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December 29, 2005  
Contract No. NRC-02-02-012  
Account No. 20.06002.01.352  
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U.S. Nuclear Regulatory Commission  
ATTN: Mrs. Deborah A. DeMarco  
Division of High-Level Waste Repository Safety  
Two White Flint North  
11545 Rockville Pike  
Mailstop T7 D15  
Washington, DC 20555

Subject: Programmatic Review of Paper

Dear Mrs. DeMarco:

Enclosed is the conference paper along with form 390A being submitted for NRC programmatic review.

Heat Transfer by Natural Convection Through Rubble Generated by Drift Degradation  
by S. Mohanty, A.Ghosh, and G. Adams

The paper will be submitted for publication in the proceedings of the 2006 International High-Level Radioactive Waste Management Conference, Las Vegas, Nevada, April 30–May 4, 2006.

The paper discusses a model for estimating waste package surface temperature within the potential high-level waste repository at Yucca Mountain. The paper builds on a paper previously published in the Proceedings of Alaska Rocks 2005. This paper provides rationale for the choice of rubble size distribution and void porosity range and identifies the conditions under which convective heat transfer takes place in the rubble material.



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12300 Twinbrook Parkway • Rockville, Maryland 20852-1606

Mrs. Deborah A. DeMarco  
December 29, 2005  
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Please advise me of the results of your programmatic review. If you have any questions regarding this paper, please contact me at (210) 522-5185 or G. Adams at (210) 522-4957. Your cooperation in this matter is appreciated.

Sincerely,



Sitakanta Mohanty  
Assistant Director  
Engineering and Systems Assessment

SM/nn  
Enclosure

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Heat Transfer by Natural Convection Through Rubble Generated by Drift Degradation

2. AUTHOR(s)

S. Mohanty, A. Ghosh, and G. Adams

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

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5. NAME AND ADDRESS OF THE PUBLISHER

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555 North Kensington Avenue  
La Grange Park, IL 60526

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(708) 579-8253

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