



11 November 1988

Naiem Taniou  
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 Naiem:

Enclosed is Progress Report No. 39 for the period 1-31 October 1988 on Task Orders No. 005 and 006, Contract NRC-02-85-002. Also enclosed is the summary sheet for the October voucher. Please call me if you have any questions.

Sincerely,

  
Roger D. Hart  
Program Manager

cc: M. Mace, Division of Contracts  
DWM Document Control Room

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rdh/ks

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## ITASCA MONTHLY PROGRESS REPORT

Progress Report No. 39  
NRC Technical Assistance  
for Design Reviews

11 November 1988  
Contract No. NRC-02-85-002

Reporting Period: 1 - 31 October 1988

### 1.0 INTRODUCTION

This progress report summarizes the work performed during October 1988 on NRC Contract No. NRC-02-85-002. During October, work progressed on Task Orders No. 005 and 006.

### 2.0 ACTIVITIES DURING THE REPORTING PERIOD

- A. On 7 September, Progress Report No. 38 and Invoice No. 38-88-147 were transmitted.
- B. Topical Report No. 006-01-T3, "Stability of Disposal Rooms During Waste Retrieval" was transmitted on 19 October (Task Order No. 006).
- C. Contract Modification No. 6, regarding modification of reporting requirements in electronic format, was received on 23 October. This modification was executed by Itasca and returned on 24 October. A fully-executed copy of the modification was received from the NRC on 31 October.
- D. On 26 October, Topical Report No. 006-01-T10, "Exploratory Shaft Facility," was transmitted (Task Order No. 006).
- E. On 31 October, Revised Document Review No. 006-01-42, "Implicit Thermal Logic in FLAC," was sent (Task Order No. 006).

### 3.0 RESULTS

#### A. Tasks Completed in October

1. Topical Report No. 006-01-T3, "Stability of Disposal Rooms During Waste Retrieval" (Task Order No. 006)

Professional Labor	T. Brandshaug	31 hours
	J. Markham	3 hours
	D. Russell	11.5 hours

2. Topical Report No. 006-01-T10, "Exploratory Shaft Facility" (Task Order No. 006)

Professional Labor	L. Lorig	3.5 hours
	K. Wahi	119 hours*

#### B. Works in Progress

1. Document Review No. 006-01-56, "Draft Report on In-Situ Testing" (Task Order No. 006)

Professional Labor	M. Board	14 hours
	J. Markham	1 hour

2. Document Review No. 006-01-60, "Implicit Thermal Logic in MUDEC" (Task Order No. 006)

Professional Labor	M. Mack	34 hours
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\*includes 49 hours from September

3. Document Review No. 006-01-63, "Technical Position on Seals in Unsaturated Media" (Task Order No. 006)  

Professional Labor	J. Daemen	1.5 hours <sup>+</sup>
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4. Document Review No. 006-01-64, "Technical Position on Design and Construction of Exploratory Shaft Facility" (Task Order No. 006)  

Professional Labor	J. Daemen	6.5 hours <sup>+</sup>
	L. Lorig	1.5 hours
	K. Wahi	5 hours <sup>+</sup>
  
5. Topical Report No. 006-01-T5, "Analysis to Define the Disturbed Zone Around a Nuclear Waste Repository in Welded Tuff" (Task Order No. 006)  

Professional Labor	B. Brady	3 hours
	M. Mack	20.5 hours
  
6. Topical Report No. 006-01-T7, "Seals Material Selection" (Task Order No. 006)  

Professional Labor	J. Daemen	9 hours
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7. Sensitivity Analyses for Key Joint Parameters (Task Order No. 005).  

Professional Labor	M. Board	6 hours
	T. Brandshaug	5 hours
	M. Christianson	44 hours
	L. Lorig	1 hour

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<sup>+</sup>labor hours in September

#### 4.0 QUALITY ASSURANCE

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

#### 5.0 DIFFICULTIES

No specific difficulties were identified during the reporting period.

#### 6.0 ACTIVITIES PLANNED FOR THE NEXT REPORT PERIOD

##### A. Activities to be completed in November

1. Document Review No. 006-01-56, "Draft Report on In-Situ Testing" (Task Order No. 006)
2. Document Review No. 006-01-60, "Implicit Thermal Logic in MUDEC" (Task Order No. 006)
3. Sensitivity Analyses for Key Joint Parameters (Task Order No. 005)

##### B. Work will continue on preparation of the following tasks.

1. Topical Report No. 006-01-T5, "Disturbed Zone" (Task Order No. 006)
2. Topical Report No. 006-01-T7, "Seals Material Selection" (Task Order No. 006)

#### 7.0 MEETINGS/TRIPS DURING THE REPORTING PERIOD

There were no meetings or trips taken in October for this project.

Progress Report No. 39  
11 November 1988  
Page 5

8.0 SCHEDULE AND COST PROJECTION

The billing summary for the October invoice is attached.  
Verbal authorization was received to proceed with Task Order  
No. 007.

Respectfully submitted,

  
Roger D. Hart  
Program Manager

11 November 1988

attach.  
rdh/ks

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Payor'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: 39-88-164
- (d) Date of Voucher: November 8, 1988
- (e) Contract Amount: \$1,312,270.80
- (f) Fixed Fee: \$, 104,981.66

Individual to contact:  
John J. Markham (612-623-9599)

(g) This voucher represents reimburseable costs from October 1 thru October 31, 1988

	<u>AMOUNT BILLED</u>	
	<u>(k) Current Period</u>	<u>(l) Inception to Date</u>
(h) <u>DIRECT COSTS</u>		
(1) Direct Labor	\$ 4,749.47	\$224,418.69
(2) Materials, Supplies and Noncapitalized Equipment	-0-	-0-
(3) Consultants	9,800.08	157,967.83
(4) Travel - Domestic	-0-	31,899.83
(5) Subcontract	-0-	31,682.82
(6) Other Costs	189.75	17,013.58
TOTAL DIRECT COSTS	<u>\$14,739.30</u>	<u>\$462,982.75</u>
(i) <u>INDIRECT COSTS</u>		
G & A Expense Cost Element (1)	\$ 4,844.46	\$232,291.81
TOTAL DIRECT AND INDIRECT COSTS	<u>19,583.76</u>	<u>695,274.56</u>
(j) FIXED-FEE EARNED	<u>1,566.70</u>	<u>56,002.17</u>
(m) TOTAL AMOUNTS CLAIMED	<u>\$21,150.46</u>	<u>\$751,276.73</u>
(n) ADJUSTMENTS	<u>-0-</u>	<u>-0-</u>
(o) GRAND TOTALS	<u>\$21,150.46</u>	<u>\$751,276.73</u>

SUPPORTING INFORMATION

TASK ORDER 005  
 TASK 1 SENSITIVITY ANALYSIS FOR JOINT PARAMETERS

(h) DIRECT COSTS

(1) Direct Labor		Hours		
Labor Category	Name	Billed	Rate	Total
Admin. Manager	J. Markham	2.0	\$27.64	\$55.28
Sr. Engineer	M. Board	6.0	\$25.25	\$151.50
	T. Brandsaug	5.0	\$23.08	\$115.40
	M. Christianson	11.0	\$22.60	\$991.40
	L. Lorig	1.0	\$22.96	\$22.96
Secretarial	A. Pratt	3.0	\$6.00	\$18.00
	T. Kessler	0.5	\$6.50	\$3.25
	K. Sikora	5.0	\$11.30	\$56.50
QA	K. Sikora	1.0	\$11.30	\$11.30
Total Direct Labor				\$1,428.59

(6) Other Costs

Copies	\$18.60
Telephone	\$5.19
	\$23.79

TOTAL DIRECT COSTS

\$1,452.38

(i) INDIRECT COSTS

G & A Expense (1.02 x Direct Labor)	\$1,457.16
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TOTAL DIRECT AND INDIRECT COSTS

\$2,909.54

(j) FIXED FEE EARNED

\$232.76

(m) TOTAL AMOUNT CLAIMED

\$3,142.30

\* Invoice Attached

SUPPORTING INFORMATION

TASK ORDER 006  
 TASK 1 DOCUMENT REVIEWS

(h) DIRECT COSTS

(1) Direct Labor		Hours		
Labor Category	Name	Billed	Rate	Total
Prog. Manager	R. Hart	5.0	\$25.81	\$129.20
Admin. Manager	J. Markham	9.0	\$27.61	\$248.76
Sr. Engineer	L. Lorig	5.0	\$22.96	\$114.80
	M. Board	14.0	\$25.25	\$353.50
	T. Brandshaug	31.0	\$23.08	\$715.48
	J. Markham	4.0	\$27.61	\$110.56
Sr. Reviewer	B. Brady	3.0	\$32.81	\$98.43
Asst. Engineer	M. Mack	51.5	\$16.00	\$872.00
	D. Russell	11.5	\$7.50	\$86.25
Secretarial	T. Kessler	11.5	\$6.50	\$74.75
	A. Pratt	0.5	\$6.00	\$3.00
	K. Sikora	45.0	\$11.30	\$508.50
QA	K. Sikora	0.5	\$11.30	\$5.65
<b>Total Direct Labor</b>				<b>\$3,320.88</b>

(3) Consultants Labor				
	J. Daemen	17.0	\$61.00	\$1,037.00
	K. Wahj	124.0	\$70.67	\$8,763.08
<b>Total Consultant Labor</b>				<b>\$9,800.08</b>
<b>Total Consultant Labor &amp; Expenses</b>				<b>\$9,800.08</b>

(6) Other Costs			
	Copies	\$127.80	
	Telephone	\$10.51	
	Postage	\$27.65	
			<b>\$165.96</b>

**TOTAL DIRECT COSTS** **\$13,286.92**

(i) INDIRECT COSTS	
G & A Expense (1.02 x Direct Labor)	\$3,387.30

**TOTAL DIRECT AND INDIRECT COSTS** **\$16,674.22**

(j) **FIXED FEE EARNED** **\$1,333.94**

(m) **TOTAL AMOUNT CLAIMED** **\$18,008.16**