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June 21, 1996

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555-0001

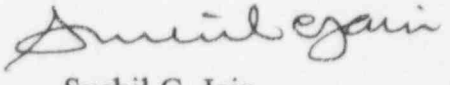
Subject: Beaver Valley Power Station, Unit No. 1 and No. 2
BV-1 Docket No. 50-334, License No. DPR-66
BV-2 Docket No. 50-412, License No. NPF-73
Response to Request for Peer Review of Analyses in the NRC's Accident Sequence Precursor (ASP) Analysis Program

Reference: NRC Letter, "Beaver Valley Power Station, Unit Nos. 1 and 2, Draft 1982-83 Precursor Report" dated May 7, 1996

This letter is in response to the NRC request for review and comment to the analyses of two operational events which occurred at the Beaver Valley Power Station (BVPS) Units 1 and 2 in 1982-83 (Reference). We have completed the review of the analyses and are providing our comments in the attachments. Based on our review, we strongly recommend that the events not be included in the 1982-83 precursor report.

Should you have any questions regarding this submittal, please contact Mr. R. K. Brosi, Manager, Nuclear Safety Department.

Sincerely,



Sushil C. Jain

Attachments

c: Mr. L. W. Rossbach, Sr. Resident Inspector
Mr. T. T. Martin, NRC Region I Administrator
Mr. D. S. Brinkman, Sr. Project Manager

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DELIVERING QUALITY ENERGY

ATTACHMENT 1

Comments on the Draft Accident Sequence Precursor (ASP) Report for 1982-1983 (B.40 and C.41)

B.40 LER 334/83-008

Description of Event

During a routine surveillance test on the turbine driven Auxiliary Feedwater pump (FW-P-2) on February 18, 1983, excessive pump overheating at the inboard packing follower was observed. The pump was shut down and removed from service. A packing failure caused the packing follower heatup. Two (2) outer rings were found dry. The pump was repacked and returned to service on February 19, 1983, after completing the surveillance test.

Six (6) days prior to the discovery of the failed packing in FW-P-2 (February 12, 1983), the plant tripped due to low steam line pressure. The main steam trip valve (TV-MS-101B) closed on loss of air causing increased steam flow in the "A" steam line, and a momentary drop in steamline pressure, initiating a safety injection and reactor trip.

Comments on the ASP Model

The failure probability of the Auxiliary Feedwater System used in the ASP model (2.3×10^{-3}) appears to be high. The Beaver Valley Unit 1 IPE submittal calculated a mean failure probability of 1.55×10^{-4} under the condition of the turbine driven pump failed. An Appendix R Dedicated Auxiliary Feedwater Pump (FW-P-4) was installed during the fourth refueling outage (1984). The ASP event tree structure does not take credit for this pump which was modeled as top event DF in the Beaver Valley IPE submittal and provides an additional means for recovering feedwater flow.

The Main Feedwater non-recovery probability should be set to 0.01 (i.e., recovery Class R4), based on the fact that the SI signal and Feedwater Isolation Signal can be reset in the Control Room to re-establish Main Feedwater. The Beaver Valley Unit 1 IPE submittal calculated a mean value for operator failure to re-establish secondary cooling (Top Event OF) given AFW failure of 2.06×10^{-4}.

Incorporating the Beaver Valley IPE Auxiliary Feedwater failure probability and Main Feedwater non-recovery Class R4, results in a reduction of the conditional core damage probability from 4.3×10^{-5} to 4.6×10^{-7} which is below the ASP screening criteria. Therefore, this event should not be included as an accident sequence precursor.

C.41 LER 334/82-024

Description of Event

During a plant start up on July 18, 1982, a high temperature alarm came in on the B Component Cooling (CCR) pump bearing. Steam Generator blowdown was isolated to decrease load on the system, and the B pump was shut down. A reactor trip occurred the same day due to high level in the Steam Generator caused by a malfunction of the Main Feedwater bypass flow control valve.

Comments on the ASP Model

The event tree and failure probabilities used in the ASP model were not provided; however, comments similar to those on LER 334/82-008 are applicable to this event also.

The failure probability of the Auxiliary Feedwater System used in the ASP model (2.3×10^{-3}) appears to be high. The Beaver Valley Unit 1 IPE submittal calculated a mean failure probability of 1.55×10^{-4} under the condition of the turbine driven pump failed. An Appendix R Dedicated Auxiliary Feedwater Pump (FW-P-4) was installed during the fourth refueling outage (1984). The ASP event tree structure does not take credit for this pump which was modeled as top event DF in the Beaver Valley IPE submittal and provides an additional means for recovering feedwater flow.

The Main Feedwater non-recovery probability should be set to 0.01 (i.e., recovery Class R4), based on the fact that the SI signal and Feedwater Isolation Signal can be reset in the Control Room to re-establish Main Feedwater. The Beaver Valley Unit 1 IPE submittal calculated a mean value for operator failure to re-establish secondary cooling (Top Event OF) given Main Feedwater and AFW failure, of 2.06×10^{-4}.

Incorporating the Beaver Valley IPE Auxiliary Feedwater failure probability and Main Feedwater non-recovery Class R4, results in a reduction of the conditional core damage probability from 8.9×10^{-6} to 7.5×10^{-7} which is below the ASP screening criteria. Therefore, this event should not be included as an accident sequence precursor.