PSE&G

Public Service Electric and Gas Company P.O. Box 236 Hancocks Bridge, New Jersey 08038-0236

Nuclear Business Unit

APR 11 2000

LR-N000016
LCR H99-11

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

**REQUEST FOR CHANGE TO TECHNICAL SPECFICATIONS
CHANGES TO RHR SYSTEM FLOW SURVEILLANCES IN
SUPPRESSION POOL COOLING AND SPRAY MODES
SUPPLEMENTAL INFORMATION
HOPE CREEK GENERATING STATION
FACILITY OPERATING LICENSE NPF-57
DOCKET NO. 50-354**

Gentlemen:

This letter provides supplemental information for Public Service Electric & Gas Company's (PSE&G's) License Change Request (LCR) application dated December 27, 1999 (PSE&G reference LCR H99-11). The LCR proposed revisions to the Residual Heat Removal (RHR) surveillance test acceptance criteria for the Suppression Pool Spray and Suppression Pool Cooling modes of RHR operation.

This supplement revises the proposed RHR flow rate acceptance criteria contained in LCR H99-11's marked-up Technical Specification (TS) pages in order to reflect recent changes to instrument uncertainty values calculated for those parameters. These changes resulted from an on-going programmatic review of instrument setpoint calculations. Specifically, the instrument uncertainty associated with the RHR Suppression Pool Cooling mode is now 160 gpm instead of 170 gpm and the instrument uncertainty associated with the RHR Suppression Pool Spray mode is 40 gpm instead of 20 gpm. A change to the Bases is also included to provide consistency with the change to the Specifications.

The revised TS marked-up pages do not introduce any new changes to the TS beyond the scope of the original mark-ups. PSE&G has concluded that the information contained in this letter and its attachment do not alter the conclusions reached in the 10CFR50.92 No Significant Hazards analysis previously submitted with LCR H99-11.

Should you have any questions regarding this request, please contact Mr. James Priest at 856-339-5434.

Sincerely,

M. B. Bezilla
Vice President - Operations

Affidavit
Attachment (1)

JPP

C Mr. H. Miller, Administrator - Region I
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REF: LR-N000016
LCR H99-11

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

M. B. Bezilla, being duly sworn according to law deposes and says:

I am Vice President - Operations of Public Service Electric and Gas Company, and as such, I find the matters set forth in the above referenced letter, concerning Hope Creek Generating Station, Unit 1, are true to the best of my knowledge, information and belief.

M B Bezilla

Subscribed and Sworn to before me
this 11th day of April, 2000

Jennifer M. Turner
Notary Public of New Jersey

My Commission expires on JENNIFER M. TURNER
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires July 25, 2000

REVISED MARKED-UP TECHNICAL SPECIFICATION PAGES

CONTAINMENT SYSTEMS

SUPPRESSION POOL SPRAY

LIMITING CONDITION FOR OPERATION

3.6.2.2 The suppression pool spray mode of the residual heat removal (RHR) system shall be OPERABLE with two independent loops, each loop consisting of:

a. One OPERABLE RHR pump, and

b. An OPERABLE flow path capable of recirculating water from the suppression chamber through an RHR heat exchanger and the suppression pool spray sparger.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3.

ACTION:

a. With one suppression pool spray loop inoperable, restore the inoperable loop to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

b. With both suppression pool spray loops inoperable, restore at least one loop to OPERABLE status within 8 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN* within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.2 The suppression pool spray mode of the RHR system shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve, manual, power operated or automatic, in the flow path that is not locked, sealed or otherwise secured in position, is in its correct position.

b. By verifying that each of the required RHR pumps develops a flow of at least ~~500~~ 540 gpm on recirculation flow through the RHR heat exchanger, ~~its associated closed bypass valve,~~ and suppression pool spray sparger when tested pursuant to Specification 4.0.5.

(after consideration of flow through the closed bypass valve)

*Whenever both RHR subsystems are inoperable, if unable to attain COLD SHUTDOWN as required by this ACTION, maintain reactor coolant temperature as low as practical by use of alternate heat removal methods.

CONTAINMENT SYSTEMS

SUPPRESSION POOL COOLING

LIMITING CONDITION FOR OPERATION

3.6.2.3 The suppression pool cooling mode of the residual heat removal (RHR) system shall be OPERABLE with two independent loops, each loop consisting of:

a. One OPERABLE RHR pump, and

b. An OPERABLE flow path capable of recirculating water from the suppression chamber through an RHR heat exchanger.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3.

ACTION:

a. With one suppression pool cooling loop inoperable, restore the inoperable loop to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

b. With both suppression pool cooling loops inoperable, be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN* within the next 24 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.3 The suppression pool cooling mode of the RHR system shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve, manual, power operated or automatic, in the flow path that is not locked, sealed or otherwise secured in position, is in its correct position.

b. By verifying that each of the required RHR pumps develops a flow of at least ~~10,000~~ 10,160 gpm on recirculation flow through the RHR heat exchanger, ~~its associated closed bypass valve,~~ and the suppression pool when tested pursuant to Specification 4.0.5.

(show consideration of flow through the closed bypass valve)

*Whenever both RHR subsystems are inoperable, if unable to attain COLD SHUTDOWN as required by this ACTION, maintain reactor coolant temperature as low as practical by use of alternate heat removal methods.

DEPRESSURIZATION SYSTEMS (Continued)

tested during the Humboldt Bay and Bodega Bay tests was 170°F and this is conservatively taken to be the limit for complete condensation of the reactor coolant, although condensation would occur for temperatures above 170°F.

Should it be necessary to make the suppression chamber inoperable, this shall only be done as specified in Specification 3.6.3.

The Hope Creek design contains a bypass line around each of the RHR heat exchangers. The line contains a valve that is used for adjusting flow through the heat exchanger. The valve is not designed to be a tight shut-off valve. With the bypass valve closed, a portion of the total flow travels through the bypass line, which can affect overall heat transfer, although no heat transfer performance requirement of the heat exchanger is intended by the Technical Specification RHR pump Surveillance Requirements.

One of the Surveillance Requirements for the Suppression Pool Cooling (SPC) and Suppression Pool Spray (SPS) modes of the RHR system demonstrate that each RHR pump develops the required flowrate while operating in the applicable mode with flow through the associated heat exchanger and its closed bypass valve. Verifying that each RHR pump develops the required flow rate, while operating in the applicable mode with flow through the heat exchanger ~~and its associated~~ closed bypass valve, ensures that pump performance has not degraded during the cycle. Flow is a normal test of centrifugal pump performance required by ASME Code, Section XI. This test confirms one point on the pump baseline curve and is indicative of overall performance. Such inservice inspections confirm component OPERABILITY, trend performance, and detect incipient failures by indicating abnormal performance.

(after consideration of flow through the)

INSERT A

Under full power operating conditions, blowdown from an initial suppression chamber water temperature of 95°F results in a water temperature of approximately 135°F immediately following blowdown which is below the 200°F used for complete condensation via mitered T-quencher devices. At this temperature and atmospheric pressure, the available NPSH exceeds that required by both the RHR and core spray pumps, thus there is no dependency on containment overpressure during the accident injection phase. If both RHR loops are used for containment cooling, there is no dependency on containment overpressure for post-LOCA operations.

Experimental data indicates that excessive steam condensing loads can be avoided if the peak local temperature of the suppression pool is maintained below 200°F during any period of relief valve operation. Specifications have been placed on the envelope of reactor operating conditions so that the reactor can be depressurized in a timely manner to avoid the regime of potentially high suppression chamber loadings.

INSERT A

To provide for consistent pump performance data, during the SPC surveillance test the RHR test return valve (HV-F024A(B)) is fully opened and an upper limit of 250 gpm for heat exchanger bypass valve leakage is established in the surveillance procedure acceptance criteria. By establishing a maximum 250 gpm leakage rate for the heat exchanger bypass valves and opening the test return valve fully, a constant system resistance is established for every pump test required by Surveillance Requirement 4.6.2.3.b. RHR pump degradation would then be more readily detectable if the total flow decreased between tests. In addition, instrument uncertainty is accounted for by applying a flow penalty of 160 gpm to the acceptance criteria in the SPC surveillance. Since the flow rate for this surveillance test is measured downstream of the combined RHR heat exchanger and heat exchanger bypass flow paths, the surveillance procedure acceptance criteria specifies a minimum RHR pump flow rate of 10,410 gpm. For SPS, the ability to provide the required flow is independent of the heat exchanger bypass valve leakage rates because the flow to the SPS header branches far downstream of the heat exchanger and represents only a small percentage (<5%) of the total flow. However, to account for instrument uncertainty, a flow margin of 40 gpm is applied to the acceptance criteria in the SPS surveillance.