

SUPPORT FOR CONSULTANT REQUEST

CONSULTANT:

Dr. Amit Armstrong

RATE:

PERIOD OF PERFORMANCE:

February 15, 2000 through September, 2000

STATEMENT OF WORK:

Dr. Amit Armstrong is a recent employee of the of the GHGC element of the CNWRA. He was involved in several projects before his departure on somewhat short notice. His input is required so that these projects can be completed in a timely and efficient manner. Specifically, Dr. Armstrong will be involved in four activities, which are described below.

- Task 1. Dr. Armstrong will work with CNWRA staff ensure a smooth turnover of his groundwater modeling activities. This task will require Dr. Armstrong to participate in frequent telephone discussions to orient CNWRA staff to the archive of data and model input and output files, that have been generated from past and ongoing work. This task will be conducted under the supervision of David Farrell of CNWRA. **The estimated level of effort for this task is 40 hours**, to be completed no later than March 1, 2000.
- Task 2. Dr. Armstrong will finish writing two journal papers documenting the findings of modeling investigations he has performed. The first paper, which addresses insights gained into the groundwater thermal anomaly Yucca Mountain Nevada Region by using non-isothermal flow modeling, is already in draft format. The second paper will document the results of a modeling investigation of the effects of fault zones on groundwater flow. This task will involve completion of the two papers into draft form, submission of the papers to as-yet-undetermined journals, and final editing to address peer-review comments. This work will be supervised by Scott Painter of CNWRA. Required deliverables for this task are two papers appropriately formatted for initial journal submission. These deliverables are required no later than May 1, 2000, so that they can be incorporated into a CNWRA milestone due in June. **The estimated level of effort for this work is 160 hours for completion of the two initial journal submissions (deliverables), plus an additional 20 hours to address peer-review comments.**
- Task 3. Dr. Armstrong's assistance is required in the compilation and editing of an American Geophysical Union (AGU) monograph. While working at CNWRA, Dr. Armstrong organized a special session at the AGU 1999 Fall Meeting. The Hydrology committee of the AGU has requested that presentations given at this session be compiled and published under the AGU Monograph Series. This task would involve writing a preface or introduction to the monograph, working with contributing authors to ensure papers are relevant to the monograph topic, obtaining peer review of contributed papers, organizing finished papers into a logical order for the monograph. This task will be completed under the supervision of Scott Painter of CNWRA. Completion of this task is expected by June 1, 2000. **The estimated level of effort for this work is 80 hours.**

Task 4. Provide general assistance to CNWRA staff hydrology staff on an as-needed basis. Work under this task may include review of DOE Abstraction Model Reports and Process Model Reports, writing review summaries to communicate review findings to CNWRA staff, groundwater flow modeling, and tabulation or visualization of model results for inclusion in CNWRA reports. Work assigned to Dr. Armstrong under this task will be contingent on satisfactory progress on the previous three tasks. This work will be assigned as necessary through the remainder of the fiscal year, ending September 30, 2000. This task will be supervised by James Winterle of CNWRA. **The level of effort to perform this Task should not exceed 300 hours.**

When submitting invoices for services rendered, Dr. Armstrong should indicate the number of hours billed for each of the four tasks described above.

ESTIMATED UTILIZATION (hours):

Up to 600 hours of Dr. Armstrong's time will be needed to support the USFIC KTI during the remainder of FY 2000. Billing should not exceed 80 hrs in any 4 wk period without approval from the James Winterle, the USFIC project manager, or English Percy, the GHGC element manager.

PRIOR CONTRACTOR WORK EXPERIENCE WITH SWRI:

Dr. Armstrong is a former employee of the CNWRA, Division 20 of SwRI.

PROGRAMMATIC NEED FOR CONTRACTOR WORK:

The CNWRA Operations Plan for the Repository Program for FY 2000 under Contract NRC-02-97-009 describes the development of a calibrated 3D site-scale SZ flow model as a major activity under the USFIC KTI.

LIST OF ELIGIBLE CONSULTANTS CONSIDERED:

Because of his unique familiarity with this continuing work, Dr. Armstrong is the sole source of expertise considered for this activity.

RATIONALE FOR SOLE/SINGLE SOURCE SELECTION:

This work mainly involves turnover of Dr. Armstrong's work performed as a CNWRA employee.

RATIONALE FOR NOT USING SwRI RESOURCES:

The required expertise is not available.

PROJECT NUMBER:

20-1402-861