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Dr. Jane Summerson
EA Document Manager
U.S. Department of Energy
1551 Hillshire Drive
Las Vegas, Nevada 89134

Re: State of Nevada Comments on the U.S. Department of Energy/Office of Civilian Radioactive Waste Management *Draft Environmental Assessment for the Proposed Infrastructure Improvements for the Yucca Mountain Project, Nevada* (DOE/EA-1566, June 2006)

Dear Dr. Summerson:

This letter presents the State of Nevada's comments on the above-referenced draft Environmental Assessment (EA). In short, this EA does not credibly explain why DOE is pursuing this project. While the document cites the need to "ensure the health and safety of workers, regulators, and visitors" at the Yucca Mountain site as a principal reason for the proposed infrastructure improvements, it contains no supporting information demonstrating the relationship between the proposed action and improved health and safety conditions. In fact, the OCRWM Director, in remarks before the U.S. Senate Energy and Natural Resources Committee on August 3, 2006, stated flatly that DOE's plans for new infrastructure at Yucca Mountain are unrelated to health and safety issues.

Instead, the draft EA demonstrates convincingly that the no-action alternative would fulfill DOE's stated purposes with far lower financial and environmental costs than the project DOE proposes. Moreover, DOE does not have the legal authority to perform the activities described in the EA. In addition, the EA contemplates using more water than DOE has stipulated to in court proceedings related to water usage at the Yucca Mountain site.

Summary of the Proposed Project

In this EA, the Department of Energy's Office of Civilian Radioactive Waste Management is proposing an extensive 2-year program of infrastructure construction at and in the vicinity of the proposed Yucca Mountain nuclear waste repository site. The EA describes the project as involving only maintenance-type activities designed to facilitate ongoing site investigation, but the actual project appears to be much broader in scope. In addition to performing routine

maintenance of existing infrastructure and refurbishing or replacing some existing structures, the proposed project would involve the construction of miles of entirely new roadways and utility lines.

For the proposed action, DOE would:

- Construct up to 33 miles of new and replacement roads, with two options for access from the entrance off U.S. Highway 95 near Lathrop Wells;
- Construct up to 20.6 miles of new 138 kV power lines, with two options for main power line alignment;
- Develop a new Central Operations Area consisting of six support buildings near the ESF North Portal area, to replace temporary operations structures at the North Portal pad;
- Site, repair and construct other facilities and structures for the Yucca Mountain Project.

DOE's preferred action for road construction and replacement involves the construction of 25 miles of new and replacement asphalt road. This includes 8.5 miles of new, relocated access road, and 1.3 miles of new access to the Yucca Mountain crest road. Replacement of 2.9 miles of the existing crest road with 2-lane paved road and replacement of 12.4 miles of other access roads are also proposed. Pavement of the access roads would be 50 feet wide, and the crest road would be paved to a width of 36 feet. Upgrading the existing dirt access road to the Yucca Mountain crest road, which has been in service for at least the past 25 years, was considered by DOE and rejected because the steep grade could pose a traffic hazard and is too steep for some highway vehicles.

The preferred power line construction option includes 17.6 miles of new 138 kV service from an existing switch station at Lathrop Wells, following the preferred road alignment, to a new switch station at the proposed new Central Operations Area. It also includes a 2-mile-long line to a new substation at the ESF South Portal, as well as a 1-mile-long 12.47 kV line to the ESF North Portal, both from the new switch station.

The proposed Central Operations Area would consist of 6 buildings located on about 30 acres of land approximately one-half mile southeast (not southwest – see p.13 and Figure 2-1) of the North Portal, replacing about 100 temporary support structures, mostly now located on the North Portal pad. The location, currently used for storage and equipment laydown, would be filled with about 150,000 cubic yards of material, then graded flat for building pads and utility infrastructure. New buildings would include a 43,000 square-foot field operations center for offices and emergency facilities; a 43,000 square-foot craft shop and annex for maintenance and repair operations; a 35,000 square-foot warehouse and material storage yard; a 10,000 square-foot incident and response station for fire and medical support; and a fuel and vehicle wash facility.

Proposed construction of other facilities includes building a new Sample Management Facility to house samples and borehole cores collected during scientific work and testing at the Yucca Mountain site and refurbishing a 15-acre equipment storage pad about 1 mile west (not

northeast – see p. 14 and Fig. 2-1) of the North Portal. The new 42,000 square-foot Sample Management facility would replace the existing facility located at the Nevada Test Site (NTS) Area 25 Field Operations Center, about 10 miles southeast of the North Portal. The new facility would be located on approximately 3 acres of private land within 10 miles of the access gate off U.S. Highway 95 (probably in the vicinity of Lathrop Wells), and no less than 15 miles south of the North Portal.

The EA estimates that the proposed two-year project would require 196 new workers during construction, in addition to the support workers who currently operate the site.

Summary of the Project Purpose and Need

The EA does not explain how these new infrastructure improvements will support the ostensible project purpose. That project purpose, the EA claims, is to support scientific work and testing at the site, provide routine maintenance, and refurbish and replace existing infrastructure. Such maintenance and new construction apparently have become necessary because, despite the expectation that a decision regarding the construction and operation of a repository would be made in a relatively short period of time after the site was designated, several years have elapsed since site designation, and no decision has been made. The ostensible purpose of the proposal is stated in the EA:

The Department [DOE], in order to continue ongoing scientific activities and tests, must ensure the health and safety of its workers, regulators, and visitors that access Yucca Mountain. As a result the Department needs to improve Yucca Mountain's infrastructure, not only to ensure safety for workers, regulators, and visitors, but also to comply with pertinent environmental, health and safety standards and DOE Directives."

The ongoing scientific activities and tests to be continued include, but are not limited to:

- Testing and monitoring of natural and engineered barriers, including precipitation monitoring, subsurface testing of water and rock, monitoring groundwater in the saturated zone and drift inspection.
- Testing and monitoring geotechnical features, including mapping of subsurface joints, faults and stratigraphic units, monitoring regional seismicity, and testing in a high-temperature environment.
- Designing and testing engineered features, such as borehole seals.

The EA does not identify the source of the legal authority for these activities. Nor does it explain how the construction of new roads or power lines, among other specific proposed infrastructure construction activities, will support ongoing scientific work. It thus leaves largely unstated the connection between the purpose it defines and the project it proposes.

The EA assumes these activities would continue for a time period up to ten years, until Nuclear Regulatory Commission (NRC) makes a construction authorization decision. The EA states that it does not "consider nor include any actions beyond an NRC decision on

construction authorization.” DOE’s most recent (July 19, 2006) project schedule expects a license application submittal on June 30, 2008 and a construction authorization to be granted by NRC in September 2011, approximately 5 years from present.

The No-Action Alternative

While DOE characterizes the proposed project as a maintenance project, maintenance of existing facilities apparently would also occur under the “no-action” alternative. Under that alternative, ongoing operations, scientific activities, and routine maintenance would continue, using the infrastructure that exists, maintaining and replacing it as needed. The no-action alternative activities include:

- Upgrading and replacing guard station and security access gate facilities on the NTS (Gate 510) about 2 miles north of Lathrop Wells located on U.S. 95;
- Installing a new microwave communication system;
- Refurbishing and replacing existing systems of the ESF as appropriate (e.g., the ventilation system and new fire-detection and alarm systems);
- Repairing/replacing the existing water system;
- Constructing and/or relocating paths and short roads;
- Routine maintenance for buildings, trailers, structures, and equipment;
- Repairing/maintaining existing roads;
- Constructing new temporary support buildings, as needed (e.g., replacing structures destroyed by fire);
- Relocating and/or disposing of buildings unsuitable for further use.

The Proposed Project’s Groundwater Use

DOE proposes to seek to “establish an agreement with the State of Nevada regarding the temporary use of groundwater for the proposed activities.” (See EA, table at p. 7). This new agreement would constitute renegotiation of the existing stipulation between the State of Nevada and DOE as part of pending litigation concerning DOE’s application for 430 acre-feet per year of water to construct and operate the proposed high-level nuclear waste repository at Yucca Mountain. See *United States of America v. State of Nevada*, CV-S-00-268-RLH-(LRL). DOE has not inquired about Nevada’s willingness to renegotiate that stipulation and has not otherwise consulted Nevada during the preparation of this EA.

At present, pursuant to the operative stipulation, DOE utilizes less than 9 acre-feet of water annually to maintain the status quo at the site. The quantity of groundwater needed for the

proposed action would range from 230 to 297 acre-feet per year over a two-year period. (See EA at 43). Without independent authorization from the Nevada Division of Water Resources (NDWR) and agreement with all the parties to the litigation, DOE lacks authority to utilize sufficient groundwater to support its proposed construction activities.

Discussion and Comment

1. DOE Has Not Explained the Need for this Project

While DOE's EA asserts that this project is needed to provide maintenance for ongoing activities at Yucca Mountain, the EA does not actually explain how the activities it proposes fulfill that purpose. The EA provides only a vague explanation of the purported risks to the safety of workers, regulators, and visitors that supposedly justify the actions proposed in this EA. As a result, the need for and benefits of the proposed action cannot be meaningfully evaluated. The EA also does not describe any adverse impacts to the ongoing scientific activities and tests that could be avoided by implementation of the proposed action. Moreover, DOE has not explained what activities are legally permitted under the Nuclear Waste Policy Act (the Act).

For many of the proposed project activities, no such explanation is readily apparent. Much of the activity proposed in the EA, such as building new roads and new power lines, clearly is not maintenance of existing facilities and, instead, is entirely new construction. DOE's characterization of the project as a "maintenance" project is belied by the description of the no-action alternative, which appears to provide the routine ongoing maintenance the site needs. Indeed, under the current DOE schedule for construction authorization, and the vague and limited benefits of the proposed action described in the EA, it is clear that the proposed infrastructure improvements can only be justified to support the construction and operation of a Yucca Mountain repository.

DOE's stated project purpose, therefore, appears to be misleading. While the real purpose is unstated, Nevada suggests that DOE's intent is to initiate repository surface facility construction prior to a construction authorization from the NRC, something that is not supported under the Act.

DOE's EA, therefore, should clarify the project's purpose. Portions of the proposed project that are not consistent with that purpose, or that do not fall within the limited set of on-site activities authorized by the Act, should be dropped from the project description.

2. The Project is Unnecessary

DOE's proposed project appears to be unnecessary for two reasons. First, if DOE does not receive a license or DOE's application is further delayed, this project will spend millions of dollars for only a tiny return. Second, the no-action alternative appears capable of fulfilling all of the stated project purposes.

The Yucca Mountain site designation was effective in July 2002. Had the schedule mandated in the Nuclear Waste Policy Act (as amended) been followed by DOE, the decision regarding construction authorization for a repository could have been made by now, and this

maintenance project would not have been needed. Instead of submitting the license application to NRC 90 days following site designation, as the Act requires (Section 114(b))¹, DOE now plans to submit it in June 2008, nearly six years later than expected. The Act provides 3 years, with a possible extension of one year, for NRC license application review and hearing (Section 114(d)), and DOE expects a construction authorization decision by September 2011, about five years from now.

This EA states that it covers a ten-year period, up to the NRC decision on a construction authorization and does not “consider nor include any actions beyond an NRC decision on construction authorization.” DOE’s schedule now indicates a five-year period until a construction authorization decision. Given that the EA proposes a 2-year infrastructure construction and replacement period, which could not begin sooner than about January 2007, the useful life of the new work would be less than three years, unless DOE receives a license. The many millions of dollars of work proposed and the impacts described in the EA cannot be justified for just a three-year period of operation, especially since unexplained assumptions of improved operational efficiency during the pre-construction authorization period appear to be the only justification for the replacement and construction work proposed. For example, the EA suggests that current limitations on road and underground rail vehicle speed and power usage, as well as increasing power line maintenance needs are inefficiencies. But, this assertion can hardly justify the potentially short period of time during which any benefit could be realized.

The EA demonstrates that the no-action alternative would fulfill DOE’s stated purposes with far lower financial and environmental costs than the project DOE proposes (see the summary of the no-action alternative above).

3. DOE Lacks Legal Authority to Undertake this Project

Under the Act, DOE has limited authority to engage in on-site activities at Yucca Mountain, and that authorization does not include many of the activities described in the proposed project.

First, only if DOE’s receipt of a license is assumed can the project be justified; otherwise, this multi-million dollar project will create infrastructure that will be abandoned after only three years of limited use. The proposed infrastructure improvements, therefore, are apparently intended to primarily support the construction and operation of a Yucca Mountain repository. However, it cannot be presumed that the construction and operation of a repository at Yucca Mountain will ever occur.

¹ The U.S. General Accountability Office (GAO), in a December 2001 report, “Nuclear Waste: Technical, Schedule, and Cost Uncertainties of the Yucca Mountain Repository Project,” (GAO-02-191, December 21, 2001), counseled DOE against making a premature Site Recommendation (SR) - something DOE did anyway just two months later. GAO noted repeatedly that DOE could not possibly meet the legal 90-day requirement for submitting a License Application following the SR. GAO cited a Bechtel analysis which said it would take until 2006 to get the necessary work done to submit a LA. GAO further reported: “DOE has not accepted this estimate because, according to program officials, it would extend the license application date too far into the future”.

Second, DOE has only limited authority to engage in other activities after its site designation decision, and these substantial infrastructure improvements, scheduled to be undertaken many years after completion of site characterization, are well beyond the scope of on-site DOE activities contemplated in the Act. The Act clearly did not contemplate a hiatus of six or more years (rather than 90 days) between the congressional Site Designation and DOE's filing of a repository license application. The expectation was that DOE's focus during that time would be on making its final preparations for submitting the license application for construction authorization, since the Secretary of Energy's Site Recommendation should have come as a result of the completion of site characterization. (See NWPA section 114(a)). Consequently, the Act did not specifically authorize activities to be carried out during such an extended hiatus.

The proposed infrastructure improvements are not a part of site characterization, since that phase of the project ended with DOE's recommendation of the site. But the Act did not contemplate that any significant on-site DOE activities would need to be undertaken after completion of site characterization but before submission and approval of the license application. The Act addressed in some detail how site characterization was to be conducted (see NWPA, Sec. 113(d)) and limited activities to those needed to determine whether to recommend the site (section 113 (c) (1)), to minimize the environmental impacts (section 113 (a)), and to limit the use of radioactive material (section 113 (c)(2)). Clearly, had the Act intended that significant on-site activities might be undertaken after site characterization, it would have provided for them or, at the least, applied the cited restrictions more broadly to all on-site activities undertaken before issuance of the construction authorization. This view that no significant on-site activities were contemplated between completion of site characterization and issuance of the construction authorization is reinforced by the Act's imposition of a 90-day deadline (after an effective site recommendation) for submission of the license application. Such a deadline clearly implies that the period from completion of site characterization to construction authorization was intended as a time for drafting of recommendation and application documents and maintenance of the status quo on the site, not substantial and unnecessary site infrastructure improvements.

Moreover, the Act's limits on DOE's site characterization process clearly indicate that DOE was supposed to complete that process *before* issuing a site recommendation, and did not provide authority for ongoing post-recommendation investigations. The Act restricted site characterization activities "at the Yucca Mountain site [to] only such site characterization activities as the Secretary considers necessary to provide the data required for evaluation of the suitability of such site for an application to be submitted to the [Nuclear Regulatory] Commission for a construction authorization for a repository at such site, and for compliance with the National Environmental Policy Act of 1969 [42 U.S.C. 4321 et seq]." (See NWPA section 113(c)(1)). The site designation decision supposedly was the point at which the Secretary determined the "suitability of the site for an application," and thus marked the time at which the Act's authority for site characterization activities elapsed. The Act does not authorize post-designation, pre-construction authorization activities. However, given the delays, the no-action alternative is fully consistent with the concept of maintaining the status quo and assuring safety and environmental protection, until such time that a decision on a construction authorization is made.

4. DOE Lacks Rights to the Water the Project Will Require

DOE's current water usage is subject to a stipulation agreed to by the parties to water rights litigation filed by DOE challenging the Nevada State Engineer's denial of water rights to be used to construct and operate the proposed high-level nuclear waste repository at Yucca Mountain. See *United States of America v. State of Nevada*, CV-S-00-268-RLH-(LRL). That stipulation authorizes pumping from wells identified as J-12 and J-13 for minimal site maintenance and potable and non-potable needs (less than 10 acre-feet per year), and does not allow the hundreds of acre-feet of annual water use necessary to support the new construction activities proposed in this EA. Moreover, permission to appropriate groundwater requires permit authorization from the NDWR, and DOE may not use more water than the stipulation allows without either revising the stipulation or receiving a permit from NDWR to appropriate water for its proposed use. DOE, therefore, cannot assume authorization for the water necessary to support this project and, instead, must plan to work within the limits of its own stipulated agreement or take appropriate and lawful steps to obtain permission to use additional water. The proposed action should not be initiated until DOE either revises its plans to work within the stipulation or obtains the legally required additional authorization.

5. The Proposed Action has the Potential to Negatively Impact Historic Properties and Cultural Resources

The actions described in this EA have the potential to affect historic properties. Under the provisions of Section 106 of the National Historic Preservation Act, DOE, as a federal agency, must consider the effects of its undertakings on historic properties.

Since 1988, DOE has utilized a programmatic agreement (PA) with the Advisory Council on Historic Preservation as a substitute for the 36 CFR 800 regulations for considering effects to resources during the site characterization phases of the Yucca Mountain Project. The development of the repository and other facilities were not within the scope of this PA and, as such, in 2004, DOE and the Advisory Council on Historic Preservation determined to develop a new PA for the license application phase of the Yucca Mountain Project. In addition, the PA is also not current with recent changes in 36 CFR 800. For example, data collection of archaeological sites in advance of a project is considered an adverse effect requiring additional consultation with tribes and the State Historic Preservation Office, and the preparation of a treatment plan meeting the Secretary of Interior's standards. Currently, DOE has prepared a draft PA, but it has not yet been finalized.

The State Historic Preservation Office (SHPO) requests that projects undertaken under an approved EA be made subject either to 36 CFR 800 dated August 5, 2004, or that the proposed actions are subject to the new PA that has not yet been executed. Within the EA, DOE should specify the steps it will take to identify, evaluate and treat historic properties. These efforts must include Native American consultation on specific improvements, as well as archaeological and historic surveys to identify historic properties. All of this must be done in consultation with SHPO. Regardless, it is not acceptable to simply "collect artifacts" from sites that will be affected by the proposed actions.

One remaining question regards the meaning of a sentence on page 31 under American

Indian Concerns where tribes have recommended the Department conduct "no studies" in the Prow Pass area at the north end of Yucca Mountain. DOE should specify what studies to which the tribes are objecting.

6. The Need for New Road Construction is Not Demonstrated and the Impacts of Proposed Road Construction are Not Adequately Addressed

Proposed Action – Road Construction

The EA fails to justify the need for a new road to the crest of Yucca Mountain. The only purpose of such a road is the transport of tour groups to the top of the mountain as part of DOE's ongoing public relations activities. There does not appear to be any scientific need for access to the Yucca crest via a new, two-lane, paved roadway. It would appear that maintenance of the existing road under the no-action alternative would be more than sufficient to support any of the very limited scientific, technical or environmental activities that may occur along the roadway. A multi-million dollar expenditure for a road to nowhere for the sole purpose of facilitating public relations objectives is entirely unjustified.

The Draft EA description of the proposed road construction options is wholly inadequate for impact assessment purposes. At a minimum, the EA should have presented, for Options 1 and 2, (1) detailed engineering drawings of the entire route, including a vertical profile; (2) cut and fill requirements; (3) construction materials requirements; (4) detailed drawings of the culverts to be constructed where the new road would cross Fortymile Wash; (5) construction schedule; and (6) estimated construction costs.

Based on differences in physical geography and likely differences in traffic usage patterns, both DOE options for road construction should be divided into two segments: (1) the road from Gate 510 to the Central Operations Area; and (2) the road from the Central Operations Area to Yucca Crest road. This would reflect differences in physical geography and usage patterns on the existing route segments, such as extremely steep grades and visitor traffic (as opposed to worker traffic) on the existing road to the crest of Yucca Mountain.

Given that the proposed infrastructure improvements are purportedly needed to "maintain safety and the protection of workers, regulators, and visitors ...", and completion of the proposed improvements would allegedly result in "an enhanced margin of safety..." [p. iii], traffic and accident data should have been included in the EA. At a minimum, the EA should have provided the following historical and projected data for the existing and proposed route segments: (1) average daily and maximum daily trips by cars, trucks, vans and busses; (2) monthly trips by cars, trucks, vans and busses; (3) vehicle occupancy data (DOE personnel and contractors, regulators, general public, etc.); (4) vehicle speed data; and (5) traffic incidents and accidents.

Relationship between Proposed Road Construction and Rail Access

The EA completely ignores the relationship between the proposed road construction project and the proposed Caliente rail corridor, including the potential for cumulative impacts. This omission is apparently based solely on the assumption that construction of rail access to

Yucca Mountain “would occur after the construction projects described for the proposed action have been completed.”[p.55] The EA fails to explain how or why the sequencing of construction would eliminate the need to consider cumulative impacts. The EA gives no precise schedule for road construction, but assumes it could take two years. [p.15] DOE recently announced that it would complete the rail access EIS in 2008 and begin rail access construction in 2009.

The EA ignores the proximity of the preferred road construction option to the Caliente rail corridor identified in the DOE Record of Decision and Bureau of Land Management land withdrawal request. Portions of Proposed New Road Option 1 could be constructed less than one mile east of the Caliente rail corridor in the vicinity of Fortymile Wash. Construction of both the railroad and the new road in that area would likely be complicated by floodplain considerations and cultural resources.

The EA should have evaluated the cumulative impacts of construction and operation of the proposed road and the proposed railroad. The EA should also have considered the co-location of the proposed road and the proposed railroad.

Relationship Between Road Construction and Water Infiltration

The EA contains no assessment of potential effects of proposed road construction to and along the Yucca Mountain crest on future water infiltration into the subsurface, including implications for repository total system performance assessment (TSPA) and long-term repository performance.

Conclusion

The proposed action contained in the EA is unnecessary, unjustified, and lacks legal authority. The proposed facilities and infrastructure can only be justified to support the construction and operation of a Yucca Mountain repository, something that is not permitted under law until DOE has received a construction authorization from the NRC.

The only appropriate avenue for DOE is the selection of the no-action alternative, since this alternative clearly fulfills DOE’s stated purposes with far lower financial and environmental costs and without violating the letter and intent of the Nuclear Waste Policy Act.

Sincerely,



Robert R. Loux
Executive Director

RRL/cs

cc Governor Guinn
Nevada Congressional Delegation
State Clearinghouse
Local Governments and Tribes