11/18/87

426.1/A-4171/EAW/11/16/87

- 1 -

Dr. Charles Interrante, Program Manager
Metallurgy Division - Corrosion Group
National Bureau of Standards
U.S. Department of Commerce
Gaithersburg, MD. 20899

Dear Dr. Interrante:

This is to request general technical assistance under Task 4 of FIN A-4171, "Evaluation and Compilation of DOE Waste Package Test Data". The general technical assistance consists of reviewing two User Manuals on Waste Package Performance Assessment Codes that were transmitted to you by Mr. K.C. Chang at NBS on October 29, 1987. These User Manuals are entitled, "Part I, Computer Programs for Probabilistic Thermal Analyses of Waste Packages," L.A. Zaremba, March 1987 and , "Part II, CONVO - A Computer Program for Probabilistic Analysis of Waste Package Lifetimes and Release Rates," L.A. Zaremba, June 1987. General guidance and specific guidance for review of these User Manuals are presented in Enclosure 1. Please forward your written comments by December 7, 1987.

Also enclosed for your information is a copy of NUREG/CR-4770, "Potential Scenarios for Use in Performance Assessment of High-Level Radioactive Waste Repositories in Unsaturated Tuff," Robert Guzowski, Remote Sensing Systems, Inc., September 1987. Please call me if you have any questions or if you wish to discuss this.

Actions resulting from this letter are considered to be within the scope of FIN A-4171. No changes in cost or delivery of contracted products are authorized. Please notify me immediately if you feel this letter will result in additional costs or delay in delivery of contracted products.

Sincerely,

/S/

Everett A. Wick
Materials Engineering Section
Technical Review Branch
Division of High-Level Waste Management
Office of Nuclear Materials Safety
and Safeguards

88132296
WM Project: WM-10, 11, 16
PDR w/encl
(Return to WM, 623-SS)

WM Record File: A-4171
LPDR w/encl

Enclosure: As stated

cc: Dr. Neville Pugh, Director
     Metallurgy Division

     Dr. Dale Hall, Group Leader
     Corrosion Group - Metallurgy Division

WM Record File
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OFFICIAL CONCURRENCE AND DISTRIBUTION RECORD

LETTER TO: Dr. Charles Interrante, Program Manager
                 Metallurgy Division - Corrosion Group
                 National Bureau of Standards
                 U.S. Department of COmmerce
                 Gaithersburg, MD. 20899

FROM: Everett A. Wick
                 Materials Engineering Section
                 Technical Review Branch
                 Division of High-Level Waste Manaagement
                 Office of Nuclear Material Safety and Safeguards

SUBJECT: REQUEST FOR NBS REVIEW OF TWO USER MANUALS FOR WASTE
                 PACKAGE PERFORMANCE ASSESSMENT CODES (FIN A-4171)

DATE:

DISTRIBUTION

HLWM/SF	NMSS RF	RBrowning, HLWM
MBell, HLWM	JBunting, HLSE	RBallard, HLTR
Youngblood, HLOB	EWick, HLTR&RF	RWeller, HLTR
KChang, HLTR	CPeterson, HLTR	HLTR RF
PDR		

CONCURRENCES

ORGANIZATION/CONCUREE	INITIALS	DATE CONCURRED
HLTR/EWick	*E aH*	87/11//8
HLTR/RWeller	*Raw*	87/11//8

ENCLOSURE 1

GENERAL GUIDANCE IN REVIEW OF USER's MANUALS

1. Are the codes documented adequately for first time users?

2. Are the processes represented by the code pertinent to demonstrating that the waste package and the engineered barrier system will meet the performance objectives of 10 CFR 60, i.e., containment and controlled release?

3. Identify any important processes that are not accounted for by the code.

SPECIFIC GUIDANCE IN REVIEW OF MODELS IN THE CODE

1. Do data exist to provide a crude evaluation of the models?

2. Identify any feature of the model which appears to violate present understanding of the process or processes the model is intended to represent.

3. Does the model omit any parameters which are known to affect process mechanisms ? How can such missing parameters be factored into the model ?

4. Are the models constructed so that unknown coefficients and proportionality constants can be derived through experiments and analyses which are state-of-the-art?