



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

October 7, 1999

Dr. Stephan J. Brocoum
Assistant Manager for Licensing
U.S. Department of Energy
Yucca Mountain Site Characterization Office
P.O. Box 30307
North Las Vegas, NV 89036-0307

SUBJECT: TRANSMITTAL OF MULTIFLO CODE (VERSION 1.2β) AND RELATED DOCUMENTATION

Dear Dr. Brocoum:

In your November 13, 1998, letter to Michael J. Bell, you requested a copy of both the U.S. Nuclear Regulatory Commission's (NRC) Total Performance Assessment (TPA) and the MULTIFLO computer programs. We have provided you with a copy of the TPA program and its accompanying documentation (March 17, 1999, letter from John Greeves to S. Brocoum). I am pleased to send to you the latest version of the MULTIFLO code (Version 1.2β) and its documentation.

Your request for MULTIFLO included both an executable version of the computer code and the source code (see attached request dated August 28, 1998, from Gregory Valentine to Bret Leslie). We understand you want the source code so that you can make changes that you deem appropriate. We therefore are enclosing a copy of the source code and an executable version of the code. MULTIFLO has been copyrighted by the Center for Nuclear Waste Regulatory Analyses (CNWRA) on behalf of the NRC. Consequently, there are restrictions on the fields of use where you and your contractors may employ this code. The attached licensing agreement delineates those restrictions.

I would also like to advise you that NRC developed the MULTIFLO code and the related documentation for use by NRC and its contractor; therefore, the code is provided to you with no assurance that it will operate on your computer system and without any commitment to support your use of it. We will provide the U.S. Department of Energy with notice as future versions of the MULTIFLO code are developed and become available. As requested by your staff, the box containing the code and its documentation will be sent directly to Betty Hodgson, CRWMS M&O Software Center, 1180 Town Center Drive, Las Vegas, Nevada 89144. If you have any further questions regarding the MULTIFLO code or its documentation, please contact Bret Leslie of my staff at (301) 415-6652 or by e-mail at bwl@nrc.gov.

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Let me take this opportunity to address a question regarding the computer code ASHPLUME. We previously provided the source code for ASHPLUME to the U.S. Department of Energy (DOE) based on an earlier DOE request. In the intervening months, DOE and its contractors have used this code in some of their calculations of the performance of the proposed Yucca Mountain repository subjected to disruptive processes. The CNWRA was recently contacted by the DOE Yucca Mountain Project Software Control staff with several questions regarding the

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status and associated controls on this code. ASHPLUME Version 1.0 is in the public domain. Since it has not been copyrighted, there are no specific legal restrictions regarding its use.

If the DOE or its contractor modify in any way a code developed or provided to you by the NRC or its contractor, then the NRC requests that DOE and its contractor rename the code. This NRC request includes, but is not limited to, the TPA, ASHPLUME, and MULTIFLO codes addressed in this letter, as well as any future versions of these codes that may be provided by NRC. We note that NRC and its contractor have historically followed this protocol regarding codes obtained from DOE (e.g., the TOUGH code became CTOUGH).

Although the TPA, MULTIFLO, and ASHPLUME codes were developed and are being used by the NRC, it is very important that I remind you that the NRC has not endorsed, accepted, or approved the use of these codes to support a license application for a proposed repository. Regardless of the origin of a computer code that is used in a DOE license application, DOE retains the responsibility for establishing (i) the validity of the code, (ii) its applicability to the specific situation for which it is used, and (iii) the appropriateness of the parameter values and associated uncertainties used in applying the code.

Sincerely,

C. William Reamer, Branch Chief
High-Level Waste & Performance
Assessment Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards

Attachments (2):

- 1) Los Alamos National Laboratory request for MULTIFLO source code
- 2) Copyright for Software entitled, "MULTIFLO" under Contract No. NRC-02-97-009

cc: See next page

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2) This document is is not related to the HLW program. If it is related to HLW, it should should not be placed in the LSS. BWL 9/29/99
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Letter to Dr. S. J. Brocoum from C. W. Reamer - dated: October 7, 1999

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