

Accession No. \_\_\_\_\_

Contract Program or Project Title: Advanced Reactor Safety Analysis  
Technical Assistance, Reactor Projects

Subject of this Document: Monthly Highlights for March, 1980

Type of Document: Monthly Highlights

Author(s): Robert A. Bari

Date of Document: April 7, 1980

Responsible NRC Individual  
and NRC Office or Division: Dr. Themis P. Speis, Chief  
Advanced Reactors Branch  
Division of Project Management  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

This document was prepared primarily for preliminary or internal use. It has not received full review and approval. Since there may be substantive changes, this document should not be considered final.

Brookhaven National Laboratory  
Upton, New York 11973  
Associated Universities, Inc.  
for the  
U.S. Department of Energy

Prepared for  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555  
Under Interagency Agreement DE-AC02-76CH00016  
FIN No. A-3000

NRC Research and Technical  
Assistance Report

MONTHLY HIGHLIGHTS

for

March 1980\*

PROGRAM: Advanced Reactor Safety Analysis  
Technical Assistance, Reactor Projects  
Fin No. A-3000

Robert A. Bari, Group Leader

Department of Nuclear Energy  
BROOKHAVEN NATIONAL LABORATORY  
Upton, New York 11973

NRC Research and Technical  
Assistance Report

\*Work carried out under the auspices of the United States Nuclear Regulatory Commission.

## MONTHLY HIGHLIGHTS

### TASK I. ACCIDENT ANALYSIS (R. A. Bari)

#### Low Heat Flux Sodium Boiling (K. R. Perkins)

Discussions were held with John Meyer (MIT) to aid in the evaluation of Garrison's (ORNL) natural circulation experiment. Issues to be resolved include: loop instabilities, high uncertainty in measured flow rate, and the possibility of damage at low power levels (where superheat problems presented an experimental resolution).

### TASK II. POST-ACCIDENT CONTAINMENT ANALYSIS (W. T. Pratt)

#### FFTF Containment Venting (S. S. Tsai)

A revised memorandum incorporating comments received from H. B. Holz (NRC) was completed and transmitted to DPM/NRC.

### TASK III. PLANT DYNAMICS AND RELIABILITY ANALYSIS (R. A. Bari)

#### FFTF Natural Circulation Test Program (K. R. Perkins)

The two FFTF natural circulation papers presented at the Specialists' Meeting on Decay Heat Removal at BNL have been reviewed. The renewed emphasis exhibited therein on uncertainty analysis (as opposed to regression analysis) will be extremely helpful in evaluating the forthcoming primary loop natural circulation tests.

### TASK IV. REACTOR PHYSICS (H. Ludewig)

#### CDS Study (H. Ludewig)

On April 4, we received specifications for the Phase II CDS core designs from GE. These specifications will form the basis of an analysis of these cores.

DIF-3D (A. Mallen)

Sample problems for the DIF-3D code were received from ANL. Initially, storage problems were experienced in executing these problems. However, these difficulties have been overcome.

Distribution

BNL RSP Associate Chairmen  
BNL RSP Group Leaders  
BNL SEG Personnel

J. F. Meyer (15)  
T. P. Speis  
U.S. NRC Division of Technical  
Information and Control (2)