The original documents are located in Box 37, folder "Uranium Enrichment - Draft Documents (1)" of the James M. Cannon Files at the Gerald R. Ford Presidential Library.

SCHEDULE

LATEST DRAFTS OF
URANIUM ENRICHMENT MATERIAL

JUNE 1975 - URANIUM ENRICHMENT

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15	16 . ERDA draft message to Domestic Council . Domestic Council Fact Sheet & Q&A's in draft	17	18 . DC draft message to Hartmann/Theis . DC Final Draft Fact Sheet & Q&A's . OMB & Seidman approved draft Economic Impact Statement . DC complete schedule for Environmental & Regulatory Review . Press Briefings Begin	19	20	21 . Draft Message for President's Review . Legislation cleared by OMB . Negotiations completed with private sector . NSC non proliferation review complete . Economic Impact Statement complete
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THE WHITE HOUSE

WASHINGTON

June 11, 1975

MEMORANDUM FOR THE PRESIDENT

FROM : JIM CANNON

Attached is the work plan you requested for Uranium Enrichment.

Attachment

JUNE 25, 1975

Action	Date Begin	Responsibility	Work to Be Done By
Congressional Briefings	Today	Fridersdorf	Congressional Relations Staf: Seamans, Fri, ? Morton, Connor, Schleede
Legislation			
- ERDA draft-due to OMB	June 17	Hills	ERDA, OMB, FEA,
- Final clearance	June 21	Lynn	Hills, AG, Conr NSC
Presidential Message/ Statement			
- ERDA draft due to Domestic Council	June 16	Fri	ERDA, OMB, NSC, Hills, FEA, Con Domestic Counci
- Domestic Council draft to Hartmann/ Theis	June 18	Cannon	
- Draft for Presidential Review	June 21	Hartmann	
- Final Draft	June 24	Hartmann	
Fact Sheet and Q & A			
- Domestic Council draft	June 16	Cavanaugh	Schleede, ERDA,
- Final Draft	June 18	Cannon	OMB, NSC, FEA, Connor
Complete Negotiations with Private Sector Participants	June 21	Fri	Fri, Hills, Jim Mitchell, Schle
Economic Impact State- ment			
- Draft	June 13	OMB	CEA, Treasury,
- Final	June 21	Seidman	OMB, ERDA, FEA
Environmental and Regulatory Evaluation	June 18	Cavanaugh	EPA, ERDA, NSC, FEA, Schleede

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

MESSAGE

DRAFT PRESIDENTIAL STATEMENT

To the Congress:

For the past two decades, the Federal Government has supplied the enrichment services to produce all the uranium fuel needed to power nuclear reactors in this country and for many commercial reactors elsewhere in the world. But the demand for nuclear fuel both here and abroad has grown to the point that our capacity is now fully committed. Yet, our needs and those of other nations for reliable electric energy sources continue to rise rapidly. Because it takes many years to bring new nuclear power plants and fuel sources into operation, we must act now to meet those needs.

I believe that the effort of American private enterprise to plan, own and operate new nuclear fuel enriching plants can now be brought to reality. If the Government helps in the right way, competitive private industry can do the job, under necessary licensing and strict safeguards, and with major savings to the taxpayer. I call upon the Congress today to provide the necessary authorization to get started.

This nation is now engaged in a major effort to achieve self-sufficiency in the critical field of energy supply. We also are working vigorously with the other oil consuming nations to reduce our alarming and

growing dependence on imports of foreign petroleum products. Few endeavors of effort are of more vital importance to the health and prosperity of the Free World. Together with other nations, we are engaged in major efforts to conserve and better utilize our energy resources, and to develop immediate, mid-range and long-term alternatives to imported fuels.

Energy security will require us to explore many possibilities so roads, and we cannot afford to overlook any of them. Conservation in all forms, solar heating and cooling of buildings, greatly increased use of coal in solid, liquid and gaseous forms, improved methods of extracting more gas and oil from our existing fields--all these efforts will are going to be necessary. For the longer term, we must develop and attempt to apply new technologies based on virtually inexhaustible resources, such as solar electric energy, the harnessing of nuclear fusion, and breeder reactors which are safe, environmentally sound, and reliable.

But it takes time for promising technologies to become widely used in our society. As we work to accelerate technological development, we need also to make sure that our existing domestic energy supplies continue to ~~grow to~~ meet the demands placed on them. This means that, among other measures, we must take ~~the~~ steps now to make nuclear power available for greater use over the next 25 years.

Based on the past 10 years of experience, commercial nuclear power has had an unparalleled record of safe operation. Nuclear power now costs between 25 ~~to~~ and 50 percent less than electricity produced from fossil fuels. Nuclear power is not vulnerable to the whims or price decrees of foreign energy suppliers. While plainly not the only source of energy, it is nevertheless an essential element of the total mix of energy sources necessary to meet the goal of energy security for this country in the intermediate term. This ~~is a perception that~~ view is held not only by the United States but by many other nations as well.

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

For some 20 years, the United States Government has been the exclusive supplier, through its three enrichment plants at Oak Ridge and elsewhere, of the services to enrich uranium ~~which in turn is necessary to fuel~~ for nuclear power stations here and in many foreign countries. With respect to our foreign customers, we have consistently endeavored

to be a responsible and reliable supplier. We have undertaken an obligation to enable other nations to utilize the benefits of nuclear power under secure and prudent conditions. ~~We also have believed that~~ our role as a supplier of uranium enriching services has been extremely important in getting other nations to accept international safeguards and to long development ~~prevent~~ nuclear weapons. Moreover, foreign sales have returned hundreds of millions of dollars to the United States.

Uranium enrichment is a proven technology in which we are the world leader. ~~and our technology is proven.~~ Our gaseous diffusion plants have run reliably for more than a quarter of a century, and we have seen many improvements in their efficiency. ~~We have under way~~ a major improvement program costing over $1 billion is now underway to increase ~~their~~ plant capacity by more than ~~over~~ 60 percent. A new process, which enriches uranium through the use of centrifuges, has been under intensive development for more than a decade and is now ~~also~~ ready to be ~~demonstrated and~~ brought into commercial use.

The U.S. is now committed to supply the fuel needs of several hundred nuclear power plants coming on the line by the early 1980's. ~~We have~~ Since July 1974, we have been unable to accept new orders for enriched uranium because our

capacity--even with the projected improvements--is fully committed. As a practical matter, plans cannot be made for construction of new domestic reactors without a reasonably assured source of enriched uranium. Potential foreign customers have the same problem. And, since it takes at least ~~7 8~~ seven or eight years to provide new enrichment plants, it is essential that the United States commit itself immediately to construction of new capacity. This step is necessary if we are to preserve our ability to meet our domestic goals for nuclear energy, and to retain our ability to meet our foreign fuel supply responsibilities.

For a number of years, it has been the stated objective of the Executive Branch that new enriching capacity should be provided by the private sector. Private firms already operate the existing facilities under contract to the Government, but at present they operate without the discipline of profit responsibility. That discipline, and the incentives for efficiency which go with it, can be provided for the additional capacity now required. The market for nuclear fuel is predominantly in the private sector. The process of uranium enrichment is a function that is clearly industrial in nature. It is distinct from weapons technology or production, and bears close resemblance to other processes in which government plays a strictly

limited role. Just as coal and fuel oil ~~is~~ are supplied to electric utilities by private firms on a competitive basis, enriched uranium should be supplied to them in the same fashion in the future.

In this way, a new industry can develop just as the synthetic rubber industry did -- with early government development being phased out and replaced by private initiative. An opportunity exists for many existing and ~~yet to be formed~~ new firms to participate in the growth of this industry. The investment requirements will be huge and ~~certainly~~ the Government fully expects that opportunities will be provided for new investors, small as well as large, to share in the ownership of what will ~~amost~~ almost certainly be one of the Nation's largest and most viable industries in the 1990's and beyond.

In short, we should not further enlarge the public sector of the economy when private industry is willing and able to do the job responsibly.

One of the strengths of the American free enterprise system is that it is able to ~~consider and~~ respond to unusual challenges and opportunities with ingenuity, vigor, and flexibility. The course I recommend allows maximum freedom for our industrial sector to utilize these strengths in providing the uranium enrichment capacity which this country and the rest

of the world requires.

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

The centrifuge process, which uses substantially less power than the older process, appears to be well suited to the creation of competitive industry because the individual plants can be smaller and more flexibly adopted to market demands.

Because centrifuge technology cannot be implemented quickly enough to close the immediate gap in enrichment capacity, our next plant must be of the gaseous diffusion type. One industry group has presented a proposal to construct a $3.5 billion, privately-financed gaseous diffusion enrichment plant, capable of serving about 90 large nuclear power reactors both here and abroad, when it becomes

operational in the early 1980's. ~~This project has the potential to meet the need for early new capacity. We also have highly convincing expressions of interest by~~ several other private companies have expressed great interest in the construction of ~~privately financed~~ commercial centrifuge enrichment plants. We are confident that there will be more than adequate market demand for the output from these plants.

I believe we must move now with both technologies and encourage competitive private entry into the enrichment business with each. A private gaseous diffusion plant should be built to provide the urgently needed first increment of capacity. We should simultaneously embark on creating a centrifuge industry with a growing number of competitors. Only in this way can we "open the U.S. order book" promptly, reassert our position as the world's major supplier of enriched uranium, and, at the same time, develop the private enrichment industry.

However, there are difficulties to be overcome that will require special cooperative arrangements between Government and industry during a transitional period. ~~This is~~ These arrangements are required because of the very large capital requirements and long payouts for plants of such large size and complexity. It also is needed because the ~~process~~ "know-how" for the process presently rests within the Government. Moreover, the Government has a vital interest in assuring that these private ventures do, in fact, perform as expected and are

able to meet their commitments to domestic and foreign customers on a timely, reliable basis.

Accordingly, I am submitting to the Congress today proposed legislation which will authorize the necessary degree of Government assurance to make private entry a reality. On the basis of the proposed legislation, the Energy Research and Development Administration will enter into immediately detailed negotiations on the gaseous diffusion project, and with ~~prospective~~ on centrifuge enrichers ~~after more definitive proposals are received in response to a request for proposals issued today.~~ (2) It is my desire that several centrifuge projects proceed ~~in parallel~~ simultaneously as rapidly as selection of companies can be made and details negotiated.

Although enactment of ~~the~~ this legislation is necessary now as a clear signal of our national intent, details of the finally-negotiated packages would be subject to Congressional scrutiny.

As ~~regards~~ for the use of Government funds, ~~I believe that the Government assurances which I have proposed to create a private enrichment industry will be essentially of a catalytic nature -- catalytic in the sense that~~ serve as a cap contract authority in the amount of about $_____ billion will be needed to sign various contracts. But ~~with the expectation that~~ we expect almost no actual Government expenditures or outlays ~~from this amount would be virtually zero.~~ to be involved. In fact, the creation of a private enrichment industry will generate substantial

revenues to the Treasury through payment of Federal income taxes and royalties for use of Government-owned technology.

Under our proposed arrangements, significant opportunities for foreign investments in U.S. private plants will be welcomed, although the plants will remain firmly under U.S. control, and there will be limitations on the amount of capacity each plant can commit to foreign customers. Also, all exports of the plant products will, as in the past, ~~have to~~ be made pursuant to Agreements for Cooperation with other Nations, and will be subjected to appropriate safeguards to preclude use for other than agreed peaceful purposes. Foreign investors and customers would not have access to sensitive classified technology. ~~Any~~ proposals from ~~U.S.~~ American enrichers ~~on behalf of~~ to share technology ~~sharing~~ would have to be evaluated as a separate matter and would be subjected to careful government review and approval. In addition, the low enriched fuel produced ~~the private~~ in the private diffusion plant would be suitable only for commercial power reactors, ~~and would not be suitable~~ not for nuclear explosives.

~~We believe the~~ All of these factors ~~I have mentioned~~ underscore the urgency of prompt action in this area. They also highlight the need for a Government contingency backup to the private plants that are contemplated.

In the remote event that the proposed private plants cannot be properly initiated or completed, our legislative

package would enable the Government to stand fully behind the private fuel supply assurances that will be given to domestic and foreign customers.

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

First, I have instructed ~~ERDA~~ the Energy Research and Development Administration to ~~carry on with~~ implement backup contingency measures to provide protection in the remote event that industry falters. Such measures will include continuation of Government plant design activities, ~~R&D~~ research and development, and technology assistance to the private sector on a cost recovery basis. These actions will help ensure that the ~~U.S.~~ United States has the needed new plant capacity by the 1980's.

Second, ERDA would agree to purchase from the firm planning the diffusion plant the design work on components for the private plant that could be used in a Government plant -- if the private venture were unable to proceed. Comparable ERDA arrangements will be made with firms pursuing centrifuge technology.

Third, I pledge to domestic and foreign customers alike who place orders with our private suppliers that the United

States Government will assure that these orders will be filled as needed. Those who are first in line with our private sources will be first in line to receive supplies under this assurance, ~~and~~ all contracted obligations will be honored.

The program I have proposed takes maximum advantage of the strength and resourcefulness of industry and Government in the United States and the world leadership we now enjoy in uranium enrichment technology. It builds upon that base in a way which promises to maintain ~~that~~ our leadership in the face of vigorous competition from abroad. I ask the Congress for early authorization of the program to meet our urgent needs and to demonstrate to the world our determination to pursue a greater degree of energy self-sufficiency.

DRAFT
6/23/75

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.

- The need for added capacity provides the opportunity for positive action by the Government to encourage the creating of a competitive nuclear fuel supply industry.

Highlights of the Plan

The President's plan includes:

- A legislative proposal, the Competitive Nuclear Fuel Supply Act of 1975, which would authorize the Government

to enter into certain cooperative arrangements with private industrial firms that wish to finance, build and operate plants to provide uranium enrichment services.

- A pledge by the President to foreign and domestic customers that the Government will assure that orders placed with private producers will be fulfilled as services are needed.

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

FACT SHEET

THE PRESIDENT'S PLAN FOR A
COMPETITIVE NUCLEAR FUEL INDUSTRY

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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's plan, revenue of about $90 to $100 million per plant per year would flow to the Federal Treasury from industry, principally from taxes and payments for the use of Government inventions and discoveries.

- An early end to the Government monopoly in a type of commercial activity.

- Avoiding expansion of the public sector when industry is willing and able to do the job.

- Competition which would provide incentives for lower costs and additional improvements in technology.

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

Centrifuge Enriching Projects -- Request for Proposals.

- In August of 1974 the Government announced a program expected to lead to several relatively small industry constructed demonstration projects.

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

- Government-industry cooperative arrangements similar to that required for the UEA diffusion project may be required.

- A Request for Proposals for this program which extends and elaborates upon the earlier program is being issued today:

  - Proposals will be due on October 1, 1975 and it is the Government expectation that several proposals could be accepted to proceed more or less in parallel with each other and with the UEA project.

  - Proposers will describe their proposed project in detail, including plant design, size, location and schedules and specify the type and magnitude of Government support necessary to proceed.

  - Small initial modules, perhaps 200-300 thousand units per year could be in operation in the early 1980's with 2-3 million unit commercial scale plants achieved in the mid-1980's on a time frame consistent with the growth of the market.

- Centrifuge technology permits adding small capacity increments as required to closely follow market needs.

- Proceeding with several centrifuge demonstration projects in the same time frame as the gaseous diffusion plant will further the objective of developing a private, competitive enriching industry and maintaining U.S. world leadership in this field.

OTHER ACTIONS RELATED TO URANIUM ENRICHMENT CAPACITY

Increasing ERDA's Charge for Uranium Enrichment Services.

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

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

- This legislation has been submitted to the Congress by ERDA.

Contract Relief for Current ERDA Enrichment Customers.

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

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

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

  - Grant customers the right within a 60-day period to serve notice that they wish to terminate their contract with no cancellation fee and with refund of any payments.

  - Permit those wishing to defer deliveries (rather than terminate contracts) to have a one-time adjustment of contract commitments without penalty.

  - Permit a similar one-time adjustment of the rate at which uranium feed should be sent to the enriching plants to coincide in part with the slipped enrichment requirements.

. These actions would:

- Result in a larger U.S. stockpile of enriched uranium for use as an inventory to support the new private uranium enrichment plants with backup supplies of enriched material, should any delays occur in their initial operation.

- Establish a more realistic data base for evaluating future domestic and foreign enrichment requirements.

- Grant short-term financial relief to the utility industry.

ERDA Conditional Contracts for Enrichment Services.

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

. The expanded U.S. capacity that will result from the President's plan will provide sources of supply that can be tapped by the holders of conditional contracts.

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

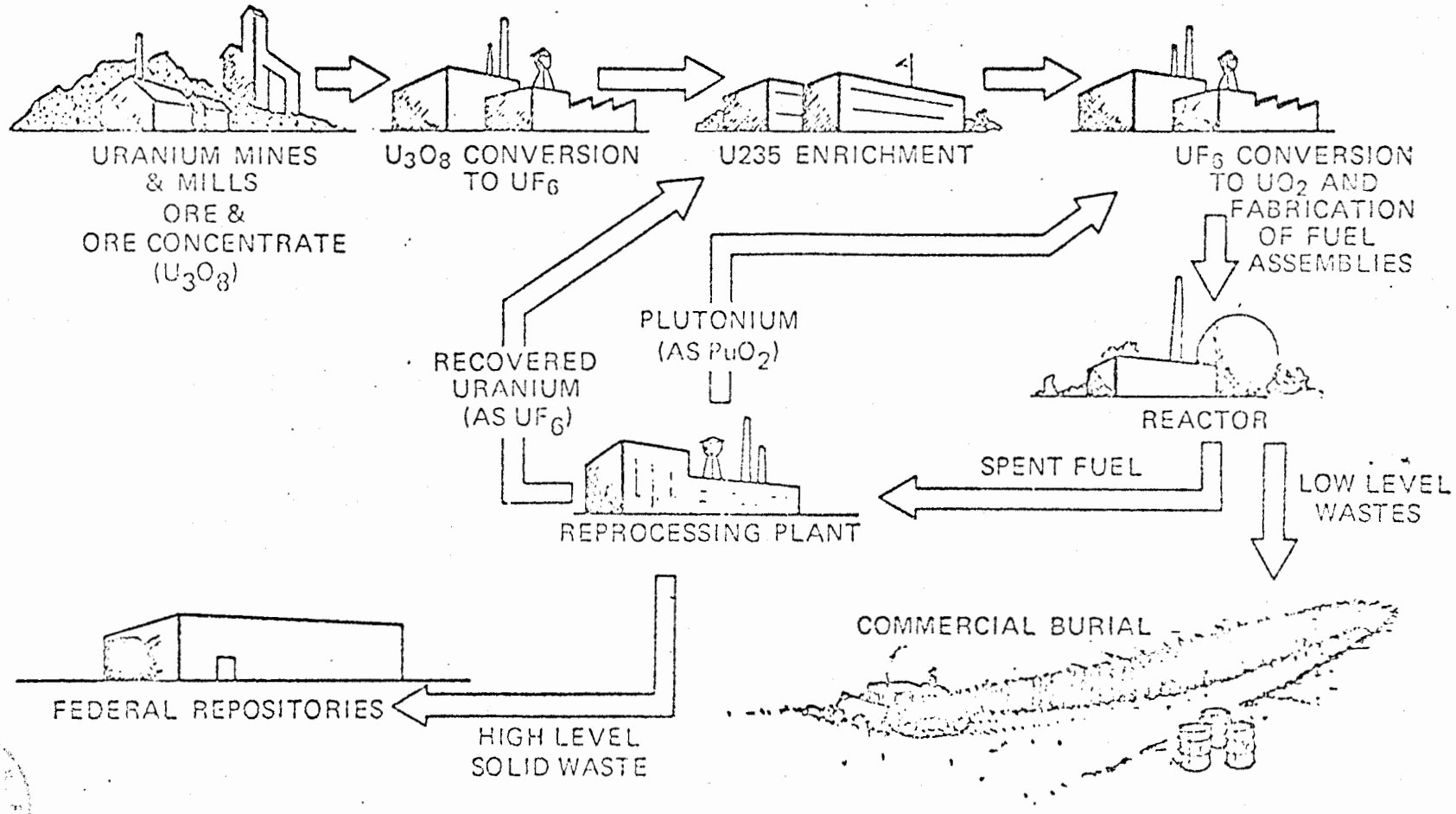
The attached chart depicts the nuclear fuel cycle for Light Water Reactors, (the type of reactors mostly commonly used in the U.S.). About 97% of the reactors obtaining enrichment services from the ERDA gasious diffusion plants are Light Water Reactors; a similar fuel cycle exists for the other present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



LEGISLATION &
TRANSMITTAL LETTER

THE WHITE HOUSE
WASHINGTON
6/24

TO: JIM CANNON
JIM CONNOR
ROD HILLS

FROM: GLENN SCHLEEDE

SUBJECT: URANIUM ENRICHMENT - DRAFT BILL

Here is a copy of ERDA's latest draft.

cc: Jim Cavanaugh

ENERGY RESEARCH AND
DEVELOPMENT ADMINISTRATION

Office of the
General Counsel

NOTE FOR MESSRS. MITCHELL AND LOWETH

Attached is a draft bill on uranium enrichment which reflects the changes requested at our meeting Saturday. I call your attention particularly to revised Section 3. This Section would provide that if it became necessary to pay out the domestic debt-holders, the Administrator could turn to the Secretary of the Treasury for the cash necessary to do so. The Secretary of the Treasury would raise the money through borrowing as a public debt. Subsequently, ERDA would receive appropriations to reimburse the Secretary of the Treasury.

Of course, this is more than mere cosmetics. Traditionally this kind of language has been used for loan guarantees. It was my understanding that loan guarantees were not desired for this project.

R. Tenney Johnson
General Counsel

DRAFT 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 Energy 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 Enrichment Projects--

"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 assistance 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, enriching services, materials, and equipment on the basis of recovery of costs and appropriate royalties for the use thereof;

(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; 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. Provision for contract authority is hereby authorized in an amount not to exceed in the aggregate $8,000,000,000 for cooperative arrangements to be entered into pursuant to Section 45 of the Atomic Energy Act of 1954, as amended. The full faith and credit of the United States is hereby pledged to the liquidation of obligations incurred under such cooperative arrangements.

In the event that liquidation of part or all of such obligations 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 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 subsection. 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.

Bill Analysis

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

Section 2. of the proposed bill would authorize the ERDA to enter into cooperative arrangements with private enterprise for the provision of facilities for the production and enrichment of uranium enriched in the isotope 235.

The Energy Research and Development Administration, and before it the Atomic Energy Commission, have conducted discussions over the past several years with private companies interested in entering the uranium enrichment business. These discussions indicated that various forms of Government assistance are prerequisites to private companies undertaking to design, construct, own and operate such facilities, whether or not the technology employed is that of the gaseous diffusion or gas centrifuge process. Thus, all prospective entrants into the private enrichment industry perceive a need for the Government to furnish certain technical assistance, classified information, and equipment which are not available from sources other than the Government. They indicate a need for facility performance assurances, and materials and equipment warranties. Many indicate a need for Government purchase, for a limited period and amount, of enriching services during initial operations in order to service their debt and provide a return on equity should there not be sufficient customer demand during the initial period. All stated the need for Government provision of enriching services from the Government so as to be able to meet the commitments to supply their customers requirements should the facilities fail to commence operations as scheduled or for a

limited period suffer interruptions in operation.

The basic characteristics of the uranium enrichment business include high capital intensity; long lead times for planning, engineering and construction; an economic environment involving many uncertainties; a technology which has been developed by the Government on a classified basis, is subject to rapid improvement, and has not yet been proven on a commercial basis; customers (electric power companies) which are regulated as to return on investment, have a capital structure designed for minimal risk, and which face unprecedented capital commitments. Under these circumstances, many prospective entrants asserted the need for Government assurances against certain risks to enable securing the large amounts of capital, both debt and equity, that would be required for such undertaking. For this purpose they sought various forms of undertakings by the Government to acquire their equity interest in and to assume their obligations, liabilities and debt arising out of their decision to design, construct, own or initially operate an enrichment facility in the unlikely event they should fail. They consider such assurances essential to attract sufficient private investment and orders from enrichment customers.

The proposed amendment would enable the Energy Research and Development Administration to provide such assistance as is determined to be necessary and in the best interests of the Government after detailed negotiation with selected individual proposers of enrichment services. It would be the Government's intention in such negotiations to make the most advantageous agreement for the Government and to place the largest

risk on the private enterpreneurs consistent with the need to create several viable private enterprises to provide enrichment services. For this purpose there would be negotiated suitable and effective incentives to the private enterprenaurs to build and operate an enrichment facility under specific costs and schedules. In this way, there would be established a competitive private domestic enrichment industry essential to support the manifold growth in nuclear power which is expected to take place over the next several decades. Appropriate Congressional oversight of each arrangement would be provided by requiring that the proposed basis for any arrangement and ~~any plan for acquisition of interests in and assumption of obligations and liability of private enterpreneurs or~~ any plan for modification, completion, operation of disposal of facilities be submitted to the Joint Committee on Atomic Energy d a period of forty-five days elapse prior to execution of any such arrrangement or implementation of any such plan.

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

Section 3 of the proposed bill would authorize the provision of contract authority not to exceed in the aggregate $8,000,000,000 for cooperative arrangements to be entered into pursuant to Section 45 of the Atomic Energy Act of 1954, as amended. In compliance with section 401 of the Congressional Budget Control Act of 1974, the Energy Research and Development Administration would seek to obtain the authorized contract authority from Congress through appropriation acts or amendments thereto. It also pledges the full faith and credit of the United States to the liquidation of obligations incurred under such cooperative arrangements. In the event that liquidation of part or all of such obligations should become necessary, the Administrator is authorized to issue notes or other obligations to the Secretary of the Treasury for such purposes not to exceed in the aggregate $8,000,000,000. There is also 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.

ECONOMIC
IMPACT STATEMENT

Draft 6-20-75

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

The sustaining capacity of the Government's gaseous diffusion plants has been fully contracted for by foreign and domestic customers. The proposed legislation is intended to facilitate the addition of new capacity in the private sector.

The only feasible alternative to the private sector supplying these services is for the Government to build comparable facilities and continue to be the sole source of supply. The questions of economic an/or inflationary impacts of the proposed legislation were evaluated under these alternatives in accordance with the issues for evaluation specified in OMB Circular No. A-107.

(1) Cost impact

If the objectives of the legislation are realized, the efficient private industry would eventually emerge to provide enrichment services on reasonable competitive terms. The potential effects of a privately-owned and operated industry versus continued government operation are not easily predictable. If the Government were to obtain the budgetary authorizations needed to expand existing facilities and build new plants, the pattern of development, location of plants, impacts on resources, and methods of financing could differ from that likely under private construction and operation of new facilities. The crucial issues, however, are whether the differences involve real social costs or

whether they are largely institutional in nature and involve little variation in the way of basic demand on resources, important materials, energy, and manpower.

Assuming that private firms gain access to the same technologies and have the same advantages of scale and method of operation, the cost results will be similar under the two alternatives. With due consideration of the tax effects, costs of insurance and private risks, and other normal business expenses, the costs of financing a private or public facility are essentially the same.

(2) Productivity effects

If the legislation leads to the establishment of an effective private enrichment industry, we should expect gains in productivity that equal, or exceed, any realizable under Government operation. The existing enrichment plants are operated by private contractors, and the level of productivity and productivity gains have been satisfactory. We conclude that inflationary impacts resulting from differences in productivity between private or public enrichment operations will be unimportant.

(3) Effect on competition

If the advantages of competition are to be realized in the enrichment phase of the nuclear fuel cycle, it will require conditions facilitating privaty entry, and several firms will have to be attracted into the industry. This is probably one of the more hopeful aspects of the proposed legislation and with the introduction of centrifuge technology it is realistic to expect competitive effects that will result in lower costs of enrichment services and electric power.

(4) Effect on materials

The addition of large-scale gaseous diffusion plants, probably in increments of ~~8.75~~ 9.75 million Separative Work Units (SWU) yearly would require sizable amounts of important construction materials and process equipment. The major quantities, however, are for concrete, steel, piping, etc. that are standard construction items. Specialized equipment, instrumentation, gas diffusers, compressors, etc., have special requirements in terms of materials and manufacturing capability.

In the long-run, the effect on materials should be identical whether the new plants are built by the Government or by private firms.

(5) Effect on employment

Enrichment operations are capital-intensive and the most immediate impact on employment is in the construction phase. About 140,000 man-months of construction labor are estimated to be required for construction of an 8.75 million - SWU/yr. plant. Some 900 people are required to operate such a plant. Again, assuming construction of comparable facilities, the employment effects will be similar for public and private operations.

(6) Effects on energy supply/demand

There are energy costs associated both with the construction of the facilities to enrich uranium and in the subsequent operation of the plants. The net energy contribution of the nuclear power operations have been well-documented, and the important result of the proposed legislation will be to facilitate the fullest exercise of the nuclear option and result in a larger domestic energy supply at lower cost to the public.

Superseded

DRAFT 6-19-75

Inflation Impact Statement

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

When the objectives of the legislation are realized, we foresee the establishment of a competitive private industry providing enrichment services on reasonable terms. This would facilitate the utilization of nuclear power to supplement the production of power from other energy sources and result in a larger domestic energy supply at lower cost to the public.

Moreover, a private uranium enrichment industry would generate substantial revenues to the Federal Treasury in the form of corporate income taxes and royalties for use of Government-owned technology. Such revenues to the U.S. Government would reduce inflationary pressures by reducing deficits and the Government's need to borrow funds to carry on its operations. Dividends and interest received by individuals would also be subject to Federal and State income taxes.

The alternatives to establishment of a private enrichment industry are twofold:

1. curtailment of the growth of nuclear power, requiring a greater reliance by the U.S. upon higher cost power from fossil fuels, or

2. Continuation and expansion of the present Government monopoly through construction of additional Government plants, resulting in greater deficits in the Federal Budget.

If the Government were to expand its enrichment operations to provide the additional services required, the costs of such services might appear lower if no recognition were given to the taxes, insurance, risk, and other normal costs of private business operations.

Since capital costs of new enrichment plants would be essentially the same in the private and public sectors, and given the expectations of increasing efficiency in privately-operated facilities in a competitive framework, we conclude that the effects of this legislation will be to minimize inflationary pressures on the economy and possibly to lead to substantially lower costs than under any other alternative.