Public Service
Electric and Gas
Company

E. C. Simpson
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LR-N98458
LCR H98-07

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

Gentlemen:

REQUEST FOR CHANGE TO TECHNICAL SPECIFICATIONS
CLASS-1E BATTERY SURVEILLANCE CHANGES
HOPE CREEK GENERATING STATION
FACILITY OPERATING LICENSE NPF-57
DOCKET NO. 50-354

In accordance with 10CFR50.90, Public Service Electric & Gas (PSE&G) Company hereby requests a revision to the Technical Specifications (TS) for the Hope Creek Generating Station (HC). In accordance with 10CFR50.91(b)(1), a copy of this submittal has been sent to the State of New Jersey.

Implementation of the proposed changes contained in this submittal will establish more appropriate minimum battery electrolyte temperature limits. The proposed changes have been evaluated in accordance with 10CFR50.91(a)(1), using the criteria in 10CFR50.92(c), and a determination has been made that this request involves no significant hazards considerations. The basis for the requested change is provided in Attachment 1 to this letter. A 10CFR50.92 evaluation, with a determination of no significant hazards consideration, is provided in Attachment 2. The marked up Technical Specification page affected by the proposed changes is provided in Attachment 3.

A001

Upon NRC approval of this proposed change, PSE&G requests that the amendment be made effective on the date of issuance, but allow an implementation period of sixty days to provide sufficient time for associated administrative activities. Should you have any questions regarding this request, please contact Mr. James Priest at 609-339-5434.

Sincerely,

E C Simpson

OCT 2 2 1998

Affidavit
Attachments (3)

C Mr. H. Miller, Administrator - Region I
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Mr. S. Pindale (X24)
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STATE OF NEW JERSEY)
) SS.
COUNTY OF SALEM)

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

I am Senior 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 Hope Creek Generating Station, Unit 1, are true to the best of my knowledge, information and belief.

E. C. Simpson

Subscribed and Sworn to before me
this 22nd day of October, 1998

Kimberly Jo Brown
Notary Public of New Jersey

My Commission expires on June 16, 2003

HOPE CREEK GENERATING STATION
FACILITY OPERATING LICENSE NPF-57
DOCKET NO. 50-354
REVISIONS TO THE TECHNICAL SPECIFICATIONS (TS)

BASIS FOR REQUESTED CHANGE:

Public Service Electric and Gas Company (PSE&G), under Facility Operating License No. NPF-57 for the Hope Creek Generating Station, requests that the TS contained in Appendix A to the Operating License be amended as proposed herein to revise TS Surveillance Requirement 4.8.2.1. The proposed changes increase the minimum battery electrolyte temperature, which assures battery capacity margins that are consistent with Hope Creek's licensing basis. The proposed changes to the TS Surveillance Requirements are indicated on the marked-up TS pages contained in Attachment 3 of this submittal.

REQUESTED CHANGE, PURPOSE AND BACKGROUND:

A description of the design and licensing basis of the Hope Creek Class-1E batteries is contained, in part, in UFSAR Section 8.3.2.1.2.2 and in the NRC Safety Evaluation for Hope Creek TS Amendment No. 87. These documents describe the Class-1E battery capacity margins, and specifically state that battery design margin is provided for load growth and/or less than optimum operating conditions of the battery.

Since the issuance of TS Amendment No. 87, Hope Creek Engineering personnel have determined that a discrepancy existed between electrolyte temperatures assumed in the Class-1E battery design calculations and the minimum allowable battery electrolyte temperature contained in TS 4.8.2.1.b.3. Specifically, Hope Creek TS Surveillance Requirement 4.8.2.1.b.3 specified that the average electrolyte temperature of each sixth battery cell of connected battery cells must be above 60°F, while the battery sizing calculations were completed using an electrolyte temperature of 77±5°F. Since the battery sizing calculations did not include a temperature correction factor, the minimum allowable TS electrolyte temperature must be increased to provide required battery capacity margins for less than optimum operating conditions. The changes proposed for TS Surveillance Requirement

4.8.2.1.b.3, which establish a 72°F minimum electrolyte temperature limit, incorporate this required correction.

JUSTIFICATION OF REQUESTED CHANGES:

As stated in Section 8.3.2 of the Hope Creek UFSAR, the six 125 Vdc and two 250 Vdc Class-1E batteries are designed with sufficient capacity to independently supply their required loads for four hours without support from battery chargers. This time interval is sufficient to ensure that the Class-1E instrument ac power supply is uninterrupted during a loss of offsite power, because the battery chargers will be re-energized from Class-1E 480 V motor control centers once the standby diesel generators are started.

Section 9.4.1.1.4 of the UFSAR states that the battery rooms served by the safety-related Control Equipment Room Supply (CERS) system are maintained at a temperature of 77°F ± 3°F. With safety-related battery room duct heaters, controlled by individual thermostats, CERS will meet the specified temperature and ventilation requirements during normal, shutdown and accident conditions without loss of function. Sufficient redundancy is provided in the Class-1E battery system and CERS designs to accommodate single failures as required by GDC 17.

Since the safety-related CERS has been designed to maintain the Class-1E battery rooms at a temperature above 74°F during postulated operational conditions, the establishment of a minimum battery electrolyte temperature of 72°F in TS 4.8.2.1 is appropriate and justified. Therefore, the current TS minimum electrolyte temperature of 60°F is overly restrictive since the required allocation of battery capacity margin to the temperature correction factor (approximately 11%) results in insufficient available battery margin for less than optimum operating conditions (reductions in battery electrolyte specific gravity levels). The design and operating limits of the CERS will ensure that the proposed TS minimum battery electrolyte temperature of 72°F will be met.

Use of 72°F battery electrolyte temperature in the battery sizing design calculations will reduce the temperature correction factor related capacity margin to approximately 3%. The proposed change will enable the remainder of the battery margin to be allocated

to future load growth and less than optimum operating conditions as recommended in IEEE 485-1978, "IEEE Recommended Practice for Sizing Large Lead Storage Batteries for Generating Stations and Substations." A minimum battery margin of 5% will be re-established for less than optimum operating conditions. This 5% minimum margin is consistent with the battery capacity margin originally provided in the Hope Creek licensing basis as stated in the NRC SER for Hope Creek TS Amendment No. 87, and is sufficient to accommodate any realistic and expected degradation in battery cell specific gravity parameters. The 25% battery capacity aging margin described in UFSAR Section 8.3.2.1.2.2 is not affected by these proposed changes.

PSE&G believes that the proposed changes ensure that the Class-1E battery system will be capable of performing its design basis safety functions. Implementation of Hope Creek's Class-1E battery surveillance tests will continue to ensure that the batteries will perform as designed.

CONCLUSION:

The proposed changes to the TS ensure that battery capacity margins are consistent with Hope Creek's licensing basis. No category A, B or C acceptance limits currently contained in TS Table 4.8.2.1-1 are being changed as a result of this submittal. PSE&G believes that proposed surveillance test changes contained in this submittal, along with the other current Class-1E battery TS surveillances are sufficient to adequately demonstrate Class-1E battery operability.

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10CFR50.92 EVALUATION

Public Service Electric & Gas (PSE&G) has concluded that the proposed changes to the Hope Creek Generating Station (HC) Technical Specifications do not involve a significant hazards consideration. In support of this determination, an evaluation of each of the three standards set forth in 10CFR50.92 is provided below.

REQUESTED CHANGE

The proposed changes increase the minimum battery electrolyte temperature limits, which ensure that required battery capacity margins are consistent with Hope Creek's current licensing basis.

BASIS

1. *The proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.*

The proposed TS change does not involve any physical changes to plant structures, systems or components (SSC). The Class-1E batteries will continue to function as designed. The Class-1E battery system is designed to mitigate the consequences of an accident, and therefore, can not contribute to the initiation of any accident. The proposed TS surveillance testing and monitoring requirements will continue to ensure that the Class-1E batteries are capable of performing their required safety functions. In addition, this proposed TS change will not increase the probability of occurrence of a malfunction of any plant equipment important to safety, since the manner is which the Class-1E battery system is operated is not affected by these proposed changes. The proposed changes merely establish TS surveillance acceptance criteria that more appropriately reflect the actual plant design. Therefore, the proposed TS changes would not result in an

increase of the consequences of an accident previously evaluated.

Therefore, the proposed TS change does not involve an increase in the probability or consequences of an accident previously evaluated.

2. *The proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.*

The proposed TS changes do not involve any physical changes to the design of plant systems, structures or components. The design and operation of the Class-1E battery system is not changed from that currently described in the UFSAR, only the allocation of battery capacity design margin is affected by the increased TS minimum battery electrolyte temperature limit. The Class-1E battery system will continue to function as designed to mitigate the consequences of an accident. Implementing new TS surveillance acceptance criteria that more appropriately reflect the actual plant design does not permit plant operation in a configuration that would create a different type of malfunction to the Class-1E batteries than any previously evaluated. In addition, the proposed TS changes do not alter the conclusions described in the UFSAR regarding the safety related functions of the Class-1E batteries or their support systems.

Therefore, the proposed TS change does not create the possibility of a new or different kind of accident from any previously evaluated.

3. *The proposed change does not involve a significant reduction in a margin of safety.*

The proposed TS change involves the implementation of new TS surveillance acceptance criteria that more appropriately reflect the actual plant design. The new TS minimum battery electrolyte temperature limit enables the Class-1E battery capacity margin to be allocated in a manner which conforms to Hope Creek's current licensing basis. The ability of the Class-1E batteries to independently supply their required loads for four hours without support from battery chargers is not affected by these proposed changes. The safety-related Class-1E support systems will ensure that the proposed TS minimum electrolyte temperature limit is met.

Therefore, the proposed TS change does not involve a significant reduction in a margin of safety.

CONCLUSION

Based on the above, PSE&G has determined that the proposed changes do not involve a significant hazards consideration.

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TECHNICAL SPECIFICATION PAGES WITH PROPOSED CHANGES

The following Technical Specifications for Facility Operating License No. NPF-57 are affected by this change request:

Technical Specification	Page
4.8.2.1.b.3	3/4 8-13