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QA: N/A

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TRANSMITTAL OF INFORMATION ADDRESSING KEY TECHNICAL ISSUE (KTI) AGREEMENT ITEMS CONTAINER LIFE AND SOURCE TERM (CLST) 2.06 AND 2.09

- References: 1. Presentation, J. Cloud, dtd 11/5/02
2. Ltr, Reamer to Brocoum, dtd 8/3/01

This letter presents information to satisfy KTI Agreement Items CLST 2.06 and 2.09. The approach to satisfying these agreement items described within has been discussed with your staff. The CLST KTI agreements are as follows:

CLST 2.06: "Provide the technical basis for the mechanical integrity of the inner overpack closure weld.
DOE will provide the documentation in AMR, ANL-UDC-MD-000001, Rev. 00, Design Analysis for UFC Waste Packages in the next revision, prior to LA."

CLST 2.09: "Demonstrate the drip shield and waste package mechanical analysis addressing seismic excitation is consistent with the design basis earthquake covered in the SDS KTI.
DOE stated that the same seismic evaluations of waste packages and drip shield (revision of AMRs ANL-UDC-MD-000001 and ANL-XCS-ME-000001) will support both the SDS KTI and CLST KTI, therefore consistency is ensured. These revisions will be completed prior to LA."

CLST 2.06 is concerned with the mechanical integrity of deep weld penetrations for the inner shell closure lid of the waste package. After the CLST agreements were put in place, the design concept for the waste package inner shell closure was changed. The new design concept incorporates spread rings (historically referred to as a shear ring – name changed to better

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represent the closure mechanism) and a seal weld for closure (Reference 1). The U.S. Department of Energy (DOE) will document the technical basis for the waste package inner shell lid closure integrity in preclosure event sequence calculations involving tipovers and other waste package impacts. These calculations will be included as part of the technical basis for the preclosure safety analysis in the License Application. With this change in design and the inclusion of calculations demonstrating inner shell lid closure integrity in the technical basis for the License Application, the DOE recommends that Agreement Item CLST 2.06 be closed.

CLST 2.09 is to demonstrate that the drip shield and the waste package mechanical analysis addressing seismic excitation is consistent with the design basis earthquake covered in KTI Agreement Item Structural Deformation and Seismicity (SDS) 2.04. SDS 2.04 states:

SDS 2.04: "The approach to evaluate seismic risk, including the assessment of seismic fragility and evaluation of event sequences is not clear to the NRC, provide additional information.

DOE believes the approach contained in the FEPs AMR will be sufficient to support the Site Recommendation. The updated FEPs AMR is expected to be available in January 2001."

Following the Structural Deformation and Seismicity Key Technical Exchange held in Las Vegas, Nevada, on October 11-12, 2000, the U.S. Nuclear Regulatory Commission (NRC) indicated that the following additional information was needed to close SDS 2.04 (Reference 2):

SDS 2.04 Additional Information Needed: "DOE needs to provide documentation of methodology, technical bases and data for: (1) the development of seismic fragility curves for structures, systems and components used in performance assessments, including assurance that the necessary data will be available for the time period of interest (TPI), when needed. Moreover, this documentation should address: the range of failure modes that can occur for individual components, component interactions, etc.; consideration of component deterioration and its effect on seismic capacity; the use of a step function to define conditional probability of cladding failure; (2) conducting a seismic risk analysis for the repository, including the assessment of the effect of cladding failure on design bases, barrier or system performance, or performance confirmation. This documentation should describe the identification, modeling, and evaluation of the range of accident scenarios that could occur in the repository as a result of a seismic event during the TPI; and (3) any additional points discussed in NRC's review, above."

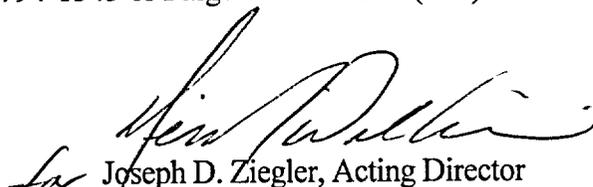
In responding to the additional information needed to close SDS 2.04, the content of CLST 2.09 will be addressed. The response is expected to be completed by July 2003. Therefore, the DOE recommends that CLST 2.09 be subsumed into SDS 2.04 and CLST 2.09 be closed.

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In summary, based on the justification contained in this letter and pending NRC review and acceptance, DOE recommends that KTI Agreement CLST 2.06 and CLST 2.09 be closed.

In regards to the mapping of Total System Performance Assessment and Integration (TSPAI) 2.02 items affected by the closure of CLST 2.06 and CLST 2.09, the NRC/DOE agreed path forward addressing the mechanical integrity of the drip shield in TSPAI 2.02 #35 is mapped to CLST 2.06. The mapping of TSPAI 2.02 #35 to CLST 2.06 is inappropriate since CLST 2.06 does not deal with the drip shield. TSPAI 2.02 #39 is mapped to both to CLST 2.08 and 2.09. With the closure of CLST 2.09, DOE believes that the map to CLST 2.08 is sufficient to track completion of TSPAI 2.02.

This letter contains no new regulatory commitments. Please direct any questions concerning this letter to Timothy C. Gunter at (702) 794-1343 or Paige Z. Russell at (702) 794-1315.


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OLA&S:TCG-0445

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