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FEB 0 8 2000

February 2, 2000

EIS001208

Ms. Wendy R Dixon
EIS Project Manager
Yucca Mountain Site Characterization Office
US Dept of Energy
PO Box 30307, Mail Stop 010
North Las Vegas, Nevada 89036-0307

Dear Ms. Dixon:

Thank you for the opportunity to comment on the draft environmental impact statement (EIS) for the Geologic repository for the disposal of spent nuclear fuel and high-level radioactive waste at Yucca Mountain, Nye County, Nevada (DOE/EIS-0250D). We have received comments from our Nuclear Waste Program on the draft EIS after their review of the document.

The concerns focus on:

- Specific inadequacies of the no action alternative and its analysis;
- The limitations of the proposed alternative to address nationwide disposal needs, and the lack of analysis of reasonable alternatives that would result;
- The change of assumptions for different alternatives that make comparison difficult;
- The lack of route-specific analysis of transportation impacts; and
- The lack of integration in U.S. Department of Energy decision-making.

Detailed comments from our Nuclear Waste Program are attached. If you have any questions, please call Mr. Max Power at (360) 407-7118.

Sincerely,

Rebecca J. Inman

Rebecca J. Inman
Environmental Review Section

EIS #995176
cc: Max Power, Nuc Waste

Attachment (1)

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DEPARTMENT OF ECOLOGY
NUCLEAR WASTE PROGRAM

January 28, 2000 **EIS001208**

TO: Rebecca Inman, SEPA Coordinator

THROUGH: Mike Wilson, Nuclear Waste Program Manager

FROM: Max Power, Nuclear Waste Program Specialist

SUBJECT: USDOE Draft EIS for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, NV

Our review of the Yucca Mountain Draft EIS is focused primarily on three areas that are of most direct concern to Washington State:

- The limitations in its analysis of the "No Action" alternative, given that various forms of "No Action" would directly affect the health and environment of Washington's citizens.
- The lack of integration of this EIS with other Department of Energy actions and analyses.
- The transportation aspects of the EIS.

1. Limitations of the No-Action Alternative Analysis

The "proposed action" implies that part of the "no action" alternative will occur. We recognize that this draft EIS is unusually constrained by statute and other indicators of congressional intent. Nonetheless, it does not adequately address the potential impacts of various forms of "no action" on Hanford and Washington State.

1...

The importance of the "no action" analysis to Washington may be clearly understood when one realizes that the "proposed action" in essence assures that a part of the "no action" alternative will also occur. There would be no disposal path for Inventory Modules 1 and 2. In particular, limiting disposal at Yucca Mountain to 70,000 MTHM, as allocated in the proposed action, would leave substantial quantities of high level waste and spent fuel in storage at Hanford.

Specifically, the "proposed action" provides for disposal of about 8,300 canisters of high-level waste out of an estimated 22,300. Hanford alone is estimated to

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have 14,500 canisters. Table J-8 indicates that only 1,960 of those would be shipped under the proposed action, leaving over 12,000 with no disposal path. The YM-EIS includes disposal of all canisters from the Savannah River site containing surplus plutonium, and 6,055 of Savannah River's estimated 6,200 canisters overall. It appears that Hanford's HLW does not have priority for the limited repository space.

...1 The "proposed action" includes disposal of 2,333 MTHM of the DOE inventory of spent nuclear fuel—estimated at about 2,500 MTHM. Table J-7 indicates that substantial amounts would be left at Hanford, Savannah River and Idaho National Environmental and Engineering Laboratory under the proposed action. That estimate, however, does not acknowledge the Department's commitment to remove all spent fuel from Idaho National Environmental and Engineering Laboratory, under a court-enforceable agreement, by 2035. The proposed action apparently anticipates leaving spent fuel in indefinite storage at Hanford.

Therefore, the DOE should present the impacts of "proposed action" and of the "no action" alternatives in *conjunction* to the extent the one entails the other. The EIS should clearly display the *difference* between the impacts of the total "no action" alternatives and those of the balance of the "no action" alternatives once the 70,000 MTHM are subtracted. Further, the *location* of these impacts should be specified.

2 Given that the "no action" alternative is to a degree also implicit in the proposed action, the sketchy, generic, generalized approach to the "no action" alternative is inadequate. The following comments cover some of the most obvious shortcomings of the "no action" analysis.

continued on page 4

The assumptions underlying the "no action" analysis are less conservative than those used in the "proposed action" analysis of repository impacts. The following statement appears on page K-2 (of Appendix K, dealing with the radiological impacts of the "no action" alternative):

> "Because DOE did not want to unduly influence the results to favor the repository, it used assumptions were that (sic) generally resulted in lower predicted impacts (rather than applying the bounding assumptions used in many of the repository impact analyses). . . ."

Whether it is appropriate to compare the repository with indefinite on-site storage using different assumptions is, in our view, debatable. It is clearly not appropriate, however, to use different assumptions for that portion of the no-action alternative that is (as noted above) a result of the proposed action. There is no reason to *assume* radiological impacts of indefinite on-site storage may be less significant than those associated with repository disposal.

The "no action" scenarios may not bound likely results of "no action". While one may understand that the two scenarios chosen for "no action" are "bounding" rather than attempts to predict future conditions accurately, the scenarios leave out major considerations. One could, for example, make a very strong case for the proposition that "no action" on a repository would result in significant efforts to reconfigure and consolidate spent fuel and HLW storage. The EIS needs to consider the potential impacts of both substantial geographic redistribution of the inventory *and* some level of transportation impacts under the "no action" alternative.

2 continued

The analyses of both scenarios—i.e. institutional control for 10,000 years and loss of institutional control after 100 years—both lack any recognition that the materials stored might be viewed as valuable. Scenario 2 does posit one reason for intrusion/retrieval—possible use of fissile materials for weapons or terrorism. It is possible, even likely, however, that future generations will "mine" these materials for a variety of purposes, and that such mining could equally well occur under institutional controls. Therefore, intrusion impacts are relevant under scenario 1, and much more likely under scenario 2 than the EIS recognizes.

Both the foregoing possibilities appear realistic when compared to the two scenarios posited, and both could result in impacts not bounded by DOE's two scenarios. Section K.4 of the DEIS, dealing with uncertainties in the "no action" alternatives analysis, makes some glancing references to these and several other possibilities, but makes no attempt to analyze how these uncertainties could affect the outcome of the analysis.

The generic "regional" analysis of "no action" impacts is inadequate. To the extent the "no action" alternative is implicit in the proposed action, the generalized regional analysis of "no action" impacts is not acceptable. For example, the regional analysis assumes that spent fuel and high level waste all stay where they are. However, as noted above, if the proposed action is adopted, then the geographic distribution of spent fuel and high level wastes left in indefinite storage will not mirror current distribution.

The generic regional analysis presents a more fundamental problem, however: The DOE presents no uncertainty or sensitivity analysis, based on site-specific data, to show how representative the generic regional sites may be. The uncertainties associated with environmental transport, pathways, uptake and population distribution, leading to population does estimates, are likely to be so large as to render meaningless comparisons between generic regional sites, between such a site for each region and a specific site within that region, or even between any of the generic sites and the repository.

2. Lack of integration in DOE decision-making.

This DEIS is part of a piecemeal and confusing decision-making process. On August 31, 1995, then Governor Mike Lowry wrote to Secretary of Energy Hazel O'Leary, concerning the confusing resulting from DOE's piecemeal approach to dealing with nuclear wastes and materials through several different EISs:

> "Instead of getting a cradle-to-grave and holistic picture about how this material would be dealt with, we found that process somewhat arbitrarily segmented and, as a result, it was difficult to fully understand the implications for Washington State.
>
> "We recognize that you face legal constraints and time requirements. But it is time to help citizens and public officials see how these decisions relate to one another, and to begin a good-faith discussion about equity. My strong concern is that continuing the piecemeal approach to the public will prolong distrust and stymie the nation's ability to deal forthrightly with the nuclear legacy of the Cold War."

Lowry's letter included a list of 18 ongoing or proposed DOE environmental impact statements dealing with the disposition of nuclear wastes and materials, including the Yucca Mountain EIS.

Here are two clear instances where disconnects between the Yucca Mountain EIS and other DOE EISs leave significant questions unanswered:

3 ***What happens to Hanford's HLW?*** If, as the "proposed action" in the Yucca Mountain EIS indicates, half or more of Hanford's HLW inventory stays in storage indefinitely, where are the impacts covered? Both DOE's Tank Waste Remediation System EIS and Waste Management Programmatic EIS assumed repository disposal for the HLW. The Yucca Mountain EIS, as noted above, includes no site-specific analysis of the results of continued on-site storage.

What about "Greater than Class C" and "Special Case" wastes? The Yucca Mountain EIS identifies these as part of "Inventory Module 2" for purposes of assessing repository impacts. However, the analysis specifically excludes them from examination of the "no action" alternative. Yet the EIS also admits that these cannot go to the repository without legislative and/or Nuclear Regulatory Commission action (p. S-59). Treatment, storage and disposal of these same wastes were specifically excluded from DOE's Waste Management Programmatic EIS (May 1997, p. 51). So DOE has yet to address the impacts of continued storage of these wastes, or of any disposal path other than one not currently permitted by law.

3. Transportation Impact Analysis

Our comments are limited to the analysis of national, as opposed to Nevada, transportation impacts.

Lack of route-specific analysis. We support the following comment made by Capt. Allan Turner on behalf of the Western Interstate Energy Board at the public hearing held in Denver, Colorado, on November 16, 1999. " [T]he Department of Energy appears to be breaking the promise it made years ago to stakeholders that it would conduct comprehensive assessments of potential transportation routes to be used in transporting spent nuclear fuel and high-level radioactive waste to any potential repository. Specifically, in Volume III of DOE's 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.

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"The draft EIS . . . provides no route-specific analyses and no specific evaluation of the impacts on states along transportation corridors. Instead, the draft EIS states only that "[a]t this time, about 10 years before shipments could begin, DOE has not determined the specific routes it would use to ship spent nuclear fuel and high-level radioactive waste to the proposed repository...this analysis used current regulations governing highway shipments and historic rail industry practices to select existing highway and rail routes to estimate potential environmental impacts of national transportation. Routing for shipments of spent nuclear fuel and high-level radioactive waste to the proposed repository would comply with applicable regulations of the Department of Transportation and the Nuclear Regulatory Commission in effect at the time the shipments occurred..." (EIS, Appendix J, J-23)

The Nuclear Waste Program supports the Western Interstate Energy Board conclusion that: "[R]eliance on current highway routing regulations and historical rail routing practices to determine transportation routes will jeopardize the health and safety of its citizens 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 to Yucca Mountain. Especially when shipments cover long distances, as would be the case with NWPA shipments, multiple combinations of Interstate highways would be allowable under the DOT regulations. 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."

Impact on state, local and tribal resources. The Yucca Mountain EIS asserts that "With the exception of occupational and public health and safety impacts, which are evaluated in this section, the impacts of this small fraction of all national transportation would be very small in comparison to the impacts of other nationwide transportation activities." (p. 6-18) Thereafter, the national transportation analysis 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 accidents occurring in the transportation of spent fuel and high-level waste. Both because these commodities have moved in the past only in very limited quantities and campaigns and because of the high degree of public visibility and concern, the impacts on state, local, and tribal governments will be greatly disproportional to the share these shipments represent in the national transportation picture. The EIS must acknowledge and deal with the substantial impacts on local preparedness and emergency response.

Mode choice and type of rail service. As Capt. Turner said in the WIEB statement: "The choice between the use of rail (and type of rail service) or truck for the transport of nuclear waste under the NWPA will have a major impact on the number of shipments which will traverse western states." Later, Capt. Turner pointed out that mode selection fundamentally affects routing and the populations that will be affected. The EIS also seems to assume (p. J-7) that dedicated or special train service would have no impact other than reducing time in route. In fact, there is substantial reason to think such service could materially affect both routing and the probability of significant accidents. The "generic" EIS analysis of the two bounding conditions ("Mostly Truck" and "Mostly Rail") fails to provide the public enough information about these or other factors to assess the tradeoffs involved in mode choice.

A final comment on form of the EIS. The Yucca Mountain EIS presents a large amount of information on many topics. The Table of Contents, List of Tables and List of Figures, each of which runs to many pages, are visually and verbally impenetrable, if not confusing. The Index is much too brief to compensate. The document is, therefore, less accessible to public review and comment than it should be.