

**PRELIMINARY SITE SUITABILITY EVALUATION
FOR A GEOLOGIC REPOSITORY FOR THE DISPOSAL
OF SPENT NUCLEAR FUEL AND HIGH-LEVEL RADIOACTIVE WASTE
AT YUCCA MOUNTAIN, NYE COUNTY, NEVADA**

**FORMAL RESPONSE SUBMITTED BY
CLARK COUNTY, NEVADA
October 19, 2001**

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Background

This formal response to the Department of Energy's (DOE) Preliminary Site Suitability Evaluation (PSSE) is submitted on behalf of the Clark County Board of Commissioners. It should be considered in addition to previously submitted formal responses to previous Department of Energy documents, including the Environmental Assessment (1985), Scoping Document (1994), the Draft Environmental Impact Statement (DEIS), and the Supplemental Draft Environmental Impact Statement (SDEIS). All previous comments made by Clark County are hereby incorporated by reference.

Since 1983 Clark County has been an active participant in monitoring the DOE Yucca Mountain nuclear waste program efforts. In 1988, DOE designated Clark County as an "*affected unit of local government (AULG)*" under provisions of the Nuclear Waste Policy Act of 1987. The designation was an acknowledgement that activities associated with the Yucca Mountain Program could result in considerable impacts to our citizens and community. The concern about potential impacts was further emphasized by the Clark County Board of Commissioners' approval of resolutions on January 8, 1985, April 5, 1988 and March 7, 2000 opposing the siting of a repository at Yucca Mountain. The Department of Comprehensive Planning has been designated by the Board to monitor Yucca Mountain Program activities.

General Comments

Prior to outlining specific comments on the PSSE, it should be noted that Clark County has joined the other affected units of local government in requesting a minimum sixty day extension of time for the public comment period, originally scheduled to close on September 20, 2001. As it stands now, the response time was only extended to October 19, 2001, less than one week after the conclusion of hearings scheduled at various locations in Nevada. Only one formal hearing was scheduled in Clark County, on September 5, 2001.

The PSSE is premature and incomplete. It does not provide an adequate basis for consideration of the site recommendation by the Secretary of Energy, the President of the United States, or Congress. Further, absent the existence of a Final Environmental Impact Statement and final siting guidelines, it is inappropriate for these public hearings to go forward at this time.

Too many unanswered questions remain. Heavy reliance on engineered barriers and the absence of adequately tested, full-scale waste packages creates an unacceptable level of uncertainty where there is the greatest level of performance expectation.

The PSSE fails to address a multitude of issues of concern to the public, elected officials, and others in Clark County. Given that the DEIS listed a number of potential transportation routing options in Nevada, and in particular the Las Vegas Valley (e.g., the Beltway), it is

unconscionable that these issues and related potential primary and secondary socioeconomic impacts have not yet been evaluated.

Clark County's comments to the DEIS were submitted to DOE on February 15, 2000, well over a year ago. Clark County, along with the City of Las Vegas, and the State of Nevada, submitted comments to the SDEIS on July 5, 2001. It is still uncertain, however, how (or whether) DOE has considered the issues raised in our reviews of these documents. The DOE's plan to merely categorize and append the thousands of comments received to the DEIS and SDEIS in response to our concerns is an unacceptable procedure under the requirements for the Final Environmental Impact Statement.

The DOE continues to disregard the notion that the Yucca Mountain Program is national in scope. The magnitude of this program creates the potential for impacts in much of the United States, largely with respect to the protection of public health and safety of over 50 million United States residents affected by the transportation of high-level nuclear waste through at least 43 states. The DOE continues to discount the views expressed by a large number of concerned citizens throughout the nation who participated in last year's DEIS public meetings. By its own actions it conveys the message that these issues are not important.

Since the PSSE does not describe a specific design for the repository, the information provides nothing to increase the public's knowledge of potential environmental impacts. Also uncertain is how DOE can provide a "site recommendation" when "flexible" repository concepts are still in the planning and design phases. Absent a specific design, it is also unclear how the site can be evaluated against DOE's siting guidelines.

Specific Comments

Repository Design

Attached as Appendix A is a report dated October 4, 2001. This report, prepared by SC&A, Inc., is entitled "Final Report on Review of the U.S. Department of Energy Yucca Mountain Preliminary Site Suitability Evaluation and Supporting Documents." This review resulted in the following key technical findings:

- ***The regulatory framework for site suitability findings is incomplete and the validity of DOE findings is therefore uncertain.***
- ***The PSSE and its principal supporting documents do not describe a specific engineered system design to serve as basis for the performance evaluations. A specific basis for performance expectations has therefore not been provided.***
- ***Repository system performance factors depend strongly on temperature, but DOE's evaluations show no significant dependence of performance on temperature. The validity of DOE's performance assessment models and results is therefore highly uncertain.***

- *Performance of the repository during the regulatory period is, under DOE analyses, totally dependent on the performance of the Alloy 22 outer wall of the waste package, but the technical basis for confidence in performance of Alloy 22 is weak and will remain uncertain.*
- *DOE's performance assessment results to assess compliance with radiation protection standards show great variations which depend on modeling methods and assumptions. The reliability of the models, and of the results as a measure of performance, is therefore suspect.*
- *DOE uses "one-off" analyses to assess the contributions of individual performance factors to overall system performance, but has not reported an analysis in which the contribution of the most important performance barrier, the Alloy 22 wall on the waste packages, is clearly evaluated.*
- *Interactions between thermal, hydrologic, chemical, and mechanical phenomena may control repository performance and performance-evaluation uncertainty, but DOE's models for these phenomena cannot be confirmed.*
- *Comprehensive, independent peer technical review of all aspects of DOE's analyses and results is needed in order to have a defensible scientific basis for the site suitability evaluation.*

Transportation Impacts

This section contains Clark County's comments on PSSE as they relate to transportation system impacts. Transportation system impacts are defined as: changes to the operation, condition, and performance of the transportation network in Clark County, Nevada that are attributable to the Yucca Mountain Project or the Department of Energy's (DOE) Environmental Management operations. These comments are organized as a discussion of significant issues. After a brief introduction each issue area is discussed.

The PSSE reveals a critical flaw in the DOE's site characterization strategy. The DOE has proceeded from the assumption that transporting waste to Yucca Mountain is not an inherently difficult or expensive problem and that characterization of the site is possible without considering the difficulties of transporting the waste to a remote site without rail access. This approach deemphasizes critical components of the overall program (transportation, cask fabrication, etc.). Instead, it focuses primarily on geology and the engineered barriers related to the mountain itself. This failure to provide a systematic evaluation of important characteristics of the site will ultimately increase the risks and costs and, at the same time, further decrease public confidence in the feasibility of the program. This gap in DOE's site characterization strategy ensures that the PSSE is an incomplete document and that the public does not possess a realistic assessment of the suitability of the site.

Environmental Concerns

Another issue the PSSE did not address is the suitability of the site for a massive “fuel blending” facility that will be required due to the changes in the Yucca Mountain Program described by the Supplemental EIS. It is clear that the facility required will be substantial. It will require, at a minimum, a fuel handling facility capable of handling three times the capacity of fuel as any currently existing facility. A huge spent fuel pool will also be required to cool fuel rods prior to emplacement in the mountain. Because of the remoteness of the site, the support facilities for thousands of employees will also be necessary. The ability and location of these facilities is nowhere described in the PSSE.

The analysis for this proposed “fuel blending facility” is not adequate, because it fails to adequately address impacts related to air quality, water quality and supply, sanitation, and the consequences of interference with multiple species habitat conservation.

Public Involvement/Procedure

In addition to the hearings held throughout Nevada and Inyo County, California, we urge the DOE and the Secretary of Energy to include stakeholders throughout the United States, and allow them to have an opportunity to express their views on the PSSE at public hearings. Hearings held in other parts of the nation will enable others to express their opinions on the PSSE. This is important since the DOE’s consideration of these issues affects them as well.

Conclusion

The significant changes included in the Supplement to the Yucca Mountain Draft EIS fundamentally change the impacts and characteristics of the program. These changes invalidate the conclusions in the *Report on Assessment of Fee Adequacy Based on FY 1999 TSLCC of December 1999 and the Analysis of the Total System Life Cycle Cost of the Civilian Radioactive Waste Management Program* (May 2001). The failure to consider the site in a systematic way in the PSSE and by the Yucca Mountain Program guarantee that elected officials will receive an incomplete and misleading assessment of the feasibility and impacts of the Yucca Mountain Program. Clark County believes the PSSE should be withdrawn until an integrated analysis of the site’s suitability can be conducted. An assessment of this type should examine both the effects on lifecycle costs and on the potentially difficult interactions between the new surface facilities and the disposal site itself. This assessment should also be part of a document that falls within the NEPA framework with the necessary public access and review.