

Department of Energy

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Richland Operations Office
P.O. Box 550
Richland, Washington 99352

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APR 1 1986

Mr. J. J. Linehan, Section Leader Repository Projects Branch Division of Waste Management U. S. Nuclear Regulatory Commission Washington, DC 20555 WM Record File

WM Project _______
Docket No. ______
PDR _____

Distribution:

(Return to WM, 623-SS)

Dear Mr. Linehan:

NUCLEAR REGULATORY COMMISSION (NRC) LETTER DATED JANUARY 14, 1986, FROM W. J. MILLER TO RALPH STEIN (REQUEST FOR REFERENCES FOR THE FINAL ENVIRONMENTAL ASSESSMENT (EA)

This letter is in response to the above NRC request for an early insight to the questions regarding the EA reference material. Information regarding additions since the draft was issued, and availability of both microfiche and hard copy, have been discussed with Mr. Paul Hildenbrand, NRC-BWIP Project Manager and are herein confirmed.

- 1. Two copies of the listing of references which denotes new or added reference material by an asterisk.
- 2. Two copies of the microfiche references some 417 references to date are enclosed. Twenty seven (27) are still to be reproduced. A separate listing of the 27 is also enclosed. They will be forwarded to the NRC as soon as they are available.
- 3. We have initiated work on duplicating a hard copy per your request, but will not be completed with the task until approximately the end of May 1986. If the NRC could identify to our office select special needs, we could provide them, if not too extensive, in an earlier time frame.

We believe we have provided to date, what the project office has committed to us, and we will be glad to respond to any questions you may have regarding the material availability and its reproduction. Questions regarding this material and its duplication and availability should be directed to Mr. A. J. Bell of my staff on (FTS 444-1821).

Very truly yours,

O. L. Olson, Director

Basalt Waste Isolation Division

BWI:JEM

Enclosures

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OUTGOING LTR. NO.	
29868 RI	
INCOMING LIH. NO.	
ACTION	

REPLY DUE

Fitch 186

Bartholemew, O.C.

Campise, A.V.

Crewford, A.C.

Deichman, J.L

Di Pol, C.V.

Constitue, JAV.

Gimere VB

Gruha, A

Larson, M.P.

Lorenzini, P.G.

McDermott, R.J

Patterson, J.W. Perkins, J.O.

Reaser, AL.

Roecker, J.H.

Wadrick, D.D.

Weil, V.R.

Zahn, L.L. Contract

Heineman, R.E. Knight, B.E. B062888

STAND 101.5

Rockwell Hanford Operations
P.O. Box 800
Richland, WA 99352

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March 3, 1986

In reply, refer to letter 29868.Rl

Mr. O. L. Olson, Director Basalt Waste Isolation Divison Department of Energy Richland Operations Office Richland, Washington 99352

Dear Mr. Olson:

EARLY RELEASE OF FINAL ENVIRONMENTAL ASSESSMENT REFERENCES TO THE NUCLEAR REGULATORY COMMISSION (Contract DE-ACO6-77RL01030)

Ref: Letter, February 11, 1986, J. E. Mecca to P. G. Lorenzini, "Request for References for the Final Environmental Assessments, Nuclear Regulatory Commission, Washington, D. C. to Department of Energy-Headquarters, dated January 14, 1986"

As noted in the referenced letter, the Nuclear Regulatory Commission (NRC) is interested in receiving (1) a listing of new references used in the final Environmental Assessment (EA), (2) one microfiche copy of new references, and (3) one hard copy of new references. The status of each of these requests are discussed below.

Listing of New References

Enclosure 1 of this letter provides a preliminary index of all materials referenced in the final EA. The new references can be identified by the microfiche number (MF XXXX) in the right-hand column of the index. This index meets the first request of the NRC and can be submitted by the Department of Energy (DOE) immediately.

Microfiche Copy of New References

Based on previous discussions with your office, approximately 100 microfiche sets of the new references used in the final EA are being produced. To date, 417 of the 444 new references used in Chapters 2 through 6 and appropriate sections of the Comment Response Document of the final EA have been microfiched. (New references that have not been microfiched are noted in Enclosure II.) A concern with the early release of these microfiched references is that permission from all of the 152 publishers or authors holding copyrights on these references have not been returned to Rockwell Hanford Operations (Rockwell). These microfiched references could be provided to the NRC immediately, provided written authorization from the DOE contracting officer is provided to Rockwell. This authorization is required under Article 64(c)(2) of the Rockwell contract. (References for Chapters 1, 7, and other Department of Energy-Headquarters [DOE-HQ] portions of the final EA would be DOE-HQ responsibility).

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O. L. Olson Page 2 March 3, 1986

Hard Copy of New References

As you are aware, all efforts related to production of copies of new EA references have been focused on producing microfiche copies. No requests have been made by the Department of Energy-Richland Operations Office (DOE-RL) to produce any hard copies due to the increased expense and time involved in making reproduced copies. Currently, the only set of new EA references that exists in hard copy format is being maintained as an archive set by the Licensing Department. It does not appear prudent to provide this hard copy to the NRC.

Nearly 30,000 pages of hard copy comprise the total set of new EA references. To reproduce a new set of these references is estimated to cost approximately \$7,500 and would take about two months to complete. This would not be responsive to the NRC's need for early information and would require a change request to implement this new scope of work. Also, a precedent would be set that would require the DOE to honor similar requests from other interested parties. Rockwell recommends that DOE notify the NRC that it will not be possible to provide a hard copy of new references used in the final EA. This approach is fully consistent with the DOE program used for draft EA references.

Other concerns that make it prohibitive to provide a hard copy of new references include:

- o A number of oversize charts and maps are contained in the new EA references. While these items were able to be microfiched using special equipment, the production of hard copies would be prohibitively difficult and time consuming.
- o The content of the copyright permission letter sent to authors and publishers only requested permission to make microfiche copies. This letter was approved by DOE-RL legal counsel before being sent to authors and publishers. Making a hard copy of these references may constitute copyright infringement. Moreover, we have been advised by Rockwell legal counsel that Article 64(c)(2) of Rockwell's contract with DOE prohibits the delivery of copyrighted material to the government without first obtaining a license; or, if it is determined that a license cannot be obtained and the copyrighted material "must be included in the technical data delivered, rather than merely incorporated therein by reference," written authorization from the DOE contracting officer prior to including such material in the data to be delivered must be obtained.

0. L. 01son Page 3 March 3, 1986

o Copies of references for Chapter 7 and the other sections of the final EA prepared by DOE-HQ are not available.

Therefore, Rockwell recommends that Enclosures I and II be provided to the NRC as soon as possible. Microfiche copies of 417 new references could be provided immediately (if DOE-RL does not have copyright concerns). Unfortunately, it is not feasible to provide a hard copy of new EA references used in the final EA. If the NRC needs hard copies of specified pages of final EA references, the use of a microfiche reader/printer could solve this problem.

Very truly yours,

L. R. Fitch, Director

Basalt Waste Isolation Project

LRF/DJC/dgh

Enc.

cc: J. H. Anttonen - DOE-RL

K. W. Bracken - DOE-RL

P. E. Rasmussen - DOE-RL

B258	Barton, N., 1986. Rock Mass Quality and Support Recommendations for Basalt at the Candidate Repository Horizon, Based on the Q-System, SD-BWI-ER-012 Rev. 2, Rockwell Hanford Operations, Richland, Washington. (Ch. 6, CRD C.5, C.8)	MF 1989
B26	Bernhardt, D. E., 1976. <u>Evaluation of Sample Collection and Analysis Techniques for Environmental Plutonium</u> , ORP/LV-76-5, U.S. Environmental Protection Agency, Office of Radiation Programs, Las Vegas Facility, Las Vegas, Nevada. (CRD C.6)	MF 1717
B36	Carlson, R. A., 1986. <u>Hydraulic Conductivity and Moisture</u> <u>Density Relationships of Candidate Packing Materials</u> , SD-BWI-TI-203, Rockwell Hanford Operations, Richland, Washington. (CRD C.5)	MF 1725
B265	Clifton, P. M., 1986. Groundwater Travel Time Analysis for the Reference Repository Location at the Hanford Site, SD-BWI-TI-303, Rockwell Hanford Operations, Richland, Washington. (Ch. 6, CRD C.5)	MF 1899
в329	Daugherty, R. D., 1973. "The Yakima People," <u>Indian Tribal Series</u> , Phoenix, Arizona. (Ch. 3)	MF 1949
B269	Dill, J. A., T. E. Jones, A. D. Marcy, and M. H. West, 1986. <u>An Evaluation of Redox Conditions in Hanford Basalt Groundwaters</u> , RHO-BW-ST-76 P, Rockwell Hanford Operations, Richland, Washington. (Ch. 6)	MF 1902
B408	DOE (U.S. Department of Energy), 1985. Mission Plan for the Civilian Radioactive Waste Management Program, DOE/RW-0005 Washington, D.C. (Ch. 5)	
B276	Eslinger, P. W., and B. Sagar, 1986. <u>EPASTAT: A Computer Code</u> for Estimating Radionuclide Releases at the Accessible Environment <u>Boundary from a Repository in Basalt</u> , SD-BWI-TA-022, Rockwell Hanford Operations, Richland, Washington. (Ch. 6)	MF 1908

B63	Estey, S. A., and R. C. Arnett, 1986. <u>Groundwater Flow Modeling of Alternative Repository Concepts</u> , SD-BWI-TA-O15, Rockwell Hanford Operations, Richland, Washington. (NOTE: Date on citation in CRD C.5 (1985) is incorrect.) (Ch. 6, CRD C.5)	MF 1751
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B281	Glantz, C. S., and J. V. Ramsdell, 1986. <u>Preliminary Examination of the Impacts of BWIP Construction and Operations Activities on Non-Radiological Air Quality</u> , PNL-5687, Pacific Northwest Laboratory for Rockwell Hanford Operations, Richland, Washington. (Ch. 4, 5)	MF 1912
B406	Grolier, M. J., and J. W. Bingham, 1971. <u>Geologic Map and Sections of Parts of Grant, Adams, and Franklin Counties, Washington, Miscellaneous Geologic Investigations Series, Map I-589, U.S. Geological Survey, Tacoma, Washington. (Ch. 3)</u>	
8100	Israelsen, O. W., and V. E. Hansen, 1962. <u>Irrigation Principles</u> and <u>Practices</u> , Third Ed., John Wiley and Sons, Inc., New York, New York, pp. 223-226. (Ch. 6, CRD C.5)	MF 1777
B404	Kasza, G. L., 1986. Photographic Comparison of the Pre-Test and Post-Test Heater Hole Wall Condition in the Full Scale Heater Tests, SD-BWI-TI-276, Rockwell Hanford Operations, Richland, Washington. (Ch. 6)	
B239	Kendall, J. J., 1981. The Geology and Structure of the Blue Mountains in Northeastern Umatilla County, Oregon, Master of Science thesis, University of Southern California, Los Angeles, California. (Ch. 2)	MF 2270
B289	Kline, N. W., R. L. England, and R. G. Baca, 1986. <u>CHAINT</u> <u>Computer Code: User's Guide</u> , RHO-BW-CR-144 P, Rockwell Hanford Operations, Richland, Washington. (Ch. 6)	MF 1921

8122	Lindberg, J. W., 1986. <u>Width and Infilling of Fractures in Four Grande Ronde Basalt Flows Beneath the Reference Repository Location</u> , SD-BWI-TI-282, Rockwell Hanford Operations, Richland, Washington. (Ch. 3, 6, CRD C.5)	MF 1797
B125	Makhijani, A., and K. M. Tucker, 1985. <u>Heat, High Water, and Rock Instability at Hanford</u> , Health and Energy Institute, Washington, D.C. (CRD C.5, C.8)	MF 1800
B131	Mitchell, S. J., 1986. "Evaluation of Damaged Rock Zone Around Repository Openings," computational brief, J. F. T. Agapito and Associates for Rockwell Hanford Operations, Richland, Washington. (Ch. 6, CRD C.8)	MF 1803
B245	Rigby, J. G., K. L. Othberg, N. P. Campbell, L. Hanson, E. Kiver, D. Stradling, and G. Webster; 1979. Reconnaissance Surficial Geologic Mapping of the Late Cenozoic Sediments of the Columbia Basin, Washington, Open-File Report 79-3, State of Washington Department of Natural Resources, Division of Geology and Earth Resources, Olympia, Washington. (Ch. 2)	MF 2425
8354	Routson, R. C., W. H. Price, D. J. Brown, and K. R. Fecht, 1979. High Level Waste Leakage from the 241-T-106 Tank at Hanford, RHO-ST-14, Rockwell Hanford Operations, Richland, Washington. (Ch. 3)	MF 1972
B385	Ruddiman, W. W., and A. McIntyre, 1976. "Northeast Atlantic Paleoclimatic Changes Over the Past 600,000 Years," <u>Investigation of Late Quaternary Paleoceanography of Paleoclimatology</u> , R. M. Cline and J. D. Hays (eds.), Memoir 145, Geological Society of America, Boulder, Colorado, pp. 111-146, Ref. pp. 134-136. (Ch. 6)	MF 1556
B306	Runchal, A. K., B. Sagar, R. G. Baca, and N. W. Kline, 1986. PORFLOA Continuum for Fluid Flow, Heat Transfer, Mass Transport in Porous Media: Model Theory Benchmarking, RHO-BW-CR-150, Rockwell Hanford Operations, Richland, Washington. (Ch. 6)	MF 1933

8170	Sandness, G. A., J. W. Lindberg, C. S. Kimball, B. L. Scott, and J. G. Stephan, 1979. <u>Interim Report on Geologic Remote Sensing of the Columbia Plateau</u> , PNL-3140, Pacific Northwest Laboratory, Richland, Washington. (CRD C.5)	MF	2450
B357	Sheehan, M. V., 1984. "Rare plant survey report for Hanford Reservation," (memorandum from State of Washington, Department of Natural Resources, to M. M. McCarthy, Rockwell Hanford Operations, September 25, 1984). (Ch. 3)	MF	1975
8250	Tabor, R. W., R. B. Waitt, Jr., V. A. Frizell, Jr., D. A. Swanson, G. R. Byerly, and R. D. Bentley, 1982. <u>Geologic Map of the Wenatchee 1:100,000 Quadrangle, Central Washington</u> , Miscellaneous Investigations Series, Map 1-1311, U.S. Geological Survey, Washington, D.C. (Ch. 2)	MF	2509
B211	USGS (U.S. Geological Survey), 1982. <u>Water Resources Data</u> , <u>Washington</u> , <u>Water Year 1982</u> , WA-82, 2 Vols., Washington, D.C. (CRD C.4)	MF	1625

81	Abi-Ghanem, G. V., and V. V. Nguyen, 1982. "Structural Implications of the Stress Representation," Physical Review B , Vol. 26, No. 8, p. 4321-4326. (CRD C.5)	* 9 MF 1700
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A2	A. D. Little, Inc., 1980. "Technical Support of Standards for High-Level Radioactive Waste Management," Release Mechanisms, EPA-520/4-79-007D, Vol. D, for U.S. Environmental Protection Agency, Washington, D.C. (Ch. 6)	
B2	Aeroservice, 1980. <u>Final Report Multilevel Aeromagnetic Survey of the Hanford Site</u> , B035469, for Rockwell Hanford Operations, Richland, Washington. (CRD C.5)	* 5 TLC MF 1702
A3	Agapito, J. F. T., M. P. Hardy, and D. R. St. Laurent, 1977. Geoengineering Review and Proposed Program Outline for the Structural Design of a Radioactive Waste Repository in Columbia Plateau.Basalt, RHO-ST-6, Rockwell Hanford Operations, Richland, Washington. (Ch. 6)	
В3	Agarwal, R. G., R. Al-Hussainy, and H. J. Ramey, Jr., 1970. "An Investigation of Wellbore Storage and Skin Effect in Unsteady Liquid Flow: I. Analytical Treatment," Society of Petroleum Engineers, Vol. 10, No. 3, American Institute of Mining, Metallurgical, and Petroleum Engineers, Inc., pp. 279-290. (CRD C.4)	* 3 c MF 1703
84	Allard, B., 1982. "Solubilities of Actinides in Neutral or Basic Solutions," <u>Actinides in Perspective</u> , N. M. Edelstein (ed.), Pergamon Press Ltd., Elmsford, New York, pp. 553-580. (Ch. 6, CRD C.5)	* 12 * 1 c MF 1202
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- 7 ARHCO (Atlantic Richfield Hanford Company), 1976. Preliminary Feasibility Study on Storage of Radioactive Wastes in Columbia River Basalts, ARH-ST-137, Richland, Washington. (Ch. 2, 3)

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App. B)

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