

NOTE TO: Rex Wescott  
HLHP

FROM: Mysore Nataraja  
HLGT

*Rej* 3/23/93

SUBJECT: OFFICE OF RESEARCH - PROGRAM PLAN (NUREG - 1406)

As per your request of February 26, 1993, we have reviewed the draft of the subject document. The Engineering Section reviewed applicable portions of Chapters 2 and 3, Appendix A.3, and Appendix B( User Needs). The review focused on the research program being consistent with the HLW licensing program and complimenting the HLWM's technical assistance program by meeting the licensing needs. For the areas reviewed, the research program generally satisfied the above criteria. However, we have the following comments on this draft document.

Research program on Seals ( User Need topic R301).

1. The current scope does not include the evaluation of the effectiveness of seals in mitigating the flow of gas and vapor through the seals. The release of carbon-14 and other volatile components from spent fuel as a source of vapor or gas phase transport is a concern for Yucca Mountain. Although the contribution from a flow through the seals to the total release is not clearly established yet, research program on seals should address this topic.
2. Appendix B, User Need topic R301, Relevant Research Program, indicates that the work is being discontinued whereas Page A-32 lists the items being researched under this program. Current version of the User Need for this topic should be presented in Appendix B. The correct phone number for the HLGE contact (B. Jagannath) is 504- 2593.

This review was performed by Banad Jagannath of my staff; please contact him should you have any questions on this.

CC: R. Ballard  
M. Federline

17 March, 1993

NOTE TO: Rex Wescott

FROM: Ginny Colten-Bradley

SUBJECT: COMMENTS ON NRC RADIOACTIVE HLW RESEARCH PROGRAM PLAN (NUREG 1406)

I have a number of generic comments concerning the HLW Research Program Plan:

- 1) Without appropriate references and citations, it is difficult to determine what the context of many statements concerning "research" imply. It is not clear whether "paper studies" or real data-collection experiments are being cited. There are a number of comments about "research" that do not even cite the appropriate work or the contractor, giving this reader the impression that NRC RES has done a lot more than it has. Perhaps, being new to the NRC, I have missed important documents, but since when have we been doing spent fuel dissolution experiments?
- 2) The document needs a very careful edit for typos, correct words, sentence structure, etc.
- 3) The CDS/ CDM's are not fully developed, as is implied in the hydrology section (pg. A-43; Mineral Assemblages).
- 4) Justification or an explanation is needed for the lack of funding for some necessarily long-term experiments, such as those with spent fuel (pg. A-11).
- 5) Technical accuracy is a must. For example, smectite does not dehydrate to form illite.

These comments have been discussed with RES and marked-up pages have been provided.

17 March, 1993

NOTE TO: Rex Wescott

FROM: Ginny Colten-Bradley

SUBJECT: COMMENTS ON NRC RADIOACTIVE HLW RESEARCH PROGRAM PLAN (NUREG 1406)

I have a number of generic comments concerning the HLW Research Program Plan:

- 1) Without appropriate references and citations, it is difficult to determine what the context of many statements concerning "research" imply. It is not clear whether "paper studies" or real data-collection experiments are being cited. There are a number of comments about "research" that do not even cite the appropriate work or the contractor, giving this reader the impression that NRC RES has done a lot more than it has. Perhaps, being new to the NRC, I have missed important documents, but since when have we been doing spent fuel dissolution experiments?
- 2) The document needs a very careful edit for typos, correct words, sentence structure, etc.
- 3) The CDS/ CDM's are not fully developed, as is implied in the hydrology section (pg. A-43; Mineral Assemblages).
- 4) Justification or an explanation is needed for the lack of funding for some necessarily long-term experiments, such as those with spent fuel (pg. A-11).
- 5) Technical accuracy is a must. For example, smectite does not dehydrate to form illite.

These comments have been discussed with RES and marked-up pages have been provided.