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Date January 26, 1984

To PE Bramson

From JR Raymond JRR

Subject Monthly Report - January 1984

Environmental Protection Support and Assistance - Task 08

The document draft was completed that will provide general guidance for development and implementation of a ground-water protection program for the DOE Office of Operational Safety.

Rockwell Support - Drilling Fluid Invasion Study

The consultant for the drilling fluid invasion study met with us on January 5, 1984, to review the report and discuss changes required in the report. Some additional sensitivity studies will be requested to define the important parameters in analysis of drilling fluid invasion.

Underground Energy Storage Program Support

The UES program manager requested my assistance in aiding the city of Louisville, KY in evaluation of potential aquifer thermal energy storage (ATES) projects. I met with city representatives and their consultants. Several prospective energy conservation schemes utilizing ground-water source heat pumps for building HVAC were discussed. Some of the projects proposed aquifer storage of waste heat and chill generated by the heat pumps and subsequent withdrawal of the energy during the opposite season to increase heat pump efficiency. My assessment is that the ground-water system at Louisville will provide heat exchange media to support heating and cooling of a significant number of buildings in the central city area by water source heat pumps; but that storage and utilization of waste heat and chill in the aquifer probably will not be cost effective.

The UES program manager also requested my assistance in discussing aquifer thermal energy storage at a meeting with Argonne National Laboratory and the U.S. Air Force. The meeting will be held at Colorado Springs, CO on January 27, 1984.

JRR:gd