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NUCLEAR POWER DEPARTMENT
CALVERT CLIFFS NUCLEAR POWER PLANT
LUSBY, MARYLAND 20657

July 12, 1985

U. S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Washington, DC 20555

ATTENTION: Mr. E. J. Butcher, Jr., Chief
Operating Reactors Branch #3
Division of Licensing

SUBJECT: Calvert Cliffs Nuclear Power Plant
Unit Nos. 1 & 2; Docket Nos. 50-317 & 50-318
HPSI Related Technical Specification Questions

REFERENCES: (a) Mr. A. E. Lundvall, Jr., to Mr. J. R. Miller letter dated
April 10, 1985, Request for Amendment
(b) Mr. A. E. Lundvall, Jr., to Mr. J. R. Miller letter dated
February 22, 1985, Unit 1 Cycle 8 License Submittal
(c) Mr. R. F. Ash to Mr. J. R. Miller letter dated April 23, 1985,
High Pressure Safety Injection Pump Performance

Gentlemen:

Recently Mr. D. H. Jaffe relayed several questions to Mr. J. F. Williams pertaining to the Unit 2 Technical Specification changes requested in Reference (a). Responses to these questions are provided below.

QUESTION:

Recently, the Calvert Cliffs Resident Inspector raised questions concerning crediting charging pump operation following a Safety Injection Actuation Signal (SIAS) for a Small Break Loss of Coolant Accident (SBLOCA). Specifically, his inquiries centered on the charging loop isolation valves, since these valves do not receive an "open" signal on SIAS. What assurance is there that flow through these valves will be maintained during SBLOCA as required?

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RESPONSE:

Plant procedures describing the lineup for operation of the Chemical Volume Control System (CVCS) specify that these valves be open. The valves fail open on loss of control power or loss of instrument air supply. In addition, the failure of a diesel generator, which had previously been identified as the worst single failure for this event, was evaluated to determine if a mechanism exists which could result in unsatisfactory flow delivery during a SBLOCA. The evaluation concluded that this failure could not degrade the combined charging and High Pressure Safety Injection (HPSI) flow below that assumed in the SBLOCA analysis.

QUESTION:

The SBLOCA analysis for Unit 1 Cycle 8 made several changes to the conditions assumed. These included slightly higher pressurizer pressure setpoints assumed for reactor trip and SIAS, reduced peak linear heat rate, and tighter axial shape index limits as shown in Reference (b), Table 8.2-1. In addition, the Main Steam Safety Valve (MSSV) Limiting Condition for Operation (LCO) was revised. Why are these changes acceptable for application to SBLOCA for Unit 2 Cycle 6?

RESPONSE:

The pressurizer pressure setpoints used in the U1C8 SBLOCA are based upon the Unit 1 and 2 setpoints for trip and SIAS, adjusted for uncertainties. No change was made to the related Unit 1 Cycle 8 LCOs. These LCOs are the same for Unit 2.

The change to the assumed linear heat rate merely reflects use of the LCO value of 15.5 kw/ft vs. the overly conservative 16.0 kw/ft previously assumed.

Axial shape index LCO changes were included in Reference (a), and are more restrictive than the present LCO.

Changes to the Main Steam Safety Valve (MSSV) LCO are not necessary to apply the Unit 1 SBLOCA results to Unit 2 since the setpoints assumed for the MSSVs required to operate during SBLOCA are within the current Unit 2 LCO.

Therefore, no LCO changes beyond those described by Reference (a) are necessary to apply the reanalyzed SBLOCA to Unit 2.

QUESTION:

What changes are being made to procedures to reflect crediting charging flow for the SBLOCA?

RESPONSE:

Plant procedures are being revised to incorporate new Surveillance Requirements for the charging pumps and their support equipment. STP-0-4 already included verification of proper equipment performance following SIAS. Changes are being made to STP-0-56 to verify assumed response times for Unit 1 and will be completed prior to plant startup. Similar changes for Unit 2 will be made when the Technical Specification revisions requested in Reference (b) are implemented.

Mr. E. J. Butcher, Jr.

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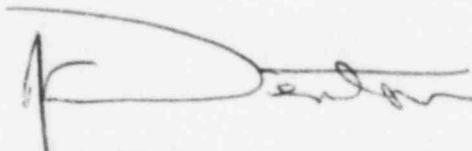
QUESTION:

Why is HPSI pump testing, similar to that performed for Unit 1, not required for Unit 2?

RESPONSE:

HPSI pump testing described by Reference (c) was performed to demonstrate the acceptability of fully opening the HPSI flow control valves following SIAS. As noted in Reference (c), no runout or cavitation was observed. Pump Total Dynamic Head, horsepower, and efficiency were comparable to the original pump curves with a smooth transition to the higher flow rates. Bearing temperatures, vibration, and motor horsepower were within acceptable limits. Based upon these results, and since the Unit 2 HPSI pump and piping configuration is very similar to Unit 1, no additional testing is necessary to apply the test results to Unit 2.

Very truly yours,

A handwritten signature in dark ink, appearing to read 'R. E. Denton', is written over a horizontal line.

R. E. Denton
General Supervisor -
Training & Technical Services

RED/JFW/tlm

cc: D. A. Brune, Esquire
G. F. Trowbridge, Esquire
D. H. Jaffe, NRC
T. Foley, NRC
D. Trimble, NRC
T. Magette, DNR