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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

AUG 12 1982

MEMORANDUM FOR: Gus C. Lainas, Assistant Director for Operating Reactors, DL
FROM: Themis P. Speis, Assistant Director for Reactor Safety, DSI
SUBJECT: N-1 LOOP OPERATION OF BEAVER VALLEY UNIT 1

Plant Name: Beaver Valley Power Station, Unit 1
Docket No.: 50-334
TAC No.: 10386
Responsible Branch: ORB #1
Project Manager: P. Tam
Review Status: Questions

Additional information is required to complete our review of license amendment request number 35, for two-loop operation of Beaver Valley Unit 1. In order to complete our review by September 30, 1982, we require the applicant's response by September 13, 1982. Should you have questions regarding our review, please contact R. Barrett (X27592) of my staff.

Themis P. Speis, Assistant Director
for Reactor Safety, DSI

Enclosure:
As Stated

cc: R. Mattson D. Eisenhut
S. Varga P. Tam
G. Mazetis W. Hodges
T. Marsh R. Capra
J. Guttmann

CONTACT: R. Barrett
X27592

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Questions for Beaver Valley Concerning

Accident Analysis for (N-1) Operation

1. The licensee has demonstrated compliance with 10 CFR 50.46 for large break LOCA. However, since the time of the N-1 loop operation submittal, the Westinghouse evaluation model has undergone several changes and corrections. Has the large break analysis for N-1 loop operation been performed with the latest evaluation model? If so, provide the results. If not, please confirm the adequacy of the submitted analysis by recalculating the limiting case large LOCA with the currently approved model.
2. The submittal does not contain a small break analysis. Either justify its omission or analyze the small break LOCA with the currently approved evaluation model.
3. For the uncontrolled boron dilution transient, demonstrate that the acceptance criteria of SRP 15.4.6 can be met for isolated loop operation. These criteria require that during power operation, hot standby, cold shutdown and startup, a minimum of 15 minutes be available from the time an alarm announces an unplanned moderator dilution to the time of loss of shutdown margin. For refueling, the minimum time is 30 minutes.
4. Transients involving accidental depressurization of the reactor coolant system were analyzed in the original FSAR and found not to be limiting. Justify that this is also the case for N-1 loop operation.

5. Propose startup tests for the purpose of demonstrating operational stability with N-1 loop operation. These should include isolation of the loop containing the pressurizer.

6. Are there any variations to operator emergency procedures for N-1 loop operation? Do the present W operator emergency guidelines address N-1 loop operation? If not, justify the technical adequacy of your procedures since it is our understanding the W guidelines provide the technical basis to your procedures. If so, describe the modifications to the guidelines in detail.

7. For steam line breaks with an isolated loop, the time to attain criticality and the time to empty the pressurizer are longer than for normal operation (see Table 2.5-2 of the License Amendment Request). By contrast, the time to reach 20,000 ppm boron is much shorter for N-1 operation. Please provide a detailed explanation of this behavior.