

SEP 05 1989

DOE CODE REQ

- 1 -

Ralph Stein
Associate Director for Systems,
Integration and Regulations
Office of Civilian Radioactive
Waste Management
U.S. Department of Energy
Forrestal Building, RW-24
Washington, DC 20545

Dear Mr. Stein:

In September 1988, the U.S. Nuclear Regulatory Commission (NRC) staff initiated an activity to develop further and maintain a capability by the NRC staff and its contractors to execute independent analyses of the performance of a high-level waste repository. This performance assessment activity was initiated so that the NRC staff will be able: (1) to analyze independently aspects of the U.S. Department of Energy (DOE) licensing submittals to evaluate their accuracy and (2) to direct NRC staff evaluations of the DOE program and licensing submittals based on the insights gained from hands-on experience with performance assessment. As discussed in the draft modeling strategy document for the NRC high-level waste program, the sophistication of the NRC quantitative reviews could range from simple scoping calculations to very detailed computations of specific aspects of the case for licensing. The independence of the NRC quantitative reviews could range from using DOE codes with DOE data sets to using NRC codes with NRC data sets, with all other possible permutations, including the use of third-party codes.

To assist us in developing this capability we request that you make available to the NRC, on as timely a basis as practicable, several computer codes and the documentation for them. The primary purpose is so that the NRC staff can become more cognizant of various codes and their general capability. We do not intend to review the applicability of these codes for conducting licensing calculations at this time. Such reviews, if any, depend on DOE submittals to the NRC as part of their licensing documentation.

The codes in question are:

(codes listed in Table 8.3.5.19-2 of the DOE's Site Characterization Plan and denoted as being available)

ADINAT 1,2
AIRDOS-EPA
ARRAY F
COYOTE
DACRIN
EQ3/EQ6
FEMTRAN
HDOC

FULL TEXT ASCII SCAN

8909130308 890905
PDR WASTE
WM-1 PDC

delete: ACNW

*109
WM-1
NH18 1/1*

MODFE
NORIA
PABLM
PHR81
SAGUARO
TRACR3D
TRUMP
TRUST
WAPPA

and the following codes described before the NRC Advisory Committee on Nuclear Waste and the DOE's Nuclear Waste Technical Review Board:

AREST
PANDORA
TOSPAC

Because the current focus of the NRC staff efforts is on what is believed to be the most important features of modeling the performance of a waste repository, that is, the isolation ability of the engineered barriers and transport of radionuclides in the geosphere, we are especially interested in obtaining codes modeling these aspects of the repository. Therefore, we are especially interested in obtaining on a priority basis, in the near future, the following subset of codes and their documentation from the above list:

EQ3/EQ6
HDOC
MODFE
NORIA
PANDORA
TOSPAC
TRACR3D
TRUMP
WAPPA

and

AREST.

We would like to receive the above priority codes within the next 90 days. We would appreciate receiving the other codes as soon as practicable.

We understand that these codes and their documentation may have different states of development. Therefore, to promote progress, we request that these codes and their documentation be transmitted to the NRC as soon as each code package is available, rather than waiting for the information for every code to be available. Also, to promote early progress, we would be interested in receiving code packages, even if the documentation is not available in final form.

OFC	:	HLGP	:	HLGP	:	HLGP	:	HLGP	:	HLGP	:	HLPD	:
NAME	:	Eisenberg/cj	:	RCode11	:	SCoplan	:	DChery	:	RBallard	:	JLinehan	:
DATE	:	7/ /89	:	7/ /89	:	7/ /89	:	7/ /89	:	7/ /89	:	7/ /89	:

We have discussed the forwarding of information on these codes with D. Alexander, DOE-RW, D. Langstaaf, DOE-RL, and A. Van Luik, PNL. If you have questions regarding this request or the mechanics of transferring computer media, please contact: S. Coplan (492-0410), or N. Eisenberg (492-0324), if he is unavailable.

Sincerely,

JS
John J. Linehan, Director
Repository Licensing & Quality Assurance
Project Directorate
Division of High-Level Waste Management
Office of Nuclear Material Safety
and Safeguards

DISTRIBUTION:

Central Files	REBrowning, DHLWM	BJYoungblood, DHLWM	RLBallard, HLGP
JOBunting, HLEN	JLinehan, HLPM	HLGP r/f	NMSS r/f
RCodell, HLGP	JRandall, RES	SCoplan, HLGP	JPark, HLGP
NEisenberg, HLGP	BThomas, HLPD	DChery, HLGP	
<i>PDR</i>	<i>LPDR</i>	<i>LSS</i>	<i>CUWRA</i>

RC *RC*

*SEE PREVIOUS CONCURRENCE

OFC :	HLGP <i>PLG</i>	HLGP	HLGP	HLGP	HLGP <i>PLG</i>	HLGP <i>PLG</i>	HLGP	:
NAME :	Eisenberg/cj	RCodell	SCoplan	DChery	RBallard	JLinehan		:
DATE :	9/1/89	9/1/89	9/1/89	9/1/89	9/1/89	9/1/89		: