



**WASTE MANAGEMENT FEDERAL SERVICES
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June 2, 1999

Mr. K. M. Thompson
Restoration Projects Division
U. S. Department of Energy
Richland Operations Office
Post Office Box 550
Richland, Washington 99352

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**JUN 04 1999
DOE-RL/DIS**

Dear Mr. Thompson:

DOE MOISTURE CALIBRATION MODELS

This letter presents a request for concurrence from DOE for a proposal to relocate the moisture calibration models from a commercial site in Pasco, WA to a location on the Hanford Site.

The DOE through a CRADA between PNNL and two oil field service companies, Halliburton and Schlumberger, and with Westinghouse Hanford Company participation, constructed a set of very high quality moisture calibration models used for calibrating borehole logging tools that measure the moisture content in the vadose zone. The principal application of these logging tools is to characterize the migration potential of contaminants in the soil. These models are considered by the logging industry to be world class in quality.

There are seven models, each about 6 ft high and 6 ft in diameter. They have been housed in a building owned by the Lampson Company in Pasco, WA for the past four years. Since PNNL withdrew its support for maintaining these models, the cost of the \$18,000/yr lease has been borne by the users: Waste Management NW Operations (WMNW), MACTEC-ERS, and Schlumberger, Ltd. Recently, Schlumberger has withdrawn its support and MACTEC-ERS will do the same after this fiscal year. WMNW cannot alone support the cost of this leasing arrangement. Therefore, WMNW is proposing that these models, which belong to the DOE, be relocated to the Hanford Site, near existing models used for calibrating spectral gamma-ray logging instruments.

WMNW has studied this relocation option with particular attention to maintaining the integrity of the models and to keeping the costs as low as possible. We propose the models be placed on a level graveled surface at the Hanford Site calibration models, and that they be covered so that moisture and condensation cannot collect in the region of the seals. The models will be placed in an area of the calibration model site where a large tent structure formerly stood but where, at the present, only the aluminum frame of the tent stands. A new cover will eventually be installed over this frame to provide a weather-tight enclosure for the models.

The development and deployment of logging tools at DOE sites requires that these models be accessible for calibration and experimentation. At the present time, access is labor intensive because of the level of support required for the transportation and monitoring of radioactive sources that are necessary for moisture logging tool calibration. Also, development of a neutron capture tool that utilizes a high activity neutron source has resulted in a situation where this tool

cannot be calibrated at the models. The transportation of the source to the present calibration model location is prohibited by Safety and Security guidelines relating to the special nuclear material utilized as a neutron source for the tool. In order to proceed with development of new logging tools and applications, and to provide a time and cost efficient calibration process, WMNW requires less restrictive access to the calibration models. Relocation of the models to the Hanford site location will alleviate most of the logistical problems presently encountered.

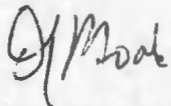
The estimated expenditures for completion of the relocation are as follows:

Lampson Moving fee	\$10,000
Ground Leveling estimate	\$ 500
TOTAL	\$10,500
Funding available, Mactec-ERS&PNNL	\$10,500

Funding for labor in managing the move is covered in the PNNL facility management task. The funding from Mactec-ERS is the remaining rent dollars. The funding from PNNL is remaining rent dollars plus a \$5,000 supplement for the relocation. The pre and post move moisture measurements are funded as calibrations funded by other ongoing logging projects. The only unresolved issue is related to the source of funding for the cover (weather-tight enclosure) for the frame in which the models will be placed. This cover is estimated at approximately \$3,000 and the source for this funding is not identified at this time.

WMNW requests your timely approval of this request to move the subject moisture calibration models. Thank you for your attention to this matter.

Sincerely yours,



D. J. Moak, Manager
Environmental Services

D.O.E. Concurrence



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Subject: DOE MOISTURE CALIBRATION MODELS

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