UNITED STATES GENERAL ACCOUNTING OFFICE
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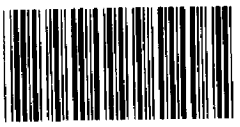

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STATEMENT OF
J. DEXTER PEACH, DIRECTOR
ENERGY AND MINERALS DIVISION
BEFORE THE
SENATE COMMITTEE ON GOVERNMENTAL AFFAIRS
ON
SENATE BILL 742,

We welcome the opportunity to be here today to discuss two reports we issued which relate to the issues addressed in S. 742. One of our recent reports 1/ discusses our proposals for organizing to solve the Nation's nuclear waste program and for examining those already highly contaminated Federal sites as locations for permanent waste repositories. The other report 2/ discusses the Administration's policy on handling the spentfuel from nuclear reactors.

Let me first discuss in more detail the report on spent fuel. The administration is proposing to accept and take title to spent fuel from both domestic and foreign sources, and to acquire facilities for interim storage pending final decisions in the areas of reprocessing and waste disposal. Given our findings regarding the extent of the interim

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1/"The Nation's Nuclear Waste--Proposals for Organization and Siting" EMD-79-77, June 21, 1979.

2/"Federal Facilities for Storing Spent Nuclear Fuel--Are They Needed?" EMD-79-82, June 27, 1979.

storage problem for spent fuel and the ability of utilities and the nuclear industry to solve it, we do not see a need for the Government to move now to provide interim spent-fuel storage. Instead, the Government should concentrate its efforts on getting resolution as to whether commercial spent fuel will be reprocessed, and how and where spent fuel or high-level waste from reprocessing will be permanently stored. I will highlight our key findings, conclusions, and recommendations, but first let me provide some perspective on spent-fuel storage and why it is important in the context of continued use of nuclear power.

PERSPECTIVE

When nuclear fuel in a reactor has reached the end of its useful life--when it is spent--it is taken from the reactor and placed in an onsite storage pool, a water-filled basin. For the last two decades the Federal Government and utilities assumed that spent fuel would remain at reactor sites for a short time and then be taken to a commercial reprocessing plant. There residual uranium and the plutonium would be removed and used as fuel for other reactors.

On April 7, 1977, however, President Carter decided to indefinitely defer commercial application of any technology, such as reprocessing, which depends on or permits the recycling of plutonium, a nuclear weapons material, into fuel for nuclear reactors. The decision was intended to limit the spread of these technologies to other countries and to

minimize the further proliferation of nuclear weapons. Thus, utilities that had planned to send their spent fuel to reprocessing plants were faced with two critical and related questions: (1) where will they store the spent fuel they are or will be accumulating and (2) is the enriched uranium and plutonium in spent fuel reusable and, therefore, an asset, or is spent fuel a nuclear waste?

The administration's proposed answer to the second question is that spent fuel may well be a nuclear waste to be disposed of in mined repositories. DOE is adjusting its nuclear waste program accordingly. The administration's proposed answer to the first question came in October 1977 when DOE announced that the Federal Government would, at some unspecified future date, begin accepting and taking title to spent fuel accumulating at reactor sites in the United States and abroad. DOE said it would need interim storage facilities to do this until permanent disposal facilities are available.

FEDERAL INTERIM STORAGE FACILITIES ARE NOT NEEDED

Following its October 1977 announcement, DOE surveyed utilities' spent-fuel storage situations and decided that unless it provided centralized interim storage, many utilities would not be able to store their spent fuel onsite beginning in 1983. A later DOE survey showed that domestic utilities owning 57 reactors would need about 4,000 metric

tons of interim storage space by 1988. Currently, DOE is considering several Federal interim storage alternatives, including constructing a 5,000 metric ton facility on Federal property, purchasing storage pools at one or more of three existing but closed commercial reprocessing plants, and leasing storage space from an interim storage facility proposed by the Tennessee Valley Authority.

The proposed change in Federal policy from reprocessing and recycling to a once-through fuel cycle has put domestic utilities in a tenuous position. However, our evaluation of utilities' spent-fuel storage problems and alternatives available to resolve them, lead us to conclude that the utilities are capable of providing almost all of their needed interim storage capacity.

Many of the owners of the 57 reactors included in DOE's 1978 survey told us that because of their critical storage situations they are not including any DOE initiatives in their own planning for spent-fuel storage. Furthermore, from our discussions with these utilities, we found that they may only need about 1,430 metric tons of interim spent-fuel storage space by 1988, rather than the 4,000 metric tons projected by DOE. Even our estimate may be high because it reflects only on-site spent-fuel storage expansion plans which, according to the utilities, are definite. Spent-fuel storage pools at reactor sites are conservatively designed and, with careful redesign and Nuclear Regulatory

Commission approval, utilities can expand initial storage capacities up to four times without appreciable safety or environmental hazards. We should point out, however, that the utilities may not be allowed to expand their storage pools in all cases. Although the Nuclear Regulatory Commission has not disapproved any expansion plans to date, there is growing concern at the Commission that increased public intervention will force more restrictive views of such storage options.

Other utility and nuclear industry initiatives to provide additional interim spent-fuel storage capacity have included

--An application by the General Electric Company and several utilities to the Nuclear Regulatory Commission to construct another spent-fuel storage pool at General Electric's Morris, Illinois closed reprocessing and spent-fuel storage facility.

--Exxon Corporation's interest in possibly building a spent-fuel storage facility.

--An offer by the Tennessee Valley Authority to provide national spent-fuel storage services.

The General Electric and utility group, however, withdrew its application shortly after DOE announced its spent-fuel storage policy, and other industry and utility storage expansion plans have been delayed or are now uncertain because of DOE's announced policy.

We should point out that DOE officials agreed that industry spent-fuel storage is preferred and said that DOE is encouraging that course of action. Nevertheless, DOE believes that institutional, regulatory, and intervenor objections are and will continue to present obstacles to industry as it tries to provide additional interim storage either at reactors or at facilities away-from-reactors. We agree these are real problems for the nuclear industry. But, we believe the utilities and the nuclear industry can and should be given every opportunity to solve the spent fuel storage problem before the Government steps in.

On the foreign side of the interim spent-fuel policy, we believe DOE's estimates of needed storage capacity are speculative and represent only rough, upper-limits of potential spent-fuel transfers. In fact, DOE officials told us it is impossible to estimate the quantity that may be sent to the United States because it is difficult to predict the future social, economic, and political conditions and energy needs of the countries located in the senstitive regions where there are proliferation concerns.

Perhaps more importantly the administration's spent-fuel policy might not significantly contribute to nonproliferation objectives. The administration does not plan to accept all of any country's spent fuel. Therefore, if a country was so inclined, it would still have spent fuel available from which to extract weapons material. Finally, the United States was

instrumental in establishing the International Fuel Cycle Evaluation Study 1/ which, among other things, is evaluating the potential for spent-fuel reprocessing and alternatives for storage. We believe the United States should not unilaterally decide to accept foreign spent fuel until this study is completed--currently scheduled for early 1980.

Given these circumstances regarding domestic and foreign spent fuel, we do not believe that a Federal interim spent-fuel storage facility is needed now. We recommended that the Secretary of Energy work with and explore ways that utilities can solve their individual spent-fuel storage problems. Also, the Secretary of Energy should encourage and work with the nuclear industry to provide any needed away-from-reactor storage facilities.

However, the utilities and the nuclear industry should not have an open-ended responsibility for the storage of spent fuel. For that reason, we recommended that the Secretary of Energy commit to a reasonable timetable for having a method for permanent spent-fuel storage available. This timetable should include provisions, for the President's consideration, on whether or not commercial spent-fuel reprocessing should resume. Additionally, the timetable should recognize that

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1/An international study involving 55 countries and 3 international organizations whose purpose is to evaluate the risks associated with the nuclear fuel cycle.

the date for having a permanent solution for spent fuel may slip and should, therefore, provide that a suitable storage alternative will be available on that date and until the permanent solution becomes available.

REPORT ON WASTE MANATEMENT PROPOSALS

The other report we recently issued discusses the vast quantities of highly radioactive contaminated wastes that already exist and that are accumulating at an increasing rate. DOE and its predecessor agencies have made several unsuccessful attempts to develop a program to permanently dispose of nuclear waste in deep underground repositories. These attempts have failed because of public and political opposition, rather than technical reasons.

In our view, any effort to provide an effective and acceptable nuclear waste management program must include two key elements:

one, a defensible master plan for developing and implementing long-term management of both Federal and commercial nuclear waste, and

two, an organizational concept which will provide for widespread public participation in policy development, planning, and implementation of such a plan.

Development of a master plan addressing important planning elements, such as identifying additional research requirements, is critical to eventually gaining public

acceptance of any specific nuclear waste repository projects. Equally important to a successful program is the proper organizational concept or structure. The plan must not only be technically feasible but also broadly accepted. Given this combination of technical and political implications, we favor placing responsibility for developing the plan in a more diverse organizational concept made up of Federal and non-Federal representatives. Various legislative bills have been introduced that contain proposals for organizational structures to deal with the waste problem. Senate bill 742 embodies most of those elements that would, in our view, provide an appropriate committee structure.

Because many States have indicated an unwillingness to permit nuclear waste disposal within their boundaries, it may be impossible to get the public and political acceptance necessary for a State to accept nuclear waste. Ultimately, if State approval for repository sites cannot be obtained within an established time, the Federal Government might have to mandate selections. While such action will not be easy, it may be necessary if the waste problem is to be solved within a reasonable time.

Consequently, we recommend that the Congress enact legislation which will create a committee of Federal and State representatives, who will represent all views on nuclear waste, and place responsibility for developing a national waste management plan in that committee. While Senate bill 742

would establish such a committee, we believe that it or any other bill considered must recognize that if this concept does not lead to the selection of waste repository sites within an established time, the Federal Government would exercise its right to mandate selections.

NEED TO CONSIDER EXISTING DOE SITES FOR WASTE DISPOSAL

DOE is searching for potential nuclear waste repository sites. Its approach is to identify sites with geological environments which provide the best physical integrity and waste containment characteristics. DOE is also evaluating some of its existing nuclear reservations as possible repository sites.

It is our recommendation that before DOE or any other entity which may assume this responsibility selects any other repository site, it should give first consideration to determining if any of the existing, highly contaminated reservations are acceptable because

- --using them would avoid contaminating any more areas of the United States with radioactivity;
- --disposal of DOE generated waste would be simplified;
- --the sites are already federally owned, are in remote locations, and are in some cases so badly contaminated that they can never be returned to unrestricted uses; and

--public and political acceptance at these locations is likely to be higher than in other parts of the country.

If DOE's highly contaminated reservations are not acceptable for storing nuclear wastes that would be shipped there from other locations, then these sites should not be acceptable for the long-term storage of wastes already there.

In conclusion, the Federal Government, in concert with the States and other interested parties, must develop a practical means of safely disposing of nuclear wastes. The future of nuclear power depends upon a solution of the waste problem which of course includes spent fuel. It must be pointed out that if nuclear power were to stop today, waste disposal would still be a problem requiring concentrated efforts and timely resolutions.

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I would be happy to respond to your questions.