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QA: N/A

MAR 24 2000

Firth:
who has
responsibility
to review?
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OVERNIGHT MAIL

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TRANSMITTAL OF A KEY REPORT RELEVANT TO U.S. DEPARTMENT OF ENERGY'S (DOE) SITE RECOMMENDATION: *INTEGRATED SITE MODEL PROCESS MODEL REPORT* AND SUPPORTING ANALYSES AND MODEL REPORTS

In my letter dated November 24, 1999, the DOE described a plan to make available to the U.S. Nuclear Regulatory Commission (NRC) staff, reports that describe the technical basis that will support the DOE's Site Recommendation. The enclosed *Integrated Site Model Process Model Report*, and supporting Analyses and Model Reports (AMRs), are some of those key reports.

To evaluate the postclosure performance of a potential repository at Yucca Mountain, a Total System Performance Assessment (TSPA) will be conducted. A set of nine Process Model Reports (PMRs) is being developed to summarize the technical basis for each of the process models supporting the TSPA model. These reports cover the following areas:

- Integrated Site Model
- Unsaturated Zone Flow and Transport
- Near Field Environment
- Engineered Barrier System Degradation, Flow, and Transport
- Waste Package Degradation
- Waste Form Degradation
- Saturated Zone Flow and Transport
- Biosphere
- Disruptive Events

The enclosed *Integrated Site Model Process Model Report (ISM PMR)* Revision 00, ICN 01 has been accepted by the DOE. The IMS PMR provides a framework for discussing the geologic features and properties of Yucca Mountain, including stratigraphy, rock properties, and mineralogy, for subsequent process and performance assessment modeling. The subsequent

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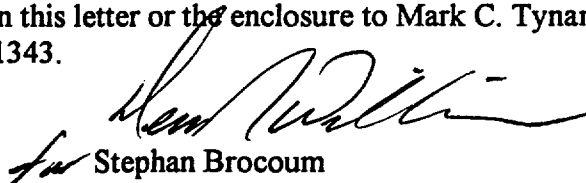
process models predict groundwater flow and transport in the saturated and unsaturated zones, and are also used in thermal studies, repository design, and TSPA studies. The *ISM PMR* consists of three separate model components: the Geologic Framework Model, the Rock Properties Model, and the Mineralogical Model.

AMRs are contractor documents that have not been reviewed and accepted by the DOE. The AMRs contain the more detailed technical information that support the PMRs. This technical information consists of data, analyses, models, software, and supporting documentation that will be used to defend the applicability of each process model for its intended purpose of evaluating the postclosure performance of the potential Yucca Mountain repository system. There are three AMRs that support the *ISM PMR*. These three AMRs are also enclosed, and include the *Geologic Framework Model Analysis and Model Report*, Revision 00 ICN 01; the *Rock Properties Model Analysis and Model Report*, Revision 00 ICN 01; and the *Mineralogical Model Analysis and Model Report*, Revision 00 ICN 01.

As discussed with your staff recently, we understand that there is no current need to meet on this topic and no interaction is presently scheduled. However, after your review of the enclosed documents, should you determine that a meeting would be desirable to respond to any questions or comments that you may have, my staff will be available to support such a meeting.

All of the enclosed documents are being made available in the near future over the Internet on the Yucca Mountain Project home page, at www.ymmp.gov. If you require additional hard copies, or if other interested parties desire a hard copy, please contact our office.

DOE will transmit the remaining AMRs, PMRs, and additional key documents to you, as they become available. Please direct comments on this letter or the enclosure to Mark C. Tynan at (702) 794-5457 or Tim Gunter at (702) 794-1343.



Stephan Brocoun
Assistant Manager, Office of
Licensing and Regulatory Compliance

OL&RC:TCG-1008

Enclosures:

1. Integrated Site Model Process Model Report,
EV 00 ICN 01
2. Geologic Framework Model (GFM3.1) Analysis
and Model Report, REV 00 ICN 01
3. Rock Properties Model (RPM3.1) Analysis and
Model Report, REV 00 ICN 01
4. Mineralogical Model (MM3.0) Analysis and Model
Report, REV 00 ICN 01

John T. Greeves

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