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9 June 1987

David Tiktinsky - SS623  
U.S. Nuclear Regulatory Commission  
Division of Waste Management  
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. 22 for the period 1-31 May 1987  
on Task Orders No. 001, 002, 003 and 004, Contract NRC-02-85-  
002. Also enclosed is the summary sheet for the May voucher.  
Please call me if you have any questions.

Sincerely,

*R. D. Hart*  
for  
Roger D. Hart  
Program Manager

WM-RES  
WM Record File  
D1016  
ITASCA

WM Project 10, 11, 16  
Docket No. \_\_\_\_\_  
PDR   
\* LPDR: B, N, S

Distribution:  
\* Tiktinsky \* Jean-Licket  
(Return to WM, 623-SS) *df*

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

Encl.  
rdh/ks

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WM Project: WM-10, 11, 16  
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## ITASCA MONTHLY PROGRESS REPORT

Progress Report No. 22  
NRC Technical Assistance  
for Design Reviews

9 June 1987  
Contract No. NRC-02-85-002

Reporting Period: 1 - 31 May 1987

### 1. INTRODUCTION

This progress report summarizes the work performed during May 1987 on NRC Contract No. NRC-02-85-002. During May, work progressed on Task Orders No. 001, 002, 003, and 004.

### 2. ACTIVITIES DURING THE REPORTING PERIOD

- A. On 4 May, the final report on "Code Verification of FLAC for Thermomechanical Analysis" was transmitted (Task Order No. 002).
- B. M. Board and J. Daemen attended the 5-7 May 1987 NRC/SRP Meeting on ESF Design in Houston, including a pre-meeting on 4 May. The trip report was sent to D. Tiktinsky on 18 May (Task Order No. 001).
- C. Authorization for Task Order No. 005 was received from E. Wiggins on 8 May; Itasca acceptance was transmitted on 12 May.
- D. On 11 May, a Request for Proposal for Task Order No. 006 was received from Paul Edgeworth. The proposal in response to this RFP was transmitted on 21 May.
- E. Itasca Document Review No. 001-02-31, "Task V, Engineering Study No. 8, In Situ Instrumentation" (SD-BWI-ES-017) was transmitted on 15 May. (Task Order No. 001)
- F. Progress Report No. 21 and Invoice No. 021-87-47 were transmitted on 19 May.

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- G. Authorization to review NNWSI document "Modification of Rock Mass Permeability in the Zone Surrounding a Shaft in Fractured, Welded Tuff" (SAND86-7001) was received on 22 May (Task Order No. 001).
- H. On 29 May, Itasca Document Review No. 001-02-35, "Modification of Rock Mass Permeability in the Zone Surrounding a Shaft in Fractured and Welded Tuff" (SAND86-7001) was transmitted (Task Order No. 001).

### 3.0 RESULTS

#### A. Documents Submitted in May:

- (1) Final Report, "Code Verification of FLAC for Thermomechanical Analysis" (Task Order No. 002)

|                    |         |         |
|--------------------|---------|---------|
| Professional Labor | M. Mack | 6 hours |
|--------------------|---------|---------|

- (2) Itasca Document Review No. 001-02-31, "Task V, Engineering Study No. 8, In Situ Instrumentation" (SD-BWI-ES-017) [Task Order No. 001]

|                    |          |         |
|--------------------|----------|---------|
| Professional Labor | M. Board | 8 hours |
|--------------------|----------|---------|

- (3) Itasca Document Review No. 001-02-35, "Modification of Rock Mass Permeability in the Zone Surrounding a Shaft in Fractured and Welded Tuff" (SAND86-7001) [Task Order No. 001]

|                    |           |          |
|--------------------|-----------|----------|
| Professional Labor | J. Daemen | 2 hours  |
|                    | L. Lorig  | 23 hours |

#### B. Works in Progress:

- (1) incorporation of creep model into FLAC and MUDEC (Task Order No. 004)

|                    |         |            |
|--------------------|---------|------------|
| Professional Labor | M. Mack | 26.5 hours |
|--------------------|---------|------------|

- (2) documentation of thermal logic in FLAC and MUDEC  
(Task Order No. 002)

Professional Labor M. Mack 1 hour

- (3) identification and prioritization of major under-  
ground system components for NNWSI (Task No.003);

Professional Labor J. Daemen 2 hours  
L. Lorig 11.5 hours

- (4) Itasca Document Review No. 001-02-36, "Final Pre-  
liminary Design Report — Permian Basin, Texas"  
(Report ES-225-01) [Task Order No. 001]

Professional Labor M. Board 24 hours

- (5) Itasca Document Review No. 001-02-37, "WIPP  
Documents" (Task Order No. 001)

Professional Labor J. Daemen 2 hours  
L. Lorig 5 hours  
K. Wahi 31 hours

- (6) Review of STRES3D (Task Order No. 001)

Professional Labor M. Christianson  
64.5 hours

#### 4.0 QUALITY ASSURANCE

Correspondence logs were monitored and BWIP, NNWSI and SRP docu-  
ments were received and catalogued.

#### 5.0 DIFFICULTIES

No specific difficulties were encountered during this reporting  
period. However, written authorization for two document reviews  
has not been received. These documents are:

- (1) "Final Preliminary Design Report — Permian Basin, Texas" (Report ES-225-01); and
- (2) "STRES3D Users Guide and Manual" (St. John and Christianson, 1980).

6.0 ACTIVITIES PLANNED FOR THE NEXT REPORTING PERIOD

- A. Work will continue on preparation of the following tasks:
  - (1) BWIP Task V Engineering Study document reviews (Task Order No. 001);
  - (2) incorporation of creep model into FLAC and MUDEC (Task Order No. 004);
  - (3) documentation of thermal logic in MUDEC (Task Order No. 002);
  - (4) review of STRES3D (Task Order No. 001); and
  - (5) thermomechanical analysis for SRP (Task Order No. 005).
  
- B. Work to Be Completed in Next Reporting Period
  1. Itasca Document Review No. 001-02-36, "Final Preliminary Design Report — Permian Basin, Texas" (Report ES-225-01) [Task Order No. 001]
  2. Itasca Document Review 001-02-30, "Site Characterization Plan, Chapter 2.0 — Geoengineering (Controlled Draft 1) [Task Order No. 001]
  3. Final Draft, "Site Technical Position on In-Situ Testing at NNWSI" (Task Order No. 002)
  4. Final Draft, "Identification and Prioritization of Major Underground System Components for NNWSI" (Task No.003);
  5. Itasca Document Review No. 001-02-37, "WIPP Documents" (Task Order No. 001)

C. Planned Trips

No trips are scheduled for June.

7.0 MEETINGS/TRIPS DURING THE REPORTING PERIOD

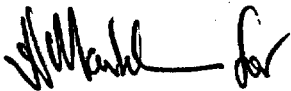
A. M. Board and J. Daemen attended the 5-7 May NRC/SRP Meeting on ESF Design in Houston, including a 4 May pre-meeting (Task Order No. 001)

|                    |           |          |
|--------------------|-----------|----------|
| Professional Labor | J. Daemen | 32 hours |
|                    | M. Board  | 40 hours |

8.0 SCHEDULE AND COST PROJECTION

The billing summary for the May invoice is attached. Also included are a labor hour summary by task and a summary of the expenditures versus budgets for each task and task order. Costs are well within the limit authorized for all task orders.

Respectfully submitted,

  
Roger D. Hart  
Program Manager  
9 June 1987

Attach.  
rdh/ks