

A1165

PDR-1
LPDR-WM-10 (2)
WM-11 (2)
WM-16 (2)

Sandia National Laboratories

Albuquerque, New Mexico 87185

July 15, 1987

Ms. Sandra Wastler
Repository Projects Branch
Division of Waste Management
U.S. Nuclear Regulatory Commission
7915 Eastern Avenue
Silver Spring, MD 20910

Dear Ms. Wastler:

Enclosed is the summary of activities during June 1987 for FIN# A1165. If you have any questions please feel free to contact me at (FTS) 844-8368 or Robert Guzowski at (FTS) 846-5448.

Sincerely,

Robert M. Cranwell

Robert M. Cranwell, Supervisor
Waste Management Systems
Division 6416

RMC:6416

Enclosure

Copy to:
Office of the Director, NMSS
Attn: Program Support
Robert Browning, Director
Division of Waste Management
Seth Coplan
Division of Waste Management
Daniel Galson
Division of Waste Management
John Randall
Division of Radiation Programs and
Earth Sciences
6400 R. C. Cochrell
6410 N. R. Ortiz
6416 R. M. Cranwell
6416 R. V. Guzowski

WM-RES
WM Record File
A1165
SNL

WM Project 10, 11, 16
Docket No.
PDR ✓
LPDR B NS

Distribution: Joan ticket
Substler

(Return to WM, 623-SS)

jcg

WM DOCKET CONTROL
CENTER

87 JUL 23 1987

87237952

WM Project: WM-10,11,16
PDR w/encl
(Return to WM, 623-SS)

WM Record File: A1165
LPDR w/encl

8709290169 870715
PDR WMRES EXISANL
A-1165 PDR

4056

PROGRAM: Licensing-Methodology Assistance

FIN#: A-1165
Task I

CONTRACTOR: Sandia National
Laboratories

BUDGET PERIOD: 10/86 -
9/87

NMSS PROGRAM MANAGER: S. Wastler

BUDGET AMOUNT: \$125K

CONTRACT PROGRAM MANAGER: R. M. Cranwell

FTS PHONE: 844-8368

PRINCIPAL INVESTIGATORS: R. M. Cranwell
R. V. Guzowski

FTS PHONE: 844-8368
FTS PHONE: 846-5448

PROJECT OBJECTIVE

To assist in the overall development and integration of the licensing assessment methodology.

ACTIVITIES DURING JUNE 1987

During June, work on a set of questionnaires from the NEA dealing with work done to date on performance assessment and scenarios (Task 6, Short-Term Technical Assistance) and a trip to the NRC delayed the completion of the interim report on the licensing assessment methodology. The report was typed. Several minor modifications need to be made, as well as a final proofing of the text. Completion of a draft of the report is expected in July.

PROGRAM: Monitor/Review Aspects of DOE and
Other National and International
Waste Management Programs

FIN#: A-1165
Task II

CONTRACTOR: Sandia National
Laboratories

BUDGET PERIOD: 10/86 -
9/87

NMSS PROGRAM MANAGER: S. Wastler

BUDGET AMOUNT: \$50K

CONTRACT PROGRAM MANAGER: R. M. Cranwell

FTS PHONE: 844-8368

PRINCIPAL INVESTIGATORS: R. M. Cranwell
R. V. Guzowski

FTS PHONE: 844-8368
FTS PHONE: 846-5448

PROJECT OBJECTIVE

To monitor and review the performance-assessment aspects of DOE and other national and international management programs.

ACTIVITIES DURING JUNE 1987

No activity.

PROGRAM: Probability Techniques

FIN#: A-1165
Task III

CONTRACTOR: Sandia National
Laboratories

BUDGET PERIOD: 10/86 -
9/87

NMSS PROGRAM MANAGER: S, Wastler

BUDGET AMOUNT: \$150K

CONTRACT PROGRAM MANAGER: R. M. Cranwell

FTS PHONE: 844-8368

PRINCIPAL INVESTIGATORS: R. M. Cranwell
R. V. Guzowski

FTS PHONE: 844-8368
FTS PHONE: 846-5448

PROJECT OBJECTIVE

To identify techniques for assigning probabilities to geologic processes and events.

ACTIVITIES DURING JUNE 1987

The process of incorporating the NRC and Sandia review comments on the Probability Techniques Report was started. All of the remaining letters requesting permission from the appropriate publishers to use copyrighted figures and tables were sent out. Responses have been received for approximately half of the requests.

For the geochemistry chapter (Chapter 10) of the Probability Techniques Report, sections were completed on (1) the treatment and uses of statistical techniques to characterize the geochemical properties of aquifers, (2) a summary of techniques to assign probability distributions to empirical sorption data, and (3) a summary of probabilistic models of radionuclide release from the waste package (source term). This chapter will be completed by the end of July. The report is expected to be completed by the end of August.

PROGRAM: Identification And Analysis
Of Uncertainty

FIN#: A-1165
Task IV

CONTRACTOR: Sandia National
Laboratories

BUDGET PERIOD: 10/86 -
9/87

NMSS PROGRAM MANAGER: S. Wastler

BUDGET AMOUNT: \$138K

CONTRACT PROGRAM MANAGER: R. M. Cranwell

FTS PHONE: 844-8368

PRINCIPAL INVESTIGATORS: R. M. Cranwell
R. V. Guzowski

FTS PHONE: 844-8368
FTS PHONE: 846-5448

PROJECT OBJECTIVE

To identify and analyse the uncertainties associated with the postclosure performance assessments of HLW repositories in geologic media.

ACTIVITIES DURING JUNE 1987

A paper by E. Bonano and R. Cranwell entitled "Treatment Of Uncertainties In The Performance Assessment Of Geologic High-Level Radioactive Waste Repositories" to be published in the Journal Of Mathematical Geology has been completed. A copy of the paper accompanies this monthly.

PROGRAM: Integration And Application Of
Waste-Package Methodology

FIN#: A-1165
Task V

CONTRACTOR: Sandia National
Laboratories

BUDGET PERIOD: 10/86 -
9/87

NMSS PROGRAM MANAGER: S, Wastler

BUDGET AMOUNT: -0-

CONTRACT PROGRAM MANAGER: R. M. Cranwell

FTS PHONE: 844-8368

PRINCIPAL INVESTIGATORS: R. M. Cranwell
R. V. Guzowski

FTS PHONE: 844-8368
FTS PHONE: 846-5448

PROJECT OBJECTIVE

To integrate the waste package performance-assessment methodology with the SNLA methodologies and to apply the waste-package methodology to bedded salt and tuff. Where pertinent, experimental tests relevant to the models contained in the methodology will be identified, designed, and carried out.

ACTIVITIES DURING JUNE 1987

None.

PROGRAM: Short-Term Technical Assistance

FIN#: A-1165
Task VI

CONTRACTOR: Sandia National
Laboratories

BUDGET PERIOD: 10/86 -
9/87

NMSS PROGRAM MANAGER: S. Wastler

BUDGET AMOUNT: \$50K

CONTRACT PROGRAM MANAGER: R. M. Cranwell

FTS PHONE: 844-8368

PRINCIPAL INVESTIGATORS: R. M. Cranwell
R. V. Guzowski

FTS PHONE: 844-8368
FTS PHONE: 846-5448

PROJECT OBJECTIVE

To provide general technical assistance on waste-management matters on the request of the NMSS PM.

ACTIVITIES DURING JUNE 1987

Questionnaires for a scenario catalogue were received from the Performance Assessment Advisory Group of the Nuclear Energy Agency. These questionnaires were completed for the bedded-salt methodology, the basalt methodology, and the preliminary work on scenarios for a repository site in unsaturated tuff.

On June 29 through July 1, R. Cranwell and R. Guzowski met with NRC personnel and discussed the following topics: (1) plans on how to review the DOE's Site Characterization Plan for the tuff site, (2) how to address performance allocation, (3) the conclusions in Sandia's letter report on the probability of basaltic volcanism at Yucca Mountain, (4) NRC's review comments on Sandia's responses to the NEA questionnaire on scenarios, and (5) the products and due dates of the products for A1165 based on the five-year work plan.

A-1165, Task I
1183.010
June 1987

THIS IS AN ESTIMATE ONLY AND MAY NOT MATCH THE INVOICES SENT TO NRC BY SANDIA'S ACCOUNTING DEPARTMENT.

	Current Month -----	Year -to- Date -----
I. Direct Manpower (man-months of charged effort)	0.1 ---	3.2 ---
II. Direct Loaded Labor Costs	1	33
Materials and Services	0	9
ADP Support (computer)	0	0
Subcontracts	2	27
Travel	0	2
G&A	0	7
Other (computer roundoff)	1	1
	---	---
TOTAL COSTS	4	79**

III. Funding Status

Prior FY Carryover -----	FY 87 Projected Funding Level -----	FY 87 Funds Received to Date -----	FY 87 Funding Balance Needed -----
\$4K*	\$125K	\$125K	-0-

* Carryover to be used for uncertainty task.

** Some of the charges on Task I relating to the uncertainty task will be transferred to Task IV when these charges have been identified.

A-1165, Task II
 1183.020
 June 1987

THIS IS AN ESTIMATE ONLY AND MAY NOT MATCH THE INVOICES SENT TO NRC BY
 SANDIA'S ACCOUNTING DEPARTMENT.

	<u>Current Month</u> -----	<u>Year -to- Date</u> -----
I. Direct Manpower (man-months of charged effort)	0.0 ---	0.8 ---
II. Direct Loaded Labor Costs	0	11
Materials and Services	0	0
ADP Support (computer)	0	0
Subcontracts	0	17
Travel	0	4
G&A	0	3
Other (computer roundoff)	0 ---	0 ---
TOTAL COSTS	0	35

III. Funding Status

<u>Prior FY Carryover</u> -----	<u>FY 87 Projected Funding Level</u> -----	<u>FY 87 Funds Received to Date</u> -----	<u>FY 87 Funding Balance Needed</u> -----
\$51K*	\$50K	\$50K	-0-

* Carry over to be used for uncertainty task.

A-1165, Task III
1183.030
June 1987

THIS IS AN ESTIMATE ONLY AND MAY NOT MATCH THE INVOICES SENT TO NRC BY
SANDIA'S ACCOUNTING DEPARTMENT.

	Current Month -----	Year -to- Date -----
I. Direct Manpower (man-months of charged effort)	0.4 ---	1.4 ---
II. Direct Loaded Labor Costs	4	30
Materials and Services	0	0
ADP Support (computer)	0	0
Subcontracts	2	-27
Travel	0	1
G&A	1	0
Other (computer roundoff)	0	1
	---	---
TOTAL COSTS	7	5

III. Funding Status

Prior FY Carryover -----	FY 87 Projected Funding Level -----	FY 87 Funds Received to Date -----	FY 87 Funding Balance Needed -----
-0-	\$150K	\$150K	-0-

A-1165, Task IV
 1183.040
 June 1987

THIS IS AN ESTIMATE ONLY AND MAY NOT MATCH THE INVOICES SENT TO NRC
 BY SANDIA'S ACCOUNTING DEPARTMENT.

	Current Month -----	Year -to- Date ----
I. Direct Manpower (man-months of charged effort)	0.0 ---	0.0 ---
II. Direct Loaded Labor Costs	0	0
Materials and Services	0	0
ADP Support (computer)	0	0
Subcontracts	0	0
Travel	0	0
G&A	0	0
Other (computer roundoff)	0	0
	---	---
TOTAL COSTS	0	0

III. Funding Status

Prior FY Carryover -----	FY 87 Projected Funding Level -----	FY 87 Funds Received to Date -----	FY 87 Funding Balance Needed -----
-0-*	\$138K	\$138K	-0-

* funding is carryover from all tasks for FY86

A-1165, Task V
1183.050
June 1987

THIS IS AN ESTIMATE ONLY AND MAY NOT MATCH THE INVOICES SENT TO NRC
BY SANDIA'S ACCOUNTING DEPARTMENT.

	Current Month -----	Year -to- Date -----
I. Direct Manpower (man-months of charged effort)	0.0 ---	0.0 ---
II. Direct Loaded Labor Costs	0	0
Materials and Services	0	0
ADP Support (computer)	0	0
Subcontracts	0	0
Travel	0	0
G&A	0	0
Other (computer roundoff)	0	0
	---	---
TOTAL COSTS	0	0

III. Funding Status

Prior FY Carryover -----	FY 87 Projected Funding Level -----	FY 87 Funds Received to Date -----	FY 87 Funding Balance Needed -----
-0-	-0-	-0-	-0-

A-1165, Task VI
 1183.060
 June 1987

THIS IS AN ESTIMATE ONLY AND MAY NOT MATCH THE INVOICES SENT TO NRC BY
 SANDIA'S ACCOUNTING DEPARTMENT.

	Current Month -----	Year -to- Date ----
I. Direct Manpower (man-months of charged effort)	0.0 ---	1.1 ---
II. Direct Loaded Labor Costs	0	13
Materials and Services	0	0
ADP Support (computer)	0	0
Subcontracts	0	0
Travel	0	1
G&A	0	1
Other (computer roundoff)	0	2
	---	---
TOTAL COSTS	0	17

III. Funding Status

Prior FY Carryover -----	FY 87 Projected Funding Level -----	FY 87 Funds Received to Date -----	FY 87 Funding Balance Needed -----
\$8K*	\$50K	\$50K	-0-

* Carryover to be used for uncertainty task.

A-1165

Total for 1183.010, 1183.020, 1183.030, 1183.040, 1183.050 and 1183.060.

June 1987

THIS IS AN ESTIMATE ONLY AND MAY NOT MATCH THE INVOICES SENT TO NRC BY SANDIA'S ACCOUNTING DEPARTMENT.

	Current Month -----	Year -to- Date ----
I. Direct Manpower (man-months of charged effort)	0.5 -----	6.9 -----
II. Direct Loaded Labor Costs	5	87
Materials and Services	0	9
ADP Support (computer)	0	0
Subcontracts	4	17
Travel	0	8
G&A	1	11
Other (computer roundoff)	1	4
	-----	-----
TOTAL COSTS	11	136

III. Funding Status

Prior FY Carryover -----	FY 87 Projected Funding Level -----	FY 87 Funds Received to Date -----	FY 87 Funding Balance Needed -----
\$138K	\$513K*	\$375	-0-

* Includes \$138K for uncertainty task.