

3426.1/EAW/83/12/14/0

DEC 14 1983

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Dr. Peter Soo, Associate Division Head
Nuclear Waste Management Division
Brookhaven National Laboratory
Associated Universities, Inc.
Upton, NY 11974

Dear Dr. Soo:

NRC's comments on BNL's October Progress Letter for FIN A-3164 (DOE Waste Package Program) and FIN A-3167 (Review of Waste Package Verification Tests) are presented below.

A-3164

1. We note that Dr. C. Jantzen of SRL commented on an earlier BNL description of hydration effects resulting from steam interactions with the bcrosilicate glass waste form. She said that such interactions with humid air are highly unlikely in a repository.

The BNL Progress Letter points out that the LLBL/NNWSI group is designing a waste package for the unsaturated zone in tuff and that a steam/air environment is considered likely to prevail for 800 years. The progress letter then points out that the reference canister material is austenitic stainless steel (304L) which is susceptible to stress-corrosion cracking in steam/oxygen chloride environments. Glass/humid air reaction, therefore, is considered likely by BNL for the scenario described.

The BNL statement seems reasonable for the specific case it addresses; however, BNL should also address the SRL comments for repositories in saturated zones (basalt) and for instances in which the waste package containment survives more than 800 years in a tuff repository, i.e., after the steam/air environment no longer prevails.

2. We note that Dr. Siskind summarized the FY83 accomplishments of the West Valley Demonstration Project [Appendix 2]. This is a useful summary and we commend its inclusion in the report.
3. Please submit the trip report for the October 18-19, 1983 NNWSI Tuff Waste Package Workshop held in Dublin, California.

Distribution: WM-83-826

WM file: A3164, A-3167

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A-3167

This section is mostly a description of the Task 4 (Determination of Local Corrosion Conditions Appropriate for Low Carbon Steel HLW Containers in a Basalt Repository) experiment which NRC has commented on previously (letter, Wick to Soo, November 28, 1983).

The action taken by this letter is considered to be within the scope of the current FIN's A-3164 and A-3167. No changes to costs or delivery of contracted products are authorized. Please notify me immediately if you believe this letter would result in changes to costs or delivery of contracted products.

Sincerely,

Everett A. Wick
Engineering Branch
Division of Waste Management

cc: Dr. H. J. C. Kouts, Chairman
Nuclear Energy Department

Dr. W. Y. Kato, Deputy Chairman
Nuclear Energy Department

Dr. D. G. Schweitzer, Associate
Chairman and Head
Nuclear Waste Management Division

Dr. M. S. Davis, Deputy Division Head
Nuclear Waste Management Division

Dr. B. Siskind
Nuclear Waste Management Division

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