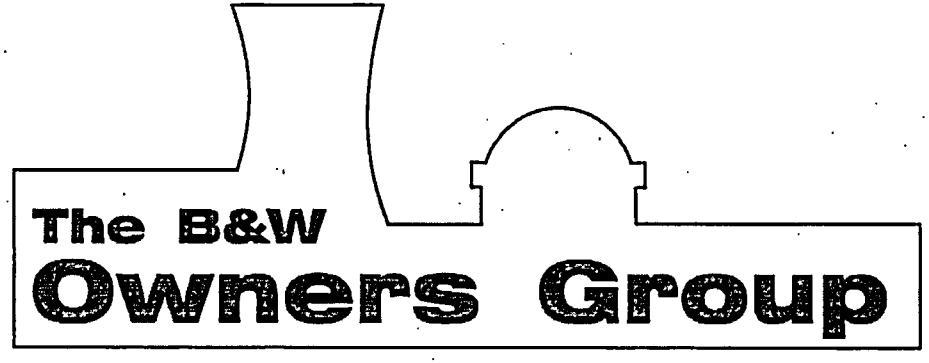
The B&W
Owners Group

Framework for Replacement Topical

Evaluation of OTSG Thermal Loads During Hot Leg LOCA

Eric Henshaw – B&WOG Analysis Committee

Replacement BAW-2374

> The objective of the report is to eliminate consideration of the design basis LBLOCA in the hot leg for determining steam generator tube loads.

Replacement BAW-2374

> Recent History of BAW-2374

- BAW-2374 Revision 1 was withdrawn by the B&WOG in March 2003
- Additional material was needed to address 10CFR50.46 and 10CFR100

> Reference May 15, 2003 NRC letter to B&WOG (ADAMS No. ML031350539)

Replacement BAW-2374

> BAW-2374 Revision 1

- Evaluated using the probabilistic and deterministic guidance of RG 1.174
- Engineering Analysis concludes
  - Meets Current Regulations
  - Consistent with Defense-in-Depth
  - Preserves Sufficient Safety Margins
  - Change in CDF and LERF is Small

Replacement BAW-2374

> BAW-2374 Revision 1 (cont'd)

- LOCA Thermal-Hydraulic Evaluation of Maximum Tube-to-Shell Temperature Differences
- Evaluation of Manway/Inspection Opening Failures
- Evaluation of RCS Hot Leg Piping

Replacement BAW-2374

> Additional Material will address:

- Long Term Cooling
- Dose Consequences
- Secondary Pipe Integrity

Replacement BAW-2374

- Long Term Cooling
  - Pressure Differential as a function of Break Size
  - SG Mechanical Loads
  - Realistic Tube Flaw Distribution
  - Secondary side Isolation
  - Loss of ECCS Inventory
  - ECCS Pump NPSH

Replacement BAW-2374

- **Dose Consequences**
  - **Source Term Discussion**
  - **Clad Rupture Study**
  - **Dose Evaluation**

Replacement BAW-2374

Today's Presentations (Part 1)

Addressing 10CFR50.46

> Requirements to Demonstrate Long-Term Cooling
  - J. Klingenfus

> SG Tube Integrity Assessment
  - D. Costa and J. Begley

> Long-Term Cooling Future Evaluation Discussion
  - J. Klingenfus and G. Wissinger

Replacement BAW-2374

Today's Presentations (Part 2)

Addressing 10CFR100

- > Dose Consequence Approach - M. Byram
- > Clad Rupture Study – G. Wissinger