

SUPPORT FOR CONTRACTOR REQUEST

CONTRACTOR:

David Woolhiser

RATE:

(changed from last contract)

PERIOD OF PERFORMANCE:

June 1, 1999 through June 1, 2000

STATEMENT OF WORK:

- develop procedures for providing rainfall input files
- provide detailed flow history for selected planes and channels to support percolation analyses
- improve estimated volumes of infiltration through channel beds
- determine the effect of microtopographic variations and small scale variability of infiltration on runoff and the distribution of infiltration at the hill slope scale

ESTIMATED UTILIZATION:

200 hours

PRIOR CONTRACTOR WORK EXPERIENCE WITH SWRI:

This is an extension of an existing consulting contract with SwRI.

PROGRAMMATIC NEED FOR CONTRACTOR WORK:

This work supports activities under the Unsaturated and Saturated Flow Under Isothermal Conditions Key Technical Issue.

LIST OF ELIGIBLE CONSULTANTS CONSIDERED:

None

RATIONALE FOR SOLE/SINGLE SOURCE SELECTION:

This is a renewal of a previous consulting agreement. Dr. Woolhiser is an internationally recognized expert on the hydrology of arid rangelands and numerical modeling of surface runoff. He is the author of hundreds of papers and the recipient of numerous professional honors. Further, he is familiar with CNWRA procedures and personnel.

RATIONALE FOR NOT USING SwRI RESOURCES:

No resources exist at SwRI for conducting this scope of work.

PROJECT NUMBER:

20-1402-861

STATEMENT OF WORK

Dr. David A. Woolhiser

June 12, 2003

- Task 1. Dr. Woolhiser will continue to lend his expertise toward the analysis of temporal and spatial aspects surface and near-surface flow at the Yucca Mountain. This includes the use of process-based models for runoff and shallow infiltration, and the abstraction of results for use in the Total-System Performance Assessment code, and review of license application documents on shallow infiltration and runoff completed by DOE. His findings will be presented as stand-alone reports or as contributions to other CNWRA reports. The estimated level of effort for this work is approximately 75 to 100 hours.
- Task 2. Dr. Woolhiser will continue to analyze climate (e.g., precipitation) patterns relevant for potential future climates that will assist CNWRA in their review of measured and synthetic climate data sets and shallow infiltration estimates developed by DOE. His findings will be presented as stand-alone reports or as contributions to other CNWRA reports. It is expected that an additional 100 to 125 hours of Dr. Woolhiser's time will required for such collaborations.

Dr. Woolhiser's work will be supervised by James Winterle of CNWRA staff; the two tasks listed above fall under the auspices of the USFIC KTI. As in the past, Dr. Woolhiser's assistance may be needed in other phases of CNWRA work. Such additional work may include, and is not limited to, assistance to other KTIs and on various Work for Others projects.