

Sandia National Laboratories

Albuquerque, New Mexico 87185

March 6, 1985

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

Dear Tom:

This letter summarizes the Severe Accident Sequence Analysis (SASA) Program activities at Sandia during ~~February 11 and 12, 1985~~ *FEB. 1985*

Programmatic Activities

As you recall, you visited SNL on February 11 and 12, 1985 and the staff briefed you on the status of SASA programs.

O. E. Basset and R. T. Curtis were briefed February 13, 1985 by A. C. Peterson and A. S. Benjamin on the status of the FY-1985 SNL SASA program. The program and funding for FY-1986 were also discussed.

D. King, C. J. Shaffer, A. C. Peterson, A. S. Benjamin, and R. G. Spulak, Jr., attended and made presentations at the SASA program review meeting on February 20 and 21, 1985.

Thermal-Hydraulic Analysis Activities

PWR Large Dry Containments (Bellefonte): The HECTR computer code is being used to investigate the potential for local hydrogen detonations in the Bellefonte containment during arrested sequences having up to a 75% metal-water reaction. The initial transient calculations for a small break at the pump suction both with and without the fan coolers operating were completed. The peak hydrogen concentration for these transients was 10.5% and occurred in the compartment with the source. As expected, the overall hydrogen concentrations were slightly higher with the fan coolers operating, due to the condensation of steam by the fan coolers. To obtain an indication of the effects of a detonation in a large dry containment, CSQ calculations were performed in a geometry similar to Bellefonte. Calculations were performed for two different hydrogen concentrations, 13% and 18%. These CSQ calculations are still being analyzed.

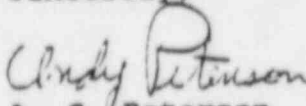
BWR Mark II (LaSalle): In support of the RMIEP program, front end thermal hydraulic calculations of several long duration (up to 30 hours) transients for the LaSalle BWR will be calculated with the LTAS computer code. The LTAS computer code was developed by Oakridge National Laboratory (ORNL) SASA program for analysis of Browns Ferry Unit 1. Models specific to LaSalle are under development. The high pressure core spray model and the safety relief valve model were completed. The models being developed by ORNL in support of this task should be received early in March and integrated into our version of LTAS by the end of March.

Upgraded Computational Capability Activities:

MARCON 2.OP: The version 152 updates for MARCH 2 were incorporated into MARCON 2.OP. These updates change some of the output format, correct some errors in MACE and INTER, and improve the ZRWATR time step reduction algorithm.

HECTR: The linking of the M1 (initial short time fuel-coolant interaction) and M3 (CORCON Mod2) modules of the MEDICI reactor cavity model to HECTR was completed. This linking was performed at the University of Wisconsin. A tape with these modules linked to HECTR and a draft of the documentation was received at SNL on March 4, 1985.

Sincerely,



A. C. Peterson
Reactor Safety Technology
Division 6411

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