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December 7, 2005
Contract No. NRC-02-02-012
Account No. 20.06002.01.332

U.S. Nuclear Regulatory Commission
ATTN: Mrs. Deborah DeMarco
Division of High-Level Waste Repository Safety
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11545 Rockville Pike
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Washington, DC 20555

**SUBJECT: Programmatic Review of Conference Paper, Consequence Sensitivity Analyses for a Risk-Informed Review of a Preclosure Safety Analysis
Administrative Item 20.06002.01.332.609**

Dear Mrs. DeMarco:

The enclosed paper and Form 390A are being submitted for programmatic review. The paper will be submitted for presentation at the 8th International Conference on Probabilistic Safety Assessment and Management (PSAM 8) on May 14–19, 2006, in New Orleans, Louisiana. The title of the paper is

Consequence Sensitivity Analyses for a Risk-Informed Review of a Preclosure Safety Analysis by R. Benke and M. Waters

The paper presents results from initial sensitivity scoping calculations for potential offsite consequences from a filtered atmospheric release of airborne radioactive material. The paper identifies significant radiological dose pathways, individual radionuclide contributions, and influential parameters and uncertainties. Effects on mean total dose estimates were investigated in absolute and relative senses, and results from these two approaches were found to be in general agreement. Aside from two noted exceptions resulting in large reductions in the estimated consequences, the results did not show order-of-magnitude sensitivities to individual parameter values. Sensitivity calculations were presented for a single baseline scenario. This work provides a foundation to expand the sensitivity analyses to investigate other scenarios, analytical techniques, and sensitivity metrics. This information can be used to further risk inform the regulatory review of the preclosure design and operations in a potential U.S. Department of Energy license application.



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If you have any questions regarding this paper, please contact me at (210) 522-5185 or Dr. Roland Benke at (210) 522-5250. Your cooperation in this matter is appreciated.

Sincerely,



Sitakanta Mohanty, Assistant Director
Engineering and Systems Assessment

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1. TITLE (State in full as it appears on the speech, paper, or journal article)

Consequence Sensitivity Analyses for a Risk-Informed Review of a Preclosure Safety Analysis

2. AUTHOR(s)

Roland R. Benke and Michael D. Waters

3. NAME OF CONFERENCE, LOCATION, AND DATE(s)

**8th International Conference on Probabilistic Safety Assessment and Management
New Orleans, Louisiana
May 14-19, 2006**

4. NAME OF PUBLICATION

Probabilistic Safety Assessment and Management—PSAM8

5. NAME AND ADDRESS OF THE PUBLISHER

**ASME
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(212) 591-7292

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