

October 29, 2001

Mr. Stephen M. Bowman
Oak Ridge National Laboratory
P.O. Box 2008
Building 6011
Mail Stop 6370
Oak Ridge, TN 37831-6370

SUBJECT: NRC PROJECT JCN B0009, TASK ORDER 21, DRAFT SECTIONS OF
SHIELDING ANALYSIS AND MEASUREMENT GUIDE

Dear Mr. Bowman:

As requested in your letter dated August 31, 2001, the Spent Fuel Project Office (SFPO) has reviewed the initial draft of the shielding analysis section of the report entitled "Guidelines for Preparation of Shielding Evaluations for Transport and Storage Packages." We have the following general comments: 1) the document should be reviewed by a technical editor and 2) SFPO's comments on the draft outline dated April 29, 2001, should be reviewed to be sure that all of the items mentioned there are included.

Some specific items in the comments on the draft outline are repeated here.

1. In the source term generation section, mention: a) the need to include ^{208}Tl when irradiated ^{232}Th is part of the contents, b) that sometimes contents are determined by back calculating, c) the need to include start-up and other neutron sources. Also, provide any special considerations to include for irradiated MOX fuel.
2. Comment on the accuracy and any limits of application for the depletion codes when calculating high burnup cases.
3. Discuss the importance of boron in a neutron shield to limit secondary gamma production and its affects on the neutron and gamma doses.
4. Discuss the limitations of some of the weaknesses of the codes like the ray problems with DORT.

A copy of the draft sections with handwritten annotations is enclosed.

S. Bowman

-2-

If you need clarifications of any of the comments please contact me.

Sincerely,

/RA/

Carl J. Withee
Spent Fuel Project Office
Office of Nuclear Material Safety
and Safeguards

Enclosure: Draft sections of report

S. Bowman

-2-

If you need clarifications of any of the comments please contact me.

Sincerely,

/S/

Carl J. Withee
Spent Fuel Project Office
Office of Nuclear Material Safety
and Safeguards

Enclosure: Draft sections of report

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