



UNITED STATES GENERAL ACCOUNTING OFFICE  
WASHINGTON, D.C. 20548

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ENERGY AND MINERALS  
DIVISION

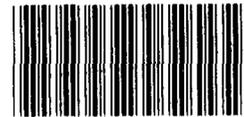
March 17, 1982

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B-164105

The Honorable John D. Dingell  
Chairman, Subcommittee on  
Oversight and Investigations  
Committee on Energy and Commerce  
House of Representatives

RELEASED



117874

Dear Mr. Chairman:

Subject: The Department of Energy Did Not Provide <sup>Doc</sup> the Subcommittee With All Documents Related to the Contract for the Clinch River Breeder Reactor's Steam Generator (EMD-82-56)

In mid-1981, your Subcommittee staff investigated several aspects of the Department of Energy's (DOE's) award of a contract to develop and manufacture the Clinch River Breeder Reactor's (CRBR's) steam generators. A hearing was held on July 20, 1981, on the results of the staff's work. In reporting on its study, your staff noted that it had been hampered by DOE's failure to supply all documents related to this procurement.

In September 1981, you asked that we follow-up on the staff's work by reviewing several aspects of the CRBR program--including examining the process DOE used to award the steam generator contract and determining whether that contract could have been terminated for default. As part of that work, we gathered pertinent data and documents related to the steam generator contract and its award. Subsequently, in March 1982, you also asked that--based on our recently completed work--we report on our observations concerning DOE's failure to supply the Subcommittee with requested information. This letter is in response to your March 1982 request.

Although the Subcommittee requested copies of all documents related to the steam generator contract award, we found eight key documents that were not provided. Without these key documents, the Subcommittee would not have the full story concerning the award of the steam generator contract.

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This letter describes our observations as well as the objectives, scope, and methodology upon which this report is based, a brief background on DOE's procurement of the CRBR steam generators, and a description of the documents which were not provided to the Subcommittee. In addition, enclosed are copies of two of the most critical of these documents. A number of the remaining documents are quite voluminous and are not enclosed. DOE has agreed to provide these documents if the Subcommittee requests them.

#### OBJECTIVES, SCOPE, AND METHODOLOGY

Determining the degree of DOE's responsiveness to the Subcommittee's request for CRBR steam generator information was not an objective of the review of the CRBR program you requested in September 1981. During discussions with your staff on February 18, 1982, it became apparent that we had obtained information which had not been provided to your staff. The objective of this report is to discuss that information.

This report is based substantially on the work we did to determine if the steam generator contract could have been terminated for default. A report on that review is being issued concurrently. Additionally, in preparing this report, we compared the inventory of documents we had accumulated to that supplied to the Subcommittee staff. This comparison disclosed that several documents, critical to understanding the steam generator contract award, were not provided to the Subcommittee staff.

To determine DOE's rationale for not providing these documents, we interviewed the DOE official who had coordinated the efforts to respond to the Subcommittee staff's request for information about the contract award.

We performed our work in accordance with the "Standards for Audit of Governmental Organizations, Programs, Activities, and Functions." At your request, we did not solicit DOE's comments on this report.

#### BACKGROUND ON THE CRBR STEAM GENERATOR CONTRACT

In 1970 the Congress authorized the Atomic Energy Commission (AEC) to enter into cooperative arrangements with industry to build and operate the CRBR to demonstrate that a liquid metal fast breeder reactor could be licensed and operated reliably and safely on a utility electric power supply system. Early in planning for the CRBR, AEC officials acknowledged the difficulty of developing and demonstrating reliable steam generators.

AEC initially directed that the steam generator contract be awarded competitively. Atomics International--a division of Rockwell International Corporation--proposed to design and fabricate a prototype steam generator, nine plant units and a spare plant unit for \$26.5 million. This was in contrast to a \$20.4 million offer by the Foster Wheeler Energy Corporation for the same work. Subsequently, however, an Energy Research and Development Administration (ERDA) 1/ official directed that the competitive procurement be terminated and a contract be awarded to Atomics International. The ERDA official's rationale for this action was to broaden the industrial base for breeder reactor component manufacturers.

The contract called for delivery of the prototype steam generator in September 1978 and delivery of the 10 plant units between April 1979 and April 1980. In August 1981--almost 3 years after the original delivery date--the prototype unit was delivered for testing. In addition, materials were purchased and some fabrication work was begun on the plant units, although they were never completed. In November 1981, DOE directed the Westinghouse Electric Company--the prime contractor for CRBR nuclear components--to terminate the Atomics International contract for the convenience of the Government. Current estimates of total costs incurred under this contract approximate \$113 million. Our report to you (EMD-82-37) on the steam generator contract discusses the circumstances concerning this contract award in greater detail.

SUBCOMMITTEE NOT PROVIDED WITH ALL  
REQUESTED CONTRACTUAL DOCUMENTS

A comparison of the documents we obtained during our review with the documents provided to the Subcommittee in its investigation indicates that, although numerous documents were provided to the Subcommittee, a number of key documents were not.

These documents fall into three categories:

- Documents which show the original procurement strategy.
- Documents which demonstrate how and why AEC and ERDA officials changed the procurement method.
- Documents which showed internal disagreement on altering the procurement method and on the selection of Atomics International.

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1/The AEC and ERDA were predecessor agencies to DOE. AEC was abolished on January 19, 1975, and many of its functions were transferred to ERDA. ERDA's functions were transferred to DOE on October 1, 1977.

Documents describing the original procurement strategy

DOE did not provide the Subcommittee staff with five key documents which described the original steam generator procurement strategy. These documents were

- AEC's July 25, 1974, rejection of an Atomics International unsolicited proposal to build the steam generators,
- General Electric's--Westinghouse's subcontractor for supplying the CRBR steam generating system--July 17, 1974, preprocurement plan,
- the Request for Proposals, and
- the proposals submitted by Atomics International and Foster Wheeler.

These five documents are important to understanding the contract award process because they establish AEC's original intent to have the contract awarded on a competitive basis.

For example, had AEC originally intended to direct a non-competitive procurement, it had the opportunity in May 1974 when Atomics International submitted an unsolicited proposal to build the CRBR steam generators. The proposal was rejected, however, because the Director of AEC's Reactor Research and Development Division determined that the contract should be awarded competitively.

A DOE official explained that they did not provide Subcommittee staff with the document which rejected the unsolicited proposal because they considered it to be unrelated to the eventual award. This DOE official also stated that the pre-procurement plan, the request for proposals, and the submitted proposals were not provided to the Subcommittee staff because they were quite voluminous. He pointed out that another document provided to the staff referred to these documents and, if the Subcommittee desired copies, they could have specifically requested them.

Document rationalizing the directed procurement

During January 1975, while General Electric was negotiating with the bidders, AEC (and later ERDA) was considering directing cancellation of the competitive process. A key memorandum, dated January 17, 1975, explaining AEC's rationale for directing the award of the steam generator contract to Atomics International, was not provided to the Subcommittee staff. This memorandum was significant

because it documented a January 9, 1975, meeting where a major deviation from the original procurement strategy was discussed.

Specifically, the AEC memorandum described AEC officials' discussion of whether AEC should award a contract for the steam generators to Foster Wheeler--the same company which they believed would be supplying the CRBR intermediate heat exchangers and sodium check valves. AEC's policy was to involve as many vendors as possible in CRBR to broaden the base of the Nation's breeder reactor manufacturing capability. They decided to inform Foster Wheeler that (1) it was unlikely that the same company would be awarded both the intermediate heat exchanger and the steam generator contracts and (2) Foster Wheeler should consider withdrawing from the steam generator competition.

This discussion provided the basis for canceling the competition and awarding the contract to Atomics International. A DOE official told us that a copy of this memorandum was not provided to the Subcommittee staff because he could not locate the document at the time of the Subcommittee's investigation. He could not explain why it was not located until we specifically asked for it. A copy of this memorandum appears as enclosure I to this letter.

Internal documents critical  
of the directed award process

DOE's decision to cancel the competitive procurement and direct that the contract be awarded to Atomics International was not undertaken without considerable internal disagreement. ERDA's project engineer for the steam generators, Controller, and the Director of Procurement dissented. Yet, two key documents setting forth this ERDA dissension were not provided to the Subcommittee staff.

On January 29, 1975, the ERDA project engineer for the CRBR steam generator wrote a memorandum objecting to the "broadening the base" argument. He pointed out that other vendors were already responsible for producing more than one component, and Atomics International was, in fact, already a major CRBR subcontractor responsible for auxiliary and supporting systems.

A DOE official told us that the engineer's memorandum was not provided because he did not have a copy of it at that time. The engineer later discovered the document among his personal files and provided it to us.

In an August 4, 1975, memorandum, ERDA's Controller objected to the directed contract award to Atomics International. In addition to noting the substantial cost differential, the Controller stated that the proposed directed award

- is counter to the June 1974' determination by AEC's management that this contract should be open for competition,
- establishes an undesirable precedent which could lead to a "way of life" for future procurements, and
- adds additional costs to an existing project cost overrun.

The Controller's memorandum was sent from the CRBR project office in Oak Ridge, Tennessee, to DOE headquarters to be forwarded to the Subcommittee. DOE officials informed us, however, that it was withdrawn at headquarters because they thought the Controller had retracted the memorandum. The former ERDA Controller told us that he could not recall ever retracting the memorandum. A copy of that memorandum is included as enclosure II to this letter.

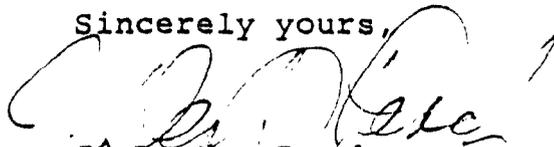
#### CONCLUSIONS

To aid in their investigation of the award of the steam generator contract, the Subcommittee requested that DOE provide them with all related documents. Not all related documents were provided, however. Documents (1) describing the initial procurement strategy, (2) delineating why and how AEC and ERDA officials altered that strategy, and (3) objecting to the altered process and subsequent directed award were not transmitted to the Subcommittee. In our view, the nature of the information contained in these documents was critical to understanding DOE's award of the steam generator contract. Without these documents, the Subcommittee would not have the full story concerning the award.

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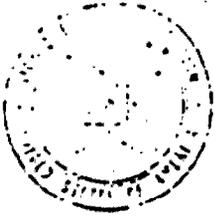
As arranged with your office, we will provide a copy of this report today to the Chairman, Subcommittee on Energy Research and Production, House Committee on Science and Technology. Also, as arranged with your Office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the date of the report. At that time, we will send copies of the report to the Director, Office of Management and Budget, the Secretary of Energy, and to other interested parties, and make copies available to others upon request.

Sincerely yours,



J. Dexter Peach  
Director

Enclosures



UNITED STATES  
ATOMIC ENERGY COMMISSION  
WASHINGTON, D.C. 20545

JAN 17 1975

Meeting Participants

CRBR HEAT TRANSFER COMPONENTS

The following is a summary of the 1/9/75 meeting between Nemzek, Ahrends, Sides, Coles, Mravca, Riley, and Reardon on the procurement of components for the Clinch River Breeder Reactor Plant.

1. DPO Task Force Recommendations on IHX and Valves
  - A. IHX: WARD continue toward negotiation of sole source, fixed price procurement of IHX from Foster-Wheeler. This course of action is justified primarily by currently approved RRD Level I Schedule for the CRBRP.
  - B. Valves: WARD terminated plans to negotiate fixed price procurement of FFTF type check valve with Foster-Wheeler because of anticipated valve performance problems and plan to issue a revised procurement proposal to four vendors including Westinghouse. Scheduler considerations permit this change in procurement logic.
2. SAN/PRD Task Force Recommendations on Steam Generators and Pumps
  - A. Steam Generators: GE be authorized to continue current negotiations with AI and Foster-Wheeler using revised E specs and conceptual design as the basis for procurement. In addition, GE should require AI to propose on the same current basis as Foster-Wheeler; CPFF with ceiling subject to subsequent cost redetermination on plant units.
  - B. Pumps: GE be authorized to proceed with negotiations with both EMD and Byron-Jackson aimed at obtaining best cost and schedule for the project. The objective of the negotiations will be to come as close as possible to a fixed price type of contract with some parts of the job, such as stress analysis, performed on a CPFF basis.
3. General Observations
  - A. Appendix "C" Considerations: After a protracted discussion of the consideration to ask Westinghouse to submit CPFF type

## Meeting Participants

proposals, the group generally concluded that although it was probably not realistic to believe that any CPFF "three for the cost of two" proposal would be competitive, it was recommended that RRD assure itself that the record be sufficient to provide justification for not soliciting such proposals from Westinghouse.

- B. Disadvantages of Having Foster-Wheeler be Vendor for IHX, Valves and Steam Generators (and Potential Backup Steam Generator Concept): There was general agreement that in view of the selection process up to this point, it was possible that Foster-Wheeler would be the vendor selected for procurement of the IHX, the valves, and the steam generator. The disadvantages to the LMFBR program associated with having all these procurements with a single vendor were then discussed and it was recommended that this potential should be addressed immediately by advising Foster-Wheeler that it would be unlikely we could permit this to occur, and that since it was RRD's intent to have GE negotiate the steam generator procurement on the basis of a preliminary design rather than on the basis of the conceptual design, they should consider the desirability of withdrawing from the steam generator competition. This would permit RRD to have qualified vendors for each component without disadvantages of having three major heat transfer components with Foster-Wheeler.
- C. Differences between Fair Price Estimate of Components and Current Vendor Estimates: In the case of both the IHX and the steam generator, there is a difference of almost a factor of two between the fair price cost estimates and the current vendor proposals. Although it is not possible to tell whether this difference is due to a poor estimating job on the part of Westinghouse and GE or whether it is due to considerable caution on the part of the vendors, the magnitude of the difference is such as to be of considerable concern. The group, therefore, proposed that the type of contract to be utilized in these procurements be carefully considered in order to assure maximum cost advantage to the project. It was also generally concluded that a cost plus incentive fee type of contract or a CPFF with ceiling with subsequent cost redetermination were most likely to be the preferred contract options.

## Meeting Participants

- D. Westinghouse as a Competitor to Other Vendors: The restraint of trade question raised by the Los Angeles Attorney General's Office and the position of GE as a subcontractor to WARD were discussed. The general conclusion of this discussion was that serious consideration should be given to eliminating the restraint of trade problems by not asking Westinghouse to submit three for the cost of two type proposals in accordance with Appendix "C". Counsel indicated that there would be no legal problem with having other vendors compete with Westinghouse as long as they were informed of the three for two offer from Westinghouse.

In the case of GE, it was recommended that WARD should be removed from any procurement action which involves some divisions of the Westinghouse Corporation and that the vendor selection and subsequent contract negotiation be made by utilizing either DPO or SAN in their stead; afterward the contract could be implemented by WARD. In the event of any need to revise price or fee, those negotiations should be performed by DPO or SAN; not WARD or GE. In view of the fact that GE has expressed extreme concern about continuing negotiations with EMD, the group recommended that the issue be addressed immediately. It was requested that DPO take action to have AEC take over from WARD and work with GE on vendor selection. If EMD is asked to drop out of competition, selection will be returned to WARD.

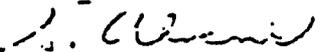
- E. Need for SAN Delegation of Authority: Since there was general agreement that Headquarters wanted SAN to be in a position to help DPO in these procurement actions and also in the Demonstration Plant work at AI and GE, it was agreed that there was a need for WARD/GE/AI to understand SAN's role. The group could not, however, agree on the mechanism by which SAN would act as DPO's agent for this work. Therefore, Mravca, Reardon, and RRD staff were left with the job of defining and implementing a delegation of authority for SAN.

Sole Source: It was agreed that CH-DPO will hereinafter submit for HQS review and approval all sole source contractor selections for procurements estimated to exceed \$5 million dollars.

If you have any substantial disagreement with the above summary please contact me immediately.

Meeting Participants

M. Colas  
A. Mravca  
T. Nanzel  
D. Reardon  
D. Riley  
L. Sides

  
S. Ahrends  
Special Assistant



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

AUG 4 1975

Thomas A. Nemzek, Director  
Division of Reactor Research  
and Development

INTENTION TO AWARD SUBCONTRACTS FOR THE CLINCH RIVER  
BREEDER REACTOR PLANT (CRBRP) PROTOTYPE AND PLANT UNIT  
SODIUM HEATER STEAM GENERATORS

We have reviewed the July 28, 1975 "Draft" Information Memorandum concerning your intention to award the subject subcontracts to Atomics International (AI) notwithstanding the significant cost differential of about \$6 million (unescalated) which will result from this action. Based on our review of the "Draft" Information Memorandum and other available data, we should like to comment as follows:

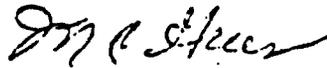
1. The intention to direct this procurement is counter to the June 1974 determination of AEC's management, who when reviewing AI's unsolicited proposal of May 31, 1974 to accomplish the subject work, decided that this work should be open for competition.
2. The intention to direct this procurement establishes an undesirable precedent which could lead to a "way of life" for future LMFBR procurements.
3. The intention to direct this procurement on a cost-plus-incentive fee (CPIF) basis is contrary to the Request for Proposals (RFP) which requested bids for the prototype on a CPIF basis, and bids for the plant units on a fixed-price (FP) basis. A decision to now award the subcontracts to the "high" bidder on a CPIF basis is contrary to the RFP.
4. We believe that had the RFP requested bids on a CPIF basis for the plant units, as well as the prototype, that additional qualified industrial firms would have entered the competition.



Thomas A. Nemzek

5. We are deeply concerned with the intention to direct this procurement to AI despite the \$6 million cost differential between AI's bid and Foster Wheeler Energy Corporation's (FWEC) bid. Our concern is further aggravated by the current budgetary situation as well as the adverse affect of this additional cost on the already existing project overrun condition.

Should you proceed to direct this procurement to AI, we request that you either make our views known to the Administrator in the body of your final information paper or attach this memorandum as an exhibit or appendix.



M. C. Greer  
Controller