Hydro-Geologic Characterization Support to the Sandia Carlsbad Field Test Organization

Purpose and Objective:

Sandia National Laboratories implements and maintains a testing program for the hydrologic and geologic characterization of the WIPP and or fields sites in New Mexico. The technical work encompasses the design, implementation, maintenance and analysis of data for tests that characterize the hydro-geology surrounding the WIPP site and at other locations in New Mexico. The Contractor will be involved on an on-call as needed basis to provide technical support in the form of hydrologist, engineers and technicians for the purposes of assisting Sandia in the implementation of their testing program.

Mandatory Requirements:

Contractor staff shall have extensive experience utilizing current state-of-the-art testing technologies for the hydrologic and geologic characterization of the Delaware Basin of Southeastern, NM. Contractor personnel shall have experience with surface drilling that shall include both conventional and non-conventional techniques as required by the nature of the location and test objectives. Consistent with the requirements defined below, Contractor personnel shall have experience designing and implementing steady state flow tests, slug withdrawal or injection test, pneumatic sinusoidal hydraulic tests, in-situ permeability tests and borehole geophysical measurements. The implementation experience should demonstrate the ability to perform test regimes that range from minutes to years. Contractor personnel shall also have experience working in a high regulatory and quality assurance driven environment similar to the DOE WIPP site.

Contractor personnel that function in the role of the field technician shall be available to provide onsite support within 30 minutes. Other Contractor personnel that provide support must be able to report within 12 hours to the jobsite. Re-imbursement of travel expenses to the Sandia Carlsbad offices to perform work activities at our facilities or at the WIPP Site will not be provided by Sandia. If the work activity requires personnel to travel to locations that are greater than 50 miles from the Sandia Carlsbad offices than travel expenses will be reimbursed by Sandia.

Hydrologist/Engineer

Masters/PhD in Engineering or Environmental Sciences, or related field. Five years of demonstrable experience implementing tests in hydro-geologic conditions similar to Southeast, NM.

Five years of demonstrable experience on the development of test plans, analysis plans and reports that adhere to the requirements of Sandia's WIPP Quality Assurance Program Plan (QAPD) procedures NP20-1, NP 9-1 and NP 6-2.

Five years of demonstrable experience using the nSIGHTS analysis software developed by Sandia National Laboratories. Contractor shall provide assistance with analysis and

reporting of hydraulic test data through the use of nSIGHTS analyses software with full perturbation analysis and reporting.

Five years of demonstrable ability to provide test implementation direction on the setup of pumping tests and a review of results which shall be used to determine the flow rates and test duration. Review pump test data and perform initial test analysis for use in directing the testing activities.

Five years of demonstrable experience specifying, utilizing and maintaining existing legacy hardware and instrumentation systems to include: Endress Hauser flow meters, Sixnet DAS, Allen-Bradley Variable Frequency Drives, Hach and InSitu water quality instruments, and Groundfos pumps.

Five years of demonstrable experience with the design and implementation of steady state flow tests that meet the requirements of the Sandia QAPD and WIPP test plan TP 03-01.

Five years of demonstrable experience with the implementation of slug withdrawal/injection tests and pneumatic sinusoidal tests.

Technician:

Associate/Bachelor's degree or equivalent of 5 years of experience working for a national laboratory field testing program.

Five years of demonstrable experience performing hydraulic pump tests, including the installation of downhole pumps, use of manual water level measurement equipment, continuous water level monitoring transducers and precipitation monitoring instrumentation.

Five years of demonstrable experience performing calibrations on instrumentation like pressure gages, flow meters, temperature sensors, pH and conductivity sensors, rain gauges, and data acquisition systems. Experience must be to the requirements of NQA-1, element 12 and Sandia WIPP QAPD NP12-1.

Five years of demonstrable experience performing manual water level measurements using Solnist probes. Similar experience using continuous water level measure transducers like the InSitu Level Troll and the Instrumentation Northwest PX2 series transducer.