Idaho National Laboratory Site Environmental Management Citizens Advisory Board

Disposition of Calcined High-Level Waste from the Idaho Site

The Idaho National Laboratory Site Environmental Management Citizens Advisory Board (CAB) appreciates having had the opportunity to review the ***Preliminary Risk Evaluation of Calcined High-Level Waste (HLW) Disposition at the Idaho Site*** prepared by the Consortium for Risk Evaluation with Stakeholder Participation (CRESP). In addition to its review of the CRESP document, the CAB has reviewed the related National Research Council (NRC) documents (1999, 2005) and the High-Level Waste and Facilities Disposition Environmental Impact Statement (2002), received presentations from two CRESP researchers, and participated in teleconferences with those researchers. **Based on this foundation of knowledge about the calcined HLW disposition at Idaho, the CAB endorses the CRESP document and strongly recommends that the U.S. Department of Energy Idaho Operations Office (DOE-ID) follow its provisions.**

DOE-ID does not appear to utilize self-consistent design nor employ conceptual site models for assessing risks to human health and the environment for the alternatives presented for the final disposition of the calcined HLW. **In accordance with the NRC (1999, 2005) and the CRESP documents, the CAB recommends that the DOE-ID utilize such tools when making major risk-based decisions.**

The CAB found *The CRESP Evaluation of Management Options for Calcined HLW at INEEL* Appendix A and the risk flow diagrams and the conceptual site models in Appendix F aided its understanding of the effects of various scenarios on the completion of the calcined HLW life-cycle. The framework for organizing life-cycle risk evaluation of the three alternative options across the three time frames, coupled with the risk flow diagrams and conceptual site models, allows the public to appreciate the complexities of the evaluation of the options. **The CAB recommends that DOE-ID utilize such a framework when presenting information to the public**.

The three alternatives provided to CRESP by DOE-ID for examination appear valid. They all assume that the proposed geologic repository will open and will accept calcined HLW. **The CAB recommends that DOE-ID develop an additional alternative that recognizes that the proposed geologic repository (Yucca Mountain) may not be available for final disposition of the calcined HLW.**

The CAB recommends that DOE-ID not pursue designs to support Alternative 1 (packaging only) until the waste acceptance criteria have been established and the waste form is acceptable at a national geologic repository.

Appendix D provides hazard analysis tables that *qualitatively* assess known hazards that presently exist for each of the alternatives at each of the three time frames evaluated. **The CAB recommends that DOE-ID carefully examine the hazards as charted and expediently define the hazards in order of consequence severity, event probability, and highest risk levels.**

The lack of certain critical information concerning the risks to human health and the environment for each alternative and time frame categorized in Appendix E dismayed the CAB. **While not all gaps are large**

and/or critical, and some may even be considered small and inconsequential, the CAB recommends that DOE-ID immediately begin to bridge the gaps which are under its province.

The CAB remains reluctant to support medium- to long-term alternatives that would require amendments to the Idaho Settlement Agreement. While the Record of Decision (ROD) for calcined HLW is due in 2009, the Settlement Agreement states that the calcined HLW treatment must be completed by 2035. **The CAB recommends that DOE-ID make every effort to adequately address the processes integral to the success of risk-based decision making by utilizing self-consistent design, conceptual site models, and timely and appropriate public/stakeholder participation, even if such actions require that the ROD deadline be delayed.** The CAB believes there is adequate time before the Settlement Agreement 2035 deadline to satisfactorily complete treatment of the calcined HLW.

The CAB recommends that, while continuing the characterization of the physical, chemical and storage characteristics of the calcined HLW, DOE-ID begin to develop a self-consistent basis of design and conceptual process design.