

**REMARKS OF ROBERT R. LOUX, EXECUTIVE DIRECTOR
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TO THE
NATIONAL ACADEMY OF SCIENCES
STUDY COMMITTEE ON TRANSPORTATION OF RADIOACTIVE WASTE
LAS VEGAS, NEVADA,
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Introduction

Mr. Chairman, members of the committee, the fact that we are here today – in July of 2003, convening a meeting of a National Academy of Sciences committee to study the transportation of spent nuclear fuel (SNF) and high-level radioactive waste (HLW) for the purpose of assisting the U.S. Department of Energy to plan for the shipment of such materials to a geologic repository is nothing short of astonishing.

The fact that today, more than 20 years following the passage of the original Nuclear Waste Policy Act and almost 16 years since the Yucca Mountain site was singled out as the only location to be evaluated for a repository, DOE still has no plan for repository shipments and has yet to make even the most rudimentary decisions regarding waste transportation (such as mode and route selections) is truly incomprehensible and inexcusable.

It's not as if there hasn't been help available until now. As far back as 1984, a Panel of the Academy's Board on Radioactive Waste Management issued a report titled "Social and Economic Aspects of Radioactive Waste Disposal" in which panel members reviewed issues related to repository waste transportation, among other things, and made recommendations designed to facilitate planning.

By the late 1990s, the Western Interstate Energy Board's High-Level Radioactive Waste Committee – a regional group of state funded by DOE to provide guidance in waste transportation matters – had complied and presented to DOE a Transportation Primer that set out in comprehensive fashion the elements of national HLW transportation system, complete with time frames and strategies for implementation. Yet, 10 years later, when DOE released the final Environmental Impact Statement for Yucca Mountain, the transport of SNF and HLW was treated only in a generalized fashion, with no plan laid out and with virtually all decisions deferred.

The State of Nevada contends that, at a minimum, DOE should have fully and adequately addressed transportation of SNF and HLW to Yucca Mountain in the Final Yucca Mountain Environmental Impact Statement (FEIS). Instead, the transportation analysis contained in the FEIS is legally and substantively deficient and entirely inadequate.

We contend that the only acceptable vehicle for engaging in planning for SNF and HLW shipments in Nevada or nationally is the process set forth by the National Environmental Policy Act (NEPA) and its implementing regulations.

That means DOE must commit to the preparation of an Environmental Impact Statement (EIS) for the transportation program. Such EIS must encompass an integrated transportation program that covers both the national transportation system and the transportation system within Nevada.

The EIS must show how the national and Nevada components function in a consistent and integrated manner, and how decisions with respect to the national system affect the Nevada system, and vice versa. What DOE appears to be doing instead is a piecemeal approach to transportation planning, crafting the message to fit whatever audience the Department is trying to appease at the time.

Last week, at a meeting of DOE's Transportation External Coordination Working Group in Alexandria, participants were afforded a glimpse into the theater of the absurd that is the DOE transportation program. OCRWM Director Margaret Chu was scheduled to make a presentation to the group on DOE's long-awaited "strategic plan" for Yucca Mountain shipments. However, because presenting the plan – or more accurately DOE's plan for arriving at a plan - might be seen as a tacit admission that DOE has no plan, as alleged in litigation brought by the State of Nevada, the planned discussion of the strategic plan was deferred.

That being said, for the better part of two decades, the State of Nevada has consistently and repeatedly recommended specific measures that the Federal government should take to manage the risks associated with transportation of spent nuclear fuel and high-level radioactive waste.

Despite our opposition to construction of a repository at Yucca Mountain, and to construction of an interim storage facility at the Nevada Test Site, the State of Nevada has taken virtually every possible opportunity to make constructive proposals to the appropriate Federal agencies: DOE, the U.S. Nuclear Regulatory Commission (NRC), and the U.S. Department of Transportation (DOT).

In addition, the both the Western Interstate Energy Board and the Western Governor's Association have done extensive work on nuclear waste transportation and provided DOE with detailed and substantive guidance over the past 15 or more years.

WGA has passed numerous resolutions urging DOE to adopt an integrated and comprehensive approach to transportation planning, including adequate preparations to deal with terrorism and to prevent catastrophic accidents through meaningful cask testing. Yet, as of July, 2003 there is no plan and no one knows when a plan will be developed and issued for review.

Nevada's Recommendations

Since 1997, Nevada's recommendations regarding high-level nuclear waste transportation risk management have been focused on four areas:

- 1) A comprehensive approach to risk assessment, risk management, and risk communication;
- 2) Development of a preferred transportation system;
- 3) Full-scale, physical testing of shipping casks; and
- 4) Accident prevention and emergency response.

The presentations you will hear from other Nevada transportation experts today will address specific Nevada issues and recommendations in more detail. But let me point out that the basis for any meaningful spent fuel and high-level waste transportation planning must be veracity and accuracy in disclosing the nature, scope, and extent of the effort. Unfortunately, DOE's pronouncements on the transportation aspects of the Yucca Mountain program, meager as they have been, appear more designed to obscure and minimize the challenges for political reasons than to illuminate them.

Rail Access Issues

In 1984, The Academy's Panel on the Social and Economic Aspects of Radioactive Waste Management called to DOE's attention a number of important obstacles to rail transportation. The Panel found:

“...it appears ... that the lack of rail access to a number of reactors, unresolved institutional difficulties, and the reluctance of the railroad industry to transport spent fuel makes the achievement of DOE's [mostly rail] planning hypothesis questionable. We have not found a basis for recommending a particular alternative mix, but the strong possibility of much greater truck transportation certainly exists, along with its particular set of risks and institutional impacts, and deserves further attention by DOE.

Today, nothing has changed. DOE's blithe assumption that the shipping campaign will involve mostly rail transportation remains highly suspect. At present, there is no railroad access to Yucca Mountain. Construction of a new rail spur, 99 to 344 miles in length, could take 10 years and cost more than \$1 billion. The alternative to rail spur construction, delivery of thousands of large rail casks by 220-foot-long, heavy-haul trucks, over distances of 112 to 330 miles on public highways, is probably not feasible.

Maximum utilization of rail for cross-country transportation, as described in the FEIS, appears unlikely. Even if DOE is able to develop rail access to Yucca Mountain, the objective of shipping 90 percent of the commercial SNF by rail is unrealistic. DOE acknowledges that 25 of the 72 power plant sites cannot ship directly by rail. Nevada studies show that number could be up to 32 sites.

The "mostly rail" scenario assumes that DOE can ship thousands of casks by barge into the Ports of Boston, New Haven, Newark, Jersey City, Wilmington (DE), Baltimore, Norfolk, Miami, Milwaukee, Muskegon, Omaha, Vicksburg, and Port Hueneme (CA).

Alternately, DOE would have to move thousands of casks from reactors to rail connections using large heavy-haul trucks, which will require special state permits and route approvals.

In the end, even if rail access to Yucca Mountain and all of the other impediments to rail transport can be resolved, "mostly rail" would mean moving no more than 60-75 percent of the commercial spent fuel by rail, and moving the remaining 25-40 percent by legal-weight truck.

The DOE "mostly legal-weight truck scenario" is the only national transportation scenario that is currently feasible and is the one Nevada believes to be most likely in the event the Yucca Mountain program goes forward. All 72 power plant sites and all 5 DOE sites can ship by legal-weight truck.

Cask Safety and Shipment Safeguards

Nevada, together with other western states and regional groups, has long advocated full scale testing of shipping casks as part of the cask certification process. In light of the new terrorist threats facing the nation and the unprecedented nature and scope of the planned Yucca Mountain shipping campaign, it is imperative that NRC immediately address this issue, and we are gratified that the Commission staff is moving ahead with the Package Performance Study. Nevada experts have been, and will continue to be, closely involved with this effort.

We remain concerned, however, that the Commission has yet to act on the State of Nevada's rulemaking petition asking NRC to reassess and strengthen protections against sabotage and terrorism with respect to spent fuel shipments. That petition was filed in 1999 and, to date, no action has been taken despite the increased urgency occasioned by the events of September 11th and subsequent developments.

Let me take a few moments to introduce the State of Nevada consultants who will be making presentations today.

Bob Halstead has been Transportation Advisor to the Agency for Nuclear Projects since 1989. He has 25 years experience assessing the impacts of energy facilities and energy transportations systems.

Jim Hall, former Chairman of the National Transportation Safety Board, advises the State on transportation safety regulations and policy. Jim is currently a member of the National Academy of Engineering Panel on Homeland Security, and he is lawyer by training.

Dr. Marvin Resnikoff advises the State on the consequences of transportation accidents and terrorist incidents, and on cask testing. Dr. Resnikoff is a nuclear physicist by training, and he has been a nuclear waste consultant for 28 years.

Dr. James David Ballard advises the State on counter-terrorism and emergency response planning. Dr. Ballard teaches criminology and political sociology at California State University, Northridge. He is an internationally recognized expert on nuclear terrorism.

Also with our team today is Henry Collins, who will assist in answering your questions about spent fuel characteristics and radiation health effects. Hank is a registered professional engineer and certified health physicist. His degrees are in physics and nuclear engineering.

I trust that you will find the information provided today by Nevada transportation consultants useful and enlightening. Thank you for this opportunity.