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SUBJECT: Provides addl info re removal of some MOVs from GL 89-10 program & provides change in HNP GL 89-10 program commitment re periodic verification.

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TITLE: Response to Generic Ltr 89-10, "Safety-Related MOV Testing & Surveill

NOTES:Application for permit renewal filed. 05000400

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DEC - 7 1995

SERIAL: HNP-95-077

United States Nuclear Regulatory Commission
ATTENTION: Document Control Desk
Washington, DC 20555

SHEARON HARRIS NUCLEAR POWER PLANT
DOCKET NO. 50-400/LICENSE NO. NPF-63
REQUEST FOR ADDITIONAL INFORMATION ON THE CLOSURE OF
NRC GENERIC LETTER 89-10, MOTOR OPERATED VALVES (MOV)

Gentlemen:

Carolina Power & Light Company (CP&L) notified the NRC of the completion of the Generic Letter (GL) 89-10 Motor Operated Valve program implementation at the Harris Nuclear Plant (HNP) by letter dated July 15, 1994. Subsequent to that notification, CP&L provided HNP plant-specific closure information by letter dated February 28, 1995. There have been follow up telephone conferences between CP&L and the NRC staff regarding the closure information provided.

This letter provides NRC-requested additional information regarding the removal of some MOVs from the GL 89-10 program and provides a change in the HNP GL 89-10 program commitment regarding periodic verification. Additionally, a typographical error is being corrected in Table C of the February 28, 1995 HNP letter. The additional information contained in this submittal should allow the NRC to close the GL 89-10 MOV program issue for HNP.

Please refer any questions regarding this submittal to Mr. T. D. Walt at (919) 362-2711.

Sincerely,

W R Robinson

rwp

Enclosure

c: Mr. S. D. Ebneter
Mr. N. B. Le
Mr. D. J. Roberts

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Enclosure to Serial: HNP-95-077

SHEARON HARRIS NUCLEAR POWER PLANT
NRC DOCKET NO. 50-400/LICENSE NO. NPF-63
REQUEST FOR ADDITIONAL INFORMATION
NRC GENERIC LETTER 89-10 CLOSEOUT LETTER

GL 89-10 Closure Letter of February 28, 1995, Enclosure, page 3, paragraph 04.07:

NRC Question: How did CP&L reduce the number of MOVs in the program from 116 to 88? Provide justification for valves removed from the program scope.

Response: The Generic Letter supplements provide guidance which allows licensees to eliminate MOVs from the GL 89-10 program: (1) when the licensee can demonstrate that operation of the valve does not represent a safety function and that its operation is not necessary to permit the operation of its safety-related equipment, or (2) when the MOV is not relied upon on to be in a particular position and is not taken credit for in the plant's design basis. Justification follows for each valve removed from the program scope:

1CS-278 (Emergency Boration Flow Isolation Valve)

No credit is taken for the boration capabilities of the Chemical and Volume Control System (CVCS) as a system in the analysis of transients presented in Chapter 15 of the FSAR (reference FSAR Chapter 4.6.4). Therefore, this valve is not relied upon to be in a particular position and is not taken credit for in the plant's design basis.

1CT-24, 25, 47, 95 (Containment Spray Test Valves)

These valves are normally closed and receive a Containment Phase A Isolation signal to close. Their function is to open and allow testing of the Containment Spray System. When these valves are tested, a Limiting Condition of Operation (LCO) is entered for the appropriate safety train. Therefore, operation of these valves does not represent a safety function, and operation is not necessary to permit the operation of safety-related equipment.

1RH-1, 2, 39, 40 (Residual Heat Removal (RHR) Inlet Isolation Valves)

The primary function of these valves is to isolate RHR from the Reactor Coolant System (RCS) to prevent over pressurizing the system. They are closed during normal operation with their respective power supply breakers locked off. They are opened for residual heat removal during plant cooldown operations. Therefore, operation of these valves does not represent a safety function, and operation is not necessary to permit the operation of safety-related equipment.

1SI-246, 247, 248 (Accumulator Discharge Valves)

These valves are opened during plant heat up before RCS pressure reaches 1000 psig, and their power supply breakers are locked off during normal plant operation. These valves are maintained open during normal operation, Modes 1-3. Therefore, operation of these valves does not represent a safety function, and operation is not necessary to permit the operation of safety-related equipment.

1SW-91, 92, 97, 98, 109, 110, 225, 227 (Containment Fan Cooler Service Water Supply/Outlet Isolation Valves)

These valves are normally open to provide a flow path for service water supply to the containment fan coolers. They remain in the open position in a post-accident environment. Therefore, operation of these valves does not represent a safety function, and operation is not necessary to permit the operation of safety-related equipment.

1SW-121, 123, 124, 126, 127, 129, 130, 132 (Service Water to Auxiliary Feedwater (AFW) Pumps Header Isolation/Backup Valves)

These valves are normally closed. Opening these valves allows service water to feed the AFW system if the Condensate Storage Tank (CST) level goes low. (Note that the design basis of the CST is to provide sufficient water storage for reactor shutdown decay heat removal by the AFW system.) Switching over to allow Emergency Service Water to feed AFW is an emergency contingency measure that, although described in the plant FSAR, is not credited in the Chapter 15 accident analysis to perform a mitigation function. (It requires local manual operation of drain isolation valves and is undesirable due to the lower quality of water (raw reservoir water) compared to that of the CST.) Therefore, these valves are not relied upon to be in a particular position for safety analysis considerations and are not taken credit for in the plant's design basis.

GL 89-10 Closure Letter of February 28, 1995, Enclosure, page 4, paragraph 04.08:

NRC Question: How does CP&L propose to account for age-related valve degradation?

Response: The previous HNP commitment made in the February 28, 1995 closure letter was to perform a static retest of GL 89-10 program valves every 3 refueling outages (RFOs) or 5 years, whichever is longer. In lieu of this commitment, CP&L now commits to the following approach involving both dynamic (differential pressure) and static testing:

DYNAMIC TESTING

HNP will retest approximately 10% of GL 89-10 program gate and globe MOVs over the next 3 RFOs (approximately 8-10 valves total).

The valve test population will include some valves with low thrust margins, some with a Probabilistic Safety Assessment PSA-1 ranking, and will include a mixture of sizes and types.

The valves will be tested in conditions similar to the original dynamic tests (i.e., pressure/flow) and reviewed under the same program procedures as the initial differential pressure tests.

The review emphasis will be to determine if there is evidence of valve performance degradation as evidenced by an increased "Valve Factor" (taking into account the accuracy of the test equipment).

If there is no evidence of valve performance degradation, the repeat differential pressure test program will be completed. If there is evidence of valve performance degradation, then the

specific valve will be evaluated to determine if the degradation is such that continued differential pressure testing is warranted.

STATIC TESTING

The frequency for performing static periodic verification will be based on the MOV's available thrust margin and/or its associated Probabilistic Safety Assessment (PSA) ranking as specified in the February 28, 1995 closure letter. There will be two static periodic verification frequencies: 3 RFOs/5 years and 6 RFOs/10 years.

Frequency 1 : 3 RFOs or 5 years, whichever is longer.

PSA-1 MOVs regardless of thrust margin.

PSA-2 MOVs will be static tested at least one additional time from the initial baseline test. If a PSA-2 MOV has greater than 100% thrust margin and there is no noticeable change in its characteristics, then the MOV will be moved to Frequency 2 (below) for subsequent static testing.

PSA-3 MOVs with less than 100% thrust margin.

Frequency 2 : 6 RFOs or 10 years, whichever is longer.

PSA-2 MOVs that have been retested statically once and meet the criteria listed above.

PSA-3 MOVs that have greater than 100% thrust margin.

PSA-4 MOVs.

A torque switch periodic verification will not be performed on butterfly valves included within the scope of the GL 89-10 program. These valves are limit-seat controlled. The torque switch is provided as a backup control device and would be bypassed upon receipt of a Safety Injection (SI) signal. Additionally, these MOVs are periodically stroke tested under existing pressure conditions. Therefore, testing of the torque switches is not required.

GL 89-10 Closure Letter of February 28, 1995, Table C, page 3 of 3, Note (10) (typographical error):

The reference to valves 1SI-39/40 should instead be valves 1SW-39/40 as noted on page 1 of the table and as described in the supporting verbiage (Service Water) of the note.