

SEP 12 1991

MEMORANDUM FOR: Margaret Federline, Chief
Hydrology & Systems Performance Branch
Division of High-Level Waste Management
Office of Nuclear Material Safety & Safeguards

Ronald Ballard, Chief
Geology & Engineering Branch
Division of High-Level Waste Management
Office of Nuclear Material Safety & Safeguards

FROM: Mel Silberberg, Chief
Waste Management Branch
Division of Regulatory Applications
Office of Nuclear Regulatory Research

SUBJECT: TRANSMITTAL OF "OFFICIAL TRANSCRIPT OF PROCEEDINGS OF
PUBLIC MEETING ON APACHE LEAP TUFF FIELD HEATER EXPERIMENT"

On March 15, 1991 we forwarded copies of the University of Arizona's (UAZ) draft "Experimental Plan - Nonisothermal Hydrologic Transport Study at the Apache Leap Tuff Site" coordinated by Drs. Todd C. Rasmussen and Daniel D. Evans under RES contract NRC-04-90-051 (FIN L1282) both to you and outside experts for review. Following receipt and review of the written comments, the UAZ investigators made a presentation of (1) their experimental plan, (2) summary of comments received, and (3) discussion of proposed modifications at a public meeting on the Apache Leap Tuff field experiment at NRC Headquarters, June 20, 1991. Enclosed please find a transcript of the subject meeting. The transcript package incorporates: (1) the verbal comments provided during the afternoon discussion session, (2) Dr. Rasmussen's presented viewgraphs on the experimental plan, and (3) submitted written review comments.

Following their review of the transcript, we have requested that the UAZ investigators revise their draft research plan and provide us a final research strategy which will provide a phased research approach for designing an hierarchical scale and multidisciplinary plan useful for reviewing DOE's future large-scale field heater experiment. Specifically the plan will address; (1) previous field heater experiments (e.g., G-Tunnel, WIPP, Avery Island, and Climax studies), (2) the theoretical concepts and models being tested, (3) model validation aspects, (4) relevant coupled nonisothermal processes, (5) various alternative conceptual models relevant to the experiments, (6) site characterization (i.e., hydraulic, pneumatic, thermal, rock mechanical and transport properties) and (7) field instrumentation and monitoring design issues. Comments received on the key technical issues identified in the meeting invitation letter which are to be reviewed and addressed by UAZ staff are: (1) the appropriateness of the field scale, (2) the ability of the investigators to monitor and isolate specific dynamic time-space domain responses, and (3) possible difficulties in identifying ambient and boundary conditions for the proposed site.

This experimental plan is also a subtask in test case 1 of Phase 2 of INTRAVAL,

9109260040 910912
PDR WASTE
WM-11 PDR

230202

delete all distribution except: CF, PDR & NNDAS abstract

426.1
NNDAS
WM-11

an international cooperative study to examine validation of geosphere transport models. Therefore, this plan will be circulated to INTRAVAL participants (e.g., Lawrence Berkeley Laboratory, Lawrence Livermore Laboratory, and USGS) for their use. The revised experimental plan will be provided to you and your staff prior to presentation at the INTRAVAL Workshop in San Antonio, Texas in the Fall of 1992. Following review of all technical comments and subsequent revisions, the final experimental plan will be published as a NUREG/CR contractor report and distributed to all interested parties.

If you or your staff have any questions on the enclosed transcript package, please contact Thomas J. Nicholson, WMB, RES, the NRC Project Manager at EXT 2-3856.

151

Me1 Silberberg, Chief
 Waste Management Branch
 Division of Engineering
 Office of Nuclear Regulatory Research

Enclosure: As stated

cc: T. Rasmussen, UAZ
 D. Evans, UAZ

Distribution

Subj/Circ/Chron
 [without enclosure]

| | | | | |
|------------------|-----------|-----------|------------|-----------|
| RES: Helmetes | Morris | Costanzi | Silberberg | Randall |
| Cady | Margulies | Kovach | Philip | Nicholson |
| NMSS: Youngblood | Linehan | Brooks | Coplan | Wescott |
| Pohle | Ford | Bradbury | Eisenberg | Stablein |
| Nataraja | Coleman | Chery | Codell | |
| CNWRA: Patrick | Russell | Nair | Sagar | Ababou |
| Green | Dodge | Wittmeyer | Chowdhury | |

[enclosure to]
 [Stiltenpole for Distribution to] PDR Central Files CNWRA
 WMB Rdg/Cir

| | | |
|-----------------|-------------------------|-------------|
| DRA:WMB | <i>DR</i> DRA:WMB:SL | DRA:WMB:2 |
| TNicholson t.jn | JRandall | MSilberberg |
| 09/5/91 | 09/6/91 | 09/6/91 |

see enclosure on staff