

Mr. David L. Meyer  
Rules and Directive Branch  
U.S. Nuclear Regulatory Commission  
Mail Stop T-6D-59  
Washington, D.C., 2055-0001

September 21, 2000

**SUBJECT: Comments on the Draft EIS for the Construction and Operation of an Independent Spent Fuel Storage Installation on the Reservation of the Skull Valley Band of Goshute Indians and the Related Transportation Facility in Tooele County, Utah**

Dear Mr. Meyer:

The State of California, through the California Energy Commission, appreciates the opportunity to provide comments on the Nuclear Regulatory Commission's (NRC) *Draft Environmental Impact Statement for the Construction and Operation of an Independent Spent Fuel Storage Installation on the Reservation of the Skull Valley Band of Goshute Indians and the Related Transportation Facility in Tooele County, Utah (DEIS) (NUREG-1714, June 2000)*. Our review of the DEIS focuses primarily on the general NEPA inadequacies of the DEIS and transportation issues.

The enclosed comments on the DEIS reflect statements made earlier this year by the State of California following its review of the federal Department of Energy's draft environmental impact statement for the proposed Yucca Mountain project in Nevada. Thirteen California agencies participated in our review of the Yucca Mountain draft environmental impact statement. Many of the same transportation issues raised with respect to the Yucca Mountain project also pertain to NRC's proposed independent spent fuel storage installation (ISFSI) draft environmental impact statement (DEIS).

In general, we have significant concerns regarding the DEIS' superficial and incomplete discussion of the potential transportation impacts in California and its evaluation of project alternatives. Following our review of the DEIS, it is our conclusion that it is seriously inadequate and incomplete because it fails to: (1) fully disclose the transportation impacts from the proposed project; (2) fully evaluate reasonable project alternatives in comparison with the proposed action; (3) identify and analyze potential route-specific and modal specific impacts to populations and the environment along shipment corridors; and (4) provide adequate notice to impacted communities along shipment routes of the significant transportation impacts from the proposed project. Absent this information, public stakeholders and decision-makers have insufficient information to evaluate the proposed action described in the DEIS.

Mr. David Meyer  
September 21, 2000  
Page 2

If you have any questions regarding these comments, please phone me at (916) 654-4001 or Barbara Byron at (916) 654-4976.

Sincerely,

ROBERT A. LAURIE  
Commissioner and State Liaison Officer to the  
Nuclear Regulatory Commission

Enclosure:: Comments on the DEIS

Cc: Governor Gray Davis  
Senator Dianne Feinstein  
Senator Barbara Boxer  
Congressman Jerry Lewis  
Congressman Sam Farr  
Mary D. Nichols, California Secretary for Resources  
Maria Contreras-Sweet, California Secretary for Business,  
Housing and Transportation  
Agency Directors

STATE OF CALIFORNIA

Comments on

The US Nuclear Regulatory Commission's  
Draft Environmental Impact Statement for the  
Construction and Operation of an Independent Spent Fuel Storage Installation on  
the Reservation of the Skull Valley Band of Goshute Indians and the Related  
Transportation Facility in Tooele County, Utah (DEIS) (NUREG-1714, June 2000)

September 21, 2000

## TABLE OF CONTENTS

| <u>Section</u>   | <u>Page</u> |
|--|-------------|
| BACKGROUND   | 1           |
| GENERAL NEPA INADEQUACIES OF THE DEIS  | 1           |
| 1. Inadequate Scoping Process and Failure to Provide a Complete and Accurate Project Description | 1           |
| 2. Inadequate Consideration of Project Alternatives  | 3           |
| 3. Inadequate Notice of Public Hearings  | 5           |
| 4. Inadequate Consideration of the Affected Environment and Environmental Consequences           | 5           |
| 5. Need for a Revised Draft EIS  | 6           |
| INADEQUATE DISCUSSION OF POTENTIAL IMPACTS   |             |
| 1. Transportation  | 6           |
| 2. Potential Impacts on Wildlife, Natural Habitat, and Public Parks                              | 12          |
| CONCLUSIONS AND RECOMMENDATIONS  | 13          |

## BACKGROUND

The State of California has reviewed the Nuclear Regulatory Commission's (NRC) *Draft Environmental Impact Statement for the Construction and Operation of an Independent Spent Fuel Storage Installation on the Reservation of the Skull Valley Band of Goshute Indians and the Related Transportation Facility in Tooele County, Utah (DEIS) (NUREG-1714, June 2000)*. Our comments on the DEIS focus primarily on the following topics: (1) General inadequacies of the DEIS in meeting National Environmental Policy Act (NEPA) requirements; (2) transportation issues; and (3) potential impacts on wildlife, natural habitat and public parks in California.

Over the past two decades, California has provided input into federal nuclear waste management and transportation policy development programs for U.S. Department of Energy (DOE) nuclear waste, including spent nuclear fuel (SNF). We have consistently requested that these programs and federal proceedings closely examine the varying impacts on states and tribes that a massive-scale shipping campaign of spent nuclear fuel would have. Route and mode-specific analyses of transportation impacts of the alternative proposals are essential to informed decision-making regarding federal waste management alternatives.

### GENERAL NEPA INADEQUACIES OF THE DEIS

The DEIS fails to comply with both the procedural and substantive requirements of NEPA by failing to: (1) provide an adequate scoping process, (2) provide a complete and accurate project description, including full disclosure of potential transportation impacts, (3) evaluate reasonable alternatives, (4) provide adequate notice of public hearings, (5) adequately evaluate the affected environment, and (6) adequately evaluate environmental consequences from the alternatives and the proposed project.

#### 1. Inadequate Scoping Process and Failure to Provide a Complete and Accurate Project Description.

The DEIS is too narrow in scope and does not provide a complete description and analysis of the proposed project including shipment routes and modes, number and characteristics of shipments, and a route-specific analysis of potentially impacted populations and environment.

Before an agency prepares an EIS, NEPA regulations require "an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action." (40 CFR s 1501.7) As part of this process, NRC must "invite the participation of affected Federal, State, and local agencies, any affected Indian tribe,...and other interested persons (including those who might not be in accord with the action on environmental grounds..." (Id.)). NRC did not conduct an adequate scoping process. Although NRC held a small number of public scoping meetings, the DEIS does not reflect the scope of issues raised at these meetings, most notably western states comments made by the Western Interstate Energy Board High-Level Waste Committee (WIEB HLW). In their comments submitted June 19, 1998, the WIEB HLW Committee provided a list of minimum elements that western states believe should be included in the DEIS. At a minimum, the DEIS should include:

- An analysis of alternative transportation modes and routes. This analysis should include, not only the traditional assessment of distance, population exposure and time in transit, but should also examine factors which could threaten the integrity of the cask, pose problems in accident recovery, and cause delays in transit;<sup>1</sup>
- An analysis of alternative operating protocols, including the use of special trains for shipments;
- An analysis of the level of emergency response preparedness along the likely shipping routes;
- An analysis of the impact on shipment numbers and safety of various shipping casks;
- An analysis of necessary coordination and communications with the US Department of Energy's (DOE) Civilian Radioactive Waste Management Program and with affected states and tribes;
- An analysis of the impacts from moving the spent fuel after its storage period (20-40 years, under the contract) either back to its origin or to a repository. Such an analysis would include: (a) the effects of fuel decay and degradation, and (b) a description of the contingency plan and impacts if, after 20-40 years, the reactor originating the spent fuel has been decommissioned, the utility owning the fuel is no longer in existence, and/or there is no repository; and,
- An analysis comparing the impacts of extended at-reactor SNF storage versus transport to a centralized interim SNF storage facility;

However, the DEIS fails to include these minimum analyses as outlined by the WIEB HLW Committee. As a result, we do not believe that the DEIS satisfies NEPA requirements. By not providing an analysis of alternative transportation modes and routes to the PFSF, the DEIS fails to provide a complete and accurate project description and full disclosure of the potential impacts from the proposed action.

If proper scoping had occurred, states' concerns that were presented to the NRC in 1998 regarding transportation impacts would have determined the range of actions, alternatives, and impacts to be considered in the EIS. However, the DEIS fails to provide these minimum analyses, fails to consider other reasonable alternatives, and fails to consider the full range of direct, indirect, and cumulative impacts as discussed below.

---

<sup>1</sup> In the Nuclear Waste Policy Act (NWP) program, DOE has committed to conducting such an analysis as part of a repository EIS. In Volume III of the Yucca Mountain Environmental Assessment, which was conducted in 1986, DOE stated that, "[t]he 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." At a minimum, the EIS should incorporate the same analysis as was committed to by DOE for NWP shipments.

A complete and adequate EIS must present a comprehensive review of the proposal upon which well-informed decisions can be based. The whole of a proposed action should be considered in any proposed project. Segmenting or piece-mealing a project into smaller parts has the effect of avoiding full disclosure of environmental impacts and nullifies public involvement. NRC has “underreported” the potential transportation impacts of the proposed project. This approach virtually ensures that the decision-makers will act on incomplete information, thereby violating the spirit and intent of NEPA. Detailed consideration of transportation impacts should not be deferred to future environmental impact assessments.

Recommendation: The DEIS should provide full disclosure of the proposed project including potential transportation impacts in California. The revised EIS should include the analyses listed above that were recommended by the Western Interstate Energy Board High-Level Waste Committee in their comments to the NRC on June 19, 1998.

## 2. Inadequate Consideration of Project Alternatives.

Under federal law, the alternatives section is considered “the heart of the environmental impact statement.” (40 CFR S 1502.14). The EIS is required to “[r]igorously explore and objectively evaluate all reasonable alternatives” and must discuss the reasons for eliminating any from detailed study. An alternative analysis must include “substantial treatment of each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.” (Id.) In addition, alternatives to be considered must include alternatives “not within the jurisdiction of the lead agency.” (Id.) Therefore, the alternatives section should be comprehensive and discuss all reasonable alternatives.

However, the only alternatives examined in the DEIS are: (1) the “no action alternative” including that utilities would continue to store SNF at their reactor sites either in SNF pools or dry casks; (2) constructing the proposed facility at an alternative location on the Reservation, (3) SNF transportation by heavy-haul tractor/trailers and building an intermodal transfer facility; (4) same as No. 3 except the facility would be located at an alternative location on the Reservation; and (5) evaluation of an alternative secondary site in Wyoming.

We do not believe that the DEIS provides adequate explanation or analysis for not choosing the “no action alternative” as the preferred alternative of the DEIS. The DEIS does not provide sufficient analysis of the expanded at-reactor storage option to allow one to conclude that the PFS option is preferable.

The DEIS states that the no-action alternative would allow for only two options with regard to the continued at-reactor storage of spent fuel: (1) expand or construct new at-reactor storage; or (2) shut down reactors when storage capacity is reached (DEIS, page 6-43). However, other options exist for some licensees, including storage of spent fuel at other reactor sites. Additional alternative options to the proposed PFSF should be fully evaluated, including expanded at-reactor storage for each of the utilities in the PFS consortium.

The U.S. General Accounting Office concluded that virtually all utilities could store their wastes at nuclear power plant sites through the licensed 40-year operating lives of the plants and beyond. They further concluded that utilities do not need a Monitored

Retrievable Storage facility to prevent premature plant shutdown because of inadequate storage capacity. The DEIS recognizes that "if necessary, spent fuel generated in any reactor can be stored without significant environmental impacts for at least 30 years beyond the licensed life of operation of that reactor at on-site or off-site ISFSIs" (Independent Spent Fuel Storage Facilities) (DEIS, p. 6-44). The DEIS states that the use of expanded on-site storage facilities would have no significant impacts on human health, ecological resources, cultural resources, air quality, water resources, noise, scenic qualities, or recreation. Further, NRC Chairperson Shirley Jackson in testimony submitted on February 10, 1999, before the U.S. House of Representatives Commerce Committee's Subcommittee on Energy and Power, testified that "[a]s an interim measure, the NRC considers available technologies for wet and dry storage of spent fuel at reactor sites to be safe, but we view dry storage as the preferred method for supplemental storage of spent fuel at operating plants. Continued at-reactor storage, for an interim period, will continue to protect public health and safety."

The costs and benefits of transporting wastes to an off-site location for temporary storage need to be weighed against the costs and benefits of expanded at-reactor storage. In a recent document, NRC states that the "hazard involved in transporting such wastes to an offsite location cannot generally be justified in terms of cost benefit."<sup>2</sup>

In light of these statements, we do not understand the rationale for the DEIS' preferred option of building a Private Fuel Storage Facility in the West and transporting 40,000 metric tons of spent fuel to this facility, with the associated transportation risks, even though there is no licensed permanent facility available at Yucca Mountain. Further, if at the end of the 20-40 year PFS license there is no licensed permanent high-level radioactive waste repository to accept SNF, what will become of the SNF if participating utilities have decommissioned their facilities and released these sites for other uses?

NRC recently indicated that as of July 2000, there are 10 site-specific ISFSI licenses, and four general ISFSI licenses in the U.S..<sup>3</sup> These facilities are storing 436 loaded casks. (The DEIS on p. xii states that NRC has issued eight site-specific licenses for at reactor Independent Spent Fuel Storage Installations (ISFSIs) located in various parts of the country.) Clearly, utilities are increasingly using ISFSIs to increase their onsite storage capacity.

In addition, there are clear benefits to the national policy, supported by the President and the U.S. Energy Secretary, that spent fuel should remain at the power plants rather than transporting the fuel to a temporary storage facility in the West. Most of this SNF has been generated at reactors in eastern States. For example, most (91 reactors out of 104) of the commercial nuclear reactors storing and generating spent nuclear fuel are located east of Colorado. To transport SNF to the West, before the suitability of the Yucca Mountain site for a permanent repository has been determined, heightens the risk of the fuel being moved to the West with no long-term solution for the waste. The site could become by default, the final storage site, in spite of no guarantee of the long-term suitability of surface storage of spent fuel.

Recommendation: The DEIS should evaluate other more realistic and reasonable project alternatives, including: (1) continued on-site storage at reactors, including ISFSIs,

---

<sup>2</sup> NUREG/BR-0256, August 2000, page 37.

<sup>3</sup> NUREG/BR-0256, "US Nuclear Regulatory Commission and How It Works", August 2000, p. 38

(2) storage at one or more centralized locations, including locations closer to eastern reactors, (3) waste volume reduction and consolidation at existing sites, and (4) other available technologies for storage of spent fuel and high-level waste. The EIS should include an analysis comparing the costs, benefits, environmental impacts, and safety of continued onsite spent fuel storage, including ISFSIs, versus the proposed PFSF for the participating utilities. The EIS also should include an analysis comparing the costs and benefits of locating a PFSF nearer to eastern states where most of the waste is generated.

### 3. Inadequate Notice of Public Hearings

The notices for the public hearings and the DEIS are seriously deficient by failing to identify rail and truck routes through California and potentially impacted communities. These communities have no means of evaluating the relevance of the proposed action unless potential route-specific transport impacts are disclosed.

One of the reasons Congress passed NEPA was to give interested citizens and organizations a role in the federal agency decision-making process. In order for people to participate in the NEPA process, they must first be informed that a major federal action has the potential to impact them and their communities. NRC held three public hearings on the DEIS (July 27, 28 and August 21), all of which were located in Utah. NRC has made no effort to inform the citizens and public officials of California of the relevance of the proposed action to them and their communities. Most Californians along potential transport corridors have no way of knowing to what extent they will be impacted by the Skull Valley project. No hearings were held in California. The notices for the public hearings do not indicate that people in California may be significantly impacted by nuclear waste shipments as a direct result of the project. Absent any information in the DEIS on routes, people in California potentially affected by the transportation impacts from the Proposed Action have no way of determining the sufficiency of the DEIS' analysis of impacts.

Recommendation: After identifying routes and modes and impacted communities along shipment corridors, NRC should hold public hearings in California, including the major cities and regions in California that will be potentially impacted by these shipments.

### 4. Inadequate Consideration of the Affected Environment and Environmental Consequences

The NEPA regulations require the EIS to describe the environment of the area(s) to be affected or created by the alternatives under consideration (40 CFR S 1502.15). By failing to consider alternative transportation modes and routes in sufficient detail, the DEIS does not adequately describe the environments of all areas that would be affected by the various alternatives.

Recommendation: The revised EIS should discuss the full environmental impacts of the proposed project, including modal and route-specific transportation impacts.

### 5. Need for a Revised Draft EIS

If a draft EIS is "so inadequate as to preclude meaningful analysis," NRC must "prepare and circulate a revised draft of the appropriate portion." (40CFR S 1502.9). We believe

that transportation issues, including logistics and risks, should be addressed in greater depth and are, in fact, deserving of a separate DEIS.

Recommendation: NRC should revise the DEIS and more fully discuss the transportation impacts from the proposed project as described below. NRC should prepare a separate DEIS on mode and route-specific transportation impacts from the Proposed Action, in comparison with project alternatives, as discussed below.

## INADEQUATE DISCUSSION OF POTENTIAL IMPACTS

### 1. Transportation

Transportation is the single aspect of the proposed project that will affect the most people across the US, since the shipments will be travelling cross-country on the nation's highways and railways. It is essential that a full analysis be made of the ramifications and impacts of this massive transportation program. However, the DEIS' analysis of the transportation risks is overly general and superficial and does not provide sufficient information to evaluate potential impacts. For example, there is no description of the transportation of spent fuel and high-level waste through California, no identification of routes and transport modes, no evaluation of route-specific populations and environmental consequences, and no mitigation proposals offered for these impacts.

The massive scale of radioactive waste shipments to the proposed facility will be unprecedented. Total shipments of these wastes under the PFSF proposal (40,000 metric tons initially with possibly another 40,000 metric tons later) is on a scale similar to that of the spent fuel shipments proposed under the Nuclear Waste Policy Act (70,000 metric tons). This represents a large increase in both scale and complexity of operations compared to previous spent fuel shipments in the US. If the shipments are made by truck, the number of shipments would increase dramatically beyond the DEIS' estimates. A shipping campaign of such magnitude demands that the EIS establish criteria for selecting shipping routes and that a sound methodology for evaluating mixes of routes and transportation modes be developed. The DEIS, however, fails to provide these analyses.

#### a. Need for a Comprehensive Transportation Program for Spent Nuclear Fuel Shipments

The federal government has not responded to long-standing western states' priorities and requests to develop a comprehensive transportation program for spent fuel shipments to the proposed repository or storage site. Since 1985, California and other western states, acting through the Western Governors' Association and the Western Interstate Energy Board (WIEB), have consistently urged the US Department of Energy (DOE) to develop a comprehensive transportation program for spent fuel shipments.

The federal Nuclear Waste Policy Act, adopted in 1982 and amended in 1987, requires the owners and operators of nuclear power reactors to assume primary responsibility for providing interim storage of spent nuclear fuel. This Act requires federal officials to expedite the effective use of existing reactor storage facilities and the addition of needed new storage capacity, consistent with the protection of public health and safety and the environment and economic considerations. DOE originally projected that a deep

geologic repository would be available for acceptance of spent nuclear fuel in 2003. DOE later revised their schedule and have projected that the repository will not be available until at least 2010. Both DOE and the NRC have determined that the technology for safe, cost-effective, dry cask, at-reactor storage exists, and some designs are currently licensed and in use in the US and abroad. Southern California Edison, one of the utilities in the Private Fuel Storage Consortium, is currently developing dry cask storage at their reactor site.

In 1989, Western Governors adopted a resolution, that was readopted in 1992, 1995, 1997, 1999, and 2000, stating that spent nuclear fuel should remain at reactor sites until a state has agreed to storage and DOE provides reasonable transportation, safety, and emergency response assurances to the western states. They further noted that the U.S. General Accounting Office study, with concurrence from the US Department of Energy, concluded that sufficient temporary spent fuel storage capacity exists at reactor sites to safely store spent fuel pending completion of a permanent disposal facility. Clearly the GAO findings need to be reconciled with the DEIS' preferred alternative of siting a PFS in Utah.

Western states have consistently urged the federal government to recognize states' priorities regarding spent fuel and high-level waste shipments including: (1) full-scale cask testing, (2) mode and routing analysis, (3) providing timely financial and technical assistance to states for emergency response preparation, (4) using the WIPP transport program as a model in radioactive waste transport planning; and, (5) thoroughly evaluating terrorism and sabotage concerns. The Western Governors' Resolution 99-014 clearly states the need to develop a comprehensive transportation plan for these shipments. However, progress in all of these areas, as reflected in the DEIS, continues to be poor and unresponsive to states' concerns.

The WIPP transportation program represents a positive example of states and the federal government working together over several years to develop a comprehensive transportation safety program. WIPP shipment corridors were identified well in advance of the shipments to allow states an opportunity to provide input into routing decisions. WIPP transport safety, public information, and emergency response preparedness programs also were developed well in advance of the first shipment. In comparison, transportation programs for SNF shipments to the proposed PFS facility or to the proposed Yucca Mountain repository, as illustrated by the serious shortcomings of the transportation discussion in the DEIS, are seriously inadequate.

Recommendation: The federal government should develop a comprehensive transportation program for spent fuel shipments using the highly successful WIPP Transport Safety Program as a model. The revised EIS should include a full and detailed discussion of this transportation program.

#### b. Need for the EIS to Identify and Analyze Routes

The DEIS should identify specific transportation routes and transport modes for shipments to the proposed interim storage facility. Route-specific analyses and an evaluation of the impacts on States of shipment origin as well as States along transportation corridors should be included in the environmental impact statement.

The analyses of the impacts of transportation accidents should include estimates of the environmental impacts associated with cleaning up after any accidents that release radioactive materials to the environment. In addition, the EIS should identify liability for clean-up costs and applicability of Price-Anderson for recovering expenditures.

We support the Western Interstate Energy Board's conclusion that reliance on current highway routing regulations and historical rail routing practices to determine transportation routes will jeopardize the health and safety of citizens located along transportation corridors and would promote higher costs and reduced efficiency. Highway routing regulations, for example, would allow the use of virtually the entire Interstate highway system for nuclear waste shipments. Forcing states and tribes to prepare for nuclear waste shipments along multiple routes would be extremely costly and inefficient and could hinder the effectiveness of emergency response in the event of a transportation accident. Therefore, simply relying on current NRC and US Department of Transportation requirements for transporting spent fuel is insufficient.

As WIEB has consistently indicated in the past, the choice between the use of rail (and type of rail service) or truck for the transport of spent fuel will have a major impact on the number of shipments that will traverse western states. Further, the mode selection fundamentally affects routing and the populations that will be impacted. The EIS should evaluate the cost and benefits, including impact on time in transit and safety, from the use of a dedicated or special train. The EIS fails to provide sufficient information about these factors to assess the tradeoffs involved in mode choice and service choice.

Recommendation: The revised EIS should identify and analyze shipment routes to the proposed storage facility, as well as disclose the procedures and methodology used for selecting these routes. The route-specific risk analysis methodology should be subject to state, tribal, and public review as part of the revised EIS.

#### c. Routing and Emergency Response Concerns in California

California transportation agencies have expressed concern over the possibility that the federal government may decide to route through California a major portion of nuclear waste shipments using roads not designed for heavy truck traffic. This concern was heightened recently when DOE decided to reroute through southern California, including California State Route 127 (SR-127), thousands of low-level radioactive waste shipments from eastern states to the Nevada Test Site in order to avoid nuclear waste shipments through Las Vegas and over Hoover Dam.

California is concerned about the inherent risk and potential detrimental impact to highway and local roads and the surrounding areas as a result of the resulting additional heavy truck traffic. Alternate routing, such as that proposed for low-level wastes shipments to the Nevada Test Site, will take shipments off the interstate highway system and place them instead on state routes and local roads that are not designed or maintained to the same standards as the interstate highway system. As an example, although SR-127 is not approved for Highway Route Controlled Quantity (HRCQ) shipments, such as spent fuel shipments, SR-127 has been mentioned as part of a potential highway route within California that includes I-40 from Needles to Barstow, I-15 from Barstow to Baker, and SR-127 from Baker to the Nevada State line.

Many states, tribes, and local jurisdictions lack the necessary training and equipment to respond to accidents involving SNF shipments. The availability and timeliness of emergency response in the event of a radioactive waste transport accident along shipment corridors in rural areas in California is also of concern. For example, in the event of an emergency in these areas, responders and equipment would be extremely delayed in arrival at an accident scene. In case of a serious toxic or radiological release in Inyo County, California, for example, specialist response teams must be brought in from either San Bernardino or Bakersfield, a process which takes a minimum of 3-4 hours, assuming the response team is not already responding to another incident in their heavily populated region. The nearest medical trauma center facilities are located at Barstow or Las Vegas, both at least an hour and a half away by ground transportation.

The Nuclear Waste Policy Act (NWPA) Section 180(c) calls for federal action to provide improvements in emergency response training and capability along routes designated for shipments of spent fuel and high-level nuclear waste. The lack of emergency response capability along possible routes in California for these shipments and the isolated nature and current configuration of some of these roadways would make emergency response preparation costly.

The DEIS makes no effort to assess potential impacts on the resources of state, local and tribal governments who would have to prepare for, monitor, and respond to transport accidents involving spent fuel and high-level waste. Because there have been only very limited quantities of spent fuel shipped and because of the high degree of public visibility and concern, the impacts on state, local and tribal governments from the proposed spent fuel shipments will be extremely high. The EIS must acknowledge and take into consideration the substantial impacts, including resource impacts, of the proposed shipments on state, tribal and local jurisdictions.

The DEIS does not provide estimates of the resources needed to prepare communities along the shipment routes. The State and local communities along the routes would be burdened by significant new costs to protect its residents. The scarcity of emergency response resources along certain potential routes in California makes it very unlikely that the federal government would be able to meet its obligations under the NWPA without a major commitment of funding and extensive effort.

Recommendation: The EIS should identify roadway and emergency response improvements and associated costs necessary to protect the public and resources along shipment corridors. The federal government should commit to working with the State of California and local jurisdictions allowing sufficient time prior to the first shipment to develop transport and emergency response plans, training, and exercises.

#### d. Need for Federal Government, Not Carriers, to Select Shipment Routes

The DEIS used current regulations governing highway shipments and historic rail industry practices to select truck and rail routes to identify potential environmental impacts of transportation. As a representative from the Western Interstate Energy Board's High-Level Radioactive Waste Group recently testified, western states believe that reliance on current highway routing regulations and historical rail routing practices to determine transport routes for spent fuel shipments is insufficient. Highway routing regulations, for example, would allow the use of the Interstate Highway System for nuclear waste shipments. Forcing states and tribes to prepare for nuclear waste

shipments along all of these possible routes would be extremely costly and inefficient and could hinder the effectiveness of emergency response capability in the event of a serious transportation accident.

In 1998, the majority of states through their representation on regional nuclear waste transport planning groups<sup>4</sup> in a consensus letter to DOE wrote that

“the multiplicity of available routes, coupled with the scarcity of resources for training state and local personnel, makes it imperative that the Department adopt a more coordinated approach to selecting the routes for these shipments.”

The letter also recommended that DOE develop a routing policy that would: (1) make the federal government, not the carrier, responsible for route selection to allow the most efficient use of emergency response resources by limiting the total number of routes; and, (2) provide states and communities sufficient time to prepare for shipments by identifying national routes well before shipments begin.

The need for selecting shipping routes for spent fuel shipments is based on three goals identified by the WIEB HLW Committee:

- Promote public acceptance of the selected route by eliminating the carrier’s role in selecting routes and substituting defensible route-specific analyses and appropriate mitigation measures;
- Allow resources (inspections, emergency response, etc.) to be focused by limiting shipments to as few routes as possible; and,
- Give states and communities sufficient time to prepare for shipments by eliminating the uncertainty regarding which routes will be used well before shipments begin.

Recommendation: The federal government, and not carriers, should select and evaluate spent nuclear fuel/high-level waste shipment corridors.

#### e. Need for the EIS to Analyze and Select Transport Modes

The DEIS fails to analyze alternative transportation modes for shipments to the proposed PFS. The DEIS indicates a preference for rail. However, not all commercial reactors have rail access and alternative modes will need to be considered. The choice among the use of rail, truck or barge for the transport of spent fuel will have a major impact on the number of shipments, populations impacted, and routes selected. If rail is selected, for example, most of the rail lines traverse major urban areas since major urban areas developed around rail centers, and, it is likely that the thousands of spent fuel shipments will traverse some of the most heavily populated areas, with limited alternatives for avoiding these areas. Further, rail routes were developed to meet commercial needs, and may not necessarily reflect public safety concerns.

---

<sup>4</sup> Western Interstate Energy Board's High-Level Radioactive Waste Committee, the Council of State Governments' Midwestern High-Level Radioactive Waste Committee, the Northeastern High-Level Radioactive Waste Transportation Task Force, and the Southern States' Energy Board's Advisory Committee on Radioactive Materials Transportation and Transuranic Waste Transportation Working Group

Because of the significant impact modal choice will have on the number of shipments, populations affected, and routes selected, by not providing an analysis of alternative shipment modes the DEIS should provide an analysis of shipment modes. By not including a modal choice analysis, the DEIS fails to adequately assess the transportation-related impacts of potential spent fuel shipments to the proposed PFS.

If rail is selected, the California Public Utilities Commission Railroad Safety Branch will engage in inspections, investigations, and surveillance activities with respect to the Federal Railroad Administration's State Safety Participation Regulations (49 CFR part 212) issued under authority of 49 U.S.C. 20101 et seq., subpart V. If these shipments are to be made by rail in California, California inspectors will conduct inspections relating to the five railroad safety disciplines of Track, Motive Power and Equipment, Signal and Train Control, Operating Practices and the Transportation of Hazardous Materials.

Recommendation: The EIS should analyze and select the transport modes for shipments to the repository, including identifying intermodal (rail to truck transfer locations or vice versa) options and locations. The numbers of shipments and routes need to be identified, as well as the estimated costs to states for truck and rail safety inspections. Modal selection should be optimized for each generator site to minimize public health and safety impacts.

f. Need for a Comprehensive Transportation Analysis of Public Risks and Costs

The DEIS does not provide any meaningful quantitative transportation risk assessment, but instead refers to other agencies' regulatory authority. For example, transportation accident hazards are addressed by simply stating that transport of wastes will occur in accordance with U.S. Department of Transportation and NRC regulations.

Any analysis of transportation risks associated with shipping spent fuel is extremely sensitive to the assumptions made regarding, for example, routing, the amount of material shipped by rail versus truck, and the number of people along the routes and at various stops. The DEIS uses the "Modal Study" (NRC 1987) to predict very low probabilities of release of radioactive materials from a spent fuel cask under accident conditions. These analyses and risk analysis tools such as RADTRAN, although accepted by federal agencies for assessing transportation risks, have been criticized because of changing assumptions about cask capacity (new-generation casks will have much larger capacities), the radioactive characteristics of the spent fuel (radioactivity varies with fuel age and burn-up levels), the role human error may play in manufacturing, quality control and operation of the casks, and the risk of sabotage or terrorist threat against a shipment.

In addition, tools such as RADTRAN incorporate critical assumptions about roadway geometrics and maintenance standards that require review if non-interstate routes are to be considered. The large projected increase in the numbers and operational complexity of spent fuel shipments to the proposed repository, in comparison with past shipments, may result in greater opportunities for human error in construction and operation of the spent fuel shipping casks. These factors should be taken into consideration in the DEIS' transportation risk assessment.

Further, the DEIS should provide a route-specific evaluation of the increased transport risk as the result of earthquakes, flooding, poor road conditions, and weather conditions. In addition, some routes are heavily traveled tourist and recreational routes. These routes can be greatly impacted by increased traffic. Increased truck traffic could influence the safety, reliability and congestion characteristics of these routes. The EIS should evaluate such potential impacts.

Recommendation: The EIS should conduct a comprehensive risk analysis of routes and transport modes including public risks and costs to states, tribes and local communities to prepare for these shipments. When the proposed routes are identified in California, future EIS analyses should include a complete environmental review, including route-specific environmental analyses, in accordance with the requirements of the Clean Air Act, NEPA and the California Environmental Quality Act. This routing analysis of the primary and secondary routes should include structural and geometric road characteristics, emergency response capabilities along these routes, socio-economic impacts, wildlife, habitat, and public parks impacts, as well as risks to human populations along these routes. The DEIS should identify the significant fiscal impacts of emergency response preparation for these shipments and necessary road and rail improvements.

## 2. Potential Impacts on Wildlife, Natural Habitat and Public Parks

The California State Park system includes 265 park units encompassing 1.4 million acres within which the State is responsible for preserving representative samples of the extraordinary natural and cultural resources and biological diversity of our State. Nearly half of these park units, including State Parks, State Historic Parks, State Beaches and State Recreational areas, are located along potential spent fuel shipment routes in California. In addition, the Death Valley National Park is located adjacent to potential routes in California. The EIS should evaluate the potential impacts along shipment corridors to fish and wildlife populations, natural habitat, and public parks in California, in the event of a severe transportation accident, as well as proposed mitigation measures to offset these impacts.

There is no discussion in the DEIS of potential long-term adverse impacts to animals and plants along shipment routes. All of the DEIS' long-term evaluations are based on human health considerations. The DEIS makes the faulty assumption that the few predicted latent cancer fatalities from the proposed project will result in no impacts on the aquatic, wildlife and plant populations that are dependent upon the water resources potentially affected by the project. These natural populations have taken tens of thousands to millions of years to adapt to their current habitats. These time scales should be considered in determining potential impacts to these populations.

Further, transportation routes could potentially impact habitat for threatened or endangered species. The DEIS should include a description of transportation routes, including road or rail construction or improvements in California, and impacts to species identified as of concern.

Recommendation: The DEIS should provide a complete description and analysis of potential transportation impacts on wildlife, natural habitat and public use parks.

## CONCLUSIONS AND RECOMMENDATIONS

The DEIS' failure to consider fully the potential transportation impacts from the proposed project in comparison with the costs and benefits of expanded at-reactor storage of spent fuel prevents reasonable evaluation of the on-site alternatives compared with the proposed action. We have significant concerns over the superficial and general discussion in the DEIS of potential transportation impacts in California from the proposed project. Following our review, it is our conclusion that the DEIS is fundamentally flawed and seriously incomplete because it fails to: (1) fully disclose the transportation impacts from the proposed project; (2) fully evaluate reasonable project alternatives in comparison with the proposed action, (3) identify and analyze potential route-specific and modal specific impacts to populations and the environment along shipment corridors, (4) adequately address issues critical to western states that were identified early on in the public scoping process, and (5) provide adequate notice to impacted communities along transportation corridors of the significant transportation impacts from the proposed project.

Concerns regarding the proposed facility include:

- its location in the West at great distances from the majority of reactors in the U.S. This will increase the transportation risks and costs for these shipments.
- No provisions have been made for federal resources to support state and local governments in accident prevention and emergency response to a potential accident involving these shipments. However, many states and local jurisdictions lack the training and equipment necessary to respond to accidents involving spent fuel shipments to the proposed facility.
- At the proposed private storage facility, each nuclear utility storing spent fuel at the facility would retain ownership and liability for its own wastes; however, there are questions regarding liability and cost reimbursement in the event of a major accident.
- Without an available permanent disposal site, there is no guarantee that a private interim storage site will be temporary. There is no way to ensure that spent fuel rods that are shipped to a private storage facility will ever be removed, nor is there a contingency plan for what would become of the fuel, if the originating reactor has been decommissioned and the site turned over for other uses or if the utility is no longer in existence.

In light of the significant transportation impacts in California from the proposed spent fuel shipments, California will need sufficient time and resources to conduct a thorough review of planned shipments to determine any necessary infrastructure improvements, as well as to develop transportation safety and emergency response programs. The federal government must commit to the following as a prerequisite to spent fuel shipments in California: 1) identify the shipping origins, destination points, transport modes, and routes as early as possible, at least 3-5 years before the first shipment, and require carriers to use these routes; 2) with State and local input, develop responsible criteria for selecting routes; 3) prepare a comprehensive transportation plan that includes the analysis of all needed transport-safety activities; 4) work cooperatively with the

states and local jurisdictions along shipment corridors to ensure the safe transport of these wastes; 5) provide financial support for necessary highway and rail improvements, maintenance and rehabilitation, emergency response training and equipment a minimum of 3-5 years before the first shipment; 6) follow the WIPP Transportation Safety Program example for developing transport safety and emergency response plans and training programs; 7) review accident and terrorism response plans, 8) conduct a needs assessment in California, using input from state and local agencies, for road or rail safety improvements, emergency response training and equipment needs, and overall route improvements, and (9) form a working committee with state and local jurisdictions along shipment corridors at least 3-5 years prior to the first shipment to facilitate coordination, cooperation, communications and training.

We support the national policy for permanent deep geologic disposal of spent nuclear fuel. Commercial spent nuclear fuel should remain at reactor sites until: (1) a permanent storage/disposal site is operational; (2) the federal government and the nuclear utility companies have worked with the corridor states and tribes to develop an acceptable transportation plan for shipping the waste to permanent storage or disposal site; (3) DOE and the nuclear utility companies have put into place an acceptable program to handle, store, and dispose of this waste; and (4) DOE and the nuclear utility companies have ensured that adequate state and local emergency response and medical response training and equipment are in place in the event of an accident during shipment.

In conclusion, the information and analyses provided in the DEIS are insufficient to support a well-informed decision regarding the proposed action. The DEIS fails to consider adequately the cost/benefits of expanded on-site spent fuel storage for the participating utilities in comparison with the cost/benefits and associated transportation impacts from the proposed private fuel storage facility.