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QA: N/A

APR 26 2002

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TRANSMITTAL OF REPORT ADDRESSING KEY TECHNICAL ISSUES (KTI)

This letter transmits one hard copy (enclosure 1) and one CD (enclosure 2) of KTI Letter Report, *Effect of Forced Ventilation on Thermal-Hydrologic Conditions in the Engineered Barrier System and Near Field Environment*, addressing three KTI agreements. Each of the three KTI agreements, Repository Design and Thermal-Mechanical Effects (RDTME) Agreements 3.01 and 3.14; and Thermal Effects on Flow (TEF) Agreement 2.07, addresses phenomena related to in-drift moisture (humidity) and U.S. Department of Energy's (DOE) plans to model these phenomena.

As discussed with your staff, the enclosed report provides the information described in the agreements in a different document than an Analysis and Model Report (AMR). This report reflects the February 2002 teleconference between DOE and U.S. Nuclear Regulatory Commission (NRC) staff. The DOE will provide its plans to respond to the additional information requested in NRC's February 28, 2002, letter regarding RDTME agreement 3.01 by separate correspondence.

RDTME.3.01. This KTI agreement has two deliverable components. The first component, AMR ANL-EBS-GE-000003, *Longevity of Emplacement Drift Ground Support Materials*, was submitted to the NRC on June 28, 2001. The second component, AMR ANL-EBS-MD-000030, Revision 01, *Ventilation Model*, is the subject of the enclosed report. To address RDTME 3.01, the report provides the technical basis for the range of relative humidities, as well as the potential occurrence of localized liquid phase water, and resulting effects on ground support systems. With this submittal, all the technical information originally required by RDTME.3.01 has been provided.

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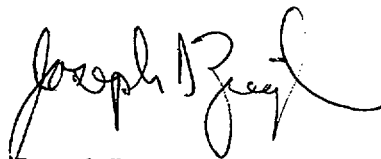
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RDTE.3.14. This KTI agreement has one deliverable component, an update to the Ventilation Model, ANL-EBS-MD-000030. This agreement requests information on (1) the technical bases for the adequacy of discretization used in these models and (2) the technical bases for the applicability of the modeling results to prediction of heat removal from the repository. The requested information is provided in the enclosed report, which satisfies agreement RDTE.3.14.

TEF.2.07. This KTI agreement has three major components. The first component, CAL-EBS-MD-000013, *Pretest Predictions for Ventilation Tests*, was submitted to the NRC on March 2, 2001. This document provided information on ventilation test phases 1 and 2. The second component, ANL-EBS-MD-000030, Revision 1, *Ventilation Model*, is the subject of the enclosed report, which summarizes relevant portions of draft Revision 1 to the Ventilation Model AMR. For the third component, DOE is to incorporate test results of future ventilation testing in a future revision of ANL-EBS-MD-000030, *Ventilation Model*. The DOE is re-evaluating a number of previously identified tests during the current replanning activity and will inform the NRC of its decision regarding future ventilation testing and the associated technical basis after the plan is finalized.

The enclosed report also discusses the relationship to relevant aspects of the Total System Performance Assessment and Integration (TSPA) KTI agreements, specifically those crosscutting issues relevant to ventilation model development, validation and integration into TSPA. However, there is no intent to respond to TSPA KTI agreements in this report. TSPA KTI agreements will be the subjects of separate correspondence.

Please direct any questions concerning this letter and its enclosures to Timothy C. Gunter at (702) 794-1343, or Kirk D. Lachman at (702) 794-5096.



Joseph D. Ziegler
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Licensing and Regulatory Compliance

OL&RC:TCG-1031

Enclosures:

1. Hard Copy of the *Effect of Forced Ventilation on Thermal-Hydrologic Conditions in the Engineered Barrier System and Near Field Environment*
2. CD of Enclosure 1

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cc w/encl 2:

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