Public Service
Electric and Gas
Company

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

GENERIC LETTER 96-05 180 DAY RESPONSE, PERIODIC VERIFICATION OF DESIGN-BASIS CAPABILITY OF SAFETY-RELATED MOTOR-OPERATED VALVES
SALEM AND HOPE CREEK GENERATING STATIONS
DOCKET NOS. 50-272, 50-311, AND 50-354

Ladies and Gentlemen:

This letter provides Public Service Electric and Gas Company's (PSE&G) 180 day response to Generic Letter (GL) 96-05. GL 96-05 requests licensees to submit a summary description of their Motor Operated Valve (MOV) Periodic Verification Program. More specifically, GL 96-05 requests that licensees establish a program, or ensure the effectiveness of its current program, to verify on a periodic basis that safety-related MOVs continue to be capable of performing their safety function within the current licensing basis of the facility. GL 96-05 states that the program should properly identify and account for changes in required performance resulting from degradation (such as those caused by age). PSE&G has addressed these issues as described in the Attachment to this letter.

Should there be any questions with regard to this response, please do not hesitate to contact us.

Sincerely,

E C Simpson

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Attachment
Affidavit

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Printed on
Recycled Paper

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REF: LR-N970177

STATE OF NEW JERSEY }
} SS.
COUNTY OF SALEM }

E. C. Simpson, being duly sworn according to law deposes and says:

I am Sr. Vice President Nuclear Engineering of Public Service Electric and Gas Company, and as such, I find the matters set forth in the above referenced letter, concerning the Hope Creek and Salem Generating Stations, are true to the best of my knowledge, information and belief.

E C Simpson

Subscribed and Sworn before me
this 13th day of March, 1997

Kimberly Jo Brown
Notary Public of New Jersey

KIMBERLY JO BROWN
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires April 21, 1998

My commission expires on _____

Participation in Joint Owner's Group

PSE&G is participating in the joint Westinghouse, Combustion Engineering (CE), and Boiling Water Reactor (BWR) Owners' Group (JOG) which has been chartered to develop an MOV Periodic Verification program. Program Topical Report MPR-1807, Revision 0, "Joint BWR and Westinghouse Owners' Group Program on Motor-Operated Valve Periodic Verification", was transmitted to the NRC by the Westinghouse Owners' Group on March 3, 1997 via letter OG-97-018 and by the BWR Owners' Group on March 7, 1997 via letter BWROG-97061. PSE&G plans to implement an MOV Periodic Verification Program for both Salem and Hope Creek that is consistent with the program described in the topical report. Until the time that the JOG Program is completed, an interim Periodic Verification Program based upon the topical report is being generated. A summary description of the program is provided below. PSE&G's commitment to support the JOG Periodic Verification Program includes differential pressure (DP) testing of valves as appropriate at Salem and Hope Creek Generating Stations in accordance with the test specification described in the topical reports. PSE&G will address the Nuclear Regulatory Commission (NRC) Safety Evaluation Report (SER) comments on the topical report when it is issued as appropriate.

JOG Periodic Verification Program

The objective of this program is to determine the degradation-related trends in dynamic thrust and torque, and to use the dynamic test results to adjust the program if warranted. The elements of the JOG dynamic testing program include: 1) identification of conditions and features which could potentially lead to MOV degradation, 2) assignment of valves for dynamic testing, 3) requirements to test valves three times with at least a one-year interval between valve-specific tests according to a standard test specification over a five-year interval, 4) evaluation of results of each test, and 5) evaluation of collective test results. Finally, the JOG will periodically evaluate the test results to validate the assumptions in the program to develop a long-term MOV periodic verification program to be considered for implementation by each licensee.

Salem and Hope Creek Interim MOV Periodic Verification Program

The objective of this program is to provide assurance that the MOVs remain setup (i.e., the switch settings for control of the MOVs account for the design basis performance requirements with appropriate consideration of performance uncertainties including margin for age-related degradation) consistent with current licensing basis criteria. The interim program involves: 1) continuation of ASME Inservice Test (IST) stroke time testing, and 2) performance of static diagnostic testing on a frequency based upon functional capability (age-related degradation margin over and above the margin for GL 89-10 evaluated parameters) and contribution to safety. The interim program will be applied to each valve within the scope of GL 89-10.

As previously noted, PSE&G will also conduct dynamic testing as appropriate to support the JOG Periodic Verification Program, to meet our GL 89-10 commitments, and to ensure that safety-related MOVs continue to be capable of performing their safety function within the current licensing basis of the facility.

Prioritization Based upon Risk

A Probabilistic Safety Assessment (PSA) ranking for each of the valves within the scope of Hope Creek's GL 89-10 program will be completed to determine the high and medium safety significant valves to aid in scheduling static diagnostic tests. The risk ranking process, including PSA ranking and an expert panel review, will be in place by the end of 1997. The expert panel will finalize the risk rankings prior to Hope Creek's eighth refueling outage. The risk ranking for Salem Unit 1 and Unit 2 will be completed prior to their next refueling outages.

Establishment of Margin

The functional capability of an MOV is based upon valve margin (the difference between the available thrust or torque that is capable of being delivered by the actuator and the required thrust or torque demanded by the valve under design basis conditions). The available actuator output, and the required valve thrust and torque are adjusted as needed for several factors, including diagnostic equipment inaccuracy, torque switch repeatability, rate of loading, spring pack relaxation, and stem lubrication degradation.

Establishment of Baseline Schedule for Static and Dynamic Testing Based Upon Risk and Margin

The scheduling of static tests will be based upon risk significance and margin of valve capability in accordance with the proposed JOG Periodic Verification Program criteria. PSE&G will consider operating history of the specific valve, its application, and environment, when determining the appropriate static diagnostic test frequency. PSE&G will ensure that each GL 89-10 MOV will have adequate margin to remain operable, regardless of its risk categorization.

Monitoring of Degradation Using Testing Results

The static and dynamic test results will be monitored and trended. Appropriate corrective actions will be taken as necessary to ensure valve operability in accordance with the Corrective Action Program (CAP). The results of dynamic testing of valves assigned to Hope Creek and Salem per the JOG will be shared with the JOG Steering Committee in accordance with the JOG test specification. If valve performance degradation/anomalies are found, the data will be entered into our CAP to determine the root cause/degradation rate and appropriate corrective actions. Test results will be evaluated for their applicability to the group of valves they represent as appropriate.

When the information received by the JOG Steering Committee indicates that a potential large degradation rate has been observed for a valve or class of valves, the Committee will make a decision as to whether immediate further generic evaluation or modification of the program or interim criteria is necessary. If action is determined to be necessary, the Steering Committee will communicate this information to the participating utilities.

Ongoing Adjustment of Test Frequency Based Upon Test Results

PSE&G will develop criteria for adjusting test intervals as necessary. In addition, the JOG will periodically evaluate the dynamic test results to validate the assumptions to recommend a long-term MOV periodic verification program to be considered for implementation by each licensee. PSE&G will address the JOG's updates as they occur throughout the development of the program and make adjustments to the program as necessary.

Summary

Hope Creek and Salem will participate in the JOG Periodic Verification Program.

As a clarification to PSE&G's 60 day response to GL 96-05: the Hope Creek Generating Station MOV Periodic Verification program will be implemented as described above; the Salem Unit 1 and Salem Unit 2 program will be implemented by the next refueling outage following restart of each of the units (refueling outage 13 and refueling outage 10, respectively).