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STATEMENT OF  
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BEFORE THE  
SUBCOMMITTEE ON ENERGY, NUCLEAR PROLIFERATION  
AND FEDERAL SERVICES  
SENATE COMMITTEE ON GOVERNMENTAL AFFAIRS  
ON  
NUCLEAR WASTE MANAGEMENT AND SPENT FUEL STORAGE



Mr. Chairman and Members of the Subcommittee:

We welcome the opportunity to be here today to discuss the important issue of nuclear waste management and the specific findings of our recent report prepared at your request evaluating Federal support of the Barnwell reprocessing plant and the Department of Energy's spent fuel storage policy. That report is being publicly released today. 1/ Let me begin with a brief discussion on nuclear waste management and then specifically discuss the two topics of our report to you.

NUCLEAR WASTE MANAGEMENT

The General Accounting Office has been reviewing the Federal Government's nuclear waste management programs for many years. As a result of this work, we believe that resolution

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1/"An Evaluation of Federal Support of the Barnwell Reprocessing Plant and the Department of Energy's Spent Fuel Storage Policy," EMD-78-97, July 21, 1978.

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of the many uncertainties associated with radioactive waste management must be one of the Nation's highest priorities if nuclear fission is to be a major energy source.

Radioactive waste is highly toxic to human life. It can damage or destroy living cells, causing cancer and death. Some waste will remain potentially hazardous for hundreds of thousands of years, and decisions we make now will affect the lives of countless generations to come.

The issues surrounding the management and safe disposal of nuclear waste are both important and complex. Their satisfactory resolution involves analysis of complex technical, social, political, and institutional questions. Over the last 10 years, we issued four reports on radioactive waste management and have testified on them before several different congressional committees. One report, issued in September 1977, discussed DOE's program to demonstrate, by the mid-1980s, the feasibility of placing high-level radioactive waste in deep geologic formations. We pointed out in the report that not only had progress been slow, but that future program goals were overly optimistic. 1/ Our report highlighted:

--Public and political opposition to nuclear waste disposal locations.

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1/"Nuclear Energy's Dilemma: Disposing of Hazardous Radioactive Waste Safely," EMD-77-41, September 9, 1977.

- Gaps in existing Federal laws and regulations governing the storage and disposal of nuclear waste.
- Significant geological uncertainties and natural resource tradeoffs encountered when selecting so-called "permanent" disposal locations.
- Lack of NRC regulatory criteria for orderly waste management operations, such as solidification of waste, designing proper waste containers, and transportation of nuclear waste.
- Lack of a demonstrated technology for the safe disposal of existing commercial and military high-level waste.

Since the date of our report, DOE, in February 1978, issued a rather extensive report on its nuclear waste management programs which largely supported the conclusions reached by us. The DOE report was intended to be a first step toward the formulation of an Administration policy on nuclear waste management. Subsequently, the President has established an interagency task force to develop recommendations leading to such a policy.

Considering that radioactive wastes already have been accumulating for many years from DOE's military and research and development efforts, fuel reprocessing activities, and commercial nuclear powerplant operations, the work of the task force is extremely important. Even if these activities were

stopped today, the Nation would still be faced with the problem of how to safely dispose of this waste.

About 74 million gallons of high-level waste, nearly all produced by DOE operations, are being stored in three locations in the United States. This great volume of waste is being stored "temporarily" while a solution to its disposal is found.

Additionally, commercial reactor spent fuel is accumulating at nuclear powerplants because there are no commercial reprocessors operating or sufficient offsite storage space available in the United States. Currently, there are about 4,500 metric tons of spent fuel being stored, with a projected total of 95,000 metric tons accumulating by the year 2000.

Resumption of commercial reprocessing in the near future does not seem probable since the President, in April 1977, indefinitely deferred commercial reprocessing of spent fuel. This action was taken because, in the President's view, the proliferation risks from reprocessing currently outweigh the foreseeable benefits. These benefits include recovery of the unused uranium and plutonium for use in either light water reactors or breeder reactors. If it is finally decided that there will be no further commercial reprocessing, spent fuel elements from existing and future power reactors will have to be managed as high-level radioactive waste. Meanwhile, utilities have had to store their spent fuel at the reactor sites.

In October 1977 the Department of Energy announced a new policy whereby the Federal Government would begin accepting

commercial spent fuel for storage and possible disposal. The purpose of this policy was to remove the uncertainty facing utilities of storing indefinite quantities of spent fuel for an unknown period of time. At your request we reviewed the status of the Department's efforts to implement the new spent fuel policy.

EVALUATION OF THE SPENT  
FUEL STORAGE POLICY

The Department of Energy has said the current spent fuel policy is "a logical extension \* \* \* of the long-established Federal responsibility for permanent disposal of high-level waste." Some key elements of the policy are that:

- DOE will, on a voluntary basis, accept and take title to the spent fuel from utilities.
- A one-time fee, based upon full-cost recovery, will be assessed for storage and disposal.
- DOE will obtain private storage facilities for the spent fuel if they are reasonably available.
- Appropriate compensation will be given to the utilities if reprocessing of the spent fuel is ever approved.

While DOE has been working on a number of actions, no implementation plan has been published since announcement of its new spent fuel policy in October 1977. To date, DOE has been (1) surveying the utilities to determine whether they would be interested in transferring their spent fuel to the Government, (2) asking the industry whether it would be interested

in providing the spent fuel storage facilities, (3) developing a one-time storage and disposal fee, and (4) preparing a generic environmental statement on spent fuel storage.

DOE's actions, however, still have not fully answered how much storage space is needed, who could provide this space, and when the space must be available. Basically, there are two reasons for this. On one hand, utilities are unwilling to commit themselves to transferring their spent fuel to the Government until they know the details of the Federal plan. On the other hand, DOE is having trouble developing the details of the Federal plan without firm commitments from the utilities.

This "chicken or egg" conflict has placed both the utilities and DOE in a position of guessing what the other will do. Even with this uncertainty, DOE has been working toward designing a new spent fuel storage facility and identifying a suitable location for its operation by 1983.

In our view, any firm decision by DOE to build a new Government-financed facility would be premature until other options have been fully evaluated. In order of priority, our report to you recommended that DOE should

- first, work with and explore ways that utilities can solve their own storage problem;
- second, if additional space is needed, give further consideration to the use and expansion of existing away-from-reactor storage facilities at Morris,

Illinois, at West Valley, New York, and at Barnwell, South Carolina;

--third, pursue industry interest to build any needed spent fuel storage facilities; and

--lastly, await the findings of the Interagency Task Force on Nuclear Waste Management. The Task Force is currently considering many of the issues facing spent fuel storage and is expected to submit a report to the President, with recommendations, on an overall nuclear waste management plan by October 1, 1978.

In orally commenting on a draft of our report, DOE officials said a framework has recently been developed and approved by the Secretary that would implement the thrust of our recommendations.

FEDERAL SUPPORT OF THE BARNWELL  
REPROCESSING PLANT

As you are aware, when President Carter decided to indefinitely defer commercial reprocessing, he also said that no Federal funding or support would be forthcoming to complete the reprocessing facility being constructed at Barnwell. DOE subsequently awarded a contract for work at Barnwell including studies and research activities relating to:

--light water reactor spent fuel transportation receiving, handling, and storage;

--security and safeguards;

--alternative fuel cycles; and

--maintenance and mothballing of the facility.

At your request, we reviewed the work being done there and the advantages and disadvantages of additional Federal funding of the plant.

The Administration is opposed to Federal support of the Barnwell plant until it has had the opportunity to study alternative fuel cycles and methods of reprocessing that might be more proliferation-resistant. The major study, in question, is the International Nuclear Fuel Cycle Evaluation (INFCE), which has the participation of the United States and 49 other countries. While this study will not commit any country to a specific course of action, it is viewed by the United States to be very important to the future direction of nuclear energy programs, both here and abroad.

This study is scheduled to be completed in late 1979. Meanwhile, Allied-General Nuclear Services, Inc.--the owner of Barnwell--has said that it would do little to complete the plant. Also, if Federal funding is not provided, according to Allied-General, it may choose to mothball or eventually dismantle the plant. Thus, Congress is faced with the decision of whether to (1) continue funding of Barnwell or (2) cooperate with the Administration and end all financial support.

From our perspective, we believe that Congress should continue to fund research efforts and studies at Barnwell until the completion of the International Nuclear Fuel Cycle

Evaluation (INFCE). This will keep the key people and the plant available in the event the United States decides that some method of reprocessing is consistent with its nonproliferation objectives. Further, the plant may eventually be used as a spent fuel storage facility or as a national or international fuel cycle center.

We emphasize, however, that this should be short-term only. If the Administration maintains its current policies when the INFCE study is completed, we would recommend the Congress terminate its funding initiatives. At that time, it would be Allied-General's decision to either maintain or reduce its operating status at Barnwell.

Mr. Chairman, this concludes my prepared statement. We will be glad to respond to your questions.