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Mr. Everett A. Wick
Division of Waste Management
Office of Nuclear Materials Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Re: Monthly Letter Status Reports for March 1986 (FIN-A-4171-6)

Dear Mr. Wick:

Enclosed is the March 1986 monthly progress report for the project entitled "Evaluation and Compilation of DOE Waste Package Test Data" (FIN-A-4171-6). The financial information is reported separately.

Sincerely,

Charles G. Interrante
Program Manager
Corrosion Group
Metallurgy Division

1 Enclosures

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Monthly Letter Report for March, 1986

Published April 1986

(FIN-A-4171-6)

Performing Organization: National Bureau of Standards
Gaithersburg, MD

Sponsor: Nuclear Regulatory Commission
Office of Nuclear Materials Safety and Safeguards
Silver Spring, MD 20910

TASK 1 - Review of Waste Package Data Base

A set of nine reviews have been submitted to the Washington Editorial Review Board (WERB) for use in the establishment of procedures for obtaining WERB approval for publication of NBS reviews submitted under this contract.

The set of instructions developed for reviewers was tested and refined this month, using an NBS reviewer who had not been involved in the development of the review forms. A clear, unambiguous set of instructions is regarded to be important, as reviews will be made by various technical experts who have had no direct involvement with this program at the NBS. This is especially important for anyone working as a subcontractor at a site remote from the NBS.

Contractor Messina is working towards completion of the subcontract related to the development of a database in support of the HLW program. In April, nine reviews are expected to be available for entry into the data file.

SRP

No reviews were initiated during this month. The following report is under consideration and will be reviewed when a suitable reviewer has been identified:

"Very Rough Preliminary Estimate of the Colloidal Sodium Induced in Rock Salt by Radioactive Waste Canister Radiation", P. W. Levy, and J. A. Kierstead, BNL, Mat.Res.Soc.Symp.Proc. Vol. 26 (1984).

BWIP

No reviews were initiated during this month, and work on the report by Lumsden, et al, identified last month, is continuing.

NNWSI

Review was initiated on the following report:

"Derivation of a Waste Package Source Term for NNWSI from the Results of Laboratory Experiments," V. Oversby and C. Wilson, UCRL-92096, Materials Research Society, Symposium on the Scientific Basis for Nuclear Waste Management, Stockholm, Sweden, Sept 9-11, 1985.

The following report is under consideration and will be reviewed when a suitable reviewer has been identified:

"Low Temperature Spent Fuel Oxidation under Tuff Repository Conditions," R. E. Einziger, & R. E. Woodley, HEDL-SA-3271FP, from Proceedings of the Symposium on Waste Management, Tucson, Arizona, March 24-28, 1985.

TASK 2 - Identification of Additional Data Required and Identification of Tests to Generate the Data

NBS lead workers are beginning to focus on information related to questions concerning the types of additional data (and the types of verification tests) needed to demonstrate that the DOE waste package designs will meet the performance objectives of 10 CFR 60. Our current objective is to develop a list of laboratory studies that will include both those to be conducted by the DOE as well as those to be conducted by the NBS under Task 3. A preliminary list will be developed and submitted for joint NRC/NBS consideration before being published.

TASK 3 - Laboratory Testing

In anticipation of the needs for laboratory studies in this part of the work, the NBS is planning to hire a metallurgist (B.S. level) whose background is suitable for conducting laboratory studies proposed under Tasks 1 and 2. It is expected that a training period of about 6 months will be required to integrate this entry-level candidate into our laboratory program.

TASK 4 - General Technical Assistance

On March 13th and 14th, U. Bertocci and N. Pugh represented the NBS for the NRC at Workshop/Seminar on Copper-Base Waste Package Container Materials, which was held in Houston. Their report on the meeting will be appended to the April letter report.

Responses to requests for general technical assistance were submitted by letters from C. Interrante to E. Wick on March 12, for each of two topics, as follows:

"SDS Liner Qualification as a High Integrity Container-Hanford Burial," prepared by Nuclear Packaging, Inc.

MCC-1P - "Static Leach Test Method," Materials Characterization Center, Aug. 24, 1984.

A proposal for research on "Pitting Corrosion" submitted by BNL (FIN A-3269) for work to be conducted from 3/1/86 to 3/1/87, which had been submitted to M. B. McNeil (NRC), was reviewed by NBS. In keeping with E. Wick's request, comments were transmitted by telephone to NRC on 3/27/86 and a letter containing the essence of these comments was to be transmitted at our earliest convenience.

ATC Program Review

On March 25th at Suite 4000, 955 L'Enfant Plaza, SW, Washington, DC, selected staff members of the NBS HLW Program (E. Escalante, A. Fraker, C. Interrante, and R. Shull) attended the NRC review of the program conducted by the Aerospace Corporation under FIN-A-4165. At this meeting the work at ATC on Preparation of Engineering Analyses for High-Level Waste Packages in Geologic Repositories was discussed. This review meeting offered an excellent opportunity for the NBS workers to interact with staff of NRC and ATC, and the content of the meeting furnished valuable background information for the NBS staff.