

Monthly Highlights

for

~~XXXXXXXXXX~~

*November 1984*

Application of RAMONA-3B to BWR ATWS\*  
(FIN A-3273)

P. Saha, Group Leader  
LWR Code Assessment and Application Group  
Department of Nuclear Energy  
Brookhaven National Laboratory  
Upton, New York 11973

\*Work performed under the auspices of the U.S. Nuclear Regulatory Commission.

### Application of RAMONA-3B to BWR ATWS

This project provides detailed, best-estimate, BWR ATWS analyses for the NRC Severe Accident Sequence Analysis (SASA) Program. In particular, several Browns Ferry Unit 1 MSIV closure ATWS analyses are being performed using the RAMONA-3B code with three-dimensional neutron kinetics. These calculations will not only improve understanding of the BWR behavior during an ATWS, but they can also be used for benchmarking similar calculations performed elsewhere by using the point kinetics codes such as RELAP5 and 3WR-LACP.

The major activities performed during November 1984 are noted below.

1. MSIV Closure ATWS Calculation (L. Neymotin and G. C. Slovik)

The Transient 1 (Sequence #439) calculation has been continued to 1200 seconds when the total reactor power reached approximately 16.5% of the rated power. The bulk water temperature in the pressure suppression pool is calculated to be -195°F at this time.

2. 1-D Collapsed Cross Sections (G. C. Slovik)

At the request of NRC, work has begun to collapse the 3-D cross sections for Browns Ferry Cycle 5 to equivalent 1-D data. These data will be the starting point for generating 1-D cross sections needed for TRAC-BF1 calculations to be performed at INEL.

Distribution

B. Agrawal, NRC/RES  
W. D. Beckner, NRC/RES  
R. T. Curtis, NRC/RES  
F. Odar, NRC/RES  
L. M. Shotkin, NRC/RES  
T. J. Walker, NRC/RES  
N. Zuber, NRC/RES

D. Fieno, NRC/NRR  
C. Graves, NRC/NRR  
M. W. Hodges, NRC/NRR  
L. Lois, NRC/NRR  
B. Sheron, NRC/NRR

R. C. Gottula, INEL  
D. Majumdar, DOE-ID  
S. A. Hodge, ORNL  
L. Proctor, TVA  
A. Walters, BCL

W. Y. Kato, BNL  
H. J. C. Kouts, BNL  
DNE Associate Chairmen, BNL  
NSP Division Heads and Group Leaders, BNL  
LWR CAAG Personnel, BNL