

Monthly Highlights

for

September 1984

Application of RAMONA-3B to BWR ATWS\*  
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### 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 BWR-LACP.

The major activities performed during September 1984 are noted below.

1. Generation of Browns Ferry Cycle 5 Nuclear Data  
(G. C. Slovik and E. Cazzoli)

Two cross section sets have been generated with the BLEND2 code. The first set has 13 cross sections to represent the core which lumped nodes together using an acceptance criteria of 5291 MWD/MT and 0.39 void history. The second set has 20 cross sections to represent the core. An acceptance criteria of 4233 MWD/MT and 0.31 void history was used to group appropriate fuel types together for this set. Both of these cross section sets have been run in the RAMONA-3B steady state mode and the results agree well with the TVA supplied state point.

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