

**TESTIMONY TO THE NUCLEAR WASTE TECHNICAL REVIEW BOARD
NOVEMBER 19, 1990 – RENO, NEVADA**

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TESTIMONY

I am Daniel Nix, Co-Chair of the Western Interstate Energy Board's High-Level Radioactive Waste Committee. The Western Interstate Energy Board, or WIEB, is an association of sixteen western states. WIEB and its High-Level Radioactive Waste Committee have been working cooperatively with the Department of Energy for the last six years to help develop the transportation system for future shipments of spent fuel and high-level waste to a repository and/or monitored retrievable storage facility (MRS). The Committee's goal is to ensure the development of a safe, publicly acceptable transportation system before shipments are scheduled to begin. A successful waste management program must have both the facility to receive waste and a system capable of safe transport of high-level waste. Development of an acceptable transportation system should not become a source of further delay in repository or MRS operation. The Committee believes that unless higher priority is placed on development of all elements of the transportation system, timely operation of a repository and/or MRS is doubtful.

The Committee's relationship with DOE has been generally positive and productive. Our conclusions about the need to pay more attention to all elements of the transportation program stem largely from our detailed evaluation of the total system. DOE's high-level waste planning appears to have been focused on the siting and construction of facilities (the repository and MRS); critical pieces of the transportation system have not been given enough attention. However, the transportation system, which extends well beyond acquiring a fleet of shipping casks, is a critical component in the overall waste management program. Transportation, including route selection, emergency planning and many other elements, is the aspect of the waste disposal program which affects the most people. Lack of public acceptance of any of these elements can jeopardize the entire program.

First, I would like to explain why the Committee believes that a well-developed transportation system is essential to the waste management program. Then, I will discuss how the Committee's Strategic Plans and Schedules for the repository and MRS programs (which you have copies of) have helped the Committee in its transportation work and how we believe that a similar process would help DOE.

The management of nuclear wastes is a very high-visibility issue. Transportation to a disposal facility will attract public attention and will affect a large number of people. If the public is not confident that the transportation system has been carefully planned with due attention to safety, lack of public acceptance can jeopardize an entire program. In the past, public concern has led to drastic modifications and suspensions of entire shipping campaigns. Just to cite a few examples --

- ▶ 1985 Taiwanese shipments -- public opposition on the West Coast regarding spent fuel shipments from Taiwan to the U.S. caused DOE to change its planned port numerous times and prompted a court to order DOE to prepare an Environmental Impact Statement before using certain ports.
- ▶ 1987 proposed plutonium air shipments from Japan -- public opposition to the air shipments which would have crossed the northern U.S. caused Congress to ban the shipments until the shipping containers were drop tested from the maximum cruising

altitude of the plane and, in some cases, the loaded plane itself was subjected to a crash test. The shipper is still trying to develop a package that will meet these tests, and no shipments have been made.

- ▶ 1988 Three Mile Island shipments -- a minor operational incident in St. Louis prompted a suspension of shipments, Congressional inquiries, modified shipping procedures, and a DOT evaluation of DOE's rail route selection system.

Planning a spent fuel shipping campaign is more than a matter of acquiring a fleet of shipping casks and operating a public information campaign. Numerous details must be planned in a timely way -- for example, route selection, emergency response training, vehicle inspections, prenotification. While the shipper may believe that some of these activities are unnecessary to a successful shipping campaign, failure to attend to these matters may create operational problems when shipments begin. For example --

- ▶ 1986 shipment from Nevada Test Site to Idaho -- Failure of DOE or the carrier to consult adequately with the affected states led to interstate disputes, a DOT civil penalty assessment against the carrier for violating the federal routing requirements, a reinterpretation of the federal routing rules by DOT's administrative law judge, and a DOT rulemaking to re-establish its interpretation of the rules.
- ▶ 1986 Three Mile Island shipment -- The Nebraska governor stopped the train at the state border due to a misunderstanding caused by DOE's lack of a formal, written shipment prenotification policy.

WIEB's High-Level Radioactive Waste Committee has long been aware of the potential problems that could result from failure to plan carefully for future shipments. In 1985, the Committee and the full Board called on DOE to develop a comprehensive transportation plan to guide all transportation decisions under the Nuclear Waste Policy Act. The Western Governors' Association adopted a resolution endorsing this recommendation. DOE has not yet developed such a plan. In 1987, the Committee developed its own Strategic Plan for the development of the high-level waste transportation program.

The Committee's Strategic Plan has been an invaluable tool in guiding the Committee's participation in the development of the transportation program. Producing the Plan forced the Committee to clarify its thoughts about the logical interrelationships among all aspects of the transportation program. The Strategic Plan is updated periodically to account for new information and more detailed analysis of critical components. The Plan has helped the Committee set its work priorities each year based on the timeliness of each issue.

The Committee also uses the Strategic Plan as a template into which it tries to fit the fragments of information about other groups' activities and plans. For example, at different times, DOE has made the following statements about its intentions:

- ▶ The carrier will be allowed to select the shipping routes.
- ▶ DOE will finish negotiating a contract with its carrier six months before shipments begin.

- ▶ DOE will start its Congressionally-mandated emergency response training (under Section 180(c) of the 1987 Nuclear Waste Policy Amendments Act) for states, tribes and local governments three to five years before shipments begin.

By putting these pieces of information together, it is clear that one of two things will happen if none of these intentions are changed: 1) DOE will train responders on all possible routes, including those which are never used (which would be a tremendous waste of resources); or 2) DOE will guess which routes its unknown carrier may choose five years in the future, and conduct training on those routes (which will delay the beginning of repository or MRS operations if DOE has guessed incorrectly and training must start over on new routes). Neither of these results satisfy the Committee.

Our Strategic Plan shows DOE making the national route selection in advance of Section 180 training so that we are not forced into this position. The Committee carefully analyzed the existing route selection process in 1987 and determined that it should be enhanced to meet the needs of the unique repository shipping campaign (a large number of similar shipments by a single shipper to a single destination over a long period of time). Three aspects of the current routing system were deemed inappropriate for repository shipments: 1) carrier, rather than DOE, selection of the route is likely to be publicly unacceptable in this high-visibility program; 2) the carrier's authority under federal routing rules to use multiple routes (involving different states) for shipments between a single origin and destination would interfere with the states' ability to concentrate limited resources (e.g., emergency responders, vehicle inspectors) on a smaller number of routes; and 3) the absence of any requirement that routes be selected well before shipments begin would prevent states from preparing for shipments (e.g., conducting emergency response training) along the routes. In 1988, the full WIEB board adopted a resolution (attached) calling on DOE to immediately assume responsibility for selecting routes well before shipments begin and to start developing the route selection process. The Western Governors' Association also adopted a resolution endorsing this recommendation.

Our Strategic Plan also indicates that a high near-term priority is reviewing the designs for the shipping casks that are being developed for DOE. This year, at DOE's request, the Committee submitted detailed comments on four preliminary cask designs developed by DOE's contractors. Several common themes emerged during the Committee's review of the cask designs:

- ▶ The cask designers rely too heavily on administrative controls to ensure safety. Administrative controls are useful to provide an added measure of safety, but they cannot be a substitute for sound engineering which provides an acceptable level of safety.
- ▶ Safety margins of 5% or less are common in the designs. This may be acceptable to the cask designers who have great confidence in the models and analyses. However, the public does not share this confidence and is likely to view these margins as being dangerously low.
- ▶ Better integration, in both directions, is needed between the cask designers' work and the rest of the transportation program. The scope of work and assumptions DOE directed the cask designers to use do not always accurately reflect the practices of

utilities and carriers. Some of the designers' work conflicts with the recommendations of national standards-setting groups and with the findings of other DOE contractors. In the other direction, DOE needs to incorporate the cask designers' conclusions and decisions into other aspects of the transportation program -- e.g., schedule, modal mix decision.

- ▶ The desire to increase payload should not be allowed to drive the cask design process at the expense of safety. DOE and the cask designers should be more cautious about the additional risks they are incurring for each incremental improvement in payload.

In addition to helping the Committee establish near-term priorities, such as route selection and cask design, the Strategic Plan allow the Committee to "see the big picture." As you can see on the Strategic Plan and Schedule for the repository, the Committee believes that there is sufficient time to put the transportation system in place if we start immediately and work efficiently. The Schedule for the MRS is much tighter -- if an MRS is to open in 1998, it is already too late to make the most efficient use of resources. Some transportation activities which can be done efficiently in sequence for the repository program must be done in parallel for the MRS program because of time constraints. For example, our Schedule shows DOE analyzing routes to each potential MRS site under consideration. Certainly, it would require fewer resources to select the MRS site first, and then just analyze routes to that site. However, if route analysis is delayed until the MRS site is selected, there will be an even greater waste of resources at the other end because emergency response training will have to be conducted on numerous routes because the final routes will not be selected soon enough to focus the training program.

WIEB also uses its Strategic Plan to evaluate DOE's activities. In January of this year, WIEB commented on DOE's proposed schedule for the repository and MRS program. DOE's schedule included few details on the transportation program. WIEB, based on its Strategic Plan and Schedule, identified the major activities that the western states believe should be conducted in 1990 and the first half of 1991.

In conclusion, the Committee believes that DOE must place a higher priority on planning the transportation system for repository and MRS shipments. We continue to believe that it is critical that DOE develop a strategic plan for transportation so that it can explicitly make decisions about the interactions among all components of the transportation system. The Committee believes that there is sufficient time to develop a safe, publicly acceptable transportation system by the time the MRS or repository is scheduled to open, provided we start immediately and work efficiently. Time is of the essence.