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Department of Energy
Richland Operations Office
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Richland, Washington 99352

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WM Project WM-10
Docket No.
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Distribution:
(Return to WM, 623-SS)

Dr. Robert J. Wright
Senior Technical Advisor
High Level Waste Technical
Development Branch
Division of Waste Management
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Dr. Wright:

NRC REQUEST FOR CLARIFICATION OF BWIP SCR (SCR-6)

As requested by your memorandum of December 28, 1982, and discussed by telephone on January 4, 1983 with you, P. Justus, D. Brooks, J. Starmes and R. Cook, NRC; J. LaRue, P. Salter, K. Kim and C. Shepard, Rockwell Basalt Project; and D. Squires of my staff, the following response is provided in answer to the questions presented.

Question

Please send studies cited in Table 12-13, pg. 12.4-23 excepting the Wood/ Salter which is cited in the references and already available.

Response

The NRC requested a copy of studies cited in Table 12-13, pg. 12.4-23 (except Wood/Salter). The following information is provided:

| | | |
|---|---|---|
| Early Rockwell | - | RHO-BWI-80-100 (FY 1980 BWIP Annual Report - in NRC Library) |
| *LATA/Intera | - | Unavailable (not cleared) (Basalt Repository Risk Assessment Task No. 17 - Risk Assessment Section of DEIS) |
| PNL (AEGIS) | - | PNL-3632 (AGEIS Technology Demonstration for Nuclear Waste Repository in Basalt - in NRC Library) |

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| Rockwell/RMA | - | RHO-BWI-LD-44 (Pasco Basin Hydrologic Modeling - Far Field Radionuclide Migration Potential - in NRC Library) |
| **TASC | - | Borehole Assessment Plan, PR-3677 |

* The LATA document is an internal BWIP document, and inclusion of this document in the reference list was not required because the pertinent information was extracted from this document and provided in this section of the SCR. This document is available at Richland for review.

** Two copies provided to NRC on 12/8/82. (Letter O. L. Olson to R. J. Wright)

Question

- Section 11.2.3.1 identifies 11.5.2 as identifying an alternative concept for backfill installation. Where is 11.5.2?

- Section 11.2.3.2.1: Is it intended for the defense high level waste package that there be no packing material, considering the diameter of the package and the diameter of the borehole?

Response

Section 11.2.3.2.1 of the SCR references a section 11.5.2 on the alternate backfilling concept. There is no section 11.5.2 in the SCR; the reference should be to section 11.5.

In section 11.2.3.2.1, it is not intended that there be no backfill around the DHLW canister. The DHLW package requires a larger diameter borehole than do the CHLW and spent fuel waste packages. Reference conceptual waste package design dimensions for DHLW are as follows: outside container diameter of 61.0 cm, outside canister diameter of 80.9 cm, backfill thickness of 15.2 cm and a borehole diameter of 112 cm. At this time, there is no apparent difficulty in drilling a 112 cm diameter horizontal borehole in the basalt; the concern is whether a straight (within tolerance) 200 m long borehole can be drilled in the basalt.

If you have any questions on the above material, please call D. J. Squires of my staff.

O. L. Olson

O. L. Olson, Project Manager
Basalt Waste Isolation Project Office

BWI:DJS

cc: R. Stein, DOE/HQ