

STATEMENT TO THE U.S. DEPARTMENT OF ENERGY
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT
REGARDING THE NOTICE OF INTENT TO PREPARE AN
ENVIRONMENTAL IMPACT STATEMENT FOR
A GEOLOGIC NUCLEAR WASTE REPOSITORY
AT YUCCA MOUNTAIN, NEVADA

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Western Interstate Energy Board

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My name is Daniel Nix. I am Co-Chair of the Western Interstate Energy Board's High-Level Radioactive Waste Committee and Deputy Director for Energy Forecasting and Resource Assessment at the California Energy Commission. The Western Interstate Energy Board, composed of energy advisors to the Governors of 11 western states, created its High-Level Waste Committee nearly a decade ago in recognition of the possibility that high-level radioactive nuclear waste might be stored or disposed of at a facility located in the West. Committee members coordinate activities among their respective state agencies concerned with the storage, disposal and transportation of high-level waste and spent nuclear fuel. Since its inception, the Committee has enjoyed a productive relationship with DOE and has been a principal avenue for conveying western state views on various departmental actions. I would like to thank DOE for giving me the opportunity to speak today concerning the preparation of an EIS for a repository at Yucca Mountain.

You have previously heard from Mr. Rick Moore, the other Co-chair of the High-Level Waste Committee, at your hearing in Denver, Colorado. In my remarks I will emphasize certain key points raised by Mr. Moore, but will also deal with other aspects of planning for ultimate disposal of high-level nuclear waste.

I wish to emphasize that all western states are concerned with the safety of nuclear waste shipments whether ultimately by rail or highway. The impacts of nuclear waste disposal, however, vary significantly among western states. For example, unlike some other western states, California has operating nuclear power plants and is a major producer of spent nuclear fuel. In addition, California now has three commercial nuclear power plants being decommissioned; spent nuclear fuel is now being temporarily stored at commercial reactor sites and at five research reactor locations; lengthy transportation routes which potentially traverse both rural and highly urbanized areas of the state; and the potential to be affected if groundwater transport of radionuclides from a repository at Yucca Mountain were to occur. Furthermore, under the current plans, spent fuel from California reactors is scheduled for transport during the first year that shipments occur. The EIS must recognize the varying impacts which an extended shipping campaign to a repository will have. This will entail a close examination of the unique characteristics of each state involved. The massive scale of repository shipments must also be reflected in the EIS.

Total shipment numbers under an NWPA repository shipping program would be unprecedented in the history of nuclear waste transportation in the United States. Once repository shipments begin on a regular basis, more nuclear materials would be transported each year than in the total of the last thirty years, or nearly from the dawn of the civilian nuclear power age. While western states do have procedures in place to deal with the numbers of waste shipments that now occur, the order of magnitude in the differences between what we deal with today and what we would be expected to deal with during repository operation requires extensive planning and preparation. This need must be recognized in the EIS.

To emphasize the scope of this shipping campaign, if the Multi-Purpose Canister concept now being developed by the DOE to ship waste to Yucca Mountain is used as a baseline technology to estimate shipment numbers, California would originate over 1200 cask shipments traveling by train, and 44 truck casks traveling by highway. These estimates assume primary reliance on rail as the transport mode. If shipments occur by truck only, then the numbers increase to 9000 in California alone. Depending on routes ultimately selected and ratified through public hearings, California could have thousands of additional truck shipments in the southern part of the state from southeastern and Mid-Atlantic region reactors.

Impacts on other western states are equally significant. To emphasize Mr. Moore's examples, Utah could experience over 6150 truck and 8170 rail shipments, Nebraska would see over 3800 truck shipments and 7700 rail shipments, and Arizona more than 6100 truck shipments and almost 800 rail shipments.

As these numbers illustrate, the choice between rail and truck has a major effect on the number of shipments required. Modal choice also fundamentally affects routes. Obviously, trains must travel where the rails are, and this greatly limits routing flexibility for rail shipments in the West. In many instances, the West's major urban areas grew around rail centers, and as a consequence the rail lines transit some of the most heavily populated urban areas. As an example close to home, the major North-South and East-West rail lines in this part of California pass directly through the City of Sacramento, within a mile of the site of today's hearing. Highway routing also has some unique features.

Under current federal regulations, Interstate Highways must be used for route-controlled quantities of radioactive materials, which would include repository shipments, unless the state designates alternative routes through a prescribed process. As with rail lines, Interstate Highways traverse many urbanized regions of western states. For example, Interstate 5, the major North-South route in California is within a half-mile of this hearing location. However, the problem becomes even more acute in Southern California where Interstate Highways transit the densely populated Los Angeles basin. We recognize that no routes have yet been selected and that procedures are in place for states to consider and designate alternative

highway routes. However, states such as California must have adequate time to consider routing alternatives as part of the overall process of determining the suitability of a repository.

Complicating the state's role in routing and route-related planning for shipments once a repository is operational is that routes cannot be studied with certainty until the DOE makes a decision about the transportation mode ultimately to be used. It is crucial for instance that DOE conduct route and mode-specific analyses of transportation impacts as part of the Yucca Mountain EIS. On several past occasions, DOE has committed to conducting route and mode-specific analysis of the impacts of transportation under the Nuclear Waste Policy Act. However, DOE has thus far used only generic analyses to evaluate impacts from the transportation of nuclear waste under the NWPA.

In Volume III of the Yucca Mountain Environmental Assessment, which was conducted in 1986, DOE stated that, "the DOE believes that the general methods and national average data used are adequate for this stage of the repository siting process. Route-specific analyses and an evaluation of the impacts on host States and States along transportation corridors will be included in the environmental impact statement. The route-specific analyses to be performed in the future will proceed in the following sequence: (1) define important parameters; (2) gather data; (3) develop models as required; (4) perform analysis; (5) consider mitigating measures; (6) report results." Now that the time has come to prepare the EIS for Yucca Mountain, western states expect DOE to fulfill its promise of conducting in-depth route and mode-specific analyses.

The language used in the Notice of Intent concerning transportation gives two options which are presented as alternatives: an all-rail option and an all-highway option. In DOE's Yucca Mountain Environmental Assessment, however, DOE stated that "...during the early years of repository operations rail shipment will be used for no more than about 50 to 70 percent of the total spent-fuel shipments because of the lack of rail spurs at some reactor sites and other limitations. In later years it is expected that reactor capability to ship by rail will be improved, and the fraction of spent fuel shipped by rail will increase to at least 70 percent." One reactor site in California does not have rail access. It is very unlikely that a rail line would be constructed simply for the purpose of transporting spent fuel. At another site, truck transport is the owner's preferred method of shipment because rail access is poor and costly to maintain. DOE's proposal to use an "all-or-nothing" approach to the transportation analysis in the EIS is, therefore, unrealistic. The EIS should be founded on reality and reflect the conditions at existing sites which are not likely to change. In any event, the EIS should recognize that a mixed-mode transportation system will likely be required regardless of DOE's preference for rail over truck, or conversely.

The Committee agrees with the NOI that impacts on cask design and the transportation system in general must be specifically addressed in the EIS for each alternative. In addition, however, under Section 1502.14 (e) of the Council on Environmental Quality's NEPA regulations, federal agencies are directed to "identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference."

The Committee requests that DOE identify and describe the basis for its choice of the preferred alternative for transporting waste to a nuclear waste repository. We believe that in order for the DOE to find the alternative with the least risk, it will be necessary to evaluate modes (or mix of modes) of transportation in conjunction with routes.

I would like to emphasize a key point raised by Mr. Moore in his earlier statement to you. The High-Level Waste Committee does not believe that it is possible to conduct a meaningful assessment of transportation risk and risk management in the Yucca Mountain EIS unless several underlying programmatic and policy assumptions are made explicit. The EIS should specifically identify DOE's intentions regarding: (1) full-scale cask testing; (2) development of policies for both highway and rail routing; and (3) assistance to states under Section 180(c) of the Nuclear Waste Policy Act.

With regard to full-scale cask testing, the Committee restates its long-standing position that such testing is necessary to ensure cask safety and contribute to building the public confidence necessary to ensure the success of a nuclear waste shipping campaign. Currently, DOE intentions regarding full-scale cask testing have not been made clear.

With respect to the need to identify and evaluate alternative routes, DOE has not yet developed an effective routing methodology. The Committee fears that the use of simplistic routing methodologies -- such as those proposed in DOE's November 1994 Discussion Papers entitled: Rail Route Selection for DOE Unclassified HRCQ Shipments, and Highway Route Selection for DOE Unclassified HRCQ Shipments -- will result in the nomination of insupportable routes for OCRWM shipments that will be rejected under public scrutiny. If such rejection occurs, the result will be further delays in the implementation of a safe and effective transportation system.

The provision of assistance funding to states under NWPA Section 180(c) will also have a direct impact on the success of any shipping campaign to Yucca Mountain. The Committee believes that the EIS should, therefore, analyze the various options for implementing 180(C) assistance. As the Committee stated in its comments to DOE's 1995 Notice of Inquiry on technical assistance and funding to

states under Section 180(c), the Committee supports an OCRWM Grant Program established in regulations which provides flexibility for states to coordinate the OCRWM program with other transportation safety programs, while ensuring that hazards presented by NWPA shipments are addressed. The Committee believes that implementation of Section 180(c) through regulations and adequate funding through appropriations is necessary to ensure program stability through changes of leadership at DOE. Such stability is essential for the successful implementation of a program covering 30 years or more and impacting innumerable jurisdictions in more than 40 states.

At the outset of my comments I referred to the potential for groundwater contamination and possible impacts which extend beyond the boundary of the repository. While regulatory criteria for licensing a repository limit the allowable releases at five kilometers from the site to EPA standards, the proximity of Death Valley National Monument to Yucca Mountain deserves special consideration. The EIS should include a regional aquifer characterization and an evaluation of potential ecological impacts.

In closing I would like to restate our recommendations for determining the Yucca Mountain EIS scope:

1. Recognize that western states will be impacted in different ways by repository operation; specifically in the timing, number and route-miles of shipments, and affected population.
2. Perform an integrated modal analysis that incorporates realistic potential routes in the modal choice decision process.
3. Allow for state involvement in the process of designating final shipment routes.
4. Reflect in risk assessments and planning that transportation will involve both truck and rail options.
5. Identify and describe DOE's eventual modal choice.
6. State DOE's intentions regarding:
 - a. Full scale cask testing;
 - b. Development of highway and rail routing policies;
 - c. Development of policies regarding Section 180(c) assistance; and,

7. Recognize the proximity of Death Valley National Monument to the Yucca Mountain site and give special consideration to the need for regional groundwater impact evaluations.

This concludes my remarks.