

INTERIM REPORT

Accession No. _____

Contract Program or Project Title: Thermal Hydraulic LMFBR Safety Experiments

Subject of this Document: April Monthly Highlight Letter

Type of Document: Monthly Highlight Letter

Author(s): Theodore Ginsberg and others

Date of Document: April 1980

Responsible NRC Individual
and NRC Office or Division: Dr. Melvin Silberberg
Division of Reactor Safety Research
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-3024

NRC Research and Technical
Assistance Report

8006200025

Monthly Highlights

for

April, 1980*

Thermal Hydraulic LMFBR Safety Experiments

Nesim Abuaf
Experimental Modeling Group
Department of Nuclear Energy
Brookhaven National Laboratory
Upton, New York 11973

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

NRC Research and Technical
Assistance Report

1. Thermal Hydraulic LMFBR Safety Experiments

1.1 Hydrodynamic Characteristics of Two-Phase Dispersed Systems (T. Ginsberg, G.A. Zimmer, J. Klages; J. Chen, Lehigh Univ.)

Calibration of the gamma densitometer traversing system was completed. The position calibration was accomplished using a dial indicator as the reference position displacement measurement. The output of an optical shaft encoder was calibrated against the dial indicator.

Full and empty gamma calibrations of the test vessel were completed. The data were acquired under computer control and stored on tape. Measurements under two-phase conditions are about to begin.

1.4 Fuel Motion Studies (G.A. Greene)

Preparation of a final report and recommendations for future work continued.

1.5 Heat Transfer in Internally Heated Pools (G.A. Greene)

A draft of the paper, "Correlation of Local Heat Flux From Inclined Volume-Heated Pools in Bubbly Flow," BNL-NUREG-27561, was handed to D. Basdekas on 4-22-80. This paper will be presented at the 19th National Heat Transfer Conference.

1.6 Transition Phase Technology Assessment (G.A. Greene, T. Ginsberg; M.S. Kazimi, MIT)

A review meeting was held at NRC in Silver Spring, Maryland concerning the transition phase in general and BNL-NUREG-27366 in particular. Formal presentation of the results of this study were made.

Distribution Thermal Hydraulic LMFBR Development Program

BNL RSP Division Heads
BNL RSP Group Leaders
BNL RSE Personnel

P. Abramson, ANL
D. Basdekas, NRC
J. Boudreau, LASL
I. Catton, University of California
J. C. Chen, Lehigh University
R. T. Curtis, NRC
W. Gammill, NRC (2)
D. T. Eggen, Northwestern University
H. H. Hummel, ANL (2)
W. Y. Kato, BNL
M. S. Kazimi, MIT
H. J. Kouts, BNL
J. T. Larkins, NRC
A. Reynolds, University of Virginia
M. Silberberg, NRC
M. Stevenson, LASL
T. G. Theofanus, Purdue University
J. C. Walker, Sandia Laboratory
R. W. Wright, NRC

U.S. NRC Division of Technical Information and Control