

**From:** "Calvin M. Hopper" <hoppercm@ornl.gov>  
**To:** Tim Harris <TEH@nrc.gov>  
**Date:** 7/31/01 10:17AM  
**Subject:** Explanations

Tim,

A copy of ORNL/TM-13765 is in the mail to you. Neither Karla nor I understand that oversight.

The WCS SER Table 2 and ORNL/TM-13765 Table 7.2 differences are explained below.

The SER subcritical limit numbers were predicated upon a non-migrating SNM concept in an infinite media (see first entry of Table D.2, pg 53 of the TM for 239-Pu example). The operational limit is little more than the subcritical limit multiplied by 0.7 to accommodate possible operational deviations. These values were determined for SiO<sub>2</sub> at 1.6g/cc as opposed to 2.4g/cc that was considered in the TM.

The TM Table 7.2 Second Graded-approach values considered concerns regarding migration of SNM. Values were taken from Vol 1 & 2 of NUREG 6505 and Appendix D of the TM and adjusted from their originally calculated SiO<sub>2</sub> density of 1.6g/cc to 2.4g/cc to be more in line with the kinds of waste you consider more characteristic. The values in the TM are less than those in the SER primarily due to the migration concept and density adjustments.

It all sounds rather convoluted but does make some sense.

Good luck.

Calvin

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