



**PSEG** Public Service  
Electric and Gas  
Company

80 Park Plaza, Newark, NJ 07101 / 201 430-8217 MAILING ADDRESS / P.O. Box 570, Newark, NJ 07101

Robert L. Mittl General Manager  
Nuclear Assurance and Regulation

August 16, 1985

Director of Nuclear Reactor Regulation  
United States Nuclear Regulatory Commission  
7920 Norfolk Avenue  
Bethesda, Maryland 20814

Attention: Mr. Walter Butler, Chief  
Licensing Branch 2  
Division of Licensing

Gentlemen:

RESPONSE TO SQRT CONFIRMATORY ISSUES 1, 2, 4 and 6  
AND SQRT GENERIC OPEN ISSUE 1  
HOPE CREEK GENERATING STATION  
DOCKET NO. 50-354

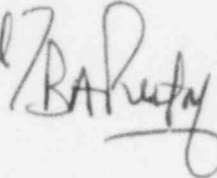
Pursuant to the NRC, PVORT/SQRT audit held at the Hope Creek Generating Station on May 7-10, 1985, Public Service Electric & Gas Company hereby submits responses to SQRT Confirmatory Issue 1 - NSSS-2 HCU OS-213-0643 Piping Flexibility Evaluation (Attachment I), SQRT Confirmatory Issue 2 - NSSS-2 HCU OS-213-0643 HCU Piping Support Detail (Attachment II), SQRT Confirmatory Issue 4 - BOP-2 HVAC damper 1HD-9603B1 (Attachment III), SQRT Confirmatory Issue 6 - NSSS-9 RPV Level and Pressure Rack; 106-026/H21-PO26 (Attachment I'') and SQRT Generic Open Issue 1 - NSSS-1 Core Spray Pump 1AP-206/E21-C001 (Attachment V).

The response to the remaining SQRT Confirmatory Issue 5 - DSER Open Item 103/SER Open Item 2, "Equipment Qualification" will be submitted to the NRC by September 16, 1985.

8508200335 850816  
PDR ADOCK 05000354  
A PDR

Should you have any questions in this regard, please contact us.

Very truly yours,

R. L. Mittal 

Attachment I - Response to SQRT Confirmatory Issue 1  
Attachment II - Response to SQRT Confirmatory Issue 2  
Attachment III - Response to SQRT Confirmatory Issue 4  
Attachment IV - Response to SQRT Confirmatory Issue 6  
Attachment V - Response to SQRT Generic Open Issue 1

C D.H. Wagner  
USNRC Licensing Project Manager

A.R. Blough  
USNRC Senior Resident Inspector

## ATTACHMENT I

### SQRT CONFIRMATORY ISSUE 1

#### NSSS-2 HCU 0S-213-0643 PIPING FLEXIBILITY EVALUATION

The flexibility evaluation of the insert and withdrawal piping in the vicinity of the hydraulic control units which was in progress at the time of the audit has been completed.

The piping was analyzed for anticipated dynamic displacements and found to be within code allowable stress limits. Very flexible runs of piping are being stiffened by installing supports as required. Design Change Packages (DCPs) 7427 and 7429 through 7432 detailing these stiffened hanger designs have been issued.

Approximately fifty percent (50%) of the construction per the DCPs mentioned above is complete.

ATTACHMENT II

SQRT CONFIRMATORY ISSUE 2

NSSS-2 HCU 0S-213-0643 HCU PIPING SUPPORT DETAILS

The piping support hanger had not yet been completed by construction when the walkdown occurred. This support (SP15Q3 on isometric 1-P-BF-249) is now complete and the line in question has been supported.

ATTACHMENT III

SQRT CONFIRMATORY ISSUE 4  
BOP-2 HVAC DAMPER - 1HD-9603B1

Construction installation has been completed for all four  
ITT damper actuation supports required by Design Change  
Package (DCP) - 299.

ATTACHMENT IV

SQRT CONFIRMATORY ISSUE 6  
NSSS-9 RPV LEVEL AND PRESSURE RACK; 106-026/H21-PO26

Construction installation of the SST tubing support has been completed.

ATTACHMENT V

SQRT GENERIC OPEN ISSUE 1  
NSSS-1 CORE SPRAY PUMP 1AP-206/E21-C001

This issue concerns the calculation of relative displacements using the response spectra method. This method was used by GE on two NSSS pumps, the RHR Pump (E11-C002) and Core Spray Pump (E21-C001).

In response to the Generic Open Issue, GE has recalculated relative displacements at the modal level for all significant modes, and then combined the results by absolute sum. These dynamic relative displacements were then added to the static relative displacements to obtain the total relative displacements.

The results of both the original calculations and the recalculations are presented in Table 1, attached. All displacement values, both original and recalculated, are well within allowables.

The detailed reanalysis are contained in GE DRF E12-00047-1 for the RHR Pump, and DRF E21-00029-1 for the CS Pump. These DRFs are available for audit.

TABLE 1

CALCULATION OF RELATIVE DISPLACEMENTS

FOR RHR AND CS PUMPS

RHR Pump:

	<u>Previously</u>		<u>After Reanalysis</u>	
	<u>Dynamic</u>	<u>Total</u>	<u>Dynamic</u>	<u>Total</u>
Displacement Between Impeller and Bowl (Allowable = 20.0)	8.276	8.282	11.038	11.044
Between Shaft and Mech Seal (Allowable = 51.0)	.6113	3.75	1.393	4.807

CS Pump:

Displacement Between Impeller and Bowl (Allowable = 9.5)	.0585	.4291	.0844	.4559
Between Shaft and Mech Seal (Allowable = 51.0)	.5630	3.044	.9994	3.575

Note: All dimensions are in mils.