

October 8, 2002

H .Lawrence McKague  
Element Manager, GLGP  
Center for Nuclear Waste Regulatory Analysis  
6220 Culebra Road  
San Antonio, Texas, 78228-5516

SUBJECT: REVIEW OF INTERMEDIATE MILESTONE - PVHA\_YM VERSION 2.0 -  
PROBABILISTIC VOLCANIX HAZARDS ASSESSMENT METHODS FOR A  
PROPOSED HIGH-LEVEL RADIOACTIVE WASTE REPOSITORY AT YUCCA  
MOUNTAIN, NEVADA - LETTER REPORT (IM0142.246.246.260)

Dear Mr. McKague:

We have reviewed the referenced report and find that it is a significant advance over PVHA\_YM Version 1.0. The data files include most of the various modifications which are present in the current Yucca Mountain Data sets. New events can be added to the event sets quit easily, variations in repository location and size can be accommodated, gravity data can be incorporated into the analysis, and event length and orientation can also be accommodated. The one problem that we encountered with the code/report is that the pop-up bottoms used to include dike/vent intersection and export data would not appear, and therefore were not available for use, if screen resolution was set to less than 1024x768 pixels. We ran 4 test cases comparing CNWRA results with NRC results, and in all cases the results were the same up to seven significant figures. In addition, we ran 4 additional test cases in which the computer screen was set at 1024x768 pixels compared to 800x600 pixels, and in all cases the results again were the same up to seven significant figures, therefore indicating that under the lower screen resolution the code still performs its function with the exception of the included dike/vent intersection and export data functions. We also ran many other test cases, and the code always produced results which were reasonable and in accordance with known data. We therefore, consider the code and report both technically and programmatically acceptable. We would suggest, however, that an addendum be issued which states to the effect: Certain aspects of this code will not be available if screen resolution of the computer is set to less than 1024x768 pixels. In addition, we suggest that a 17 inch monitor or larger be utilized.

If there are any questions concerning this review please contact me at 301-415-8063 or by e-mail using [jst@nrc.gov](mailto:jst@nrc.gov).

Sincerely,  
**/RA/**

John S. Trapp, Program Element Manager  
High-Level Waste Branch  
Division of Waste Management  
Office of Nuclear Materials Safety  
and Safeguards

cc: D. DeMarco  
D. Riffle  
B. Meehan  
L. Campbell  
J. Schlueter  
B. Hill (CNWRA)  
W. Patrick (CNWRA)

October 8, 2002

H. Lawrence McKague  
Element Manager, GLGP  
Center for Nuclear Waste Regulatory Analysis  
6220 Culebra Road  
San Antonio, Texas, 78228-5516

SUBJECT: REVIEW OF INTERMEDIATE MILESTONE - PVHA\_YM VERSION 2.0 -  
PROBABILISTIC VOLCANIX HAZARDS ASSESSMENT METHODS FOR A  
PROPOSED HIGH-LEVEL RADIOACTIVE WASTE REPOSITORY AT YUCCA  
MOUNTAIN, NEVADA - LETTER REPORT (IM0142.246.246.260)

Dear Mr. McKague:

We have reviewed the referenced report and find that it is a significant advance over PVHA\_YM Version 1.0. The data files include most of the various modifications which are present in the current Yucca Mountain Data sets. New events can be added to the event sets quit easily, variations in repository location and size can be accommodated, gravity data can be incorporated into the analysis, and event length and orientation can also be accommodated. The one problem that we encountered with the code/report is that the pop-up bottons used to include dike/vent intersection and export data would not appear, and therefore were not available for use, if screen resolution was set to less than 1024x768 pixels. We ran 4 test cases comparing CNWRA results with NRC results, and in all cases the results were the same up to seven significant figures. In addition, we ran 4 additional test cases in which the computer screen was set at 1024x768 pixels compared to 800x600 pixels, and in all cases the results again were the same up to seven significant figures, therefore indicating that under the lower screen resolution the code still performs its function with the exception of the included dike/vent intersection and export data functions. We also ran many other test cases, and the code always produced results which were reasonable and in accordance with known data. We therefore, consider the code and report both technically and programmatically acceptable. We would suggest, however, that an addendum be issued which states to the effect: Certain aspects of this code will not be available if screen resolution of the computer is set to less than 1024x768 pixels. In addition, we suggest that a 17 inch monitor or larger be utilized.

If there are any questions concerning this review please contact me at 301-415-8063 or by e-mail using [jst@nrc.gov](mailto:jst@nrc.gov).

Sincerely,  
**/RA/**  
John S. Trapp, Program Element Manager  
High-Level Waste Branch  
Division of Waste Management  
Office of Nuclear Materials Safety  
and Safeguards

cc: D. DeMarco  
D. Riffle  
B. Meehan  
L. Campbell  
J. Schlueter  
B. Hill (CNWRA)  
W. Patrick (CNWRA)

**DISTRIBUTION:**

File Center      NMSS r/f      DWM r/f      HLWB r/f

C:\ORPCheckout\FileNET\ML023090270.wpd

OFC:	HLWB		HLWB		
NAME:	J. Trapp		L. Campbell		
DATE:	10/08/02		10/08/02		

OFFICIAL RECORD COPY