

Sandia National Laboratories

Albuquerque, New Mexico 87185

January 3, 1985

Dr. Thomas J. Walker
Containment Systems Research Branch
U. S. Nuclear Regulatory Commission
7915 Eastern Avenue
Silver Springs, Maryland 20910

Dear Tom:

This letter summarizes the Severe Accident Sequence
Analysis (SASA) Program Activities at Sandia during
 DEC 1984

Programmatic Activities

A. C. Peterson attended the NRC/IDCOR meeting on Baseline
Risk Profile and Operator Procedures on December 13-14,
1984.

Thermal-Hydraulic Analysis Activities

PWR Large Dry Containments (Bellefonte): The potential for
local hydrogen detonations in a large dry containment
during arrested sequences, will be investigated using the
HECTR computer code. The checkout of a model which has 45
compartments, 132 flow junctions, and 91 heat structure was
initiated. As you recall, Don King, Ron Gasser, Andy
Peterson, and you visited the Bellefonte site on December
18-19, 1984. The purposes of this visit were to obtain
additional detailed information on the geometry of the
facility and on the sizes of some of the cooling systems.
This visit also provided an opportunity for a detailed
comparison between the initial HECTR input model and the
facility configuration. This comparison indicated that all
of the significant flow paths and geometry were included in
the input model. A MARCON calculation for an arrested
S₂D sequence having a 75% metal-water reaction, which
will be used as the source term for this analysis, was
completed.

PWR Ice Condenser (Watts Bar/Sequoyah): The report
documenting HECTR calculations of the containment
pressure-temperature responses to a variety of accident
sequences is in the final levels of Sandia management
review.

BWR Mark II (LaSalle): In support of the RMIEP program, front end thermal hydraulic calculations of several long duration (up to 30 hours) transients for the LaSalle BWR, which is a BWR 5 with a Mark II containment, will be calculated with the LTAS computer code. LTAS was developed by Oakridge National Laboratory for analysis of Browns Ferry Unit 1, which is a BWR 4 with a Mark I containment. Since LTAS was initially developed for analysis of Browns Ferry Unit 1, some of the system models hard-wired into the code are specific to Browns Ferry Unit 1 and the code will have to be modified to describe the LaSalle plant. We are currently identifying the code changes that will be required. An initial LTAS input model for LaSalle was reviewed by the RMIEP staff and comments on the model are currently being resolved.

Upgraded Calculational Capability Activities:

MARCON 2.OP: A version of MARCON was created that includes the reference version, V151, of MARCH 2.0, CORCON Mod2, and pressure/temperature dependent leakage models.

LTAS: An updated version of the LTAS received from ORNL last month was made operational on the Sandia computer system this month.

CONTAIN: The linking of MARCON 2.OP to CONTAIN was completed.

Sincerely,

Andy Peterson

A. C. Peterson
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