Public Service
Electric and Gas
Company

E. C. Simpson
Senior Vice President - Nuclear Engineering

Public Service Electric and Gas Company - P.O. Box 236, Hancocks Bridge, NJ 08038 609-339-1700

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LCR H97-02

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

REQUEST FOR CHANGE TO TECHNICAL SPECIFICATIONS
ULTIMATE HEAT SINK TEMPERATURE AND RIVER WATER LEVEL LIMITS
HOPE CREEK GENERATING STATION
FACILITY OPERATING LICENSE NPF-57
DOCKET NO. 50-354

Gentlemen:

In accordance with 10CFR50.90, Public Service Electric & Gas (PSE&G) Company hereby requests a revision to the Technical Specifications (TS) and the UFSAR 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.

The proposed revisions contained in this submittal resolve TS related issues documented in Hope Creek's Corrective Action Program. Implementation of these proposed changes will: 1) result in a more clearly defined licensing basis for the Hope Creek Ultimate Heat Sink (UHS) and supported systems; 2) improve the consistency between the TS requirements and the plant design basis; and 3) complete required corrective actions to resolve TS issues identified in the Corrective Action Program. Specifically, the proposed changes are being made to: 1) provide appropriate LCO and ACTION Statements for the UHS; 2) establish new limits for river water level and temperature to maintain UHS operability; and 3) provide appropriate links between UHS conditions and supported system LCOs.

NRC approval of these changes is requested prior to initiation of the next refueling outage to: 1) provide a suitable Technical Specification LCO that clarifies the UHS and supported systems design bases; and 2) permit the elimination of compensatory measures that have been implemented as a result of issues identified in this LCR to maintain UHS operability.

The proposed changes affect the following sections of the Hope Creek TS: 1) 3.7.1.1, "Safety Auxiliaries Cooling System (SACS)"; 2) 3.7.1.2, "Station Service Water System (SSWS)"; 3) 3.7.1.3, "Ultimate Heat Sink"; and 4) 3.8.1.1, "Electrical Power Systems". In addition, the Bases for 3/4.7.1, "Service Water

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Systems", are being revised with this submittal.

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 pages affected by the proposed changes are provided in Attachment 3.

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. In addition, implementation of these changes will require the replacement of one service water pump, which is scheduled to be completed in June, 1997. The performance of the new service water pumps was used to generate the results contained in this submittal.

Should you have any questions regarding this request, we will be pleased to discuss them with you.

Sincerely,

E. Simpson

Affidavit
Attachments (3)

MAY 19 1997

C Mr. H. Miller, Administrator - Region I
U. S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Mr. D. Jaffe, Licensing Project Manager - HC
U. S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Mail Stop 14E21
Rockville, MD 20852

Mr. R. Summers (X24)
USNRC Senior Resident Inspector - HC

Mr. K. Tosch, Manager IV
Bureau of Nuclear Engineering
33 Arctic Parkway
CN 415
Trenton, NJ 08625

REF: LR-N97261
LCR H97-02

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

E. C. Simpson, being duly sworn according to law depo~es 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 19th day of May, 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 _____

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

BASIS FOR REQUESTED CHANGE:

The changes proposed in this request: 1) result in a more clearly defined licensing basis for the Hope Creek Ultimate Heat Sink (UHS) and supported systems; 2) improve the consistency between the TS requirements and the plant design basis; and 3) complete required corrective actions to resolve TS issues identified in the Corrective Action Program. These changes are being made to: 1) provide appropriate LCO and ACTION Statements for the UHS; 2) establish new limits for river water level and temperature to maintain UHS operability; 3) provide appropriate links between UHS conditions and supported system LCOs; and 4) complete required corrective actions to resolve TS discrepancies identified in the Hope Creek Corrective Action Program.

REQUESTED CHANGE AND PURPOSE:

SSWS and SACS Changes

As shown in Attachment 3 of this letter, the ACTION Statements for LCOs 3.7.1.1 and 3.7.1.2 are being revised to include a specific reference to the operability of the UHS in LCO 3.7.1.3. These references are being made to: 1) ensure that the minimum complement of operable SSWS and SACS components is available to support continued plant operation during periods of high UHS river water temperatures; and 2) maintain the capability of the UHS to mitigate the consequences of design basis accidents when continued plant operation is permitted by the TS (either indefinitely or as specified in an ACTION Statement). In addition, the Action Statement for an inoperable SACS subsystem is being revised to provide more specific guidance for continued plant operation.

UHS Changes

As shown in Attachment 3 of this letter, the UHS LCO is being modified to incorporate: 1) a new minimum river water level; 2) a new river water temperature where specific ACTIONS are required; and 3) revised river water temperatures where increased

surveillance monitoring is required. In addition, the ACTION Statements for LCO 3.7.1.3 are being revised to incorporate specific limits on continued plant operation based on specific plant configurations. As will be discussed later, these revisions: 1) maximize plant operational capabilities during periods of elevated river water temperature; and 2) provide specific requirements for system operability such that a continued capability to mitigate the consequences of design basis accidents is ensured.

In addition, the Bases for 3/4.7.1, "Service Water Systems", are also being revised with this submittal. The changes indicated in Attachment 3 were required to make the TS Bases consistent with the proposed changes to the LCO and Surveillances for the UHS.

Electrical Power System Changes

As shown in Attachment 3 of this letter, the ACTION Statements for inoperable emergency diesel generators (EDGs) for LCO 3.8.1.1 are being revised to include a specific reference to the operability of the UHS in LCO 3.7.1.3. This reference is being made to ensure that the minimum complement of operable SSWS and SACS components supported by the EDGs is available to support continued plant operation during periods of elevated UHS river water temperatures.

BACKGROUND:

The current UHS river water temperature limit of 88.6°F was incorporated into the TS with the approval of TS Amendment No. 68 on April 15, 1994. The basis for the 88.6°F river water temperature limit, including the effects on plant components, was described in PSE&G's License Change Request (LCR) submittal, sent via letter NLR-N93039, dated April 23, 1993. That LCR was generated to resolve UHS river water temperature issues originally identified in LER 90-014-00, dated September 14, 1990.

On April 10, 1996, the preliminary results of a hydraulic calculation of the emergency SSWS flowpath were assessed by Engineering personnel. Specifically, the calculation for the total SSWS flow in the overboard discharge line was reviewed as a result of the inappropriate SSWS/SACS throttle valve settings discussed in LER 96-009-00, dated April 12, 1996. As a result of this review, Engineering concluded that the TS UHS river water temperature limit was non-conservative since design calculations did not appropriately analyze SSWS capabilities in post Safe

Shutdown Earthquake (SSE) scenarios. As a result of this conclusion, PSE&G: 1) implemented compensatory administrative controls to maintain UHS operability; and 2) transmitted LER 96-015-00 to the NRC on May 10, 1996 to report this finding.

One of the corrective actions described in LER 96-015-00 included a design review and configuration baseline documentation validation of the SSWS design basis. As a result of this review, and a similar review performed on SACS, Engineering identified additional deficiencies in the SSWS/SACS design basis that affected UHS river water level limits and further impacted UHS river water temperature limits. As a result, PSE&G: 1) accordingly revised and implemented compensatory administrative controls for river water temperature and level to maintain UHS operability; 2) limited SSWS/SACS operating configurations to maintain UHS operability; and 3) transmitted LER 96-022-00 to the NRC on September 16, 1996 to report these issues (as supplemented by LER 96-022-01, dated November 25, 1996 and LER 96-022-02, dated January 31, 1997).

PSE&G has continued to evaluate SSWS/SACS/UHS performance to: 1) ensure that these systems remain capable of performing their safety functions; 2) determine the plant configurations and limits to support operations during periods of elevated river water temperatures; and 3) provide suitable justification to revise the Hope Creek licensing documents. To date, these evaluations include: 1) benchmarking of system flowpath sections; 2) revisions to SSWS/SACS operating configurations to optimize plant operation and SSWS/SACS capabilities; 3) reviews of post-accident and post-transient heat loads analyses; and 4) refined thermal/hydraulic analyses of SSWS and SACS.

These evaluations have resulted in the new UHS river water temperature and level limits contained in this submittal. The UHS river water temperature limits ensure that the required heat loads can be removed for postulated combinations of external events and plant accidents or transients. The table on the following page illustrates the combination of events and corresponding UHS river water temperature limits that could occur at Hope Creek.

PLANT SCENARIO	UHS TEMP LIMIT	COMMENTS
1. Normal Plant Shutdown	>88.1°F	Postulated to occur at anytime to comply with Tech Specs. Normal shutdown can be accommodated with river water level down to 76'. Temperature for normal standby conditions with single active failure.
2. Loss of Offsite Power (LOP)	88.1°F	Temperature assumes availability of normal SSWS discharge pathway and no cross-connected SACS loads. Temperature limit is reduced to 87.2°F to support Tech Spec permitted configurations.
3. Loss of Coolant Accident (LOCA)	88.2°F	Temperature assumes availability of normal SSWS discharge pathway and no cross-connected SACS loads. Temperature limit is reduced to 86.1°F to support Tech Spec permitted configurations.
4. LOP with SSE or high wind event causing the cooling tower to collapse with rubble blocking normal SSWS discharge pathway.	87.0°F	Temperature assumes no cross-connected SACS loads. Temperature limit is reduced to 86.0°F to support Tech Spec permitted configurations.
5. LOCA, LOP, SSE or high wind event causing the cooling tower to collapse with rubble blocking normal SSWS discharge pathway, low river water conditions and degraded SSWS/SACS operation (worst case IST limits, design basis tube plugging and heat exchanger fouling).	87.0°F	Hope Creek design basis for proposed UHS Tech Spec temperature limit in this submittal. Limit is reduced to 85.0°F to support Tech Spec permitted configurations. UHS temperature requires proceduralized operator actions to accommodate this event.

JUSTIFICATION OF REQUESTED CHANGES:

The proposed changes to the UHS, SSWS and SACS TS are being made to optimize plant operations during periods of elevated river water temperature. To justify these proposed TS changes, Hope Creek has: 1) performed refined thermal/hydraulic analyses of SSWS/SACS; 2) developed appropriate controls to establish plant configuration and maximize SSWS/SACS capabilities; and 3) developed procedural requirements for operator actions which maximize SSWS/SACS capabilities. In addition, river water level changes and surveillance changes were required to support these changes. Each one of these areas is discussed separately below:

SSWS/SACS Thermal/hydraulic Analyses

In an effort to accurately predict the SSWS/SACS system flow rates, hydraulic models have been developed and benchmarked against actual plant configurations for the SSWS and SACS systems. The SSWS model was benchmarked against the actual plant configuration using test data obtained during the last refueling outage and the SACS model was benchmarked using start-up test data. After the models were generated and benchmarked, both were used to simulate worse-case accident alignments so that accurate system flow rates could be calculated.

The hydraulic analyses for SSWS assumed the maximum allowable degradation of the SSWS pumps, strainers, and SSWS/SACS heat exchangers so that the flow rates and heat transferred are minimized. The SSWS minimum flow design conditions for design basis accident scenarios are defined as follows: 1) a minimum river water level of 80'; 2) flow is through the emergency overboard discharge pathway; 3) all SSWS pumps are operating at their minimum IST performance; 4) the SSWS strainers are 75% clogged; and 5) the SSWS/SACS heat exchangers are fouled in accordance with design basis conditions.

The thermal/hydraulic analyses for the SACS system maximized heat loads and system flow rates, both of which are conservative with respect to maintaining the SACS system at its maximum design temperature of 95°F. The SSWS/SACS thermal/hydraulic analyses evaluated the performance of the SSWS/SACS relative to UHS temperature limit for the worst case TS permitted operating configurations (as discussed in the following sections). For each case, the SACS header temperature was held constant at the design limit of 95°F and the required UHS temperature was determined for the SSWS flow rates from the SSWS hydraulic analysis.

Since UHS temperature is the parameter of concern, the sensitivity of UHS temperature due to variations in each uncertainty parameter (i.e., flow, temperature and heat loads) was established. The impacts of variation of each uncertainty parameter are combined using the square-root-sum-of-the-squares (SRSS) method to arrive at the overall UHS temperature limit uncertainty. This uncertainty, calculated at approximately 1.3 degrees was applied (subtracted from the calculated UHS temperature limits, resulting in the limits specified in the LCO) to the final UHS limits contained in this submittal.

SSWS/SACS Configuration Controls

In order to maintain the capability of UHS to mitigate the consequences of design basis accidents and transients, Hope Creek has implemented compensatory measures which: 1) limit SSWS/SACS operating configurations during periods of elevated river water temperature; and 2) place additional restrictions on plant operations. As described in the following paragraphs, these controls are being incorporated into the TS ACTION Statements as indicated in Attachment 3.

At 85°F, the first action to maintain continued plant operation is required. This action is contained in the proposed UHS LCO ACTION Statement and is also controlled by the references being incorporated in LCOs 3.7.1.1, 3.7.1.2 and 3.8.1.1. Specifically, indefinite plant operation with any EDG, SSWS or SACS pump inoperable is not permitted with river water temperatures in excess of this temperature limit and a Technical Specification shutdown ACTION Statement will be entered. In this configuration, adequate heat removal is assured under design basis conditions (including postulated single failures in accordance with the licensing basis) with river water temperatures up to 87°F. Except as noted in the TS, there are no restrictions on SSWS/SACS or EDG allowed outage times (AOTs) below 85°F.

At 85°F, additional actions to maintain UHS operability are imposed. These actions include: 1) opening valves EA-HV-2356A&B in the emergency overboard discharge lines and opening their respective breakers (to prevent inadvertent closure of the associated motor operated valves); 2) ensuring that the SSWS header outlet isolation valves EA-HV-2357A&B are open and opening their respective breakers (to prevent inadvertent closure of the associated motor operated valves); and 3) ensuring that the SSWS outlet header manual isolation valves EA-V612 and EA-V624 (see UFSAR Figure 9.2-3) are open. By taking these actions, a seismically qualified flowpath is ensured for all postulated design basis scenarios. Both overboard discharge line valves are required to be open to provide sufficient flow through the SSWS/SACS heat exchangers to remove design basis heat loads required for the UHS temperatures specified in the UHS LCO and ACTION Statements. SSWS flow through this pathway would only occur if blockage of the non-seismic cooling tower discharge were to occur. Below 85°F, sufficient flow is assured through only one of the safety related emergency overboard discharge lines.

The actions described in the previous paragraph will be incorporated into SSWS abnormal procedure HC.OP-AB.ZZ-0122(Q), "Service Water System Malfunction" (or other similar procedure) and will be initiated such that they are completed prior to exceeding the 85°F TS LCO limit. These actions address the issues raised in LER 96-015-00 concerning loss of the normal SSWS discharge pathway to the cooling tower. The normal SSWS discharge path to the cooling tower is no longer credited in the UHS temperature analyses to mitigate the consequences of design basis accidents or transients.

Operator Actions

The Hope Creek SSWS/SACS was designed, in part, to comply with the requirements of 10CFR50, Appendix A, Criterion 44. This General Design Criterion requires these systems to transfer heat from structures, systems and components important to safety to an ultimate heat sink. The systems' safety function shall be to transfer the total heat load of these components under both normal operating and emergency conditions. Suitable redundancy in components and features shall be provided to assure that the systems' safety function can be accomplished assuming a single failure. The design basis of SSWS/SACS satisfies this criterion; however, as described in the following paragraphs, limited operator actions are required to maintain SSWS/SACS capability to mitigate design basis accidents or to support continued plant operation during periods of elevated river water temperature. These actions do not alter the current design and licensing basis for Hope Creek, but are being described in detail to provide a clear basis for the method used to determine the UHS temperature limits proposed in this submittal.

Specifically, limited operator actions are required to: 1) mitigate the consequences of a loss-of-offsite power (LOP) and/or Loss-of-Coolant-Accident (LOCA) with elevated river water temperatures; 2) accommodate passive failures in SSWS/SACS; or 3) accommodate multiple active failures in SSWS/SACS. These actions will be incorporated into abnormal operating procedures HC.OP-AB.ZZ-0122(Q), Service Water System Malfunction, and HC.OP-AB.ZZ-0124(Q), Safety Auxiliaries Cooling System Malfunction.

In cases where SSWS/SACS temperatures can not be maintained under conditions where river water temperature is in excess

of 82°F and a LOP and/or LOCA occurs, the SSWS abnormal operating procedure will direct that operators isolate SACS flow to the fuel pool heat exchangers for up to 24 hours, isolate SSWS flow to one Reactor Auxiliaries Cooling System (RACS) (see UFSAR Figure 9.2-3) heat exchanger and throttle SSWS flow to the remaining RACS heat exchanger. The actions associated with isolating/throttling SSWS flow to the RACS heat exchangers are not necessary under LOCA conditions since the SSWS flow to those components is automatically isolated. These actions are required to maximize SSWS/SACS heat removal capabilities in post LOP and/or LOCA conditions during periods of elevated river water temperatures.

The SSWS abnormal operating procedure also addresses a condition where a LOP and/or LOCA occurs coincident with: 1) an event which results in blockage of the normal flow path to the cooling tower; 2) the emergency overboard discharge valves are open (as discussed in the previous section); and 3) SACS heat exchanger outlet temperatures can not be maintained below 95°F. In this situation, the procedure directs the operators to: 1) isolate the SSWS outlet from one of the SSWS/SACS heat exchangers in the SSWS/SACS loop not servicing residual heat removal (RHR) decay heat loads if all four SSWS pumps are running; or 2) when only 2 SSWS pumps are operating in one loop and one SSWS pump is operating in the other, ensure that the SSWS outlet from one of the SSWS/SACS heat exchangers in the loop with only one SSWS pump in service not servicing RHR decay heat loads is closed. These actions are necessary under these conditions to ensure sufficient flow to the SSWS/SACS heat exchangers such that heat removal requirements are satisfied for the proposed UHS river water temperature limits.

For operations with degraded SSWS/SACS configurations (i.e., one pump in each loop is inoperable or one loop is inoperable) the SACS abnormal operating procedures, in conjunction with TS ACTIONS, provide appropriate guidance for the following: continued plant operation; shutdown requirements (including time limits) and post accident or anticipated transients. In these situations, operator actions are required to ensure that SSWS/SACS can remove required heat loads. The basis for the ability of SSWS/SACS to accommodate single failures (active or passive) or multiple active failures is described in the following paragraphs.

For single active component failures in SSWS/SACS, post accident and transient heat loads can be removed (with operator actions as described above) for all UHS river water temperature limits specified in this submittal. Continued plant operation is then governed by limits imposed by the TS ACTION Statements associated with the degraded system. Footnotes are provided in the SSWS/SACS TS to control component operability (SSWS pumps, SACS pumps and diesel generators) such that the SSWS/SACS systems can mitigate the consequences of design basis accidents during the period of continued plant operation specified in the TS ACTION Statement. While in the TS ACTION Statement for SSWS or SACS, a design basis accident can be accommodated as long as continued plant operation is permitted (under the proposed LCO 3.7.1.3), but no additional failures in the SSWS or SACS (or its support or supported systems) are assumed to occur.

For single passive component failures (or cases where a second SSWS or SACS pump fails in the same loop), where loss of function occurs in a loop of either the SSWS or SACS, continued plant operation is not permitted (initially) and a TS shutdown ACTION Statement (required by Technical Specification 3.0.3) is entered due to the resultant inoperability of the SACS supported TS equipment (i.e., FRVS recirculation units). However, to provide a suitable ACTION Statement that addresses the impact of the inoperable SACS subsystem and preclude the required entry into Technical Specification 3.0.3, the ACTION Statement for one inoperable SACS subsystem will be modified to acknowledge the inoperability of the SACS supported equipment under these conditions and will require entry into HOT SHUTDOWN within 12 hours of the loss of the single SACS subsystem (until actions are taken to restore SACS supported equipment operability such that continued operation for a period of up to 72 hours can be supported). The proposed ACTION Statement provides a sufficiently conservative six hour period of time to restore operability to the SACS supported loads on the inoperable SACS subsystem. These actions will be required during all conditions where the UHS is required to be operable and where continued operation is permitted with one inoperable SACS subsystem.

The SACS abnormal procedure and the procedure HC.OP-SO.EG-0001(Q), "Safety and Turbine Auxiliaries Cooling Water System Operation," will provide specific guidance on realigning affected SACS supported loads to restore

operability to that equipment and for isolating excess ECCS room cooler loads to limit flow in the operable SACS loop. Once these actions are taken, plant operation may continue for up to 72 hours (as permitted by the SSWS or SACS ACTION Statement and LCO 3.7.1.3) in this condition so that any necessary repairs to the inoperable SSWS/SACS can take place.

While the plant is in a TS shutdown ACTION Statement (due to system degradation which results in the loss of a system's capability to mitigate the consequences of an accident), design basis accidents are not assumed to occur due to the conservatively short time period it takes to place the plant in a safe shutdown condition. For Hope Creek, loss of a SSWS or SACS loop (either due to a passive failure or loss of a second pump in one loop) results in an entry into a TS shutdown ACTION Statement. Once operator actions are taken to enable the station to continue operation for the 72 hour period permitted by the SSWS or SACS LCO ACTION Statement, design basis accidents can be mitigated, but no additional failures in the SSWS or SACS (or its support or supported systems) are assumed to occur. For passive failures that occur after a design basis accident or transient, the design of the SSWS/SACS assumes that the passive failure occurs 24 hours after the initiating event assuming no prior active failures in these systems (as described in ANSI/ANS 58.9-1981, "Single Failure Criteria for Light Water Reactor Safety-Related Fluid Systems").

For multiple active component failures in SSWS or SACS (i.e., one pump in each SACS or SSWS loop is inoperable), the SSWS and SACS TS LCO provide guidance concerning continued plant operation (NOTE: plant operation with only one SACS pump per loop is not normally conducted since Turbine Auxiliaries loads may not be supported). The SACS abnormal operating procedure provides guidance for mitigating the consequences of design basis accidents and transients in these configurations. Specifically, guidance is provided to mitigate elevated SACS temperature in both loops by: 1) monitoring diesel generator operating temperatures and throttling SACS flows accordingly; 2) ensuring that the SSWS/SACS heat exchanger bypass valves are closed; 3) ensuring proper alignment of SSWS/SACS heat exchanger inlet and outlet valves; 4) maximizing SACS flow to the heat exchangers by opening valves EG-HV-2491A&B or maximizing SSWS flow to the heat exchangers by opening valves EA-HV-2355A&B and EA-HV-2371A&B; and 5) reducing

loads on the SACS loops (including RACS) to ensure adequate cooling of plant systems and components. Footnotes are provided in the SSWS/SACS TS to control component operability (SSWS pumps, SACS pumps and diesel generators) such that the SSWS/SACS systems can mitigate the consequences of design basis accidents during the period of continued plant operation specified in the TS ACTION Statement. While in the TS ACTION Statement for SSWS or SACS, a design basis accident can be accommodated (as long as continued plant operation is permitted under the proposed LCO 3.7.1.3), but no additional failures in the SSWS or SACS (or its support or supported systems) are assumed to occur.

The proposed revisions to TS LCOs 3.7.1.1 and 3.7.1.2 provide an appropriate link to the operability of the UHS as specified in LCO 3.7.1.3. Plant operation in accordance with the proposed provisions of TS LCOs 3.7.1.1, 3.7.1.2 and 3.7.1.3, ensures that: 1) design basis accidents and transients can be mitigated for the proposed UHS river water temperature limits; and 2) continued plant operation with degraded SSWS or SACS systems is conservatively and appropriately limited during periods of elevated river water temperatures.

River Water Level Changes

As described in LER 96-022-02, a new UHS river water level limit was implemented to provide for adequate SSWS pump submergence. The proposed UHS river water level limit contained in this submittal is 80 feet (PSE&G datum). At this river water level, design basis accidents and transients can be mitigated for the proposed UHS river water temperature limits and corresponding allowable plant configurations. The 76 foot UHS river water level limit currently in the TS was derived from calculations of minimum river water level due to a postulated large radius stationary probable maximum hurricane.

Incorporation of the 80 foot UHS river water level limit would require that a TS ACTION Statement be entered to place the plant in a safe shutdown condition during degraded river water level conditions. Since a normal plant shutdown can be accommodated (with the proposed UHS river water temperature limits and corresponding allowable plant configurations) with any river water level from 80 feet down to the worst case calculated 76 feet, the proposed changes do not reduce the capability of UHS to

place and maintain the plant in a safe shutdown condition following a normal shutdown. While the station is in a TS shutdown ACTION Statement due to degraded UHS river water level conditions, design basis accidents and transients are not assumed to occur due to the conservatively short time period it takes to place the plant in a safe shutdown condition.

River Water Temperature Surveillances

In order to accommodate the lower UHS temperature limits proposed in this submittal, Surveillance Requirements 4.7.1.3.b.1 and 4.7.1.3.b.2 are being revised to require increased river water temperature monitoring when river temperature reaches 82°F. PSE&G believes that increased monitoring of the river water temperature at 82°F adequately ensures that the actions required when river temperatures exceed 85°F are taken as appropriate.

CONCLUSIONS:

The changes proposed in this request are being made to resolve compliance related issues involving Hope Creek's licensing basis. PSE&G concludes that these proposed changes are adequately justified and result in No Significant Hazards Consideration as described in Attachment 2 of this letter.

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

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 affect the following sections of the Hope Creek TS: 1) 3.7.1.1, "Safety Auxiliaries Cooling System (SACS)"; 2) 3.7.1.2, "Station Service Water System (SSWS)"; 3) 3.7.1.3, "Ultimate Heat Sink"; and 4) 3.8.1.1, "Electrical Power Systems." In addition, the Bases for 3/4.7.1, "Service Water Systems", are also being revised with this submittal. Specifically, these changes are being made to: 1) provide appropriate LCO and ACTION Statements for the Ultimate Heat Sink (UHS); 2) establish new limits for river water level and temperature to maintain UHS operability; and 3) provide appropriate links between UHS conditions and supported system LCOs.

BASIS

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

The proposed TS revisions related to SSWS/SACS and the emergency diesel generators (EDGs) involve no hardware changes and no changes to existing structures, systems or components. The additional system configuration limits and changes to the operation of SSWS/SACS/EDGs are being made to ensure that SSWS/SACS can remove required heat loads during design basis accidents and transients with the proposed UHS river water temperature and level limits. The link to the UHS LCO in the proposed SSWS/SACS/EDG TS ACTION Statements and the proposed revisions to the SACS ACTION Statement for one inoperable SACS subsystem ensure that the plant is directed to enter a safe shutdown condition whenever the capability to mitigate design basis accidents

and transients is lost. Since the SSWS/SACS/EDGs will still remain capable of meeting all applicable design basis requirements and retaining the capability to mitigate the consequences of accidents described in the HC UFSAR, the proposed changes were determined to be justified. As a result, these changes will not increase the probability of an accident previously evaluated nor significantly increase in the consequences of an accident previously evaluated.

The proposed TS revisions related to UHS involve no hardware changes and no changes to existing structures, systems or components. The additional system configuration limits and changes to the operation of UHS supported systems are being made to ensure that the UHS can remove required heat loads during design basis accidents and transients with the proposed UHS river water temperature and level limits. The proposed UHS TS ACTION Statements ensure that the plant is directed to enter a safe shutdown condition whenever the capability to mitigate design basis accidents and transients is lost. The proposed changes to the UHS TS surveillance requirements to increase monitoring of the river water temperature at 82°F adequately ensures that the actions required when river temperatures exceed 85°F are taken as appropriate. Since the UHS will still remain capable of meeting all applicable design basis requirements and retaining the capability to mitigate the consequences of accidents described in the HC UFSAR, the proposed changes were determined to be justified. As a result, these changes will not increase the probability of an accident previously evaluated nor significantly increase in the consequences of an accident previously evaluated.

With the approval of the proposed changes to the SSWS/SACS/EDG/UHS TS, the proposed TS Bases changes are considered to be editorial in nature. As a result, the proposed Bases changes will not increase the probability of an accident previously evaluated nor significantly increase in the 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 changes to the SSWS/SACS/EDG TS contained in this submittal will not adversely impact the operation of any safety related component or equipment. Since the proposed changes involve no hardware changes and no changes to existing structures, systems or components, there can be

no impact on the potential occurrence of any accident due to new equipment failure modes. The additional system configuration limits and changes to the operation of SSWS /SACS/EDGs imposed by the proposed changes ensure that SSWS/SACS and the UHS can remove required heat loads during design basis accidents and transients with the proposed UHS river water temperature and level limits. Furthermore, there is no change in plant testing proposed in this change request which could initiate an event. Therefore, these changes will not create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed changes to the UHS TS contained in this submittal will not adversely impact the operation of any safety related component or equipment. Since the proposed changes involve no hardware changes and no changes to existing structures, systems or components, there can be no impact on the potential occurrence of any accident due to new equipment failure modes. The additional system configuration limits imposed by the proposed UHS LCO ensure that supported systems can remove required heat loads during design basis accidents and transients with the proposed UHS river water temperature and level limits. Furthermore, there is no change in plant testing proposed in this change request which could initiate an event. The proposed changes to the UHS TS surveillance requirements to increase monitoring of the river water temperature at 82°F adequately ensures that the actions required when river temperatures exceed 85°F are taken as appropriate. Therefore, these changes will not create the possibility of a new or different kind of accident from any accident previously evaluated.

With the approval of the proposed changes to the SSWS/SACS/EDG UHS TS, the proposed TS Bases changes are considered to be editorial in nature. As a result, the proposed Bases changes will not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

The proposed changes for the TS related to the SSWS/SACS/EDGs establish consistent and appropriate requirements for SSWS/SACS/EDG and UHS operability requirements. The additional system configuration limits

and changes to the operation of SSWS/SACS/EDG are being made to ensure that SSWS/SACS can remove required heat loads during design basis accidents and transients with the proposed UHS river water temperature and level limits. The link to the UHS LCO in the proposed SSWS/SACS/EDG TS ACTION Statements and the revision to the SACS ACTION Statement for one inoperable SACS subsystem ensure that the plant is directed to: 1) enter a safe shutdown condition whenever the capability to mitigate design basis accidents and transients is lost; or 2) enter a conservatively short period of continued operation when system redundancy is reduced. Since the SSWS/SACS/EDG will still remain capable of meeting all applicable design basis requirements and retaining the capability to mitigate the consequences of accidents described in the HC UFSAR, the proposed changes contained in this submittal were determined to not result in a significant reduction in a margin of safety.

The proposed changes for the TS related to the UHS ensure continued capability of the UHS to mitigate the consequences of design basis accidents and transients. The additional SSWS/SACS configuration limits and changes to the operating limits of the UHS ensure that the UHS can remove required heat loads during design basis accidents and transients with the proposed river water temperature and level limits. The proposed UHS TS ACTION Statements ensure that the plant is directed to: 1) enter a safe shutdown condition whenever the capability to mitigate design basis accidents and transients is lost; or 2) enter a conservatively short period of continued operation when supported system redundancy is reduced. Since the UHS will still remain capable of meeting all applicable design basis requirements and retaining the capability to mitigate the consequences of accidents described in the HC UFSAR, the proposed changes contained were determined to not result in a significant reduction in a margin of safety.

With the approval of the proposed changes to the SSWS/SACS/UHS TS, the proposed TS Bases changes are considered to be editorial in nature. As a result, the proposed bases changes will not result in 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.

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

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
3.7.1.1	3/4 7-1 & 3/4 7-2
3.7.1.2	3/4 7-3
3.7.1.3	3/4 7-5
3.8.1.1	3/4 8-1 & 3/4 8-2
Bases 3/4.7.1	B 3/4 7-1