

Sandia National Laboratories

Albuquerque, New Mexico 87185

WM DOCKET CONTROL CENTER

'84 JUL 12 PM 2:21

July 11, 1984

WM Record File  
A-1166

WM Project 10-1166  
Docket No. 1  
PDR 1  
LPDR (315)

Distribution:  
Codell  
Hilde  
(Return to WM, 623-SS) af

Dr. Richard Codell  
Geotechnical Branch  
Division of Waste Management  
U.S. Nuclear Regulatory Commission  
7915 Eastern Avenue  
Silver Spring, MD 20910

Dear Dr. Codell:

Enclosed is the monthly report for FIN A-1166, Maintenance of Computer Programs, for June 1984. Please call or write if you have any questions or comments.

Sincerely,

*Robert M. Cranwell*

Robert M. Cranwell, Supervisor  
Waste Management Systems  
Division 6431

RMC:6431:jm

Enclosure

Copy to:

Office of the Director, NMSS  
Attn: Program Support  
Robert Browning, Director  
Division of Waste Management  
Malcolm R. Knapp  
Division of Waste Management  
Enrico Conti, Branch Chief  
Health Siting & Waste Management Division  
John Randall  
Health Siting & Waste Management Division  
6400 R. C. Cochrell  
6431 R. M. Cranwell  
6431 P. A. Davis

B409060106 B40711  
PDR WMRES EXISANL  
A-1166 PDR

11

PROGRAM: Maintenance and Validation of Computer Programs FIN#: A-1166

CONTRACTOR: Sandia National Laboratories BUDGET PERIOD: 10/83-9/84

NMSS PROGRAM MANAGER: R. Codell BUDGET AMOUNT: \$130K

CONTRACT PROGRAM MANAGER: R. M. Cranwell FTS PHONE: 844-8368

PRINCIPAL INVESTIGATORS: P. A. Davis FTS PHONE: 846-5421

#### PROJECT OBJECTIVES

The objective is a maintenance task that will ensure that the Sandia computer programs remain consistent with current operating systems, are as error-free as possible, and have up-to-date documentation for NRC. There is also a validation assessment task to identify real physical situations which could provide data for validation of the Sandia computer program.

#### ACTIVITIES DURING JUNE 1984

##### MAINTENANCE AND VALIDATION OF COMPUTER PROGRAM

###### QA Program

Further refinement of the interactive computer program to provide easy access to the standard versions of the various computer codes (DNET, NWFT/DVM etc.) by the SNLA users continued during June, 1984. Additional effort is continuing in providing all the documentation that is required by the QA program for each computer code. Each computer code is being checked and the results of the sample problems compared to provide the most error-free copy of the code in the QUALIB (Quality Assurance Library) disk storage areas on the open NOS and secure NOS computers at SNLA.

###### SWIFT II Version 12.83

The theory and implementation documents and the data input description document for this code are being developed under FIN A-1266 and are expected to be published in the next couple of months. As soon as these documents are available, a standard version of SWIFT II will be released to NRC.

###### TOUGH Verification and Validation

A self-contained document for TOUGH is being developed by K. Pruess, Lawrence Berkeley Laboratory under, FIN A-1158. An additional effort, to provide experimental data and other solutions that may be compared to the results from TOUGH, has been discussed with R. Codell, NRC, SNLA staff and K. Pruess.

Additional funding would be provided by FIN A-1166 for this effort. The tasks and cost estimates will be discussed on July 23, 1984 at a meeting with K. Pruess at Lawrence Berkeley. Final contractual arrangements for this effort will then be developed by SNLA.

#### NRC Review of A-1166

The objectives, approaches and results of A-1166 was presented by Paul Davis and Gene Runkle at the NRC review meeting on June 25, 1984. The validation and field comparison reports for SWIFT and NWFT/DVM were discussed. The Quality Assurance Program, developed under this program, was also presented. It appears that the current design of the QA program is in compliance with the requirements set by the computer software division of NRC as well as the DOE.