



8 March 1988

David Tiktinsky
U.S. Nuclear Regulatory Commission
Division of Waste Management
Mail Stop 4H3
Washington, D.C. 20555

"NRC Technical Assistance
for Design Reviews"
Contract No. NRC-02-85-002
FIN D1016

Dear David:

Enclosed is Progress Report No. 31 for the period 1-29 February 1988 on Task Orders No. 001, 002 and 006, Contract NRC-02-85-002. Also enclosed is the summary sheet for the February voucher. Please call me if you have any questions.

Sincerely,

A handwritten signature in dark ink, appearing to read "Roger D. Hart", is written over the typed name.

Roger D. Hart
Program Manager

cc: R. Ballard, Engineering Branch
Office of the Director, NMSS
E. Wiggins, Division of Contracts
DWM Document Control Room

Encl.
rdh/ks

8803160388 880308
PDR WMRES EECITAS
D-1016 DCD

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Handwritten notes:
1/11
MH 14
D1016
Add Tiktinsky 1/11

ITASCA MONTHLY PROGRESS REPORT

Progress Report No. 31
NRC Technical Assistance
for Design Reviews

8 March 1988
Contract No. NRC-02-85-002

Reporting Period: 1 - 29 February 1988

1.0 INTRODUCTION

This progress report summarizes the work performed during February 1988 on NRC Contract No. NRC-02-85-002. During February, work progressed on Task Orders No. 001, 002 and 006.

2.0 ACTIVITIES DURING THE REPORTING PERIOD

A. On 1 February, written authorization was received to:

- (1) send one engineer and the NNWSI Principal Investigator to the NNWSI CDSCP Review Meeting to be held in Rockville, Maryland, during the first two weeks in February (Task Order No. 001);
- (2) send one senior consultant to a meeting in Rockville, Maryland, to discuss performance assessment at NNWSI (Task Order No. 001);
- (3) review the following documents (Task Order No. 006):
 - (a) Chapter 8 NNWSI CDSCP;
 - (b) "Site Characterization Plan Conceptual Design Report" (SAND84-2641);
 - (c) "Technical Basis for Performance Goals, Design Requirements, and Material Recommendations for the NNWSI Repository Sealing Programs (SAND84-1895);

- (d) "Response to Information Requests From the April 14-15, 1987, Meeting Between the U.S. Department of Energy (DOE) and the U.S. Nuclear Regulatory Commission (NRC)" by C. P. Gertz of DOE-NVO (letter to J. J. Linehan, RPB, NRC, October 29, 1987);
 - (e) "Numerical Parametric Sensitivity Study of Thermal and Mechanical Properties for a High-Level Nuclear Waste Repository;"
 - (f) "Draft Report on In-Situ Testing"; and
 - (g) "Modification of Rock Mass Permeability in a Zone Surrounding a Shaft in Fractured, Welded Tuff (SAND86-7001).
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- B. K. Wahi attended the 1-3 February meeting in Rockville to review performance assessment at NNWSI and to initiate QA review of the NNWSI CDSCP review. The trip report was submitted on 22 February 1988 (Task Order No. 001).
 - C. J. Daemen and L. Lorig attended the 1-5 February meeting in Rockville to review technical aspects of selected sections of the CD-SCP for Yucca Mountain. The trip report was submitted on 11 February 1988 (Task Order No. 001).
 - D. From 15-19 February 1988, K. Wahi attended the NNWSI-CDSCP QA Review Meeting in Rockville, Maryland (Task Order No. 001).
 - E. The final report "Point Paper on In-Situ Testing at the Deaf Smith Repository Site" was transmitted on 16 February 1988 (Task Order No. 002).
 - F. Progress Report No. 30 and Invoice No. 30-88-022 were sent on 17 February.

3.0 RESULTS

A. Documents Submitted in February

Final Report "Point Paper on In-Situ Testing at the
Deaf Smith Repository Site" (Task Order No. 002)

Professional Labor	B. Brady	10 hours
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B. Works in Progress

1. Document Review 006-01-40, "Review of HEFF Manual
(Task Order No. 006)

Professional Labor	B. Brady	18.5 hours
	M. Mack	1.5 hours

2. Document Review 006-01-41, "Thermal Rockbolt Logic
in MUDEC" (Task Order No. 006)

Professional Labor	M. Mack	24 hours
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3. Document Review No. 006-01-42, "STRES3D and Link
to Thermal Output of FLAC" (Task Order No. 006)

Professional Labor	M. Christianson	5.5 hours
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4. Document Review No. 006-01-55, "Technical Basis
for Performance Goals, Design Requirements, and
Material Recommendations for the NNWSI Repository
Sealing Program" (Task Order No. 006)

Professional Labor	L. Lorig	11.5 hours
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5. Document Review No. 006-01-56, "Draft Report on
In-Situ Testing" (Task Order No. 006)

Professional Labor	M. Board	8 hours
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6. Document Review 006-01-57, "NNWSI CD-SCP" (Task Order No. 006)

Professional Labor	M. Board	67 hours
	L. Lorig	73 hours
	K. Wahi	34 hours

7. Document Review No. 006-01-58, "Site Characterization Plan Conceptual Design Report"

Professional Labor	M. Christianson	61.5 hours
	L. Lorig	1.5 hours
	M. Mack	1.0 hour

8. testing/revision of MUDECT (Task Order No. 002)

Professional Labor	M. Mack	3 hours
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4.0 QUALITY ASSURANCE

Correspondence logs were monitored and NNWSI and SRP documents were received and catalogued.

5.0 DIFFICULTIES

No specific difficulties were encountered during the reporting period.

6.0 ACTIVITIES PLANNED FOR THE NEXT REPORTING PERIOD

- A. Work will continue on preparation of the following tasks.

1. Document Review No. 006-01-55, "Technical Basis for Performance Goals, Design Requirements, and Material Recommendations for the NNWSI Repository Sealing Program" (Task Order No. 006)
2. Document Review No. 006-01-56, "Draft Report on In-Situ Testing" (Task Order No. 006)

3. Document Review No. 006-01-57, "NNWSI Site Characterization Plan" (Task Order No. 006)
4. Document Review No. 006-01-58, "Site Characterization Plan Conceptual Design Report"
5. Document Review No. 006-01-59. "Modification of Rock Mass Permeability in a Zone Surrounding a Shaft in Fractured Welded Tuff" (Task Order No. 006)
6. sensitivity analyses for key joint parameters (Task Order No. 005)
7. mechanical and thermomechanical analysis (Task Order No. 005)

B. Activities to be completed in March

1. Document Review No. 006-01-40, "Review of HEFF Manual (Task Order No. 006)
2. Document Review No. 006-01-42, "STRES3D and Link to Thermal Output of FLAC" (Task Order No. 006)

C. Planned Trips

There is a tentatively scheduled meeting with the DOE to discuss the CDSCP comments during the week of 21 March. It is expected that J. Daemen and L. Lorig will attend this meeting (Task Order No. 001).

7.0 MEETINGS/TRIPS DURING THE REPORTING PERIOD

- A. K. Wahi attended the 1-3 February meeting in Rockville to begin to begin QA activities relative to the performance assessment review of the NNWSI-CDSCP (Task Order No. 001).

Professional Labor

K. Wahi

24 hours

- B. J. Daemen and L. Lorig attended the 1-5 February 1988 NNWSI-CDSCP Review Meeting in Rockvill (Task Order No. 001).

Professional Labor	J. Daemen	*56.0 hours
	L. Lorig	42.5 hours

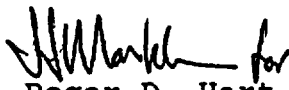
- C. K. Wahi continued the NNWSI-CDSCP QA Review, 15-19 February 1988, in Rockville, Maryland (Task Order No. 001)

Professional Labor	K. Wahi	36 hours
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8.0 SCHEDULE AND COST PROJECTION

The billing summary for the February invoice is attached. All tasks remain within budget.

Respectfully submitted,


Roger D. Hart
Program Manager

8 March 1988

attach.
rdh/ks

*not included in invoice

VOUCHERPayor's Name and Address

U.S. Nuclear Regulatory Commission
 Division of Accounting
 Office of the Controller
 ATTENTION: GOV/COM Accounts Section
 Washington, D.C. 20555

Payee's Name and Address

Itasca Consulting Group, Inc.
 P.O. Box 14806
 Minneapolis, Minnesota 55414

(a) Contract Number: NRC-02-85-002
 (b) Title of Project: Technical Assistance
 for Design Reviews of High-Level Waste
 Geologic Repositories
 (c) Voucher Number: 31-88-044
 (d) Date of Voucher: March 8, 1988
 (e) Contract Amount: \$1,312,270.80
 (f) Fixed Fee: \$ 104,981.66

Individual to contact:

John J. Markham (612-623-9599)

() This voucher represents reimburseable costs from February 1 thru February 28, 1988

	<u>AMOUNT BILLED</u>	
	<u>(k) Current Period</u>	<u>(l) Inception to Date</u>
(h) <u>DIRECT COSTS</u>		
(1) Direct Labor	\$ 10,246.26	\$ 176,849.30
(2) Materials, Supplies and Noncapitalized Equipment	-0-	-0-
(3) Consultants	8,905.88	121,584.13
(4) Travel - Domestic	1,087.10	28,226.69
(5) Subcontract	-0-	31,682.82
(6) Other Costs	476.14	15,562.25
TOTAL DIRECT COSTS	\$ 20,715.38	\$ 373,905.19
(i) <u>INDIRECT COSTS</u>		
G & A Expense 102% of Cost Element (1)	\$ 10,451.19	\$ 183,771.03
TOTAL DIRECT AND INDIRECT COSTS	31,166.57	557,676.22
(j) <u>FIXED-FEE EARNED</u>	2,493.33	44,994.31
(m) <u>TOTAL AMOUNTS CLAIMED</u>	33,659.90	602,670.53
(n) <u>ADJUSTMENTS</u>	-0-	-0-
(o) <u>GRAND TOTALS</u>	\$ 33,659.90	\$ 602,670.53