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January 19, 2012  
Contract No. NRC-02-07-006  
Account No. 20.14005.02.001  
J5661

U.S. Nuclear Regulatory Commission  
ATTN: Dr. James Rubenstone  
Office of Nuclear Material Safety and Safeguards  
Division of Spent Fuel Alternative Strategies  
Two White Flint North  
11545 Rockville Pike  
Mail Stop T-7F3  
Washington, DC 20855

Subject: Programmatic Review of Presentation—Corrosion of SIMFUEL in Carbonate Solution  
Containing Calcium and Silicon (AI 14005.02.001.205)

Dear Dr. Rubenstone:

The enclosed presentation, along with NRC Form 390A and a Technical Publications/Presentations Checklist, is being transmitted for programmatic review. This presentation was recently invited for the 2012 ASTM C26.13 Subcommittee Meeting on Spent Fuel and High-Level Waste to be held January 30–February 1, 2012, in Atlanta, Georgia. The first author is a member of the subcommittee. The title of the presentation is

Corrosion of SIMFUEL in Carbonate Solution Containing Calcium and Silicon

by Hundal Jung,<sup>1</sup> Tae Ahn,<sup>2</sup> Roberto Pabalan,<sup>1</sup> and David Pickett<sup>1</sup>

<sup>1</sup> Center for Nuclear Waste Regulatory Analyses® (CNWRA®)

<sup>2</sup> U.S. Nuclear Regulatory Commission (NRC)

This presentation summarizes previous experimental results from simulated spent fuel (SIMFUEL) corrosion tests in aerated carbonate-based solutions containing calcium and silicon. In addition, to be appropriate for the purposes of this subcommittee meeting, the presentation includes an introduction to the use of electrochemical methods to measure spent fuel degradation and dissolution rate using impedance spectroscopy. The results obtained using electrochemical methods are compared to nonelectrochemical methods such as solution chemistry analysis. The presentation will afford an opportunity to interact with the professional community concerned with spent fuel degradation and its impact on the performance of a deep geologic disposal system for high-level nuclear waste, and will help CNWRA staff support NRC on disposal-related programs.

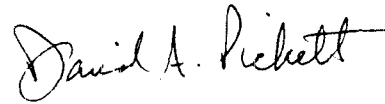


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Dr. J. Rubenstone  
January 19, 2012  
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Please advise me of the result of your programmatic review. If you have any questions regarding this presentation, please contact Dr. Hundal (Andy) Jung at (210) 522-4238 or me at (210) 522-5582.

Sincerely,



David Pickett, Ph.D.  
Senior Program Manager  
ISFR-GD Program

DP: ar  
Enc: Presentation, NRC Form 390A

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Attachment 1  
**Checklist for Implementing the  
Guidelines on Technical Publications and Presentations**

Date	Initials	Action
<b>General Planning and Scheduling</b>		
1/19/12	DAP	CNWRA Manager (for CNWRA initiated publications) or NRC Branch-Chief (for NRC initiated publications) concurrence of no anticipated impact on assigned or anticipated tasks.
1/19/12	DAP	CNWRA Manager (for CNWRA initiated publications) or NRC Branch-Chief (for NRC initiated publications) approval of planned technical and programmatic scope of paper or presentation.
1/19/12	DAP	CNWRA manager/author Informally discusses with NRC Branch Chief or designee on planned scope; this may be done on telephone or via email.
1/19/12	DAP	Acknowledgment of staff member that paper or presentation may be later withheld from publication for programmatic reasons.
<b>Materials Generally Unsuitable for Inclusion</b>		
1/19/12	DAP	CNWRA Manager (for CNWRA initiated publications) or NRC Branch-Chief (for NRC initiated publications) review and determination that the document contains no information that is unsuitable for inclusion. [In most cases, the review will stop at this point.]
		If needed, NRC programmatic review and determination that the document contains no information that is unsuitable for inclusion.
		If needed, NRC OGC review and determination that the document contains no information that is unsuitable for inclusion.
<b>Decision and Agreement on Constraints</b>		
1/19/12	DAP	Acknowledgment of staff member that—despite approval—the paper or presentation may be later withheld for programmatic reasons.
1/19/12	DAP	Acknowledgment of staff member of any constraints imposed on discussions about and/or oral presentation of the document.
		NRC Deputy Director or designee High-Level Waste Repository Safety

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