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(Return to WM, 623-SS)

Mr. Melvin R. Sampson, Chairman  
Legislative Committee  
Yakima Tribal Council  
Confederated Tribes and Bands  
Yakima Indian Nation  
P.O. Box 151  
Toppenish, Washington 98948

Dear Mr. Sampson:

This is in response to the final paragraph of your March 22, 1983 letter, in which you request assistance in delineating the areas of technical expertise that would be useful in independently participating and consulting with the DOE on the Basalt Waste Isolation Project (BWIP).

It is readily apparent, I think, that the scope of the BWIP cuts across a number of interrelated geoscience and engineering disciplines. A glance at the tables of contents in the three volumes of DOE's November 1983 Site Characterization Report (SCR) gives a feeling for the range of specialities involved. The practical problem that I'm sure you may face is how to cover the important technical areas while staying within the limitations of available resources.

I would be inclined to think that you might want to look carefully at three topics: (1) groundwater flow, (2) mining engineering, (3) geologic stability. Regarding topic (1), radionuclides can move away from a repository only through groundwater transport, and an understanding of the groundwater regime is of great importance. Regarding topic (2), construction and safe operation of a repository at Hanford would involve a number of specialized mining problems, to which knowledge and experience gained elsewhere would be critical. Regarding topic (3), geologic stability is important to radiological safety not only during operation of a repository, but also during the long term. In addition to these three areas, attention should be given, if resources permit, to such things as geochemical retardation of radionuclides, corrosion properties of the waste canister and mathematical modeling of repository system performance. These latter technical areas can be equal in importance to the former ones when conducting precise assessment of repository system performance in licensing. However, we suggest the former areas for first consideration as they may be more decisive in the early stage of site selection and characterization.

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It is difficult to guess how much a specialist in one of the above fields might charge. On the federal payroll, qualified people are paid \$35,000 to \$50,000 per year, and the top pay for consultants is about \$220 per day. However, as you may appreciate, these rates are apt to be generally lower than the rates commanded by private consultants and consulting firms.

For general information, attached is a summary of technical specialists that is currently represented on staff at NRC conducting review of site characterization issues.

I hope that the above comments may be useful to you in your endeavors. If I can be of further assistance please contact me.

**"ORIGINAL SIGNED BY"**

Hubert J. Miller, Chief  
High-Level Waste Technical  
Development Branch  
Division of Waste Management

Attachment:  
Technical Specialists

cc: James Hovis

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OFC	:	WMHT	:	WMHT	:	WMPT	:	:	:	:
NAME	:	RJW	:	H. Miller	:	JBunting	:	:	:	:
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NRC HIGH LEVEL WASTE LICENSING PROGRAM

<u>General Discipline Area</u>	<u>Number of Staff</u>	<u>Technical Specialists</u>
Earth Scientists	12	Geologist Groundwater Hydrologist Geochemist Geophysicist
Geotechnical and Mining Engineers	5	Geotechnical Engineer Civil Engineer Mining Engineer
Design Engineers	9	Nuclear Engineer Chemical Engineer Mechanical Engineer Materials Engineer
System Performance Analysts	6	System Analyst Radiation Health Physicists
Environmental Scientists	2	Environmental Planner Ecologist Resource Manager