B-159687

NOV 28 1975

The Honorable John O. Pastore
Chairman, Joint Committee on
Atomic Energy
Congress of the United States

Dear Mr. Chairman:

In response to the Committee's November 17, 1975, request, we have developed information on the Energy Research and Development Administration's (ERDA) contingency plan for constructing additional enrichment capacity at Portsmouth, Ohio. This information supplements our report[1] sent to you on October 31, 1975. We have identified the action already taken by ERDA to prepare for this construction project as well as the action ERDA must take to permit production from this project to begin in 1983.

ERDA has assumed that (1) the Nuclear Fuel Assurance Act of 1975 will be enacted and (2) private industry supported with Government backing will build a 9-million separative-work-unit-per-year uranium enrichment plant with production available in 1983, but, to insure the availability of enriched uranium for power reactor fuel, ERDA has a contingency plan. This plan includes conceptual design work for adding on to its gaseous diffusion plant at Portsmouth, Ohio, if private industry does not provide the next increment of enrichment capacity. The plan also includes conceptual design work on a stand-alone centrifuge plant at Oak Ridge, Tennessee, if private industry does not provide the succeeding increment.

That part of the contingency plan which relates to adding on to the Portsmouth plant is in line with section 4 of the proposed act. Section 4 would authorize appropriations only for the initiation of planning and design efforts to expand one existing uranium enrichment facility. Neither section 4 nor any other part of the bill would authorize ERDA to initiate full scale procurement and construction efforts for plant expansion.

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[1]Evaluation of the Administration's Proposal for Government Assistance to Private Uranium Enrichment Groups (RED-76-11).

ERDA information relating to action and plans for the gaseous diffusion add-on plant is contained below. We were unable to evaluate this information because of the short time frame for this work, but we did discuss the contents of this letter with ERDA representatives who expressed agreement in its accuracy. Month-by-month diffusion plant schedule information is shown in the enclosure along with ERDA's comments on the schedule status.

CONCEPTUAL DESIGN

Conceptual design work must be done for each construction project for which congressional authorization is to be requested and for each contingency-type project. The purposes of conceptual design are to develop a project scope that will satisfy program needs, to insure project feasibility and attainable performance levels and to develop reliable cost estimates and reliable schedules. As of October 31, 1975, ERDA estimated it spent about $5.3 million since fiscal year 1973 on conceptual design work for the Government add-on plant. Additional expenditures of $2.3 million are needed to complete conceptual design work in fiscal year 1976.

DESIGN

According to ERDA, design work for the add-on plant should begin on January 1, 1976, but no later than March 31, 1976. If design work begins after March 31, 1976, ERDA says the 1983 initial production schedule would slip. ERDA says it will need $6 million in fiscal year 1976 for construction planning and design to permit design work for the add-on plant to start on schedule. The source of these funds is not yet certain: possible sources include reprograming from other ERDA programs and supplemental funding requests.

ADVANCE PROCUREMENT

ERDA officials said that advanced procurement for the add-on plant should start during July to September 1976 and continue through fiscal year 1977 to meet the 1983 initial production date. This procurement would be for construction buildings and long leadtime equipment. ERDA says authorization of the funding of $34 million needed in the transition quarter would be presented in a fiscal year 1976 ERDA supplemental request.

POWER

To insure that electrical power is available for the add-on plant, proposals to supply power should be received by April 1976 and contract negotiations must start in June 1976. Steps to be taken before power contracts can be executed are included in ERDA's contingency plan schedule. (See enclosure I.) According to ERDA officials, power schedule slippages would cause the 1983 production date to slip.

CONSTRUCTION

ERDA says that selecting a construction contractor is required by November 1, 1976, so that the contractor could participate in planning and procurement of construction facilities and equipment to permit construction to start in the spring of 1977. To meet these schedule requirements, a request for proposals should be issued no later than May 1976.

MANAGEMENT

ERDA is preparing a management plan under the conceptual design funding. This plan encompasses setting project objectives, breaking down estimates, setting up organizational lines of authority, etc. During the latter part of fiscal year 1976, ERDA contemplates a general buildup in staffing of architect-engineers, operating contractors, and consultants and will select the ERDA Area Manager or Deputy. According to ERDA officials, additional staff positions would be needed to permit a phased buildup. ERDA officials told us that, when the management plan is completed, they will begin related functions such as (1) setting up and staffing the ERDA management organization for the project and (2) developing a community action plan which includes coordination with local labor, business, and Government.

PROCESS DEVELOPMENT
AND PLANT TEST

Equipment for an add-on plant would not be constrained by the existing plant layout; therefore, more efficient equipment design and layout would be possible. Gaseous diffusion equipment, such as converters and compressors, in the add-on plant would be larger and somewhat different in design, and newer control systems would take advantage of the latest developments in this area. Achieving these goals requires some additional development and plant test work. ERDA's fiscal year 1976 budget amendment includes $2.5 million and $1.1 million in the transition quarter for this

work. ERDA says an additional $4.4 million would be needed in fiscal year 1977 to meet scheduled needs.

A facility would be necessary for testing longer, more efficient compressors that could be used in the add-on plant. This plant, according to ERDA, would be a separate line item in the budget and would require funding of $21 million in fiscal year 1977.

COSTS AND OBLIGATIONS

ERDA's schedule for costs and obligations for the add-on plant follows.

Cost and Obligation Schedule
(in fiscal year 1976 dollars)

Fiscal year	Obligations (000,000 omitted)	Costs (000,000 omitted)
1976	$ 6	$ 4
Transition	34	5
1977	180	75
1978	385	200
1979	350	250
1980	350	300
1981	455	400
1982	360	450
1983	270	475
1984		200
1985		31
Total	$2,390	$2,390

Sincerely yours,

Comptroller General
of the United States

Enclosure

ENCLOSURE I

ENCLOSURE I

CONTINGENCY PLAN
SCHEDULE INFORMATION

	Schedule	Action	Status
Conceptual design	7/75	First schedule and cost estimate	First two actions occurred when scheduled and the remainder of the schedule appears attainable.
	8/75	Complete estimate on half-size plant	
	1/76	Final draft--Environmental Impact Statement	
	4/76	Design criteria	
	7/76	Final report--Environmental Impact Statement	
Design	7/75	Prepare request for proposal	Proposals for architect-engineer have not been issued. Consequently, the preliminary design start will slip to at least April 1, 1976. ERDA says schedule can slip 3 months without impact.
	8/75	Solicit proposals	
	12/75	Select architect-engineer and award contract	
	1/76	Start early preliminary design	
	3/76	Obtain security clearances	
	7/76	Start design	
Construction contractor	1/76	Prepare request for proposal	Schedule appears to be attainable.
	2/76	Issue request for proposals	
	11/76	Award contract	
Power	10/75	Start proposal preparation	Preparation of the proposal started on schedule.
	1/76	Receive authority to negotiate	
	1/76	Request proposals	
	4/76	Submit proposals	
	6/76	Start negotiations	

ENCLOSURE I

	Schedule	Action	Status
Power (cont'd.)	8/76	Obtain letter of agreement	
	9/76	Obtain siting approval	
	10/76	Prepare National Environmental Policy Act Statement	
	11/76	Obtain Securities and Exchange Commission approval	
	12/76	Government guaranteed loan	
	1/77	Signing of the power contract	
	1/77	Preliminary discussions with the Internal Revenue Service	
	1/83	Initial power	
Advanced procurement	7/76	Start procurement	Appears attainable if funding is authorized.
Management	5/75	Start Management Plan	Preliminary planning has begun but a management plan has not been completed.
	10/75	Increase staff	
	11/75	Complete Management Plan	
Compressor test facility	10/75	Start bid preparation	Bid preparation begun but it appears schedule will slip. Schedule can slip 3 months without impact.
	1/76	Request bids	
	11/76	Award contract	