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SUBJECT: Forwards response to NRC 981229 RAI re GL 96-05, "Periodic Verification of Design-Basis Capability of Safety-Related Motor-Operated Valves."

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H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261/LICENSE NO. DPR-23

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION REGARDING
GENERIC LETTER 96-05, "PERIODIC VERIFICATION OF DESIGN-BASIS
CAPABILITY OF SAFETY-RELATED MOTOR-OPERATED VALVES"

Sir or Madam:

By letter dated December 29, 1998, the NRC requested additional information regarding Generic Letter 96-05, "Periodic Verification of Design-Basis Capability of Safety-Related Motor-Operated Valves" for the H. B. Robinson Steam Electric Plant (HBRSEP), Unit No. 2.

The attachment to this letter provides the requested information.

If you have any questions concerning this matter, please contact Mr. H. K. Chernoff.

Sincerely,


R. L. Warden
Manager - Regulatory Affairs

JSK/jsk

Attachment

c: Resident Inspector, HBRSEP
Mr. R. Subbaratnam, NRC, NRR
Mr. L. A. Reyes, NRC, Region II

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H. B. Robinson Steam Electric Plant, Unit No. 2
Response to Request for Additional Information Regarding
Generic Letter 96-05, "Periodic Verification of
Design-Basis Capability of Safety-Related Motor-Operated Valves"

Request 1

"In U. S. Nuclear Regulatory Commission (NRC) Inspection Report No. 50-261/98-01, the NRC staff closed its review of the motor-operated valve (MOV) program implemented at the H. B. Robinson Steam Electric Plant, Unit 2 (Robinson) in response to Generic Letter (GL) 89-10, "Safety-Related Motor-Operated Valve Testing and Surveillance," based on the results of the inspection and the licensee's plan to resolve several outstanding MOV issues as described in a letter dated February 20, 1998. In the inspection report, the NRC staff noted certain aspects of the licensee's MOV program that would be addressed over the long-term. For example, the licensee indicated that it would (1) participate in industry efforts to obtain applicable valve factors for Copes-Vulcan parallel double-disc gate valves; (2) validate the selected valve factors for the pressurizer power-operated relief valve block valves; (3) gather additional industry valve factor information for globe valves and Anchor/Darling flex-wedge gate valves; and (4) increase the actuator output capability for valves RHR-744A/B, CC-749A/B, FCV-626, FW-V2-6B, and CVC-381 during Refueling Outage (RO) 18. In addition to the NRC inspection report items, the licensee committed in its February 20, 1998, letter to take specific actions, including (1) performance of additional testing during RO-18 to address stem friction coefficient issues; (2) evaluation of hydrodynamic torque requirements for butterfly valves V6-16A/B/C; (3) revision of site procedures to require diagnostic verification of limit switch settings for position controlled MOVs, and (4) review of past diagnostic tests to verify that position controlled MOVs were closing properly. In a letter dated June 25, 1998, the licensee provided the status of those four action items. The licensee should discuss any further information on the status of specific long-term aspects of the MOV program at Robinson that were noted in the inspection report and its letter dated June 25, 1998."

Response 1

The items from Inspection Report 50-261/98-01 were inspected by the NRC during the close-out follow-up inspection and reported in NRC Inspection Report 50-261/98-08, dated October 9, 1998.

The four items from the February 20, 1998, letter have been completed as discussed in Carolina Power & Light (CP&L) Company letter dated June 25, 1998. NRC Inspection Report 50-261/98-08 discusses the closure status of these items. The status of the globe valve issue is discussed below.

No differential pressure test data at high temperature could be located in the industry for globe valves similar to those at the H. B. Robinson Steam Electric Plant (HBRSEP), Unit No. 2. The

concern raised during the close-out follow up inspection was that the valve factor used was based on cold water tests and may not be directly applicable to HBRSEP, Unit No. 2 globe valves that have high fluid temperature operating requirements. In addition, the rate-of-loading was based on limited EPRI information. To further justify the selected globe valve rate-of-loading allowance, CP&L is planning to dynamically test one globe valve during RO 19 to quantify the rate-of-loading effect. CP&L will continue to survey the industry to identify any available globe valve rate-of-loading and valve factor data. In the interim, the rate-of-loading allowance derived based on available EPRI globe valve test data and the valve factor based on the results of EPRI and Turkey Point test data is being used.

In addition, CP&L is planning to review MOV AFW-V2-16C during RO 19, scheduled to start September 25, 1999, to determine the cause for the large difference between the static and dynamic stem coefficients of friction measured during RO 18 in April 1998.

Request 2

"The Joint Owners Group (JOG) program focuses on the potential age-related increase in the thrust or torque required to operate valves under their design-basis conditions. In the NRC Safety Evaluation dated October 30, 1997, on the JOG program, the NRC staff specified that licensees are responsible for addressing the thrust or torque delivered by the MOV motor actuator and its potential degradation. The licensee should describe the plan at Robinson for ensuring adequate ac and dc MOV motor actuator output capability, including consideration of recent guidance in Limitorque Technical Update 98-01 and its Supplement 1."

Response 2

To address the potential degradation of MOV actuator delivered thrust or torque, HBRSEP, Unit No. 2 will: (1) perform periodic static diagnostic testing of MOVs to confirm MOV capability and proper control switch settings and to detect potential degradation in actuator output; (2) perform appropriate preventive maintenance activities such as periodic stem lubrication, periodic actuator gear case inspection, and refurbishment as required, to provide reasonable confidence of proper actuator performance; and (3) apply appropriate margins to account for actuator degradation such as stem lubrication degradation and spring pack relaxation. HBRSEP, Unit No. 2 will monitor stem friction coefficient, and rate-of-loading for valve opening and closing strokes under static and dynamic conditions and make necessary program adjustments to ensure the MOVs remain capable of performing their design basis function.

HBRSEP, Unit No. 2 has evaluated the impact of Limitorque Technical Update 98-01 and its Supplement 1 on the capability of ac-powered MOVs within the scope of the HBRSEP, Unit No. 2 MOV Program. Based on this evaluation, three (3) MOVs required operability determinations. Evaluations were performed and demonstrated that these three MOVs are capable of performing their safety function during a design basis accident. However, in order to restore margin, these MOVs are scheduled to be modified to increase actuator output during RO 19.

No dc-powered MOVs are included in the HBRSEP MOV Program.

HBRSEP, Unit No. 2 is involved in various industry organizations to keep apprised of the latest available information concerning MOV performance. HBRSEP, Unit No. 2 will continue to incorporate necessary enhancements to the MOV program based upon evaluation of the most current information available.