

ITASCA TRIP REPORT

DATES: 17-20 August 1987

LOCATION: NRC Offices — Silver Spring, Maryland

PURPOSE: To Discuss the Use of FLAC's Thermomechanical and Creep Modeling Capabilities

ATTENDEES: Mark Mack (Itasca)
John Buckley, Naiem Taniou, and David Tiktinsky (NRC)

PREPARED BY: Mark Mack

SUMMARY

The purpose of this meeting was to review the creep and thermal/creep modeling capabilities of the computer code FLAC. This code has been verified by Itasca for use by the NRC in its review of thermomechanical and creep analyses presented by DOE.

The major focus of this meeting was discussion of thermomechanical modeling specific to salt.

The following topics were addressed at this meeting:

- (1) classical creep models and viscoelastic behavior theory;
- (2) the baseline creep law theory;
- (3) the incorporation of creep laws into computer codes;
- (4) the coupling of creep behavior with elastic and thermal behavior; and
- (5) the implementation of coupling in computer codes, with specific reference to FLAC.

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In addition, example problems were run with FLAC on one of the NRC's IBM-XT 286 computers. These example problems illustrated the effect of temperature and stress changes on creep behavior. A typical room-scale problem based on representative conditions in salt was set up for modeling with FLAC.

Respectfully, submitted,

Mack

Mark Mack
Itasca Consulting Group, Inc.

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WM Record File _____	WM Project _____
	Docket No. _____
	PDR _____
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WM-RES	WM Project 10, 11, 16
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COST BREAK-OUT

Labor

Mark Mack	32 hrs @ \$12.50/hr	\$ 400.00
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	TOTAL LABOR	\$ 400.00

Actual Expenses

Travel

Airfare		
Mack (Mpls-WDC)		\$ 419.00
Miscellaneous Travel Expenses		134.99
Mack (car rental, parking)		

Lodging

Mack		
(5 nights at \$68.20/night)		341.00

Meals

Mack		165.00
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TOTAL EXPENSES:		\$1,059.99
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