

August 19, 1996

Graham Smith, BIOMOVS II
Technical Secretariat
QuantiSci Limited
Chiltern House
45 Station Road
Henley-on-Thames
Oxfordshire RG9 1AT
United Kingdom

Dear Mr. Smith:

NRC staff has reviewed the final draft of the BIOMOVS II (Biospheric Model Validation Study) study, Technical Report No. 6, Reference Biosphere for Radioactive Waste Disposal. The document will provide a framework of guidance on specifying the biosphere(s) of interest and appropriate receptors for nations to evaluate the hazards related to long-term disposal of radioactive materials.

The staff's review identified several clerical errors and a need for revision of the summary of the United States of America standards (see enclosure). The summary was revised to clarify the relationship between standards and requirements for both potential disposal of high level waste at the Yucca Mountain and at other sites (i.e., the Waste Isolation Pilot Project).

We thank you for the opportunity to comment on the draft final report.

Sincerely,

(ORIGINAL SIGNED BY:)

John H. Austin, Chief
Performance Assessment and
HLW Integration Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards
U.S. Nuclear Regulatory Commission

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Enclosure: As stated

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

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Technical Secretariat
QuantiSci Limited
Chiltern House
45 Station Road
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Oxfordshire RG9 1AT
United Kingdom

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We thank you for the opportunity to comment on the draft final report.

Sincerely,

A handwritten signature in black ink that reads "John H. Austin".

John H. Austin, Chief
Performance Assessment and
HLW Integration Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards
U.S. Nuclear Regulatory Commission

Enclosure: As stated

COMMENTS ON APPENDIX A2
CRITICAL GROUPS: SURVEY AND RECOMMENDED APPROACHES

NRC has the following comments on Appendix A2, Critical Groups: Survey and Recommended Approaches.

- 1. Section A2.2.3, Summary, contains a duplicate paragraph. The second paragraph of the section on page A2.11 is fully duplicated in the fourth paragraph of the section. The fourth paragraph should be omitted.**
- 2. On page A2.18, in the third paragraph, which begins with "[o]ther indicators of safety...", another duplication occurs. The third sentence duplicates the information provided in the first sentence and should be deleted.**
- 3. The first paragraph on the summary of USA standards (starting on page A2.22) should be revised to read as follows:**

Standards governing the geological disposal of high-level waste (HLW), for sites other than at the proposed HLW repository site at Yucca Mountain (e.g., transuranic waste disposal at the Waste Isolation Pilot Project [WIPP]), have been promulgated in 40 CFR Part 191. The Energy Policy Act of 1992 requires a site-specific standard to be promulgated by the Environmental Protection Agency for the proposed HLW repository at Yucca Mountain. The Act states that the standards shall prescribe the maximum annual effective dose equivalent to individual members of the public from releases to the accessible environment from radioactive materials stored or disposed of in the repository [Wilson et al, 1994]. Note the use of pre ICRP-60 dose terminology [ICRP, 1991]. A study, required by the Act, by the National Research Council's National Academy of Sciences (NAS) supports the use of reference biosphere(s) and critical group and recommended defining key parameters in a formal rulemaking process [NAS, 1995]. EPA will develop the new standards based on the recommendations of the NAS, and the Nuclear Regulatory Commission (NRC) will develop regulations implementing the EPA standard.

- 4. The citation for the National Research Council's National Academy of Sciences report should be changed from [NRC, 1995] to [NAS, 1995], to reduce the potential for confusion on the authorship.**

ENCLOSURE