

Mr. Harold W. Keiser  
 Chief Nuclear Officer & President -  
 Nuclear Business Unit  
 Public Service Electric & Gas  
 Company  
 Post Office Box 236  
 Hancocks Bridge, NJ 08038

January 6, 2000

**SUBJECT: REQUEST FOR ADDITIONAL INFORMATION, INCREASE OF ALLOWABLE MAIN STEAM ISOLATION VALVE (MSIV) LEAK RATE AND DELETION OF MSIV SEALING SYSTEM, HOPE CREEK GENERATING STATION (TAC NO. MA4471)**

Dear Mr. Keiser:

In a letter dated December 28, 1998, as supplemented October 15, 1999, Public Service Electric and Gas Company (PSE&G) submitted an application for an amendment to the Technical Specifications (TSs) for Hope Creek Generating Station. The proposed amendment would revise the TSs to permit an increase in the allowable leak rate for the main steam isolation valves (MSIVs) and to delete the MSIV Sealing System. The main steam drain lines and the main condenser would be utilized as an alternate MSIV leakage treatment method.

The NRC staff is reviewing your submittal and has determined that additional information is required to complete the review. The specific information requested is addressed in the enclosure. We request that the additional information be provided within 60 days of receipt of this letter. The 60-day response timeframe was discussed with Mr. James Priest of your staff on December 20, 1999. If circumstances result in the need to revise your response date, or if you have any questions, please contact me at (301) 415-1420.

Sincerely,  
**ORIGINAL SIGNED BY:**  
 Richard B. Ennis, Project Manager, Section 2  
 Project Directorate I  
 Division of Licensing Project Management  
 Office of Nuclear Reactor Regulation

Docket No. 50-354

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Enclosure: Request for Additional Information

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

January 6, 2000

Mr. Harold W. Keiser  
Chief Nuclear Officer & President -  
Nuclear Business Unit  
Public Service Electric & Gas  
Company  
Post Office Box 236  
Hancocks Bridge, NJ 08038

**SUBJECT: REQUEST FOR ADDITIONAL INFORMATION, INCREASE OF ALLOWABLE  
MAIN STEAM ISOLATION VALVE (MSIV) LEAK RATE AND DELETION OF MSIV  
SEALING SYSTEM, HOPE CREEK GENERATING STATION (TAC NO. MA4471)**

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Sincerely,

A handwritten signature in black ink, appearing to read "R B Ennis".

Richard B. Ennis, Project Manager, Section 2  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-354

Enclosure: Request for Additional Information

cc w/encl: See next page

**Hope Creek Generating Station**

cc:

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**Hope Creek Resident Inspector  
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c/o Mary O. Henderson, Clerk  
Municipal Building, P.O. Box 157  
Hancocks Bridge, NJ 08038**

**Mr. Elbert Simpson  
Senior Vice President-  
Nuclear Engineering  
Nuclear Department  
P.O. Box 236  
Hancocks Bridge, NJ 08038**

## REQUEST FOR ADDITIONAL INFORMATION

### INCREASE OF ALLOWABLE MAIN STEAM ISOLATION VALVE (MSIV) LEAK RATE AND DELETION OF MSIV SEALING SYSTEM (TAC NO. MA4471)

**Note:** The regulatory basis for the following questions is that the MSIV alternate leakage treatment (ALT) pathway meets the intent of Appendix A to Part 100 of Title 10 of the Code of Federal Regulations (10 CFR 100), with regard to seismic qualification.

1. In Figures 3-1 through 3-3 of EQE's November 12, 1998, report (Attachment 4 to your December 28, 1998, letter), size and dimension comparisons were made between the Hope Creek condenser and condensers at the earthquake experience database sites of Ormond Beach and Moss Landing. However, as shown in Figures 3-5 and 3-6, to demonstrate the adequacy of the Hope Creek condenser anchorage, you used condenser anchorages at the sites of El Centro and Moss Landing. Explain why you used different sets of database sites for different aspects of condenser comparison. Also, in Question No. 9 of the NRC staff's request for additional information (RAI) dated July 1, 1999, the staff requested that you provide the Ormond Beach response spectrum. You responded by stating that the Ormond Beach spectra were not used to demonstrate the anchorage adequacy of the Hope Creek condenser. Explain why you used Ormond Beach's dimensional data without providing and justifying the validity of its associated response spectra.

In addition to the above, the staff is concerned about the lack of sufficient earthquake experience condenser data provided by EQE, Inc. In its March 3, 1999, safety evaluation of the Boiling Water Reactors Owners' Group (BWROG) topical report, NEDC-31858P, Revision 2, September 1993, the staff stated that at the present time, there is no standard, endorsed by the NRC, that provides guidance for determining what constitutes an acceptable number of earthquake recordings that should be provided by licensees that utilize the BWROG methodology. Therefore, individual licensees are responsible for ensuring the sufficiency of the earthquake experience data to be submitted for staff review. Based on the above, you are requested to provide sufficient earthquake experience condenser data for staff review. If sufficient data is not provided for the condenser, the NRC may require that the condenser be analytically evaluated against all the pertinent operating and design loadings, in accordance with the plant's design basis methodology and criteria.

2. In responding to Question No. 10 of the above stated RAI, you stated that the response spectrum of Moss Landing and Valley Steam power plants bound the Hope Creek design safe shutdown earthquake (SSE) spectra in the low and high frequencies of interest. By examining the spectral curves provided in Enclosure 2 to your response, the staff noted, however, that the Valley Steam spectrum is exceeded by the Hope Creek spectrum in a frequency range from around 6 to 21 Hz. Also, the Moss Landing spectrum is exceeded by the Hope Creek spectrum in a frequency range from around 4.2 to 13 Hz. Since the above frequency ranges are considered significant, please provide your justification for the validity of these two sites as viable database sites for Hope Creek.
3. Table 4-3 of EQE's November 12, 1998, report provides earthquake experience piping data from Valley Steam Plant Units 1 & 2 and El Centro Steam Plant. In view of Question No. 2 above, the staff questions the validity of the piping data provided from the Valley Steam Plant. Similar to Question No. 1 above, the staff also questions the sufficiency of the piping data that you provided to envelop the Hope Creek ALT pathway piping. In addition, provide the justification for not including piping larger than 4 inches in diameter in the above table.

4. In relation to the bounding seismic analysis for the MSIV ALT pathway piping (Calculation No. 200965-C-001), which was provided with your submittal dated October 15, 1999, you stated that the dynamic analysis was performed utilizing the modal superposition response spectrum analysis method with modes up to 33 Hz and with missing mass corrections. Provide all the natural frequencies, up to 33 Hz, of the normal modes that were considered in the above bounding seismic analysis. Also, discuss the modal participation of each of the first few significant modes in the analysis.