

## PHILADELPHIA ELECTRIC COMPANY

NUCLEAR GROUP HEADQUARTERS

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August 11, 1992

Docket Nos. 50-352  
50-353  
License Nos. NPF-39  
NPF-85

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555

SUBJECT: Limerick Generating Station, Units 1 and 2  
Technical Specifications Change Request

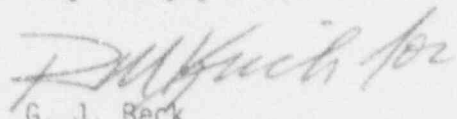
Gentlemen:

Philadelphia Electric Company is submitting Technical Specifications Change Request (TSCR) No. 92-09-0, in accordance with 10 CFR 50.90, requesting an amendment to the Technical Specifications (TS) (Appendix A) of Operating License Nos. NPF-39 and NPF-85. Information supporting this Change Request is contained in Attachment 1 to this letter, and the proposed TS replacement pages are contained in Attachment 2.

This submittal requests changes to TS Surveillance Requirement 4.6.2.3.b to remove the current ambiguity in the wording and to clarify the fact that the intent of this surveillance requirement is to confirm Residual Heat Removal (RHR) pump performance in the suppression pool cooling (SPC) mode of operation.

If you have any questions regarding this matter, please contact us.

Very truly yours,



G. J. Beck  
Manager, Licensing  
Nuclear Services Department

## Attachments

cc: T. T. Martin, Administrator, Region I, USNRC, w/attachments  
T. J. Kenny, USNRC Senior Resident Inspector, LGS, w/attachments  
W. P. Dornsife, Director, PA Bureau of Radiological Protection, w/att.

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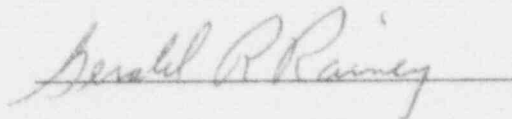
COMMONWEALTH OF PENNSYLVANIA :

: SS.

COUNTY OF CHESTER :

G. R. Rainey, being first duly sworn, deposes and says:

That he is Vice President of Philadelphia Electric Company; the Applicant herein; that he has read the foregoing Application for Amendment of Facility Operating License Nos. NPF-39 and NPF-85 (Technical Specifications Change Request No. 92-09-0) to clarify the surveillance requirement for the Suppression Pool Cooling (SPC) mode of the Residual Heat Removal (RHR) system and knows the contents thereof; and that the statements and matters set forth therein are true and correct to the best of his knowledge, information and belief.

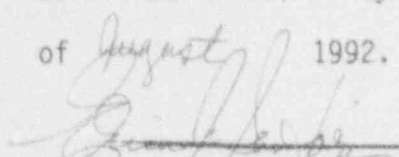


Vice President

Subscribed and sworn to

before me this 11<sup>th</sup> day

of August 1992.



Notary Public  
Eric A. Santori, Notary Public  
Third District, Chester County  
My Commission Expires July 10, 1995

ATTACHMENT 1

LIMERICK GENERATING STATION  
Units 1 and 2

Docket Nos. 50-352  
50-353

License Nos. NPF-39  
NPF-85

TECHNICAL SPECIFICATIONS CHANGE REQUEST

No. 92-09-0

"Proposed Changes to the Technical Specifications to Clarify  
the Surveillance Requirement for the Suppression Pool  
Cooling (SPC) Mode of the Residual Heat Removal (RHR) System"

Supporting Information for Changes - 5 pages

Philadelphia Electric Company (PECo), Licensee under Facility Operating License Nos. NPF-39 and NPF-85 for Limerick Generating Station (LGS), Units 1 and 2, requests that the Technical Specifications (TS) contained in Appendix A to the Operating Licenses be amended as proposed herein to clarify the flow surveillance requirement for the suppression pool cooling (SPC) mode of the Residual Heat Removal (RHR) system. The proposed changes to the TS are indicated by the vertical bars in the margin of the TS page 3/4 6-16. The proposed changes to the basis of TS 3/4.6.2 are indicated by the vertical bars in the margin of the TS-Bases pages B 3/4 6-3 and B 3/4 6-3a. All TS and TS-Bases pages are contained in Attachment 2.

We request the changes proposed herein to be effective within 14 days after issuance, in order to clarify that TS Surveillance Requirement (SR) 4.6.2.3.b is intended to confirm RHR pump performance while operating in the SPC mode and is not to confirm the heat transfer capability of the RHR heat exchanger.

This change request provides a discussion and description of the proposed TS changes, a safety assessment of the proposed TS changes, information supporting a finding of No Significant Hazards Consideration, and information supporting an Environmental Assessment.

#### Discussion and Description of the Proposed Changes

The RHR system has five modes of operation at LGS. When aligned in the Low Pressure Coolant Injection (LPCI) mode of operation, the RHR pump recirculates the suppression pool water directly to the reactor vessel via the RHR heat exchanger bypass line, without going through the RHR heat exchanger. When the RHR system operates in the SPC mode, the suppression pool water is pumped from the pool through the flow path including the shell-side of RHR heat exchanger and its associated closed bypass valve and returned to the suppression pool. The heat is transferred to the RHR service water (RHRSWS) which flows through the tube-side of the RHR heat exchanger. The RHR heat exchanger associated bypass valve is closed in the SPC mode of operation.

TS SR 4.6.2.3.b currently states that the SPC mode of RHR shall be demonstrated to be operable, "By verifying that each of the required RHR pumps develops a flow of at least 10,000 GPM on recirculation flow through the RHR heat exchanger, the suppression pool, and the full flow test line when tested pursuant to Specification 4.0.5." TS Section 4.0.5 invokes the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (B&PV) Code, Section XI In-Service Testing (IST) of pumps and valves, indicating that the intent of this SR is to confirm the performance of the RHR pumps when aligned in the SPC flowpath. Pump performance is therefore one of the parameters surveilled in order to determine operability of the SPC mode of the RHR System. The proposed change to the TS SR will result in clarification that the purpose of this SR is to confirm pump performance when aligned in the SPC mode of operation, and not to confirm the heat removal function of the SPC mode of operation. Accordingly, we propose to change TS 4.6.2.3.b as follows.



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

Our conclusion that purpose of the current TS SR is to confirm RHR pump performance is supported by the draft improved Standard TS (STS). The Basis for the corresponding SR in NUREG-1433, "Standard Technical Specifications General Electric Plants BWR/4," Draft Report for Comment dated January 1991, TS Section 3.6.2.3.2, states that periodically demonstrating the required flow, ". . . while operating in the SPC mode with flow through the heat exchanger ensures that pump performance has not degraded during the cycle. . ." (emphasis added). This draft STS Basis also states that, ". . . Flow is a normal test of centrifugal pump performance required by Section XI of the ASME Code. . .," and that, ". . . this test confirms one point on the pump design curve, and is indicative of overall performance. . . ." The intent of this SR is clear from these statements that the requirement to develop the specified flow when aligned to the SPC mode of operation is a verification of pump performance, and viability of the SPC flowpath to verify that the specified flow can be recirculated by the RHR pumps to the suppression pool.

The RHR heat exchanger bypass valve is used for adjusting flow through the RHR heat exchanger, and is not designed to be a tight shut-off valve. With the bypass valve closed, a portion of the total RHR pump flow still travels through the bypass, which can affect overall heat transfer. However, the current TS SR is not intended to confirm the heat transfer performance of the RHR heat exchanger since there is no corresponding RHRSW System flow SR in TS Section 4.7.1. Therefore, verifying a specific RHR pump flowrate through the RHR heat exchanger does not demonstrate heat removal capability in the absence of a corresponding requirement to verify RHRSW System flow through the tube-side of the RHR heat exchanger. Heat transfer testing of the RHR heat exchangers is, however, periodically performed ". . . to assure the operability of the system as a whole, . . . and the operation of the associated cooling water system" as required by 10CFR50, Appendix A, General Design Criterion (GDC) 40, "Testing of containment heat removal system." This testing is performed in accordance with our response to NRC Generic Letter 89-13, "Service Water System Problems Affecting Safety-Related Equipment," submitted to the NRC by letter dated January 29, 1990, in order to meet the requirements of 10CFR50, Appendix A, GDC 46, "Testing of cooling water system."

The proposed changes include a revision to the Bases for TS Section 4.6.2, by adding the applicable parts of the Bases from the corresponding section of the draft improved STS. This proposed change to the Bases will serve to clarify the purpose of TS SR 4.6.2.3.b.

### Safety Assessment

TS SR 4.6.2.3.b currently states that the suppression pool cooling (SPC) mode of RHR operation shall be demonstrated to be operable, "By verifying that each of the required RHR pumps develops a flow of at least 10,000 GPM on recirculation flow through the RHR heat exchanger, the suppression pool, and the full flow test line when tested pursuant to Specification 4.0.5"

Since the TS Bases for this surveillance requirement did not address the LGS design which includes an RHR heat exchanger bypass valve, this proposed change provides clarification of this TS SR. As explained below, we have concluded that the purpose of this TS SR is to confirm the RHR pump performance while operating in the SPC mode, pursuant to the IST requirement of TS Section 4.0.5. Specifically, the purpose of this TS SR is to confirm that each RHR pump develops a flow rate of 10,000 gpm through the most restrictive flow path. This includes the RHR heat exchanger and its associated closed bypass valve, the suppression pool, and the full flow test line. This TS SR is not intended to confirm the heat transfer capability of the RHR heat exchanger since there is no equivalent TS SR for the flow of RHRSW through the RHR heat exchanger. Periodic heat transfer testing of the RHR heat exchanger is required by 10CFR50, Appendix A, GDC 40, and implemented by administrative controls as committed to in our response to NRC Generic Letter 89-13. Accordingly, we propose to change TS SR 4.6.2.3.b to clarify its purpose as follows.

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

This proposed clarification does not change the operation of the RHR system in SPC mode, the heat transfer capability of the system, or the existing heat transfer testing requirements. The proposed TS changes do not involve any physical changes to the RHR system components. These proposed TS changes only clarify the fact that the purpose of TS SR 4.6.2.3.b is to confirm the RHR pump performance while operating in the SPC mode, i.e., flow through the most restrictive conditions of the flow path. The RHR heat exchanger performance will continue to be verified by periodic testing as described above. Therefore, the pressure suppression function of the suppression pool is unaffected by these TS changes.

### Information Supporting a Finding of No Significant Hazards Consideration

We have concluded that the proposed changes to the LGS Units 1 and 2 TS which clarify the surveillance requirement for the SPC mode of the RHR system, do not constitute a significant hazards consideration. In support of this determination, an evaluation of each of the three (3) standards set forth in 10CFR50.92 is provided below.

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

Since the RHR system is not an accident initiator, the proposed change to the SR for the SPC mode of operation of the RHR system will not increase the probability of occurrence of an accident previously evaluated. Furthermore, performance of the RHR SPC mode of operation, including suppression pool mixing, suppression pool spray, and containment heat removal will be unchanged by these proposed TS changes. No onsite or offsite radiological effects due to any postulated accident will be affected. Heat transfer performance of the RHR heat exchangers will continue to be verified to meet applicable requirements by heat transfer tests periodically conducted to satisfy other applicable requirements (i.e., GDCs 46 and 40). Therefore, the consequences of an accident are unchanged.

2. The proposed TS changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

The RHR system and its components are not accident initiators. This clarification of the TS SR will not result in modification of the RHR system, change the method of RHR SPC operation or its effectiveness, and therefore, does not create any new or different type of accident from any accident previously evaluated.

3. The proposed TS changes do not involve a significant reduction in a margin of safety.

These proposed TS changes do not change the operation of RHR in SPC mode. These proposed changes only clarify the fact that the purpose of the current TS SR surveillance requirement 4.6.2.3.b is to confirm the RHR pump performance while operating in the SPC mode through the most restrictive conditions of the flow path. The RHR heat exchanger performance will continue to be verified by periodic testing performed to satisfy other requirements. Thus, the pressure suppression function of the suppression pool is unaffected, and the existing margin of safety is maintained.

#### Information Supporting an Environmental Assessment

An environmental assessment is not required for the changes proposed by this Change Request because the requested changes conform to the criteria for "actions eligible for categorical exclusion," as specified in 10CFR51.22(c)(9). The requested changes will have no impact on the environment. The proposed changes do not involve a significant hazards consideration as discussed in the preceding section. The proposed changes do not involve a significant change in the types or significant increase in the amounts of any effluents that may be released offsite. In addition, the proposed changes do not involve a significant increase in individual or cumulative occupational radiation exposure.

Conclusion

The Plant Operations Review Committee and the Nuclear Review Board have reviewed these proposed changes to the TS and have concluded that they do not involve an unreviewed safety question, or a significant hazards consideration, and will not endanger the health and safety of the public.