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UNITED STATES GENERAL ACCOUNTING OFFICE
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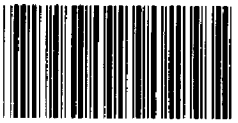

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STATEMENT OF
J. DEXTER PEACH, DIRECTOR
ENERGY AND MINERALS DIVISION
BEFORE THE
SUBCOMMITTEE ON ENERGY AND POWER
HOUSE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE
ON
[Comments on HOUSE OF REPRESENTATIVES BILL 2586,
"THE SPENT FUEL ACT OF 1979"]

Mr. Chairman and Members of the Subcommittee:

We welcome the opportunity to be here today to discuss spent-fuel management issues that are addressed in or raised by House Bill 2586, the administration-sponsored "Spent Fuel Act of 1979." The bill would give the Department of Energy the necessary legal authority to implement the administration's policy of accepting and taking title to spent fuel from both domestic utilities and foreign sources, and acquiring facilities for the interim storage of this spent fuel pending final decisions in the areas of reprocessing and waste disposal.

Mr. Chairman, we are releasing a report 1/ today, prepared at your request, on the administration's spent-fuel policy. The "bottom line" of our report is that the administration should not provide interim spent-fuel storage.

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

Testimony
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Instead it should concentrate its efforts on deciding whether commercial spent fuel will be reprocessed, and how and where spent fuel or high-level waste from reprocessing will be permanently stored. Our report discusses these and related spent-fuel issues. 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.

This proposed storage policy is based upon three factors. First, a recognition of the shift in Federal policy on reprocessing and recycling and the effect on spent-fuel storage. Second, demonstrating an efficient once-through or throw-away fuel cycle might convince other countries to follow suit, thereby reducing proliferation concerns. And third, accepting foreign spent fuel may discourage development and use of reprocessing technology abroad, thereby reducing the potential for diverting plutonium to nuclear weapons production.

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 any 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. While we agree these are real problems for the nuclear industry, we believe the industry can and should address them itself.

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.

We, therefore, do not believe that a Federal interim spent-fuel storage facility is needed. In its place, we recommend that the Secretary of Energy work with and explore ways so that utilities can solve their own spent-fuel storage problem. Also, the Secretary of Energy should encourage and work with the nuclear industry to provide any needed away-from-reactor storage facilities.

We believe, however, that the utilities and the nuclear industry should not have an open-ended responsibility for

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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 storage of spent fuel. For that reason, we recommend 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 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.

SPENT-FUEL TRANSPORTATION ISSUES

Although very little spent fuel is being shipped at this time, the transportation of spent fuel may soon increase if utilities begin to ship a portion of their spent fuel to interim storage facilities or other reactors. In the longer-term, transportation will become more important as spent fuel is shipped to either an ultimate disposal site or a reprocessing facility. A number of logistical, institutional, social, and political problems exist, however, which could pose formidable obstacles to the transportation of spent fuel. Problem areas we found that need particular attention include:

--A maze of State and local restrictions on transportation that have resulted from safety concerns and the lack of Federal routing regulations. The

Department of Transportation is preparing such regulations now.

--Possible deregulation of the rail industry that could allow railroads to restrict transportation services and charge unreasonable rates.

--Lack of a definitive Federal policy on the disposition of spent fuel that could eliminate the lead time necessary to plan for and acquire spent-fuel shipping casks.

To resolve any uncertainty about the rights of utilities or others to transport spent fuel in interstate commerce, we believe the Department of Transportation should include in any routing regulation for transportation of radioactive materials, specific language to make it clear the extent or scope of the States' authority to regulate, but not prohibit, the movement of spent fuel.

Rail carriers asked the Interstate Commerce Commission to withdraw spent fuel from common carriage status and require that it be transported by special trains and at reduced speeds and higher rates. Although the Interstate Commerce Commission denied this request, the President has announced plans to deregulate the rail industry, and it is possible that in a completely deregulated environment, railroad companies might impose strict requirements or otherwise refuse to transport spent fuel.

With respect to the availability of spent-fuel casks, we believe that current inventory is sufficient through 1985 and the nuclear industry can produce enough casks to accommodate increasing needs after 1985. However, failure of the administration to provide a firm policy on both interim spent-fuel storage and final spent-fuel disposal may eliminate the time that the nuclear industry needs to plan and meet its transportation cask requirements.

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In conclusion, Mr. Chairman, I would like to emphasize that the real problem facing nuclear reactor owners is the absence of a Federal plan for ultimate spent-fuel disposition. Without a clear decision on whether or not commercial reprocessing can resume or when a final disposal method will be available, any legislation that provides for a Federal spent-fuel storage facility is only a stop-gap measure and not a solution at all. Such action would still not resolve the uncertainty associated with the backend of the fuel cycle.

I would like to mention that I have attached to my statement specific comments on several provisions of the administration's proposed legislation.

I would be happy to respond to your questions.

ATTACHMENT

COMMENTS ON H.R. 2586

The administration's bill would provide DOE the go-ahead to acquire interim storage and final disposal facilities for spent fuel. While we believe there is a need for a solution on the final disposal of spent fuel, we do not believe there is a need for a Federal interim storage facility. Therefore, we do not consider it necessary for Congress to enact any legislation at this time that would allow DOE to acquire such a facility. However, we would like to comment on several provisions of the bill.

The bill would authorize DOE to charge a one-time fee covering the cost of both interim storage and final disposal of spent fuel. DOE's preliminary estimates of this fee shows that a utility would have to pay about $7 million annually for the 30 metric tons it normally off-loads from each large reactor. However, we believe accurate data for an estimate exists only for the cost of an interim spent-fuel storage facility. Other cost factors--transportation, waste encapsulation, construction and operation of a repository, and research and development--cannot be reasonably estimated and may not be for many years. DOE recognizes this and, therefore, plans to update its calculations and its fees, and eventually charge any unrecovered costs to its high-level waste disposal programs. Because of the

many years that will pass before DOE has constructed a spent-fuel or high-level waste repository, and, therefore, can reliably estimate permanent disposal costs, we believe it inappropriate to charge for permanent disposal costs as proposed in the administration's bill.

The legislation also proposes that DOE finance the functions and activities for the management of spent fuel by use of a revolving fund. It has been our position that the public interest is best served when congressional control over activities is exercised through annual reviews and affirmative action on planned programs through the appropriation processes. We have, therefore, generally advocated that Federal programs be financed through direct appropriation or that adequate controls be placed on programs financed through other means. We believe that, to maintain congressional control, the proposed legislation for the revolving fund should require specific annual reviews and concurrence by the Congress.

The legislation proposes that the United States accept for storage and disposal spent fuel from foreign reactors. Though not explicitly stated in the legislation, the spent-fuel policy says that only limited amounts of foreign spent fuel would be received in the United States and only when such receipt would further this country's nonproliferation objectives.

Because this legislation would allow the Department to allocate a portion of any Federal spent-fuel facility for the storage of foreign fuel, we believe it important that the legislation establish the criteria under which foreign spent fuel would be accepted. In this way, it would be possible to estimate how much foreign spent fuel might be involved and Congress will have a better idea of the possible U.S. commitment before approving a storage program.

Moreover, the legislation is silent on the potential receipt of foreign spent fuel under emergency situations. Under an emergency condition, according to the Department, the United States may have to bring the fuel back without regard to full cost recovery. We believe, therefore, that the legislation should specify such conditions for the transfer of spent fuel under emergency situations.