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July 18, 1996

Mr. William Knoll
Department of the Navy
Code NAVSEA 08U
2531 Jefferson Davis Highway
Arlington, Virginia 22242-5160

Dear Mr. Knoll:

I am submitting the attached comments on the "Draft Environmental Impact Statement for a Container System for the Management of Naval Spent Nuclear Fuel." These comments are based upon the Radioactive Waste Management policy approved by the National Conference of State Legislatures and upon my personal expertise and opinions developed during my work on the NCSL High-Level Radioactive Waste Project.

The National Conference of State Legislatures has supported a high-level radioactive waste project for nearly 12 years. During that time, NCSL staff have shared information with state policymakers and staff and consulted with the states in order to share information with the Department of Energy regarding the concerns and interests of the states and the public. NCSL would be willing and able to work with the Navy to share information with state policymakers concerning the storage and transport of naval spent fuel.

If you have any questions regarding my comments, please contact me at 303/830-2200.

Sincerely,

Cheryl Runyon

L. Cheryl Runyon
Project Manager
Energy, Science and Natural Resources Program

Enclosure

COMMENTS ON THE
DEPARTMENT OF THE NAVY
DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR A
CONTAINER SYSTEM FOR THE
MANAGEMENT OF NAVAL SPENT NUCLEAR FUEL

Cheryl Runyon
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1560 Broadway, Suite 700
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303/830-2200

July 18, 1996

Thank you for the opportunity to provide written comments on the above draft environmental impact statement. My comments will focus primarily on the issues of:

- The cumulative impacts from the production and shipping of the canister/cask system selected by the Navy and most probably the system selected by the private sector for the storage and transport of commercial spent fuel to either a centralized interim storage facility or a deep geologic repository.
- The need for uniformity in the shipping and storage container between the Navy and the commercial sector.
- The recycling and reuse of the canister/cask components after the naval and commercial spent fuel have been emplaced for disposal in the geologic repository, particularly in regard to the receipt and transfer of spent fuel at either an interim storage facility or the repository.
- The number of shipments (preferably rail) required to transport the naval spent fuel either to a centralized interim storage facility and/or a deep geologic repository.
- The reduction of worker exposure to radiation during the loading of the canister/cask system and the storage and transport of the system.

Cumulative Impacts

A Although the percentage of canisters/casks required for the storage and transport of Navy spent fuel is very small in comparison to commercial spent fuel needs, I believe the Navy needs to take into consideration the cumulative impact of shipments, especially when calculating the accident potential during shipment, the potential level of exposure to residents along rail lines, and during the back transport of the casks or overpacks, depending on the shielding alternative selected. The Navy discusses the minor impacts of its

shipments, but the general public will view all shipments as components of one class and will not differentiate between naval and commercial shipments. This is especially true for communities near rail lines that are used by both the Navy and the private sector for shipment of spent fuel. The Navy will need to work in consultation with state policymakers and stakeholders to share information regarding both its shipments and storage plans.

Uniformity in Containers

B The Navy and the private sector need to coordinate on the selection of the canister/cask system selected for storage and shipment of spent fuel. I realize that the internal basket and configuration will be different for naval fuel in comparison with commercial fuel, but by selecting a uniform external system, the Navy will ensure that the handling and acceptance of spent fuel does not require different equipment at either the centralized interim storage facility or the repository. Such action will reduce the cost to ratepayers and taxpayers for the cost of the storage facility and the repository.

Recycling and Reuse

C Whichever alternative the Navy selects for the storage and transport of spent fuel, the factor of reusing the external components and recycling the materials at the conclusion of the shipping and storage campaign must be taken into consideration. As we have seen during the history of commercial nuclear power, the original decision to proceed with the Atoms for Peace program did not fully address the waste issue, resulting in difficult policy choices for the current generation.

Transportation

D Whichever alternative is selected, the Navy must give a strong value to the system that requires the fewest number of shipments of spent fuel. Although the Navy has never experienced an accident in shipping fuel since the late 1950s, heightened scrutiny of all spent fuel shipments will occur during the coming years. State policymakers, residents and interested parties will have concerns regarding the health and safety of the public and the rail workers; emergency response to an accident will require coordination among the Navy, the Department of Energy, the states and affected Indian nations.

Worker Exposure

E Whichever alternative is selected, worker exposure to radiation from the spent fuel must be kept to a minimum during the transfer of spent fuel from the pool, during storage, and while the fuel is transported either to an interim storage facility or the repository. Although it is expected that a "hot cell" will be available at either a storage facility or the repository, public perception of the safety of the storage and transport system will be significantly greater if the workers (and ultimately the public) are not exposed to bare fuel rods.

Additional Clarifications

F I think the Navy should include a comment on the need to ensure that the system selected and used will be reviewed and licensed by the Nuclear Regulatory Commission. I know this has been the past practice of the naval reactor program, but to ensure public confidence in the storage and transport process, the Navy must continue to use a canister/cask system that has been reviewed and licensed by the appropriate regulatory agency.

One point that I believe requires further discussion in the final environmental impact statement is the temperature fluctuations discussed on page 2-7 of the draft EIS. The section discusses the lack of
G temperature fluctuation in naval spent fuel as long as the fuel remains in a cool spent fuel pool. I believe the Nave needs to expand upon this section, either here or in later discussions, regarding the measures the Navy will undertake when using dry storage to ensure that the temperature of the fuel does not fluctuate outside the spent fuel pool. It is my understanding that the inert gases injected between the interior and exterior walls of a canister/cask system will alleviate temperature fluctuations. I would suggest that you provide a discussion of this action in close proximity to the initial discussion of the fuel temperature.

With all of this is mind, the greatest unknown, both to the Navy and the private sector, is the criteria the Nuclear Regulatory Commission will develop for a disposal overpack for a multi-purpose canister system. If the Navy can financially support private research and development of a disposal overpack for the multi-purpose canister system, and if the NRC can license such an overpack in the near term, both the country and the public will benefit.

Respectfully submitted,
L. Cheryl Runyon
Project Manager
Energy, Science and Natural Resources Program
National Conference of State Legislatures

Commenter: L. Cheryl Runyon - National Conference of State Legislatures Energy Science and Natural Resources Program, Colorado

Response to Comment:

A. Transportation impacts are discussed and summarized in Chapter 3, Sections 3.8.4 and 3.8.5. Transportation impacts in absolute terms are provided in Tables 3.8 and 3.9. Further information on transportation is provided in Chapter 7. Relative impacts, expressed as percentages of the total cumulative impacts which are due to naval spent nuclear fuel and special case waste, are also included to provide a convenient perspective. In Section 7.3.7 estimated cumulative impacts for transportation of all spent nuclear fuel to a geologic repository are described and naval spent nuclear fuel shipments to a geologic repository make up from one to four percent of the total impact of all shipments to a repository or centralized interim storage site. These impacts are further described in the Department of Energy Programmatic Spent Nuclear Fuel and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Final Environmental Impact Statement of April 1995 in Appendix I of Volume 1.

The DOE's Notice of Intent for Preparation of an Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada (60 FR 40164), states that "The potential impacts associated with national and regional shipments of spent nuclear fuel and high-level radioactive waste from reactor sites and DOE facilities will be assessed. Regional transportation issues include: (a) technical feasibility, (b) socioeconomic impacts, (c) land use and access impacts, and (d) impacts of constructing and operating a rail spur, a heavy haul route, and/or a transfer facility...". The Navy will work with the Department of Energy to ensure naval spent nuclear fuel is properly addressed in the Repository EIS analyses.

Additional discussion to clarify these points has been added to the EIS in Chapter 7, Sections 7.1 and Appendix B, B.1.

B. While the Navy appreciates this concern, the cost to ratepayers and taxpayers would be substantially affected if the Navy and private sectors attempted to coordinate the selection of container systems. Chapter 1, Section 1.0 of the EIS states that the Navy was participating in the Department of Energy's Multi-Purpose Canister System EIS when the Department of Energy suddenly ceased preparation of the EIS. However, the Navy must move forward to meet its commitments made in the agreement with the state of Idaho, including removal of fuel from water pool storage. Therefore, a container system must be selected for the management of naval spent nuclear fuel. Moreover, once a system is selected, the Navy must comply with federal acquisition requirements obliging competitive bidding which would make it difficult or impossible to coordinate procurement of such containers for naval use with separate procurements for other uses. The Navy is participating with the Department of Energy in finalizing waste acceptance criteria and disposal requirements such that naval spent nuclear fuel will not require different equipment at either a centralized interim storage facility or a geologic repository. It is noted in the Executive Summary Section S.8.1 of the EIS that the number of containers needed for naval spent nuclear fuel represent about 1 to 4 percent of the total number of containers needed for both naval and civilian spent nuclear fuel which would be shipped to a repository or centralized interim storage site.

C. Recycling and management of end-of-life equipment is discussed in Chapter 4, Section 4.5.2 of the EIS. It is expected that all container system components not disposed of with the naval spent nuclear fuel, including the storage and transportation containers, overpacks or casks and dual-purpose canister would be reused and, at the end of their useful life, recycled. Some pieces of equipment may need to be decontaminated prior to recycling.

Commenter: L. Cheryl Runyon - National Conference of State Legislatures Energy Science and Natural Resources Program, Colorado

D. In the selection of an alternative in the Record of Decision several factors will be considered including protection of human health and the environment, as stated in the Executive Summary, Sections S.1 and Chapter 3, Section 3.9 of the EIS. The normal transportation risks and the accidents risks for transportation are described in Appendix B, Tables B.10 and B.12. In all cases the risks are very small.

The extremely rugged design of naval spent nuclear fuel and the design and testing of shipping containers, which fully meet Department of Transportation and Nuclear Regulatory Commission requirements, makes it unnecessary for emergency response to maintain an extraordinary alert for shipments. The risks for these shipments are small. Every shipment is accompanied at all times by escorts who can immediately contact the emergency control center and Naval Nuclear Propulsion Program experts, if necessary. Federal or local emergency response personnel will be reached immediately, if necessary, in the event of a problem. When notified, emergency response personnel would utilize existing emergency response plans and capabilities, as needed.

The risks associated with the complete range of accidents which might occur during these shipments are analyzed in detail and discussed in the Department of Energy Programmatic Spent Nuclear Fuel and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Final Environmental Impact Statement of April 1995 in Attachment A of Appendix D to Volume 1 and were shown to be small.

E. The Navy agrees that worker and public radiation exposure must be minimized. The results of an evaluation of occupational safety and health over a 40-year period are presented in Chapter 5, Section 5.3.2.1 of the EIS. These results conclude that no latent cancer fatalities are expected to occur in the worker populaton involved in naval spent nuclear fuel operations.

The Navy has safely managed and shipped spent nuclear fuel since 1957. Chapter 2, Sections 2.5 and 2.6 of the EIS describe naval spent nuclear fuel operations and facilities at Idaho National Engineering Laboratory. The design of the loading facility and container system will incorporate this experience to minimize worker and public exposure as low as reasonably achievable.

F. Section 2.4 of the EIS, Regulatory Framework, addresses this comment. Consistent with long-standing practice by the Naval Nuclear Propulsion Program, any container system selected for post-examination naval spent nuclear fuel transportation will receive Nuclear Regulatory Commission review and will be certified for transport by the Department of Energy in full compliance with all applicable federal regulations.

G. Section 2.3 of the EIS, Characteristics of Naval Nuclear Fuel, addresses the results of decay heat calculations for naval spent nuclear fuel. As discussed in the EIS, the design of the selected container system will meet the technical requirements of 10 CFR Part 72 and 10 CFR Part 71 for storage and transportation, respectively. The thermal performance of naval spent nuclear fuel will be addressed as part of the process of obtaining a Certificate of Compliance for transportation once the container system is selected.