

November 16, 2001

Dr. Gordon W. Wittmeyer
Manager, Performance Assessment
Center for Nuclear Waste Regulatory Analyses
6220 Culebra Road
P.O. DRAWER 28510
San Antonio, Texas 78228-0510

SUBJECT: SUBMISSION OF IM 20.01402.761.130, "RESPONSE TO THE EXTERNAL REVIEW OF THE TOTAL-SYSTEM PERFORMANCE ASSESSMENT VERSION 3.2 CODE"

Dear Dr. Wittmeyer:

The Center for Nuclear Waste Regulatory Analyses (CNWRA) transmitted the subject Intermediate Milestone 20.01402.761.130 on September 27, 2001. The report, received on September 28, 2001, documents responses to comments from the external peer review of the Total-System Performance Assessment (TPA) Version 3.2 Code.

The CNWRA report includes numerous recommendations for changes to the TPA code, the User's Guide for the TPA code, additional documentation, sensitivity studies, and future Iterative Performance Assessments. The recommendations from the External Review Group are being considered during the planning of the TPA Version 5.0 development effort. Although it is indicated in the Acknowledgment section of the report, I would like to emphasize that the recommendations presented in the report documenting the responses to the external review should not be considered as an NRC commitment to take the recommended action to respond to the comments of the external reviewers. We will continue to evaluate the recommendations and plan to record any changes to the responses provided in the CNWRA report in periodic updates to the summary checklist, which is discussed below.

The report submitted by CNWRA can be used by the NRC staff and CNWRA staff during development and planning of TPA Version 5.0 and other future activities and it is considered adequate to fulfill the Intermediate Milestone. The report will be acceptable after the following changes have been made:

1. A checklist to track the final disposition of each reviewer comment is added to the report. The checklist should provide a summary of the proposed action that has been taken or is planned to be taken to respond to the comment.

It is proposed that the checklist be presented in a tabular form with the following columns: comment number (from the external review report), page number (referencing the comment and response in the external review report), summary of proposed action, and associated activity (e.g., TPA Version 5.0 code development, TPA Version 5.0 User's Guide, future Iterative Performance

Assessment, TPA Version 5.0 sensitivity studies). Additional information could be added to the database already developed by CNWRA to track the responses of the comments for this purpose. This proposal is not intended to remove CNWRA flexibility to identify a more effective approach.

2. Text (e.g., a summary-level discussion) describing the background on the response to the External Review Group comments, including the earlier Action Plan to respond to the External Review Group comments, is added. The text should indicate that this report provides the initial, comprehensive response, but acknowledge that final decisions will have to be made with respect to individual changes.
3. Text (e.g., a summary-level discussion) reinforcing NRC's role and the use of the TPA code as a tool to support a potential licensing review is added. This consideration is important context for understanding some of the responses. For example, some external reviewer recommendations may go beyond what is believed to be necessary, given the role of the TPA code.
4. A list of acronyms and initialisms is added to the report. The TPA-code parameters named in the report should also be identified.
5. To take advantage of recent events and the expected release of the TPA Version 4.0 User's Guide, the report should be updated to make specific citations to the recently promulgated regulations at 10 Code of Federal Regulations (CFR) Part 63 and 40 CFR Part 197. The User's Guide should be specifically referenced, since it is expected to be completed and publicly available in the near future. References from the external reviewer comments (i.e., where they are presented as part of a comment in Section 3, "Responses to the Comments of the External Reviewers") need to be clearly identified. Improvements are made in the citations; specific examples of requested improvements will be provided separately. References to Appendices in the User's Guide for the TPA code should be clearly identified as such (e.g., see response to comment 115 on page 3-15 of the response to the external review).
6. Specific programmatic comments — which will be provided separately — are resolved. These programmatic concerns will address, for example, the reasonably maximally exposed individual, the time period of interest, the use of the term "conservative" or "conservatism," and NRC's role with respect to performance confirmation.
7. Specific technical comments — which will be provided separately — arising from our review are resolved.

8. The report should be consistent in how it refers to the changes in the User's Guide (e.g., TPA Version 5.0 User's Guide or "final User's Guide"), performance assessment analyses (e.g., "iterative performance assessment" or "future TPA phases"), and verification testing of the TPA code, radionuclides (e.g., "radioelements" or "radionuclides"), and the basecase model (e.g., "base model" or "basecase model").

We will make the revised Response to the External Peer Review of the Total-System Performance Assessment Version 3.2 Code publicly available after these changes have been made and the report is found acceptable.

If you have any questions, please contact me at (301) 415-6628 or (jrf2@nrc.gov) or Jon Peckenpaugh at (301) 415-6753 or (jmp@nrc.gov).

Sincerely,

James R. Firth, Element Manager */RA/*
Total System Performance Assessment
and Integration KTI
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards

cc: B. Meehan, CAB1/ADM
J. Linehan, PMDA

