



N A R U C
National Association of Regulatory Utility Commissioners

RRR000525

January 4, 2008

Dr. Jane Summerson
EIS Document Manager
Office of Civilian Radioactive Waste Management
U.S. Department of Energy
1551 Hillshire Drive, M/S 011
Las Vegas, NV 89134

Re:
**Draft Supplemental 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 (DOE/EIS-0250F-S1D)**

**Draft Supplemental 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 –Nevada Rail
Transportation Corridor (DOE/EIS-0250F-S2D) and Draft
Environmental Impact Statement for a Rail Alignment for the
Construction and Operation of a Railroad in Nevada to a
Geologic Repository at Yucca Mountain, Nye County, Nevada
(DOE/EIS-0369D)**

Dear Dr. Summerson:

Thank you for your letter of October 4, 2007 providing summaries of the referenced NEPA documents for the Yucca Mountain project and inviting us to comment. NARUC made oral comments at the December 5, 2007 public hearing in Washington and is pleased to submit additional comments in the attachments.

Thank you for the opportunity to comment on the documents in support of the civilian radioactive waste management program which is vital to energy security in the United States.

Sincerely,

Charles D. Gray
Executive Director

Attachments

I. General Comments

Our Relationship to the Repository Program

1 [The National Association of Regulatory Utility Commissioners (NARUC) has been an active stakeholder in the important matter of safe, long-term disposal of commercial spent nuclear fuel since the enactment of the Nuclear Waste Policy Act of 1982. That is because the NWPA sets forth two central tenets to that disposal:

- a. The federal government is responsible for the permanent disposal of all commercial and government high-level radioactive waste in a geologic repository.
- b. The utilities generating electricity from nuclear power are responsible for the share of disposal costs related to the spent nuclear fuel they produce.

NARUC and the State public utility commissions it represents have a direct interest in fee payments to the Nuclear Waste Fund (NWF) paid by those utilities because utility commissions oversee the pass-through of those fee payments to their ratepayers in accordance with State laws and regulations.]

Overall Environmental Impacts of the Proposed Action

2 [The 1999 Repository DEIS stated that, "The analyses in this EIS did not identify any potential environmental impacts that would be a basis for not proceeding with the Proposed Action." The proposed action is to construct, operate and eventually close a geologic repository at Yucca Mountain, including transportation of spent nuclear fuel and other high-level radioactive waste from present commercial and government storage sites.

After reviewing the changes in design and operational plans, changes in computer analysis tools and in the present and future environment in Nevada and other locations, this Draft SEIS concludes (page S-51), "that the potential impacts associated with the current repository design and operational plans are similar to impacts presented in the Yucca Mountain FEIS." We share that conclusion.]

Relationship Among the EISs

- 3 [NARUC provided written comments on the 1999 Draft EIS for the Repository and the 2001 Draft Supplemental EIS. We appreciate the opportunity to review and comment on the 2007 Draft Supplemental EIS for the Repository as well as the Draft Supplemental EIS for the Nevada Rail Corridor and the Draft EIS for the Rail Alignment.

Figure 1 in the Foreword provides a useful representation of the relationship among the several documents.]

- 4 [We also understand the further purpose that the Repository SEIS might serve, to the extent practicable, for use by the Nuclear Regulatory Commission (NRC) in adopting the document for an EIS associated with the licensing action environmental impact documentation.]

The Site Selection Process Stipulated in the NWPAs Has Concluded

- 5 [While some reviewers of the document and stakeholders in the repository development may not have fully accepted it, it is worth emphasizing the statement on page S-1 that, "This action (the President signing into law the joint resolution in 2002 designating the Yucca Mountain site) concluded the site selection process stipulated in the NWPAs." Some opposed to the development of the repository at Yucca Mountain may cling to the belief that the matter remains an open question, but that would only be so if:

- a. DOE were to find new information to conclude the site is not suitable after all and would not submit a construction license application to the Nuclear Regulatory Commission (NRC), or
- b. The NRC denies the construction license after finding the proposed repository does not meet regulatory requirements, or
- c. Congress takes legislative action to nullify the joint resolution.

Presuming the license application now under preparation by DOE is consistent with the analysis and conclusions in this Supplemental EIS, we urge that the license application be submitted so that the technical and regulatory review can be begun by the personnel at the NRC who have the qualifications and responsibility to conduct the rigorous license review.]

The Draft SEIS Provides More Current Information and Analysis

- 6 [The listing on Page S-vii and diagram in Foreword Figure 1 provide a comprehensive summary of the changes in the repository plans and the transportation that are addressed and relationship among the several documents. Together, the documents serve to provide the most current representation of the complexities of the repository program. Although many matters, such as radiological effects thousands of years into the future, may remain subject to greater degrees of uncertainty compared with the more mundane environmental impacts such as air quality, the documents provide extensive details on how those impacts were assessed.]

II. Specific Comments

- 7 [NARUC SEIS 1 Page S-3, S-38 TSPA SEIS [Using a our coding reference system]

Although few may be able to follow a full discussion of how the Total Systems Performance Assessment is used to forecast dose estimates, because that model is so pivotal on the determination of whether the repository will meet the radiation dose standard for the various scenarios, we would suggest that a reader-friendly summary be made available for stakeholders. The discussion on page S-38 seems to have been written more for analysts by analysts and is likely too nuanced for the general reader.]

- 8 [NARUC SEIS 2 Page S-4, S-10 Percentage of Commercial Spent Fuel to be Received in TAD Canisters

We understand the anticipated advantages in safety, cost-effectiveness and simplified operations to be gained by the shift to the use of TAD canisters under the revised concept of operations. We have concerns that the goal of 90 percent of spent fuel arriving at the repository in TAD containers may not be realistic due to the slippage in waste acceptance that has occurred and is likely to continue. There are over 40 independent spent fuel storage installations (ISFSIs) at reactor sites today and more will be required since the cooling pool capacity will in most cases be exceeded by the amount of spent fuel discharged from the reactors. Since the TAD containers do not exist today and may not be available until 2011 or later, the surplus spent fuel, of necessity, will have been placed in sealed, non-TAD containers. It is our understanding that spent fuel in that form will still need to be shipped in non-TAD containers. We do not have access to the data on quantities that will be in that condition by the time the shipment schedule calls for each shipment to be made, but we suspect that it will be more than ten percent.

We are pleased to note the reference on page 2-9 to inclusion of a sensitivity analysis in Appendix A that considers the potential case that only 75 percent of commercial spent nuclear fuel could be placed in TAD canisters at commercial sites, with the remainder being loaded into TAD canisters at the repository.

The comment on page S-4 suggests that DOE may be flexible on the percentage of spent fuel being received in non-TAD containers. We urge that the surface handling facilities be of sufficient capacity for meeting forecasted waste acceptance flow rates.]

9 [NARUC SEIS 3 Page S-4 Nye County Community Protection Plan

We are pleased to see continued involvement by Nye County in the repository program as a cooperating agency. NARUC supports the thrust of the County's Community Protection Plan and urges that DOE be pro-active and innovative in enabling the County to achieve the objectives of those plans. We also support the proposal by Nye County for DOE to partner with the County in an adaptive management approach to monitoring and assessment of environmental and socioeconomic conditions as the repository is developed and operates over time.]

10 [NARUC SEIS 4 Page S-7 70,000 MTHM Repository Scope

The proposed action in this SEIS is to develop and operate a repository at Yucca Mountain for the disposal of 70,000 metric tons (MTHM) of spent fuel and other high-level radioactive waste, per the statutory capacity limitations in the NWPA. Even if Congress were to enact the *Nuclear Fuel Management and Disposal Act* with the proposed repeal of that capacity limit, that bill has not been passed. Although the SEIS assesses the environmental impacts of two inventory module quantities greater than 70,000 MTHM, they are recognized as contingency analyses. We have seen comments by repository opponents related to transportation in which the shipment quantities are cited from the inventory modules rather than the proposed action level of transport activity.]

11 [NARUC SEIS 5 Page S-13 Repository System Flow Chart

Section S.2.3.1 and Figure S-6 provide an excellent narrative and graphic representation of the flow and interrelationship from transportation to the repository, handling and storage at the surface facilities and emplacement underground. We note with satisfaction the step for commercial spent fuel arriving in dual-purpose canisters and the accommodation for transfer to TAD canisters in the wet handling facility.]

12 [NARUC SEIS 6 Page S-17 Transportation in Overweight Trucks

In the case of commercial sites that do not have the ability to load out large capacity rail shipping casks, presumably TADs or dual-purpose dry casks, the transportation plan presented in the SEIS is to ship the material to the repository in overweight trucks. Yet, sites that could load the rail shipping casks but lacked rail access at the origin point could use heavy-haul trucks or barges to ship the fuel to the nearest rail line. We recognize that there will be ample time to plan and coordinate the details of each shipment with the owners of the fuel in each case, but there are other stakeholders, such as the State radioactive materials transportation officials that DOE is working with in the transportation planning process, who will want to know mode and routing plans in their respective jurisdictions. We expect that the public will prefer that more of the waste be transported by rail to the fullest extent and that use of heavy-haul and overweight trucks be minimized.]

13 [NARUC SEIS 7 Page S-20 Shared Use of Railroad

We are pleased to see that DOE prefers the Shared Use option for the Nevada rail line to be built to the repository. It would seem that this would contribute to the Nevada economy if it can be done on a not-to-interfere basis.]

14 [NARUC SEIS 8 Page S-30 Pre-Closure Radiological Impacts

Radiological risk representation seems to be one of those specialized areas of science and public health in which technical specialists in the field have developed and use measures that are undoubtedly suitable for their use, but which do not translate well to the general public. Section S.3.1.7.2 has a discussion on updated latent cancer fatality conversion factors and indicates that DOE has used the conversion factor of 0.0006 latent cancer fatality per person-rem. In the text (Page 4-60) that is repeated and the reader is given several references to "DOE guidance" but no translation of what a person-rem is.]

15 [NARUC SEIS 9 Page S-32 Sabotage Events

Sections S.3.1.8.2, 4.1.8.4 and Appendix E.7 provide useful analysis of risk and likely effects of sabotage on the repository. In the post-closure period, the risk is nil due to the optimal security of emplacing the waste in a geologic formation providing protection from inadvertent and intentional human intrusion.

Even during the operating years the surface facilities and the shielding of waste in robust containers there is low probability of harm to exposed workers or the general population. An aircraft accident scenario is analyzed, even though the airspace over the repository site is currently restricted and is expected to remain so, at least throughout the pre-closure period.

Of course, there is no site-specific assessment of sabotage threats to sites where spent fuel and other waste is stored today and would be stored under the No-Action scenarios.]

16

[NARUC SEIS 10 Page S-35 Regulatory Framework

Having just passed the one-year anniversary of the date by which the EPA said it would publish its final revised radiation rule (40 CFR Part 197) for the repository to comply with court-ordered revisions, the repository program could be in suspense over what the final rule will require, even though the SEIS incorporates the revisions from the draft rule. It seems to us that EPA's tardiness shows an unjustifiable indifference or lack of support to this important national project. We lament that Section 114(e)(2) of the NWPA seems to have been ignored: "Any Federal agency that determines it cannot comply with any deadline in the project decision schedule, or fails to so comply, shall submit to the Secretary [of Energy] and to the Congress a written report explaining the reason for its failure or expected failure to meet such deadline..." as well as other actions for the Secretary to take to advise Congress on the effects on the project decision schedule. It seems to us that the federal government collectively acts with indifference to the fact that owners of commercial spent fuel were required to enter into contracts with DOE which call for the owners to pay fees into the Nuclear Waste Fund and that DOE was to have begun waste acceptance for disposal in the repository starting in January 1998. In the meantime the owners continue to make their fee payments with little to show for it.]

17

[NARUC SEIS 11 Page S-39 Post-10,000 Year Dose Levels

The last paragraph on this page starts with a sentence that seems to be incomplete—"Analyses indicate that for the post-10,000 year period, the median annual individual doses would be approximately 0.98 respectively." The description and quantities are correctly presented on Page S-51.]

18 [NARUC SEIS 12 Page S-45 No-Action Scenarios

Many comments were made about the two No-Action scenarios in the repository FEIS. In our 1999 comments on the draft EIS, NARUC was emphatic that both scenarios were unacceptable, being excessively expensive in Scenario 1 and presenting an extreme and irresponsible risk to public health in Scenario 2. Neither fulfills the requirements of the NWPA and would breach the contracts between DOE and the spent fuel owners and result in the spent fuel remaining where it is indefinitely.

We understood the basis for the methodology used to assess the aggregate impacts of the two No-Action alternatives, but continue to feel that such an approach of assessing the environmental impacts in a generic way fails to adequately consider the local interest of a specific location and its context. DOE likely received no comments on the repository DEIS and will not likely get any on the SEIS regarding the environmental impacts of leaving spent fuel at the decommissioned nuclear plant site at Wiscasset, Maine for example. Since there is no proposal to keep the spent fuel there for 10,000 years or longer, nearby residents had no presentation of such a possibility and certainly no environmental impact assessment to review. No one from DOE came before a public hearing in their vicinity describing those impacts. The aggregated impacts tabulated in Table S-3 are too abstract compared to a full investigation of the effects each of the 76 sites where waste would remain in the No-Action scenarios.]

19 [NARUC SEIS 13 Page S-46 Global Nuclear Energy Partnership

We agree that the potential development and deployment of reprocessing of spent nuclear fuel under the Global Nuclear Energy Partnership or similar program is too speculative at this stage to consider a change in the quantity and characteristics of material to be emplaced in the repository that would be different than that presented in this SEIS.]

20 [NARUC SEIS 14 Pages S-52 to S-72 Environmental Impact Tables

Aside from the fault we find with the two No-Action scenarios in Table S-3, the data and comments in Tables S-1 through S-4 seem to be reasonable and are supported by analyses in the SEIS and its appendices. We lack the resources to double-check the quantitative impact calculations. The display is usefully organized and will help stakeholders consider what the DOE believes the impacts are and compare them with their own senses on the matter.]

III. Summary

21 [The purpose and need for the repository remain as they were presented in the Draft EIS in 1999. Nothing in the intervening years has changed the policy first set forth in the NWPA in 1982: that the spent nuclear fuel and other high-level radioactive waste cannot remain where it is indefinitely and that geologic disposal in a suitable repository is the preferred disposition of that material. In 2002, the President and the Congress affirmed Yucca Mountain as the suitable site, with the final determination to be made by the Nuclear Regulatory Commission per the NWPA and the radiation standards to be set by the Environmental Protection Agency and as incorporated in the NRC's licensing regulation.

The SEIS does a comprehensive job of gathering much information on the environmental impacts for both the pre-closure and post-closure period which will be useful references for stakeholders in the repository both in and outside of Nevada.

Many of the environmental impacts of the proposed repository are those as would be expected of a major construction project of this magnitude in a remote desert region. What sets the project apart from other infrastructure projects is that the repository will be used for disposal of high-level radioactive material to isolate the material from human contact for an almost unimaginable period during which the planet and lifeforms may change in ways we cannot comprehend.

Based on the calculations of the Total Systems Performance Analysis model, DOE presents its conclusions in this SEIS that the radiation dose estimates for the various conditions set forth in the draft radiation rule are well below limits set for the pre-closure and post-closure period out to one million years. We expect the validity of those calculations and the assumptions used in the TSPA modeling will be a central part of the NRC license review process. Some are ready to pre-judge that review because they either support or oppose the repository at Yucca Mountain. We are not expert in such matters and must await the rigorous licensing review process that we expect to be a fair and open process.]

22 [We have some questions and suggestions related to implementation of the repository once licensed that we have raised in our comments. There are many questions about waste acceptance plans and transportation that we urge DOE to pursue with parties directly involved, primarily the owners of spent fuel which have "paid in advance" for a service that was to have been provided beginning over ten years ago and has not yet been performed. We appreciate

that there are sensitive matters that are in litigation, but it is our view that DOE needs to develop detailed waste acceptance and transportation plans for each of the owners of spent fuel at the active and inactive reactors at 72 locations detailed in this SEIS. Moreover, DOE, which has done a commendable job of working with State radioactive materials transportation and safety officials on conceptual transportation planning, now needs to refine that planning into preliminary shipment plans for each originating point and share that planning with appropriate State officials.]

I. General Comments

Overall Environmental Impacts of the Proposed Action

23 [The National Association of Regulatory Utility Commissioners (NARUC) has been an active stakeholder in the important matter of safe, long-term disposal of spent nuclear fuel in a geologic repository. We reviewed and commented upon the Draft Environmental Impact Statement for the repository in 1999 and provided scoping comments for the Supplemental EIS as well as for the rail alignment EIS.

While fulfillment of the proposed action considered in the 2002 Yucca Mountain Repository EIS and the Supplemental EIS being concurrently reviewed is contingent on approval of a license to be issued by the Nuclear Regulatory Commission, construction and operation of a railroad to the geologic repository site at Yucca Mountain is within DOE's authority, provided Congress appropriates necessary funding and DOE adheres to applicable federal laws and regulations.]

24
25 Stepping back for a moment, we would like to review some decisions already made by DOE on transportation of spent fuel. [We agree with the 2004 decision selecting the "mostly rail" transport mode and the decision to use dedicated trains. We would have preferred the shorter, less-expensive, easier to build and operate rail routes to the repository site; either the Caliente-Chalk Mountain, Jean or Valley Modified corridor over the Caliente corridor that DOE selected. It was appropriate to re-open the corridor selection when it appeared that there was a possibility that a Mina route might be feasible, as evaluated in this Draft SEIS.] [We understand and agree with the concepts of the DOE decision to shift to the TAD-based canister system, but we have questions to be pursued having to do with the spent fuel already stored at reactor storage sites in sealed, non-TAD containers and questions about shipments from present locations that lack either rail access or the means to transfer spent fuel into TAD canisters.]

26 [We are also concerned about the possibility that the proposed rail line might not be completed and ready to operate when the repository is otherwise ready to receive spent fuel for emplacement in the repository. If there is going to be a contingency scenario involving truck transport during some transitional period before rail access to the repository is available, many stakeholders need to be aware of that in advance so they can plan and support such a plan. We believe that public confidence in subsequent shipping operations will be enhanced or diminished by how well the initial shipments are made.]

- 27 [The identification and analysis of environmental impacts for the Mina corridor are interesting but seem moot following the Walker River Paiute Tribal Council reconsideration of its 2006 letter withdrawing an earlier objection to a possible railroad through their reservation. As a result, DOE now declares the Mina corridor a nonpreferred alternative.]
- 28 [Yet, we are aware of the study by Nye County, *Rail Transportation Economic Impact Evaluation and Planning Study for the Caliente and Mina Corridors*, which shows substantially greater economic development value in the shared-use option for the Mina route than the Caliente route. Nye County contends that a through-going railroad built and operated via Mina and Jean poses great potential for opening up commerce for rail traffic connecting central Nevada to the ports of Oakland/San Francisco and the Los Angeles metropolitan area. That seems to warrant collaborative consideration by DOE and Nye County and hopefully the State of Nevada, especially if there is further delay in rail corridor development appropriations.]
- 29 [The incorporation of new information in S.2.6 about the previously considered and rejected Carlin, Jean and Valley Modified corridors seems to be a matter of bringing the record up to date since 2002. Land-use and ownership conflicts add complexity and the likelihood of delay in the Jean and Valley Modified corridors, as noted in S.2.9.]
- 30 [Not mentioned in the DEIS is the financial management for a several billion dollar capital investment in building a railroad. The repository program throughout its history has been on a year-to-year budget basis with annual appropriations from Congress. The Fiscal Year 2008 budget uncertainties of constrained obligation rates under a series of continuing resolutions and finally having a 22 percent cut made three months into the fiscal year is hardly the way a capital project could be funded. Congress, it seems to us, should authorize the capital costs of the repository program, such as the building of the railroad as a vital segment of the program, and then appropriate the annual amounts needed to meet the cash flow requirements of meeting a milestone schedule. That calls for a project management approach that Congress has yet to indicate it intends to apply to the repository program.]

II. Specific Comments

- 31 A. [Cost of Construction. The Mina route is both shorter (and would use some existing Department of Defense trackage) and less costly to construct than the preferred Caliente corridor (\$1.7 billion in year 2005 dollars compared to \$2.2 billion.) We are aware of contentions by the State of Nevada that

the Caliente corridor could cost even more than \$2.2 billion as the alignment traverses challenging terrain in remote sections of the State.]

32 B. [Construction Employment. Between 7,600 and 8,100 construction workers with up to 10 or 12 construction camps cited in Table S-5 gives an indication of the magnitude of the railroad construction required in either the Mina or Caliente route. The economic impact along the corridor routes and throughout the State from the railroad construction is considerable.]

33 C. [No-Action Alternative. Stating in S.3.2.5. that, “In the event that DOE were not to select a rail alignment in the Caliente corridor or the Mina corridor, the future course it would pursue to meet its obligations under the NWPA is uncertain,” is insufficient given the importance of this railroad to the repository program. It seems to us that if neither Caliente nor Mina were to prove infeasible, DOE would have to backtrack to either reconsideration of the Carlin, Jean or Valley Modified corridors or re-evaluation of the whole “mostly rail” transport mode and even the TAD-based repository system.]

34 D. [Sabotage. Much has been said by opponents of either the Yucca Mountain repository or of transportation of spent nuclear fuel to suggest that it is unsafe to ship spent fuel or other forms of high-level radioactive waste. Especially following the terrorist attacks on non-nuclear fixed targets on September 11, 2001, there are also concerns expressed by some over the risks of sabotage attacks on nuclear waste shipments en route to the repository and along these rail alignments. The summary in S.3.4.10.2 reminds the public that all shipments will be in NRC-certified shipping casks that are protected by robust metal structure. We concur with DOE’s conclusion that the probability of a sabotage event that would result in a major radiological release would be low.]

35 E. [DOE Preferred Alternative. S.3.7 states that DOE’s preferred alternative is to construct and operate a railroad along the Caliente rail alignment and to implement the Shared-Use Option. We agree with the shared use on a not-to-interfere basis. We can support the Caliente Corridor, but in view of the potential economic development benefits to Nevada, to say nothing of the lower cost of construction, we urge continued investigation of the possibility of building in the Mina corridor. Perhaps there be a “win-win” outcome if the Walker River Paiute Tribe could share in the savings.]

III. Summary

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[We support the preferred alternative to construct and operate a railroad along the Caliente corridor, if the Mina route is infeasible, and to implement the shared-use option, with the understanding that shared-use would be subject to approval of the Surface Transportation Board. The benefits of shared-use for the Nevada economy seems to be worthwhile to accommodate, provided there is no interference with the main purpose of the railroad to enable shipment of spent fuel and other radioactive waste to the repository.]