The original documents are located in Box 42, folder "Uranium Enrichment - Message to Congress (2)" of the John Marsh Files at the Gerald R. Ford Presidential Library.

[redacted]

JUN 25 1975

due 6/25 noon

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 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

DRAFT
6/24/75

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.

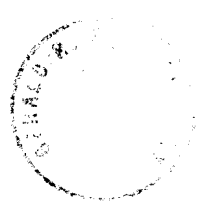
. All necessary controls and safeguards concerned with (a) preventing the diversion of nuclear materials and the spread of sensitive technology, (b) foreign investment, (c) environmental impact, (d) safety, and (e) antitrust.

6/23/78
draft.

FACT SHEET

THE PRESIDENT'S PLAN FOR A COMPETITIVE NUCLEAR FUEL INDUSTRY

Page



- 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.

- 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 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.

- 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.

- 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 additi nal 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 tempor ry 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 st ckpile 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 domesti 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 contro's 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 plan s 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.

- 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 consoritum (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 corsortium -- 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' 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.

ATTACHMENT #1

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 costomers 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.

ATTACHMENT #2

Uranium Enrichment as Part of the Nuclear Fuel Cycle

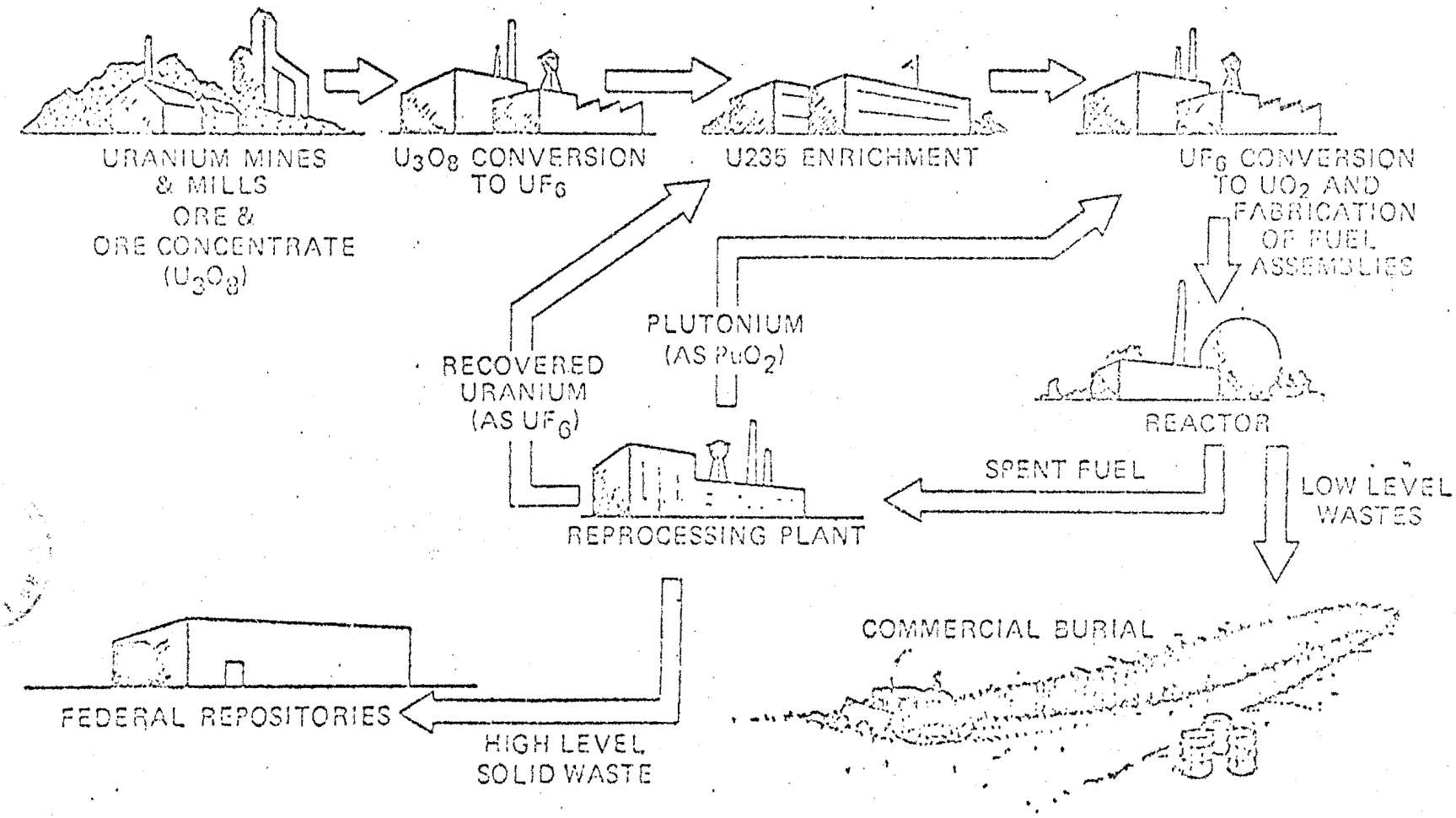
The attached chart depicts the nuclear fuel cycle for Light Water Reactors, (the type of reactors mostly commonly used in the U.S.). About 97% of the reactors obtaining enrichment services from the ERDA gasious diffusion plants are Light Water Reactors; a similar fuel cycle exists for the other present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

Prior to the enrichment step, uranium ore is minded 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 + 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 privide 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:

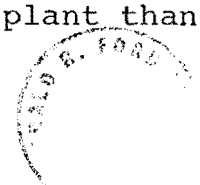
First, the risk of UEA failure is considered very small.

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 CONTROLS

Question:

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 QUESTIONS

Question:

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 ful 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 excellant. There has been no member of the public killed or injured by any accident or occurence 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 CONTROL

Question:

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 capitol required for the project. Futhermore, 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 impost their views on U.S. investors.

6/24/75

FOREIGN CUSTOMER CONDITIONAL CONTRACTS WITH ERDA

Question:

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 MARKET

Question:

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 TECHNOLOGY

Question:

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

EMBARGOED FOR RELEASE
UNTIL 12:00 NOON (EDT)

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 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,

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

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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EMBARGOED FOR RELEASE
UNTIL 12:00 NOON, 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.

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- 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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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.

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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)

EMBARGOED FOR RELEASE
UNTIL 12:00 NOON (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

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(OVER)

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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.

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.

- 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 plan 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.

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.

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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.

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.

- 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.

. 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's plan will provide sources of supply that can be tapped by the holders of conditional contracts.

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ATTACHMENT #1

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.

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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ATTACHMENT #2

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.

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