Nebraska Public Power District

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LQA8200157

June 23, 1982

U.S. Nuclear Regulatory Commission
Attention: Domenic B. Vassallo, Chief
Operating Reactors Branch No. 2
Division of Licensing
Washington, DC 20555

Subject: Operability of Purge Valves (B-24) Response
Cooper Nuclear Station
NRC Docket No. 50-298, DPR-46

Dear Mr. Vassallo:

Your letter of April 19, 1982 requested additional information relating to the Containment Purge Valves at Cooper Nuclear Station. The information available at this time is attached. For reasons specified in the attachment, additional information relating to questions 1 and 2 will be provided by July 30, 1982.

If you wish to discuss any of these questions further, please contact me.

Sincerely,

Jay M. Pilant
Division Manager of Licensing
and Quality Assurance

JMP:JDW:cmk

Attachment

A001

Request for Additional Information on
Operability of Containment Purge Valves
Cooper Nuclear Station

Question No. 1:

A description of the actual configuration of valves 230 MV and 245 AV. Include distances from the elbow upstream, orientation of valve shafts with respect to the plane of the bend of the elbow, a description of the elbow, disc closure direction with respect to the elbow and whether flat face or curved face of the valve disc faces upstream.

Response:

In a telephone conference call with the Staff March 29, 1982, only valves 230 MV, 245 MV were discussed in detail because it was obvious that the configuration of these valves were not as tested by Allis-Chalmers. The actual configuration of all eight purge valves were subsequently investigated and subtle configuration differences with the Allis-Chalmers test are presently being evaluated. Combinations of elbows (e.g. 35° elbow in series with a 90° elbow) exist at CNS which do not exactly fit the Allis-Chalmers test configuration when valve closure direction is considered. Additionally, the direction of the disc face is not evident from the outside of the valve, and where necessary, the District is 1) considering the most conservative face to be upstream; or 2) disassembling the valve to verify actual directions. These efforts will be completed and the actual configuration provided by July 30, 1982.

Question No. 2:

Qualification information which shows that valves 230 MV and 245 AV can close against dynamic loads induced by a LOCA in the orientation in which they are presently installed.

Response:

As stated in the response to question 1, qualification analyses for all eight purge valves will be completed and provided by July 30, 1982.

Question No. 3:

Consistent with the commitments in your FSAR, for example Table C-3-6 of Appendix C on load combinations, indicate how the capability of all the valves, and their operators, to isolate the containment against an appropriate combination of accident pressure and earthquake loads is assessed.

Response:

Section 3.1.2 of Appendix C to the FSAR discusses the criteria used for analyzing Class I valves and how different loads are combined "where appropriate". Earthquake loads for the subject valves were assessed

independently of the accident pressure dynamic loads presently being computed by Allis-Chalmers. If an earthquake results in a LOCA which subjects the valves to dynamic loads, it is not reasonable to assume these same seismic loads during the later few seconds when the valves are actually closing because the seismic event would have already occurred. The probability of two seismic events and a LOCA occurring in series is considered sufficiently negligible. For this reason, it is not intended to consider the dynamic loads concurrent with the earthquake loads.

Question No. 4:

For all those valves which are to be maintained blocked to a maximum opening of less than 90° for long-term operation, describe the methods used to assure the valve will not be opened beyond the specified maximum opening.

Response:

The Limitorque operators on valves PC-230 MV, PC-231 MV, PC-232 MV, and PC-233 MV are blocked to a maximum opening of less than 60° through the limit and torque switches inherent to the design of the operators. The valves are given an operability test weekly and a closure timing test at least on a quarterly basis.