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*REPORT TO THE JOINT COMMITTEE
ON ATOMIC ENERGY
CONGRESS OF THE UNITED STATES*

Proposed Changes To The
Atomic Energy Commission's
Arrangement For Carrying Out The
Liquid Metal Fast Breeder Reactor
Demonstration Project B-164105

*BY THE COMPTROLLER GENERAL
OF THE UNITED STATES*

088962

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3 items

PROPOSED CHANGES TO THE ATOMIC ENERGY
COMMISSION'S ARRANGEMENT FOR CARRYING
OUT THE LIQUID METAL FAST BREEDER
REACTOR DEMONSTRATION PROJECT

B-164105
2/27/73

Report to the Chairman
RESTRICTED
~~At the request of the~~

pursuant to his request that

Joint Committee on Atomic Energy we reviewed certain aspects of the Atomic Energy Commission's (AEC's) cooperative arrangement for designing, constructing, and operating the liquid metal fast breeder reactor demonstration project

On August 11, 1972, AEC submitted to the Joint Committee a Memorandum of Understanding describing the basis for a cooperative arrangement among AEC, the Tennessee Valley Authority (TVA), the Commonwealth Edison Company, the Project Management Corporation (PMC), and the Breeder Reactor Corporation for carrying out the demonstration project. On January 26, 1973, AEC submitted certain documents to the Joint Committee describing changes to this proposed arrangement. Our review was limited to an analysis of the proposed changes to the arrangement and certain other aspects which we believed would be of interest to the Joint Committee

~~We reported among other things that:~~

- ~~1 Because the parties to the arrangement had agreed to consolidate the seven contracts called for in the original memorandum into two contracts, it appeared that AEC may not have any directly enforceable legal rights against one of the parties.~~

~~2. Until AEC obtains legislative authority to be represented~~

on the PMC Board of Directors, the proposed contract allowed the parties to refer matters of disagreement to the heads of AEC, TVA, and Commonwealth for unanimous resolution. However, the contract did not provide for retention of the referral mechanism after AEC obtains membership on the board

3 The proposed contract contained no mechanism for resolving disagreements among the heads of AEC, TVA, and Commonwealth on matters referred to them for unanimous resolution

4. The revised arrangement expanded AEC's liability for indemnifying the other parties from that contained in the original memorandum.

5 AEC would incur costs for program direction and administration activities related to the demonstration project and such costs would not be charged to the project

6. The proposed contract permitted the use of AEC-provided funds to pay interest on project loans, even though interest is normally an unallowable Government cost.

7. AEC responsibilities for the nuclear steam supply system of the plant were subject to approval by the Project Management Corporation. In addition, the contract authorized the PMC to modify standards compiled by AEC and other organizations

8 The allowable cost principles in the proposed contract were only applicable to the use of funds initially provided by AEC and not to the funds provided by the utilities or to any funds AEC might provide in the future

Our report did not contain any specific recommendations. We expressed concern, however, over several provisions contained in the proposed contract.

INDEX

CONTRACTING

~~Analysis~~ → proposed changes to the cooperative arrangement for constructing a demonstration fast breeder reactor.

Possible weaknesses in



COMPTROLLER GENERAL OF THE UNITED STATES

WASHINGTON D C 20548

B-164105

The Honorable Melvin Price, Chairman
Joint Committee on Atomic Energy
Congress of the United States

Dear Mr. Chairman

This report is in response to your letter of January 30, 1973, asking the General Accounting Office to examine certain aspects of the Atomic Energy Commission's (AEC's) cooperative arrangement for designing, constructing, and operating the liquid metal fast breeder reactor demonstration project authorized by Public Law 91-273, as amended by Public Law 92-84

You pointed out that (1) on August 11, 1972, AEC submitted to the Joint Committee a Memorandum of Understanding describing the proposed arrangement for carrying out this project, (2) the Joint Committee held extensive hearings on this arrangement on September 7, 8, and 12, 1972, and (3) on January 26, 1973, AEC submitted certain documents to the Joint Committee describing changes to this proposed arrangement.

As discussed with your office, we did not make an exhaustive examination of the proposed cooperative arrangement because of time limitations. As agreed with your office, we limited our review to an analysis of the proposed changes to the arrangement which AEC submitted to the Joint Committee on January 26, 1973, and certain other aspects which we believed would be of interest to the Joint Committee.

We made our review at AEC Headquarters, Germantown, Maryland. We examined documents describing the cooperative arrangement and held discussions with AEC representatives knowledgeable of, and responsible for, negotiating the cooperative arrangement.

The amendment to the Memorandum of Understanding proposed changes to the original memorandum and provided for implementing certain sections of the memorandum. The proposed changes concerned

--The number of contracts among the parties participating in the cooperative arrangement. AEC, the Breeder

Reactor Corporation (BRC), the Project Management Corporation (PMC), the Tennessee Valley Authority (TVA), and the Commonwealth Edison Company (See p 10) PMC was created to administer the contracts for the design, construction, and operation of the breeder reactor demonstration plant BRC was created to collect contributions from various electric utilities and to remit the collected funds to PMC to carry out the project

- The management structure and responsibilities of the parties carrying out the project, including assignment of AEC employees to serve on the PMC staff (See p 11.)
- The prerequisites for the start of project construction (See p 17)
- The responsibility for technical supervision of the nuclear steam supply system (See p 20)
- AEC's responsibility for indemnification of PMC, TVA, and Commonwealth. (See p 21)
- Arbitration procedures if the parties disagree as to whether project termination criteria have been met. (See p. 22.)

The details of our analysis are in the appendix. The highlights of certain aspects of the proposed changes which may particularly interest the Joint Committee are discussed below.

CONSOLIDATION OF CONTRACTS

As part of the proposed changes, the parties agreed to consolidate the seven contracts called for in the original memorandum into two contracts one among AEC, PMC, TVA, and Commonwealth and one between PMC and BRC. One of the contracts eliminated was a contract between AEC and BRC. Under the original memorandum, AEC would have had direct legal

recourse against BRC if BRC breached its contract with AEC. We understand AEC's position to be that, under the proposed contractual arrangement, its legal rights would have to be exercised under its proposed contract with PMC, TVA, and Commonwealth. Under this arrangement, therefore, it appears that AEC may not have any directly enforceable legal rights against BRC. (See p. 10.)

MANAGEMENT STRUCTURE

The proposed contract among AEC, PMC, TVA, and Commonwealth provides that disagreements on significant matters among the members of PMC's Board of Directors be referred to the heads of AEC, TVA, and Commonwealth for their unanimous resolution. The proposed contract does not, however, indicate how disagreements among the heads of these organizations would be settled. AEC officials told us that, if the heads could not unanimously agree on such matters, the project could possibly be terminated pursuant to the termination criteria in the proposed contract. (See p. 12.)

One section of the proposed contract provides that PMC or its project steering committee can not take any action on a matter referred to the heads of AEC, TVA, and Commonwealth until they have resolved the matter. Another section, however, permits PMC to continue to act, or to refrain from acting, on a matter referred to and being decided by the heads, if PMC otherwise could be in breach of the proposed contract. In view of the apparent conflict between these sections, the contract should be clarified to indicate whether, and under what conditions, PMC may proceed on matters which are pending resolution by the heads.

Without such clarification, an instance could arise whereby PMC could continue work on a project matter which the heads subsequently decided not to approve. Under such circumstances, costs incurred for this work could contribute to a project cost overrun which otherwise may have been avoidable. (See p. 13.)

INDEMNITY PROVISIONS

The original memorandum required AEC to seek the legislative authority to indemnify PMC, TVA, and Commonwealth and, upon obtaining such authority, to execute and deliver written agreements providing for indemnifying each party. Under the indemnification agreement of the proposed contract, AEC holds PMC, TVA, and Commonwealth and their officers and directors harmless against any and all claims, expenses, and liabilities arising from the project to the extent they are not satisfied by project funds or insurance. This expands the original language in the memorandum which provided only for indemnification against claims and liabilities and expenses related to those claims and liabilities (See p. 21.)

ADDITIONAL AEC CONTRIBUTIONS

In addition to AEC's contribution and assistance totaling about \$422 million called for in the original memorandum and the proposed changes thereto, AEC will incur costs for program direction and administration activities relating to the demonstration project. AEC has not, however, prepared an estimate of such costs. AEC officials told us that, consistent with the treatment of all previous cooperative power demonstration projects, the costs of its program direction and administration activities at AEC Headquarters and at the project site would not be charged to the breeder reactor demonstration project. (See p. 24.)

Also, under the terms of the proposed contract, AEC is to seek legislative authorization to provide five of its employees to serve on the PMC staff while remaining on AEC's payroll. These costs represent an additional AEC contribution to the project which AEC estimates could range from \$125,000 to \$175,000 annually over the expected 10-year life of the project. (See p. 15.)

PROPOSED USE OF AEC FUNDS FOR INTEREST
EXPENSE ON PROJECT LOANS

Under the terms of both the original memorandum and the proposed contract, PMC is permitted to use the utility

contribution agreements as collateral for project loans. Although the original memorandum did not provide for the payment of interest on these loans, the proposed contract among AEC, PMC, TVA, and Commonwealth specifically permits the use of AEC-provided funds to pay the interest on these loans. In addition, the proposed contract permits the use of AEC funds to pay any other interest cost the steering committee may specifically allow. AEC officials told us also that a proposed amendment has been drawn up, stating that interest cost is not an allowable cost against AEC-provided funds. (See p. 24.)

INDEPENDENCE OF LICENSING REVIEW

The proposed contract provides that AEC assist, as appropriate, PMC and TVA in applying for all permits and licenses necessary for constructing and operating the breeder reactor plant. Such assistance will, among other things, make AEC personnel available for consultation and statements and/or appearance before hearing or review bodies, such as the Atomic Safety and Licensing Board. The proposed contract, however, does not distinguish between personnel involved in AEC's regulatory activities and personnel involved in AEC's promotional activities. If this provision is applied to proceedings for an AEC construction permit and operating license, AEC's regulatory personnel could possibly review the application during the licensing process and defend it before a hearing or review body. It appears that such assistance might be inconsistent with AEC's responsibility to independently review license applications to insure the health and safety of the public. (See p. 25.)

ALLOWABLE COST PRINCIPLES

The proposed contract among AEC, PMC, TVA, and Commonwealth specifies the cost principles to be used for funds initially provided by AEC. Funds provided by BRC from utility contributions do not appear to be subject to these principles. The contract is silent on what cost principles will apply to any subsequent funds AEC may provide to the project. Unless all funds are subject to the specified cost principles, the

net effect will be to make them inapplicable to the project as a whole. To the extent that additional funds are required to complete the project, AEC might, in effect, assume costs incurred by PMC that were considered unallowable under the proposed contract.

We believe consideration should be given to the desirability of adopting AEC's cost principles and making them applicable to all funds received and expended for the project (See p. 26.)

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We have discussed the report with AEC representatives, and have considered AEC's comments in finalizing the report. As agreed with your office, we have not obtained comments from PMC, TVA, Commonwealth, and BRC.

We are sending a copy of this report today to the Vice Chairman of your Committee. As agreed with your office, we are sending copies to the Chairman, Atomic Energy Commission. We do not plan to distribute this report further unless you agree or publicly announce its contents.

Sincerely yours,



Comptroller General
of the United States

ANALYSIS OF PROPOSED CHANGES TO THE
ATOMIC ENERGY COMMISSION'S COOPERATIVE ARRANGEMENT
FOR CARRYING OUT THE
LIQUID METAL FAST BREEDER REACTOR
DEMONSTRATION PROJECT

BACKGROUND

The Atomic Energy Commission (AEC) plans to enter into a cooperative agreement with certain electric utilities and other organizations for the design, construction, and operation of the Nation's first liquid metal fast breeder reactor demonstration plant. On June 4, 1971, the President announced the adoption of a national energy policy which included a goal for the commercial demonstration of a breeder reactor concept and stated that

Our best hope today for meeting the Nation's growing demand for economical clean energy lies with the fast breeder reactor. Because of its highly efficient use of nuclear fuel, the breeder reactor could extend the life of our natural uranium fuel supply from decades to centuries, with far less impact on the environment than the power plants which are operating today.

Section 106(b) of Public Law 91-273, as amended, provides that, before AEC enters into any arrangement or amendment thereto for participating in the research and development, design, construction, and operation of a liquid metal fast breeder reactor demonstration plant, AEC must submit the basis for such an arrangement to the Joint Committee on Atomic Energy. The law further provides that the basis for such an arrangement must lie before the Joint Committee for 45 days while the Congress is in session unless the Joint Committee waives the period.

On August 11, 1972, AEC submitted to the Joint Committee a Memorandum of Understanding describing the basis for a cooperative arrangement among AEC, the Tennessee Valley Authority (TVA), the Commonwealth Edison Company, the Project

APPENDIX

Management Corporation (PMC), and the Breeder Reactor Corporation (BRC) PMC was created in March 1972 to administer the contracts for the design, construction, and operation of the plant BRC was created at the same time to collect contributions from various electric utilities and to remit the collected funds to PMC to carry out the project

The memorandum set forth the principal features of a cooperative arrangement and the conditions under which a breeder reactor demonstration power plant would be designed, developed, constructed, tested, and operated on an electric utility system The parties to the proposed cooperative arrangement intended the memorandum to be a basis for negotiating contracts among the parties The Joint Committee held hearings on the proposed arrangement on September 7, 8, and 12, 1972, and concluded that the basis for the arrangement was in accordance with the law.

The memorandum showed that the demonstration plant was to cost an estimated \$699 million Under the memorandum, AEC will contribute about \$92 million in direct assistance and will provide assistance estimated at about \$330 million in research and development, services, facilities, equipment, and special nuclear materials The utility companies are expected to contribute about \$254 million and reactor manufacturers are expected to contribute about \$20 to \$40 million. In addition, TVA will make available some of its land on the Clinch River, near Oak Ridge, Tennessee, available for constructing and operating the plant and for the necessary transmission links to the plant switchyard

According to AEC the utilities, as of January 31, 1973, had made legally enforceable pledges to the project totaling about \$237 million

On January 26, 1973, AEC submitted to the Joint Committee an amendment to the memorandum and two proposed contracts, one between PMC and BRC and the other among AEC, PMC, TVA, and Commonwealth. The amendment to the memorandum concerned.

--The number of contracts among the parties

--The management structure and responsibilities of the parties carrying out the project, including assignment of AEC employees to serve on the PMC staff

- The prerequisites for the start of construction
- The responsibility for technical supervision of the nuclear steam supply system.
- AEC's responsibility for indemnification of PMC, TVA, and Commonwealth.
- Arbitration procedures if the parties disagree as to whether termination criteria have been met.

As part of the proposed cooperative arrangement submitted to the Committee on January 26, 1973, AEC will seek legislative authorization to (1) permit two AEC officials or employees to serve on the PMC Board of Directors and to permit up to five AEC employees to serve on the PMC staff, (2) provide for arbitration if the parties disagree as to whether project termination criteria have been met, (3) permit AEC to indemnify PMC, TVA, and Commonwealth, and (4) assume custody and ownership of the facility if TVA decides not to purchase the plant at the end of the term or upon earlier termination and assume the costs of decommissioning, removing, and dismantling and other plant disposal measures. If at any time it appears that additional resources will be required to effectively continue the project, AEC will seek the necessary legislative authorization and funds

The following sections present our analysis and views on the amendment to the memorandum and other matters relating to the proposed cooperative arrangement which may be of interest to the Joint Committee

CONSOLIDATION OF CONTRACTS

The original memorandum called for PMC and BRC to enter into a contract setting forth the terms and conditions under which the electric utilities' contributions to the project would be collected by BRC and remitted to PMC. It also called for AEC to enter into separate contracts with PMC, TVA, Commonwealth, and BRC for carrying out the design, construction, and operation of the demonstration plant

Subsequently, the parties decided to consolidate the contracts into only two contracts one contract among AEC, PMC, TVA, and Commonwealth and the other between PMC and BRC. According to AEC officials, this consolidation was made for ease in administering the contracts. When the two proposed contracts are concurrently executed, each party will have the direct contractual obligation called for by the original memorandum, except that there will not be any direct contractual obligation between AEC and BRC.

The original memorandum provided that AEC and BRC would enter into a contract whereby BRC would

1. Carry out its undertakings with PMC.
2. Give AEC reasonable notice of its board of directors' meetings and the opportunity to attend them as an observer and otherwise keep AEC generally informed of its activities.
3. Afford AEC reasonable opportunities to consult with BRC

The proposed contract between BRC and PMC has the same provisions except for item 1 above. Under the original memorandum, AEC would have had direct legal recourse against BRC if BRC breached its contract with AEC. We understand AEC's position to be that, under the proposed contractual arrangement, its legal rights would have to be exercised under its proposed contract with PMC, TVA, and Commonwealth. Under this arrangement, therefore, it appears that AEC may not have any directly enforceable legal rights against BRC

MANAGEMENT STRUCTURE
AND RESPONSIBILITIES

Under the original memorandum, the PMC Board of Directors was to consist of five members two representing TVA, two representing Commonwealth, and one representing BRC. The memorandum provided also that PMC would establish a project steering committee composed of one PMC board director representing TVA, one PMC board director representing Commonwealth, and one AEC representative. The steering committee was to provide general policy guidance for the project

The original memorandum provided that PMC would comply with requests from AEC, TVA, or Commonwealth to consult, review project activities, or approve project plans or actions. It also provided that, if any party objected to or questioned the need for any particular approval request, the matter could be referred to the head of the party requesting approval (AEC, TVA, or Commonwealth) for concurrence or rejection. The original memorandum did not indicate how disagreements among the parties would be resolved

In the amendment to the memorandum and in the proposed contract among AEC, PMC, TVA and Commonwealth, the provision of the original memorandum which gave AEC, TVA, and Commonwealth approval rights was deleted. The parties agreed that, in its place (1) PMC would manage the project and establish general policies for the project, (2) AEC would seek legislative authorization to permit two of its officials to serve on the PMC board and up to five of its employees to serve on the PMC staff, and (3) the project steering committee would be empowered to manage the project until AEC had membership on the PMC board (interim arrangement)

AEC officials provided us with the following statement as to why AEC agreed to seek membership on the PMC board

The heads of AEC, TVA, and Commonwealth, after observing initial project operations and discussing various management arrangements, determined that the arrangements contemplated by the Memorandum of Understanding would require too much involvement of the principal parties. The heads decided that PMC's authority to manage the project should be enhanced. The heads of

TVA and Commonwealth believe that this could best be accomplished through AEC membership on the PMC board which is the normal corporate source of management authority. After considerable discussion, AEC's management agreed that the project could be carried out more effectively under this type of arrangement, and agreed to seek the necessary legislative authority to permit such arrangement.

Management structure under interim arrangement

The proposed contract provides for the following interim management structure until AEC obtains legislation to have two of its representatives on the PMC board. The PMC board will establish general policies for the project. The steering committee, made up of three members representing AEC, TVA, and Commonwealth will implement management of the project subject to the general policies established by the PMC board. Each steering committee member will have the right to bring "any matter" he considered significant before the steering committee for consideration. The proposed contract does not specifically state whether the steering committee members (AEC's only representation under the interim management structure) can question the general policies established by the PMC board. Therefore, we believe there is a need to clarify whether the term "any matter" includes the general policies established by the board.

In commenting on this matter, AEC officials told us that it was their intent and interpretation of the contract that the individual members of the steering committee could question the general policies established by the board. We believe, therefore, that AEC should take steps to insure that the other parties to the contract have the same understanding.

Under the terms of the proposed contract, a majority decision of the steering committee would be final unless a steering committee or PMC board member referred the matter to the PMC board. A majority decision of the PMC board would be final unless the AEC member of the steering committee or any PMC board member referred the matter to the heads of AEC, TVA, and Commonwealth for unanimous resolution. the proposed contract, however, does not indicate how

disagreements among the heads of AEC, TVA, and Commonwealth would be settled. AEC officials told us that if the heads could not resolve the disagreement, the project could possibly be terminated pursuant to the termination criteria in the proposed contract

AEC officials stated that the parties believed that disagreements among the heads were highly unlikely because the heads were dedicated to seeing that the project proceeded effectively and efficiently to a successful conclusion. Therefore, according to AEC, a provision for resolving possible disagreements was not included in the contract

One section of the proposed contract (2 3 5) provides that the PMC board or steering committee not take any action on a matter referred to the heads of AEC, TVA and Commonwealth until they have resolved the matter. Another section (2.10), however, exempts from the referral procedure (1) notices about the sufficiency of project resources and (2) any matter pertaining to indemnification. It also permits PMC to continue to act, or to refrain from acting, on a matter referred to and being decided by the heads, if PMC otherwise could be in breach of the proposed contract. In view of the apparent conflict between sections 2 3 5 and 2 10, we consider it important that the contract be clarified to indicate whether, and under what conditions, PMC may proceed on matters which are pending resolution by the heads.

Without such clarification, an instance could arise whereby PMC could continue work on a project matter which the heads subsequently decided not to approve. Under such circumstances costs incurred for this work could contribute to a project cost overrun which otherwise may have been avoidable.

In commenting on this matter, AEC officials said that it was AEC's intent that section 2.10 would take precedence over section 2 3 5. We believe, therefore, that AEC should take steps to insure that the other parties to the contract have the same understanding

APPENDIX

Management structure with AEC representation on PMC board

Under the management structure whereby AFC, after obtaining legislative authorization, would have membership on the PMC board, the proposed contract provides that PMC would have the responsibility and authority to manage the project. The steering committee would become the executive committee of the PMC board. The proposed contract does not elaborate further on the management roles of the PMC board and the executive committee. Since the PMC bylaws provide that a majority vote of the PMC board members would constitute a board decision, the two AEC board members could be overruled on any issue submitted for a board decision. Furthermore, even if the AEC board members are not satisfied with a board decision the proposed contract does not have a provision that a nonunanimous board decision could be referred to the heads of AEC, TVA, and Commonwealth

According to AEC officials responsible for negotiating the proposed contract, however, the parties did not intend a majority decision of the PMC board to be final. They explained that it was intended that any dissenting PMC board member could refer a nonunanimous PMC decision on a significant issue to the heads of AEC, TVA, and Commonwealth for unanimous resolution.

We expressed the opinion to AEC officials that the proposed contract should be changed to include the parties' intent. AEC officials agreed and stated that the proposed contract would be changed as soon as possible to provide that any decisions by the PMC board which were not unanimous could be referred by a dissenting PMC board member to the heads of AEC, TVA, and Commonwealth for unanimous resolution. As we said before if the heads do not resolve the disagreements, the project could possibly be terminated pursuant to the termination criteria in the contract.

ASSIGNMENT OF AEC PERSONNEL TO PMC

The amendment to the memorandum and the proposed contract among AEC, PMC, TVA, and Commonwealth require that AEC try to secure the legislative authority to permit up to five AEC employees to serve in any capacity on the PMC staff while remaining on AEC's payroll.

AEC officials said that, although the original memorandum did not have such a requirement, TVA officials had, during negotiation of the original memorandum, expressed an interest in having AEC expertise on the PMC staff. AEC officials explained that TVA and Commonwealth, recognizing AEC's experience in dealing with reactor manufacturers and the nuclear industry, believed that AEC representation on the PMC staff would benefit the project. They stated that, when this subject was discussed in more detail during contract negotiations, AEC recognized that the experience of its personnel could help PMC resolve day-to-day problems. Thus AEC agreed to seek legislation to assign up to five individuals to PMC.

AEC officials told us that AEC would probably assign technical personnel to PMC, possibly at the GS-14 and GS-15 levels. AEC officials told us also that AEC had not estimated the five employees' salaries because the employees had not been selected. They indicated, however, that such costs could range from \$125,000 to \$175,000 annually over the expected 10-year life of the project. They further stated that these costs represented an additional AEC contribution to the project (see p. 8) and would be included as part of the overall project cost.

In explaining this additional contribution, AEC officials pointed out that, under the project agreement, TVA and Commonwealth would each contribute (in addition to their contributions to BRC as electric utilities) \$2 million over a 10-year period to cover the salaries of their employees assigned to PMC as well as to other project activities. They stated that if these funds were spent before the project was completed, the salaries of TVA and Commonwealth employees working for PMC would then be paid from existing project resources.

APPENDIX

We believe that AIC representation on the PMC staff gives AIC a mechanism for obtaining information on day-to-day project activities and provides added expertise for accomplishing the program

PREREQUISITES FOR
THE START OF CONSTRUCTION

The original memorandum provided that three prerequisites be met before construction of the demonstration plant began

- AEC must agree in writing with PMC and TVA that, in the event of project termination, it will at its own expense take custody of and decommission or dispose of the demonstration plant, unless TVA agrees to retain the plant.
- AEC must obtain legislative authorization and provide written agreements indemnifying PMC, TVA, and Commonwealth
- AEC, PMC, TVA, and Commonwealth must agree that the available and expected resources are sufficient to complete the project successfully.

The amendment to the memorandum sets forth two more prerequisites for the start of construction. One requires that AEC, PMC, TVA, and Commonwealth agree, in writing, that the breeder reactor plant can be built and operated in accordance with the laws on the protection of the environment

ALC officials pointed out that, under the original memorandum, PMC would have to obtain a license from AEC before constructing the plant. They said that, before AEC would issue a license, PMC would have to meet provisions and policies of laws on the protection of the environment. They stated that this prerequisite was added to emphasize the importance of the environmental issue, particularly in view of the concern expressed by environmentalists during the hearings before the Joint Committee on the proposed arrangement.

The other prerequisite was that PMC provide TVA with a PMC board resolution specifying the part of the Clinch River site on which the plant, access roads, and other related facilities will be constructed. As stated in the proposed contract among AEC, PMC, TVA, and Commonwealth, PMC must select specific parts of the land needed for the project with a view toward preserving as much of the remainder of the tract as possible for future development of additional power facilities by TVA. According to AEC officials, this

prerequisite provides formal documentation emphasizing that PMC will have exclusive possession of the land on which the plant will be constructed even though TVA holds the land in the name of the U.S. Government.

From what we were told, it appears therefore that the two additional prerequisites in the amendment to the memorandum clarify the positions of AEC and PMC on the construction and operation of the plant.

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As we mentioned before, the original memorandum provided, as a prerequisite to the start of construction, that AEC must agree in writing with PMC and TVA that, in the event of termination, it would at its own expense take custody of and decommission or dispose of the demonstration plant, unless TVA agreed to retain the plant.

Although the original memorandum did not specifically provide that AEC seek legislative authorization to assume this responsibility, the memorandum provided that

AEC will endeavor to obtain additional authorization (not necessarily limited to presently authorized authority or forms of assistance) and funds for the purpose of making additional contributions to the project including funds to cover the cost of the turbo-generator and auxiliary equipment, switchyard, and associated facilities, if it reasonably appears that the resources then available to PMC for the project are or will soon be insufficient to enable the continued effective conduct of the project.

AEC officials told us that, when the original memorandum was prepared, the above clause was intended to cover AEC's need to obtain legislative authority to agree to assume responsibility for the demonstration plant if TVA decided not to retain it under the agreed terms. In the foreword to the record of the Joint Committee's hearings on AEC's proposed arrangements for carrying out the breeder reactor project, the Committee recognized that AEC would need this legislative authorization.

Consequently, the proposed contract among AEC, PMC, TVA, and Commonwealth provides that plant construction not begin unless AEC has first obtained the legislative authorization enabling it to agree, in writing, to assume responsibility for the demonstration plant if TVA decides not to retain the plant under the agreed terms.

In our opinion, AEC's decision to seek this legislation is in accordance with the intent of the original memorandum.

RESPONSIBILITY FOR TECHNICAL SUPERVISION OF
THE NUCLEAR STEAM SUPPLY SYSTEM

The original memorandum provided that the contracts to be negotiated among the parties specify those project activities in which AEC would participate. The amendment to the memorandum and the proposed contract among AEC, PMC, TVA, and Commonwealth stated that AEC would provide the technical supervision over the reactor manufacturer and the architect-engineer on all matters pertaining to the nuclear steam supply system. This system includes the nuclear reactor, the steam generation system, and any other equipment and structures for providing steam for the steam turbine.

AEC officials told us that, although the original memorandum did not specify that AEC be assigned as technical supervisor for the nuclear steam supply system, such an assignment had always been contemplated in view of AEC's expertise and experience in the reactor technology field. They pointed out that this assignment was a logical extension of the cooperative agreement which set out as one of the project objectives the maximum use of technology developed or being developed in AEC's programs.

According to the proposed contract among AEC, PMC, TVA, and Commonwealth, AEC's technical supervision would generally involve the review and approval of (1) the reactor manufacturer's and architect-engineer's design work for the nuclear steam supply system to insure compliance with PMC's plant design specifications, (2) the technical adequacy of component design, fabrication techniques, and quality assurance plans and procedures, (3) the reactor manufacturer's and the architect-engineer's compliance with PMC's overall schedules and budgets, (4) technical aspects of subcontract procurement actions, and (5) technical aspects of installation and construction of the nuclear steam supply system.

Under the proposed contract PMC (1) has the authority to modify standards compiled by AEC's Division of Reactor Development and Technology and other standards and (2) has approval rights over any significant matters relating to the nuclear steam supply system. It appears possible, therefore, that PMC could disapprove significant matters relating to the nuclear steam supply system which AEC has approved. In such an event it appears that AEC's recourse would be to

refer the matter--if AEC felt it was significant--to the steering committee, the PMC board, and finally to the heads of AEC, TVA, and Commonwealth for resolution

The proposed contract states that PMC and AEC intend to develop administrative understandings and procedures further defining their relationship and responsibilities to insure that project business will be conducted efficiently. AEC officials told us that PMC and AEC have such understandings and procedures under consideration but that details had not been developed.

INDEMNITY PROVISIONS

The original memorandum required AEC to seek legislative authority to indemnify PMC, TVA, and Commonwealth and, after obtaining such authority, to provide written agreements indemnifying each party. Under the terms of the indemnification agreement in the proposed contract (section 9.0), AEC holds PMC, Commonwealth, and TVA and their officers and directors harmless against any and all claims, expenses, and liabilities arising from the project, to the extent they are not satisfied by project funds or insurance. This expands the original language in the memorandum, which provided only for indemnification against claims and liabilities and expenses related to those claims and liabilities.

The revised language provides indemnification for all expenses, whether or not they are related to claims and liabilities. However, AEC is not liable for a claim or expense which arises out of a material breach by PMC, TVA, or Commonwealth, due to willful misconduct or bad faith of their officers or directors, in their duties to use their best efforts to carry out their undertakings under the project, including the obligation not to spend funds or intentionally incur contractual commitments exceeding the limitation in the agreements. The clear inference is that, in the absence of willful misconduct or bad faith on the part of an officer or director, AEC is liable for expenditures or commitments of PMC, TVA, or Commonwealth which exceed the limitations in the agreements. This provision could extend AEC's liability to a considerable extent and leave it without any opportunity to exercise before-the-fact control.

APPENDIX

The proposed contract also provides the terms of the indemnity agreements, which are to be executed by AEC, and requires that, at the time the agreements are delivered to the parties, AEC's General Counsel also deliver an opinion that each agreement is authorized, properly executed, enforceable, and not inconsistent with any provision of law. In addition, AEC must try to obtain such an opinion from the Attorney General or the Comptroller General of the United States. AEC officials told us that the utilities asked for these additional opinions to insure that, at the time construction started, their financial commitments would be limited to the amount of their contributions.

ARBITRATION PROCEDURES

The original memorandum provided that, if the parties disagreed as to whether one or more of the termination criteria listed in the memorandum have been met, the disagreement would be submitted to binding arbitration. The original memorandum did not specify who would arbitrate the disagreement

The proposed contract among AEC, PMC, TVA, and Commonwealth provides that AEC seek legislative authority, or confirm its existing authority, to provide that, if the parties disagree as to whether termination criteria have been met, the issue shall be submitted to the American Arbitration Association or some other appropriate forum for expedited and binding arbitration.

AEC officials told us that, at the time the original memorandum was prepared, it was assumed that AEC had the authority to submit to arbitration. They said that AEC later became aware of a Comptroller General's Decision dated July 17, 1972, which reiterated an earlier Comptroller General's Decision (32 Comp. Gen. 333) stating that, without specific statutory authority, the rights of the United States or claims against the United States may not be determined by arbitration. The officials stated that, pursuant to this decision, AEC does not have the statutory authority to arbitrate under the proposed contract and must therefore seek such authority.

Until the necessary legislative authority is obtained and the contract is appropriately amended to provide for arbitration or if such legislative authority is denied, the proposed contract among AEC, PMC, TVA, and Commonwealth provides that agreement of at least three of the five parties involved in the project (AEC, PMC, BRC, TVA, and Commonwealth) will be required to establish that project termination criteria have been met

APPENDIX

OTHER MATTERS

The following section of this report sets forth a number of other matters which may be of interest to the Joint Committee in its hearings on the breeder reactor cooperative arrangement.

Additional AEC contribution

Under the terms of the memorandum and the proposed changes, AEC is to contribute about \$92 million in direct assistance and is to provide assistance estimated at about \$330 million in research and development, services, facilities, equipment, and special nuclear materials. AEC officials told us that, consistent with the treatment of all previous cooperative power demonstration projects, the costs of its program direction and administration activities at AEC Headquarters and at the site would not be charged to the breeder reactor demonstration project. They stated that its present accounting system does not identify and allocate the cost of program direction and administration activities to such projects, therefore AEC had not estimated these costs.

Proposed use of AEC funds for interest expense on project loans

Under the terms of both the original memorandum and the proposed contract, PMC is permitted to use the utility contribution agreements as collateral for project loans. Although the original memorandum does not provide for the payment of interest on these loans, the proposed contract among AEC, PMC, TVA, and Commonwealth specifically permits the use of AEC-provided funds to pay the interest on these loans. In addition, the proposed contract permits the use of AEC funds to pay any other interest cost the steering committee may specifically allow.

We talked with AEC officials about the reason for the new provision permitting the use of AEC funds to pay interest on project loans. They told us that it was not intended that AEC funds be used to pay any interest. In commenting on this report, they said that a proposed amendment has been drawn up stating that interest cost is not an allowable cost against AEC provided funds. According to AEC, the other parties to the contract have informally agreed to make this change.

Special nuclear material

Under the original memorandum and the proposed contract among AEC, PMC, TVA, and Commonwealth, AEC will provide but retain ownership of all source and special nuclear material required for the demonstration plant during the project term. The original memorandum provided that AEC pay for the nuclear material and the costs of consumption and reprocessing of the material. The proposed contract has essentially the same provision but also states that AEC must absorb the cost of any "losses of nuclear material." AEC officials told us that the cost for such losses, although not specifically mentioned in the original memorandum, was always contemplated as part of AEC's responsibility for the costs of consumption and reprocessing of the material. They emphasized that the majority of nuclear material losses occurred during fabrication and reprocessing.

Independence of licensing review

The proposed contract provides that AEC assist, as appropriate, PMC and TVA in applying for all permits and licenses necessary for constructing and operating the breeder reactor plant. Such assistance is to include "access to documents necessary in any proceedings relating to such applications and making available personnel for consultation and statements and/or appearances before hearing or review bodies." This provision makes no distinction between personnel involved in AEC's regulatory activities and personnel involved in AEC's promotional activities. If this provision is applied to proceedings for an AEC construction permit and operating license, AEC regulatory personnel could possibly review the application during the licensing process and defend it before a hearing or review body, such as the Atomic Safety and Licensing Board. It appears that such assistance might be inconsistent with AEC's responsibility to independently review license applications to insure the health and safety of the public. AEC officials told us that under no circumstances would AEC consider it appropriate to use regulatory organization personnel in providing such assistance.

Income tax aspects

The proposed contract between PMC and BRC provides that BRC not pay PMC any funds collected from the utilities unless

APPENDIX

and until the Internal Revenue Service has issued a ruling which (1) exempts PMC from Federal income taxes under section 501(c) of the Internal Revenue Code and (2) states that PMC's receipt of BRC funds will not constitute gross income to PMC for Federal income tax purposes. AEC officials told us that the Internal Revenue Service had been asked to declare both PMC and BRC tax-exempt corporations but that it had not yet made such a ruling.

In addition, the payment of electric utility contributions to BRC is subject to a similar condition which states that, before being paid, BRC must certify to each utility (except tax-exempt utilities) that the Internal Revenue Service has issued a ruling which makes a utility's payments to BRC deductible for Federal income tax purposes. AEC officials told us that, in February 1973, the Internal Revenue Service had notified AEC that this ruling was issued

Allowable cost principles

The proposed contract among AEC, PMC, TVA and Commonwealth (section 7.3) makes the allowable cost principles in appendix C applicable to use of funds initially provided by AEC. Funds provided by BRC from utility contributions appear not to be subject to these principles. The contract is silent on what cost principles will apply to any subsequent funds AEC may provide to the project. Unless all funds are subject to the cost principles, the net effect will be to make them inapplicable to the project as a whole. To the extent that additional AEC funds are required to complete the project, AEC might, in effect, assume costs incurred by PMC that were considered unallowable under appendix C of the proposed contract.

We believe consideration should be given to the desirability of adopting AEC's cost principles and making them applicable to all funds received or expended for the project.