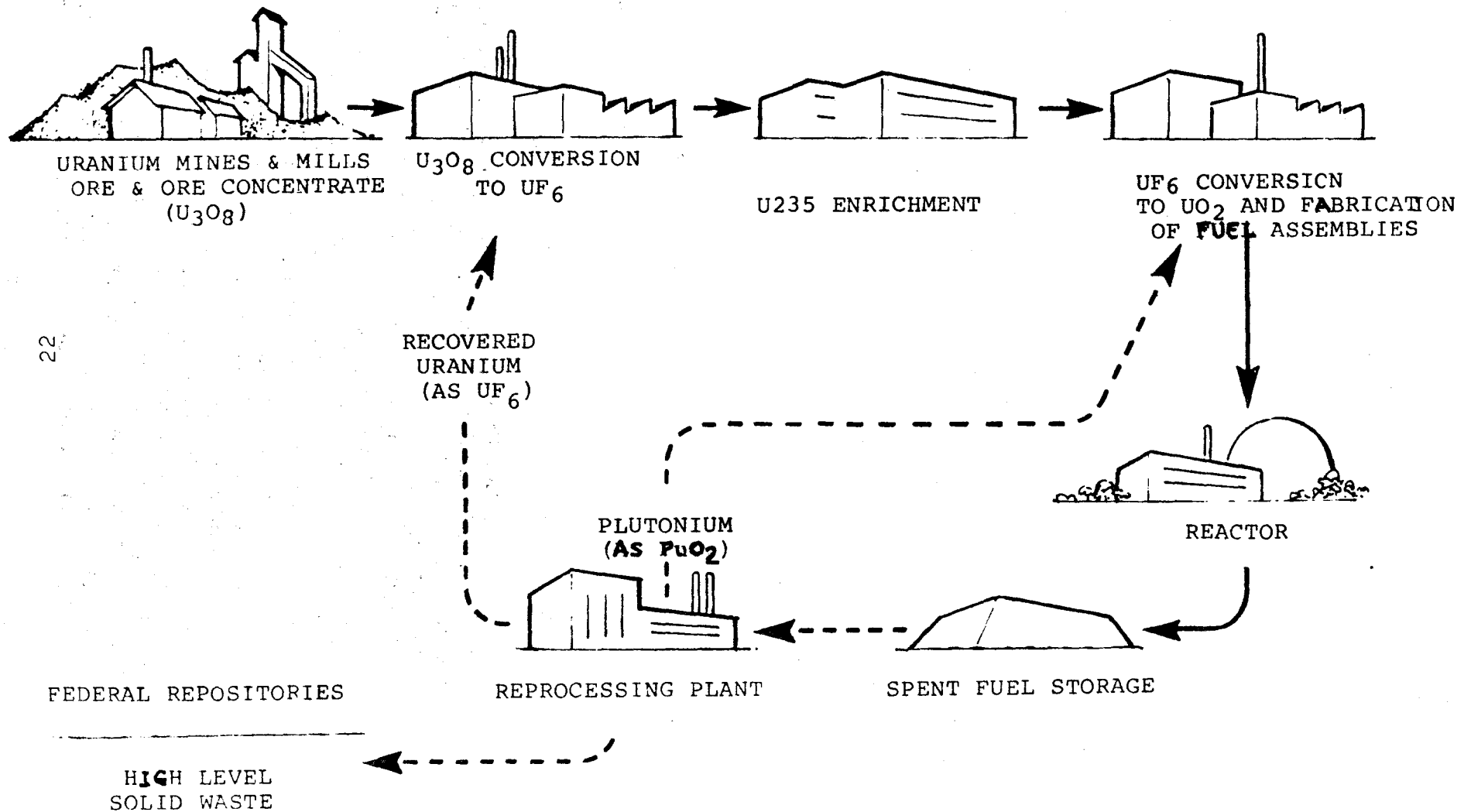
Prior to the enrichment step, uranium ore is mined from the earth's crust and sent to a mill where uranium concentrate is produced. This concentrate is often referred to as yellowcake, or by the chemical symbol, U_3O_8 . There are 14 mills presently operating in the U.S. The uranium concentrate is then sent to a converter where it is converted to uranium hexafluoride, or UF_6 . This is the only simple form of uranium that can be gaseous at conditions near room temperatures and pressures. There are two UF_6 conversion plants operating in the U.S.

The uranium hexafluoride is then sent to a uranium enrichment plant. There are two processes under consideration for commercial use in the U.S. -- the established gaseous diffusion process, used in the ERDA plants, and the gas centrifuge process. The UEA will use the gaseous diffusion process. In the process, the uranium hexafluoride gas is pumped through a semipermeable membrane. The desirable fissionable isotope, U-235, diffuses through the membrane more readily than the nonfissionable isotope U-238. A stream depleted in U-235 is collected from the plant and sent to storage. A stream enriched in U-235 is collected from the plant and sent to a fuel fabrication plant. In this plant, the uranium hexafluoride is converted to uranium dioxide UO_2 , formed into pellets, and placed in zirconium tubes. The tubes are assembled into bundles and sent to nuclear power plants. Seven U.S. companies are involved in the fabrication of nuclear fuel.

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After the fuel is used in the nuclear power plant, it is discharged and allowed to cool in a large water basin at the plant. The spent fuel will then be sent to a chemical reprocessing plant. In this step, the uranium and reactor-produced plutonium will be separated from the highly radioactive fission products generated while the fuel is in the nuclear power plant. The radioactive wastes in proper form will be sent to a repository. The recovered uranium will be converted again to the hexafluoride and reinserted into the enrichment plants for reenrichment. Plutonium is also a fissionable material that can be used as fuel in a nuclear power plant. If use of the plutonium is granted by the Nuclear Regulatory Commission, it would be sent to the fuel fabrication plants; there it would be mixed with the uranium and formed into pellets for nuclear power plant fuel. There are currently no commercial chemical reprocessing plants operating in the U.S.; one plant is shut down for modification and another is under construction.

The Light Water Reactor Nuclear Fuel Cycle



June 26, 1975

• Office of the White House Press Secretary

THE WHITE HOUSE

TEXT OF LETTERS FROM THE PRESIDENT TO THE
SPEAKER OF THE HOUSE OF REPRESENTATIVES
AND THE PRESIDENT OF THE SENATE

June 26, 1975

Dear Mr. Speaker: (Dear Mr. President:)

I have today sent to the Congress a message describing my plan for securing the construction of additional uranium enrichment plants in the United States by private industry to meet the growing needs of the expanding nuclear power industry.

A critical element of this plan is legislation to authorize the Administrator of the Energy Research and Development Administration to enter into cooperative agreements with private firms to foster, through Government cooperation and temporary assurances, the creation of a competitive private uranium enrichment industry. I am enclosing a proposed bill, the Nuclear Fuel Assurance Act of 1975, which would provide the authority needed to achieve the objectives described in my message. A brief analysis of the bill is also enclosed.

I urge the Congress to pass this legislation at the earliest possible date so that we can take a major step toward our goal of energy independence.

Sincerely,

GERALD R. FORD

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A BILL

To authorize cooperative arrangements with private enterprise for the provision of facilities for the production and enrichment of uranium enriched in the isotope 235, to provide for authorization of contract authority therefor, and for other purposes.

Be it enacted by the Senate and the House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Nuclear Fuel Assurance Act of 1975."

Sec. 2. Chapter 5. PRODUCTION OF SPECIAL NUCLEAR MATERIAL of the Atomic Energy Act of 1954, as amended, is amended by adding at the end thereof the following Section:

"Sec. 45 Cooperative Arrangements for Private Projects to Provide Uranium Enrichment Services --

"a. The Energy Research and Development Administration is authorized, without regard to the provisions of Section 169 of this Act, to enter into cooperative arrangements with any person or persons for such periods of time as the Administrator of the Energy Research and Development Administration may deem necessary or desirable for the purpose of providing such Government cooperation and assurances as the Administrator may deem appropriate and necessary to encourage the development of a competitive private uranium enrichment industry and to facilitate the design, construction, ownership and operation by private enterprise of facilities for the production and enrichment of uranium enriched in the isotope 235 in such amounts as will contribute to the common defense and security and encourage development and utilization of atomic energy to the maximum extent consistent with the common defense and security and with the health and safety of the public; including, inter alia, in the discretion of the Administrator,

(1) furnishing technical assistance, information, inventions and discoveries, enriching services, materials, and equipment on the basis of recovery of costs and appropriate royalties for the use thereof;

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(2) providing warranties for materials and equipment furnished;

(3) providing facility performance assurances;

(4) purchasing enriching services;

(5) undertaking to acquire the assets or interest of such person, or any of such persons, in an enrichment facility, and to assume obligations and liabilities (including debt) of such person, or any of such persons, arising out of the design, construction, ownership, or operation for a defined period of such enrichment facility in the event such person or persons cannot complete that enrichment facility or bring it into commercial operation: Provided that any undertaking, pursuant to this subsection 5, to acquire equity or pay off debt, shall apply only to individuals who are citizens of the United States, or to any corporation of other entity organized for a common business purpose, which is owned or effectively controlled by citizens of the United States; and

(6) determining to modify, complete and operate that enrichment facility as a Government facility or to dispose of the facility at any time, as the interest of the Government may appear, subject to the other provisions of this Act.

"b. Before the Administrator enters into any arrangement or amendment thereto under the authority of this section, or before the Administrator determines to modify, or complete and operate any facility or to dispose thereof, the basis for the proposed arrangement or amendment thereto which the Administrator proposes to execute (including the name of the proposed participating person or persons with whom the arrangement is to be made, a general description of the proposed facility, the estimated amount of cost to be incurred by the participating person or persons, the incentives imposed by the agreement on the person or persons to complete the facility as planned and operate it successfully for a defined period, and the general features of the proposed arrangement or amendment), or the plan for such modification, completion,

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operation or disposal by the Administrator, as appropriate, shall be submitted to the Joint Committee on Atomic Energy, and a period of forty-five days shall elapse while Congress is in session (in computing such forty-five days, there shall be excluded the days on which either House is not in session because of adjournment for more than three days) unless the Joint Committee by resolution in writing waives the conditions of, or all or any portion of, such forty-five day period: Provided, however, that any such arrangement or amendment thereto, or such plan, shall be entered into in accordance with the basis for the arrangement or plan, as appropriate, submitted as provided herein."

Sec. 3. The Administrator of the Energy Research and Development Administration is hereby authorized to enter into contracts for cooperative arrangements, without fiscal year limitation, pursuant to Section 45 of the Atomic Energy Act of 1954, as amended, in an amount not to exceed in the aggregate \$8,000,000,000 as may be approved in an appropriation Act. In the event that liquidation of part or all of any financial obligations incurred under such cooperative arrangements should become necessary, the Administrator of the Energy Research and Development Administration is authorized to issue to the Secretary of the Treasury notes or other obligations up to the levels of contract authority approved in an appropriation Act pursuant to the first sentence of this section in such form and denomination, bearing such maturity and subject to such terms and conditions as may be prescribed by the Administrator with the approval of the Secretary of the Treasury. Such notes or other obligations shall bear interest at a rate determined by the Secretary of the Treasury, taking into consideration the current average market yield on outstanding marketable obligations of the United States of comparable maturity at the time of issuance of the notes or other obligations. The Secretary of the Treasury shall purchase any notes or other obligations issued hereunder and, for that purpose, he is authorized to use as a public debt transaction the proceeds from the sale of any securities issued under the Second Liberty Bond Act, as amended, and the purposes for which securities may be issued under that Act, as amended, are extended to include any purchase of such notes and obligations. The Secretary of the

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Treasury may at any time sell any of the notes or other obligations acquired by him under this section. All redemptions, purchases and sales by the Secretary of the Treasury of such notes or other obligations shall be treated as public debt transactions of the United States. There are authorized to be appropriated to the Administrator such sums as may be necessary to pay the principal and interest on the notes or obligations issued by him to the Secretary of the Treasury.

Section 4. The Administrator of the Energy Research and Development Administration is hereby authorized to initiate construction planning and design activities for expansion of an existing uranium enrichment facility. There is hereby authorized to be appropriated such sums as may be necessary for this purpose.

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Bill Analysis

Section 1 of the proposed bill cites the Act as the "Nuclear Fuel Assurance Act of 1975."

Section 2 of the proposed bill would amend Chapter 5, Production of Special Nuclear Material, of the Atomic Energy Act, as amended, by adding a new Section 45, entitled "Cooperative Arrangements for Private Projects to Provide Uranium Enrichment Services."

Subsection a. of the new Section 45 would authorize the Administrator of the Energy Research and Development Administration (ERDA) to enter into cooperative arrangements with private enterprise to facilitate the development of a competitive private industry for the enrichment of uranium to make fuel for nuclear power plants. This subsection would enable the Administrator to promote private investment in the construction, ownership and operation of uranium enrichment plants by providing such Government cooperation and assurances as are determined to be necessary and in the best interests of the Government after detailed negotiation with selected individual proposers of enrichment services. Such negotiations would be directed toward obtaining arrangements most advantageous to the Government and the public interest and with a degree of risk to the private entrepreneurs consistent with the objective of creating a private competitive uranium enrichment industry.

Cooperative arrangements authorized by Section 45a could include such Government cooperation and assurances as enumerated in the bill, including the specific authority provided in subsection 45a(5), for the Government to acquire the assets or interests and assume the liabilities (including debt) of a private enrichment firm in the event --- which is highly unlikely --- that private industry could not complete a plant or bring it into operation. It is intended that any undertaking by the Government under subsection 45a(5) to acquire assets or interest and to assume liabilities of a private venture would terminate after approximately one year of commercial operation of a plant. The precise period would be defined during the negotiations of defined agreements. Any obligations to pay off debt and to acquire equity interest would be limited to citizens of the United States.

Subsection b. of the new Section 45 would provide for review by the Joint Committee on Atomic Energy of the basis for any cooperative arrangement, or amendment

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thereof, which the Administrator proposes to undertake, including the basis for acquiring assets or interests, or assuming liabilities of any private venture, and any plan the Administrator may have for modifying, completing, operating, or disposing of any plant built under a cooperative agreement.

Section 3 of the proposed Nuclear Fuel Assurance Act would authorize the Administrator of ERDA to enter into contracts, pursuant to the new subsection 45a, in an amount not to exceed \$8 billion, as may be provided in appropriation Acts. This amount is an estimate of the total potential cost to the Government in the unexpected event that all private ventures covered by cooperative arrangements were to fail and it was then necessary for the Government to assume assets and liabilities of the ventures, take over plants, and compensate domestic investors. It is not expected that any of these funds would be expended for the assumption of private ventures, but the authorization is necessary to provide assurance, to customers and sources of debt financing for private producers, of the Federal Government's commitment to create a competitive industry.

Section 3 would also provide that, in the event of Government assumption of the debts, interests and liabilities of a private venture, the Administrator is authorized to secure funds through the Secretary of the Treasury to liquidate contract authority, up to the levels previously provided in an appropriations Act.

Section 4 of the proposed bill would authorize the Administrator of ERDA to initiate preliminary engineering design and planning for expansion of a Government-owned uranium enrichment facility for contingency purposes.

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June 26, 1975

Office of the White House Press Secretary

THE WHITE HOUSE

TO THE CONGRESS OF THE UNITED STATES:

Every so often, a Nation finds itself at a crossroads. Sometimes, it is fortunate and recognizes it has a choice. Sometimes, it does not.

We are at such a crossroads in America today.

The course we select will touch the lives of most of us before the end of this century and surely affect the lives of generations of Americans yet to come.

Today, I am asking the Congress to join me in embarking this Nation on an exciting new course which will help assure the energy independence we seek and a significantly strengthened economy at the same time.

I am referring to the establishment of an entirely new private industry in America to provide the fuel for nuclear power reactors -- the energy resource of the future. I am referring to uranium enrichment which is presently a Federal Government monopoly.

Without question, our energy future will become more reliant on nuclear energy as the supplies of oil and natural gas diminish.

The questions we must answer are (1) whether the major capital requirements for constructing new uranium enrichment facilities will be paid for by the Federal taxpayer or by private enterprise, and (2) whether a major new and expanding segment of our economy will be under the control of the Federal Government or the private sector.

The private sector has already demonstrated its capability to build and operate uranium enrichment facilities under contracts with the Federal Government. Since it is also willing to provide the capital needed to construct new

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uranium enrichment plants, I am asking the Congress to enact legislation to enable American industry -- with all its financial resources, management capability and technical ingenuity -- to provide the enriched uranium needed to fuel nuclear power plants.

I believe this is the proper and correct course for America to take. The alternative is continued Federal monopoly of this service at a cost to the taxpayers of at least \$30 billion over the next 15 years.

The enrichment of uranium -- which means, in brief, separating the fissionable U-235 in uranium from non-fissionable parts to provide a more potent mixture to fuel nuclear reactors -- is an essential step in nuclear power production.

For more than twenty years, the United States Government has supplied the enrichment services for every nuclear reactor in America and for many others throughout the world. Our leadership in this important field has enabled other nations to enjoy the benefits of nuclear power under secure and prudent conditions. At the same time, this effort has been helpful in persuading other nations to accept international safeguards and forego development of nuclear weapons. In addition, the sale of our enrichment services in foreign countries has returned hundreds of millions of dollars to the United States.

These enrichment services have been provided by plants -- owned by the Government and operated by private industry -- in Oak Ridge, Tennessee, Portsmouth, Ohio, and Paducah, Kentucky. A \$1-billion improvement program is now underway to increase the production capacity of these plants by 60 percent. But this expanded capacity cannot meet the anticipated needs of the next 25 years.

The United States is now committed to supply the fuel needs for several hundred nuclear power plants scheduled to begin operation by the early 1980's. Since mid-1974, we have been unable to accept new orders for enriched uranium because our plant capacity -- including the \$1-billion improvement -- is fully committed.

In short, further increases in enrichment capacity depend on construction of additional plants, with seven or eight years required for each plant to become fully operational.

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Clearly, decisions must be made and actions taken today if we are to insure an adequate supply of enriched uranium for the nuclear power needs of the future and if we are to retain our position as a major supplier of enriched uranium to the world.

It is my opinion that American private enterprise is best suited to meet those needs. Already, private industry has demonstrated its willingness to pursue the major responsibilities involved in this effort. With proper licensing, safeguards, cooperation and limited assurances from the Federal Government, the private sector can do the job effectively and efficiently -- and at enormous savings to the American taxpayer. In this way, direct public benefits will be provided on a long-term basis by private capital, not by taxpayers.

Accordingly, I am proposing legislation to the Congress to authorize Government assurances necessary for private enterprise to enter into this vital field.

A number of compelling reasons argue for private ownership, as well as operation, of uranium enrichment plants. The market for nuclear fuel is predominantly in the private sector. The process of uranium enrichment is clearly industrial in nature.

The uranium enrichment process has the making of a new industry for the private sector in much the same tradition as the process for synthetic rubber -- with early Government development eventually being replaced by private enterprise.

One of the strengths of America's free enterprise system is its ability to respond to unusual challenges and opportunities with ingenuity, vigor and flexibility. A significant opportunity may be in store for many firms -- old and new -- to participate in the growth of the uranium enrichment industry. Just as coal and fuel oil are supplied to electric utilities by private firms on a competitive basis, enriched uranium should be supplied to them in the same fashion in the future.

The energy consumer also stands to benefit. The production of nuclear power now costs between 25 and 50 percent less than electricity produced from fossil fuels. It is not vulnerable to the supply whims or unwarranted price decrees of foreign energy suppliers. And based on the past fifteen years of experience, commercial nuclear power has an unparalleled record of safe operation.

The key technology of the uranium enrichment process is secret and will remain subject to continued classification, safeguards and export controls.

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But for several years, a number of qualified American companies have been granted access to the Government's technology under carefully controlled conditions to enable them to assess the commercial potential for private enriching plants.

The Government-owned gaseous diffusion enriching plants have run reliably and with ever-improving efficiency for more than a quarter of a century. One private group has chosen this well-demonstrated process as part of its \$3.5 billion proposal to build an enrichment plant serving 90 nuclear reactors here and abroad in the 1980's. Others are studying the potential of the newer gas centrifuge process. Though not yet in large-scale operation, the centrifuge process -- which uses much less power than the older process -- is almost ready for commercial application.

I believe we must move forward with both technologies and encourage competitive private entry into the enrichment business with both methods. A private gaseous diffusion plant should be built first to provide the most urgently needed increase in capacity, but we should proceed simultaneously with commercial development of the centrifuge process.

With this comprehensive approach, the United States can reopen its uranium enrichment "order book," reassert its supremacy as the world's major supplier of enriched uranium, and develop a strong private enrichment industry to help bolster the national economy.

For a number of reasons, a certain amount of governmental involvement is necessary to make private entry into the uranium enrichment industry successful.

The initial investment requirements for such massive projects are huge. The technology involved is presently owned by the Government. There are safeguards that must be rigidly enforced. The Government has a responsibility to help ensure that these private ventures perform as expected, providing timely and reliable service to both domestic and foreign customers.

Under the legislation I am proposing today, the Energy Research and Development Administration would be authorized to negotiate and enter into contracts with private groups interested in building, owning and operating a gaseous diffusion uranium enrichment plant.

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ERDA would also be authorized to negotiate for construction of several centrifuge enrichment plants when more definitive proposals for such projects are made by the private sector.

Contract authority in the amount of \$8 billion will be needed, but we expect almost no actual Government expenditures to be involved. In fact, the creation of a private enrichment industry will generate substantial revenues for the United States Treasury through payment of Federal income taxes and compensation for use of Government-owned technology.

Under the proposed arrangements, there will be an opportunity for foreign investment in these plants, although the plants will remain firmly under U.S. control. There will be no sharing of U.S. technology and, there will be limitations on the amount of capacity each plant can commit to foreign customers.

In addition, all exports of plant products will continue to be made pursuant to Governmental Agreements for Cooperation with other Nations. All will be subject to appropriate safeguards to preclude use for other than agreed peaceful purposes.

Foreign investors and customers would not have access to sensitive classified technology. Proposals from American enrichers to share technology would be evaluated separately, and would be subject to careful Government review and approval.

Finally, the plants proposed will be designed and built to produce low enriched fuel which is suitable only for commercial power reactors -- not for nuclear explosives.

In the remote event that a proposed private venture did not succeed, this legislation would enable the Government to take actions necessary to assure that plants will be brought on line in time to supply domestic and foreign customers when uranium enrichment services are needed.

I have instructed the Energy Research and Development Administration to implement backup contingency measures, including continuation of conceptual design activities, research and development, and technology assistance to the private sector on a cost-recovery basis.

ERDA would also be able to purchase from a private firm design work on components that could be used in a Government plant in the unlikely event that a venture fails.

Finally, I pledge to all customers -- domestic and foreign -- who place orders with our private suppliers that the United States Government will guarantee that these orders

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are filled as needed. Those who are first in line with our private sources will be first in line to receive supplies under this assurance. All contracted obligations will be honored.

I also pledge that cooperative agreements made with private firms under the proposed new authority will fully reflect the public interest. In fact, all contracts will be placed before the Congress in advance of their effectiveness. The Congress will have full and complete review of each one.

In sum, the program I am proposing will take maximum advantage of the strength and resourcefulness of industry and Government.

It will reinforce the world leadership we now enjoy in uranium enrichment technology. It will help insure the continued availability of reliable energy for America. It will move America one big step nearer energy independence.

Although the development of a competitive nuclear fuel industry is an important part of our overall energy strategy, we must continue our efforts to conserve the more traditional energy resources on which we have relied for generations. And we must accelerate our exploration of new sources of energy for the future -- including solar power, the harnessing of nuclear fusion and development of nuclear breeder reactors which are safe, environmentally sound and reliable.

I ask the Congress for early authorization of this program.

GERALD R. FORD

THE WHITE HOUSE,

June 26, 1975.

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