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July 7, 1992

NUCLEAR ENGINEERING & SERVICES DEPARTMENT

Docket No. 50-353
License No. NPF-85

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

SUBJECT: Limerick Generating Station, Unit 2
 Technical Specifications Change Request

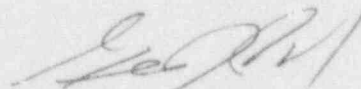
Gentlemen:

Philadelphia Electric Company is submitting Technical Specifications Change Request (TSCR) No. 92-07-2, in accordance with 10 CFR 50.90, requesting an amendment to the Technical Specifications (TS) (Appendix A) of Operating License No. NPF-85. Information supporting this Change Request is contained in Attachment 1 to this letter, and the proposed replacement pages are contained in Attachment 2.

This submittal requests changes to TS Section 3.6.3, "Primary Containment Isolation Valves," to relocate the approximately thirteen hundred (1300) individual Hydraulic Control Unit (HCU) isolation boundaries by installation of four new isolation boundary valves on the common Control Rod Drive (CRD) headers. This same change was approved by the NRC for Unit 1 by TS Amendment No. 42, dated August 16, 1990.

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

Very truly yours,



G. J. Beck, Manager
 Licensing Section

Attachments

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

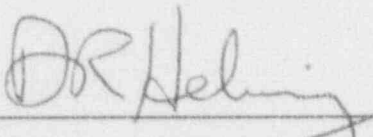
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ADD 1

COMMONWEALTH OF PENNSYLVANIA :
: SS.
COUNTY OF CHESTER :

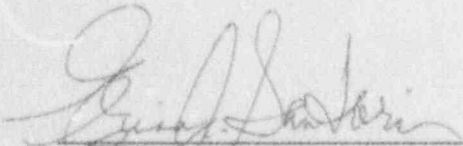
D. R. Helwig, being first duly sworn, deposes and says:

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 No. NPF-85 (Technical Specifications Change Request No. 92-02-7) to relocate the Hydraulic Control Unit (HCU) isolation boundaries, and knows that 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 7th day
of July 1992.



Notary Seal
Notary Public
Tredyffrin Twp., Chester County
My Commission Expires July 10, 1995

ATTACHMENT 1

LIMERICK GENERATING STATION

Unit 2

Docket No. 50-353

License No. NPF-85

TECHNICAL SPECIFICATIONS CHANGE REQUEST

No. 92-07-2

"Proposed Changes to the Technical Specifications to
Relocate the Hydraulic Control Unit (HCU) Isolation Boundaries"

Supporting Information for Changes - 4 pages

Philadelphia Electric Company (PECo), Licensee under Facility Operating License No. NPF-85 for Limerick Generating Station (LGS), Unit 2, requests that the Technical Specifications (TS) contained in Appendix A to the Operating License be amended as proposed herein to reflect newly installed isolation valves on each common Control Rod Drive (CRD) header and to eliminate the existing individual Hydraulic Control Unit (HCU) isolation boundaries from TS. The proposed changes to the TS are indicated by the vertical bars in the margin of the TS pages 3/4 6-23 and 3/4 6-41. TS page 3/4 6-43 is included for information. All TS pages are contained in Attachment 2.

This same change was approved by the NRC for LGS Unit 1 in TS Amendment No. 42, dated August 16, 1990. We request the changes proposed herein to be effective by February 28, 1993, to facilitate incorporation and use for the scheduled containment integrated leak rate test during the upcoming Unit 2 refueling outage scheduled to begin January 23, 1993.

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 Integrated Leak Rate Test (ILRT) is a pressurization of primary containment and measurement of total leakage from all isolation boundaries. This test by its nature is a critical path task during a Refueling Outage. The current method of testing the isolation boundaries of the CRD system is to collect leakage through the HCUs at the vent valves on each of four supply headers during an ILRT. If the total leakage exceeds specified limits, approximately 1300 individual check valves or solenoid valves must be examined to find and repair leak paths. The process of identifying the leaking valve(s) can take many days of critical path outage time.

To minimize critical path outage time, new check valves will be installed in the CRD supply headers in four locations, effectively extending the isolation boundary from the HCUs to these new valves (See Figure 1). These four (4) new valves will reduce the number of testable CRD penetrations from approximately 1300 to four.

Although a TS change is not required prior to installation of the new valves, a TS change is required to take credit for these new isolation boundaries, and also to remove the current valve numbers for the HCU isolation boundaries from TS. Therefore, we propose that TS Table 3.6.3-1, "Part A-Primary Containment Isolation Valves," be revised to remove the existing HCU isolation boundary valves and replace them with the newly installed isolation boundary valves. Note 12 of that table should also be revised as shown in Attachment 2 to reflect the addition of the new valves. Also, since the affected CRD lines are water filled and would remain water filled for a minimum of thirty days after a Loss of Coolant Accident (LOCA), Note 22 applies to these isolation valves.

Safety Assessment

The current primary containment isolation design for the CRD insert and withdraw lines does not conform to 10CFR50, Appendix A General Design Criterion (GDC) 55, "Reactor coolant pressure boundary penetrating containment," because of the system's uniqueness of design, inherent safety features, and important safety function. The system was analyzed against GDC 55 requirements on a generic basis by General Electric (GE) and found acceptable by the NRC as cited in NUREG-0803, "Generic Safety Evaluation Report Regarding Integrity of BWR Scram System Piping." The existing isolation provisions for the CRD insert and withdraw lines at LGS Units 1 and 2 were found acceptable by the NRC as documented in LGS Safety Evaluation Report (SER) (NUREG-0991) Section 6.2.4.1, dated August, 1983. The present method of leakage monitoring was accepted by the NRC in SER Section 6.2.6.3.

The new design does not change the design criteria described above but enhances our ability to demonstrate the leak integrity of the existing analyzed design configuration. The testing of the new valves uses techniques and criteria accepted for other similar applications as documented in the LGS Updated Final Safety Analysis Report (UFSAR) Table 6.2-25, "Containment Penetrations - Compliance with 10CFR, Part 50, Appendix J," Note 14.

The proposed TS change will take credit for the new check valves installed in each of the CRD headers to the HCUs (i.e., drive, cooling, charging, and exhaust) between the main control station and the vent valve. These valves constitute a new isolation boundary. Each check valve station consist of two check valves, a block valve, and two test connections. This enables each check valve to be tested individually instead of during the critical path ILRT. A new access platform has been installed in order to facilitate local testing of the added check valves. The new platform was designed to the American Institute of Steel Construction (AISC) and Seismic Category 1 requirements.

An analysis has been performed on the piping being upgraded for inclusion in the extended ILRT boundary. The piping and related pipe supports are designed to meet the criteria of Seismic Category I and American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code Section III, Class 2 or 3 as appropriate. Analysis has shown that the existing piping and the modified piping is within the ASME Code allowables. Piping supports have been evaluated and modified as necessary to accommodate the newly analyzed loads.

Mechanical environmental qualification of the check valves has been evaluated and confirmed to be acceptable. Dynamic qualification of each check valve and its mounting has been evaluated and confirmed to be acceptable. The valves that will be used for this modification have been used extensively at LGS in similar applications.

The hydraulic effect of the new valves has been evaluated. The most critical and limiting case is the cooling water header required to supply 50-60 gpm to the CRDs during normal operation. The exhaust header performs a pressure control function and normally has no flow. The pressure control function does not have a critical time component so flow resistance is not an issue. The drive water header has flow only during rod movement and then only four (4) gpm. The charging header supplies pressure to the HCUs. The only operation requiring significant flow is after reactor scram or during initial HCU charging when time is not a critical parameter.

At a cooling water flow rate of 55 gpm, the pressure drop through the check valves will, therefore, be 1 psi each and 0.8 psi through the globe valve. The total for each valve station, including line losses, will be approximately 3.1 psi.

In order to compare the calculated pressure drop with the available system pressure, data was obtained from the plant. A test was performed simulating the additional system resistance by adding approximately an 8 psi pressure drop and the effect on system performance was measured. We have determined that the simulation of an additional 8 psi pressure drop can be compensated for by the system with no reduction in cooling water flow rate. Therefore, the 3 psi additional loss associated with the installation of the new valves will have no adverse effect on system performance.

Therefore, since the new isolation boundaries will continue to meet all design requirements, incorporation of these valves into the TS will not adversely affect safety.

Information Supporting a Finding of No Significant Hazards Consideration

We have concluded that the proposed changes to the LGS Unit 2 TS which reduce the number of isolation boundaries by changing the isolation boundary specified in TS from the HCU to the newly installed isolation valves on each common CRD header, 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.

The piping to be included within the new isolation boundary complies with the same standards and specifications as the original boundary. The number of active components making up the boundary will be reduced from approximately 1300 to four (4). Therefore, there will be no increase in the probability that the isolation boundary will be breached.

The current CRD isolation boundary includes the insert and withdraw lines, the scram discharge volume and the HCU's. The relocation of the boundary will add some of the supply header piping but will not affect the existing equipment. The added piping is small diameter (i.e., 2 inch or less) comparable to the previously analyzed scram discharge drain line. The consequences of a pipe failure inside the isolation boundary remain within the envelope analyzed in NUREG-0803. Therefore, the proposed changes do not involve an increase in the probability or consequences of an accident previously evaluated.

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

The proposed TS changes are intended to take credit for the newly installed isolation valves on the CRD common headers. These valves and associated piping are designed and installed in compliance with all applicable criteria. In addition, they will meet all performance requirements currently existing for the approximately 1300 HCU isolation boundaries. In effect, the only change will be to reduce the testable penetrations from 1300 to four (4). The proposed TS changes substitute one isolation boundary for another and therefore cannot create a new or different kind of accident from any previously evaluated.

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

As discussed in items 1 and 2 above, the newly installed valves and associated piping meet all applicable design requirements. In addition, the consequences of a pipe failure inside the isolation boundary remain within the envelope analyzed in NUREG-0803. The valves will be tested to ensure compliance with existing performance requirements for isolation boundaries. Further, the performance of the CRD system with the added pressure drop is well within the system capability for normal operation, and control rod scram performance is unaffected. Therefore, the proposed changes do not involve a reduction in a margin of safety.

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.

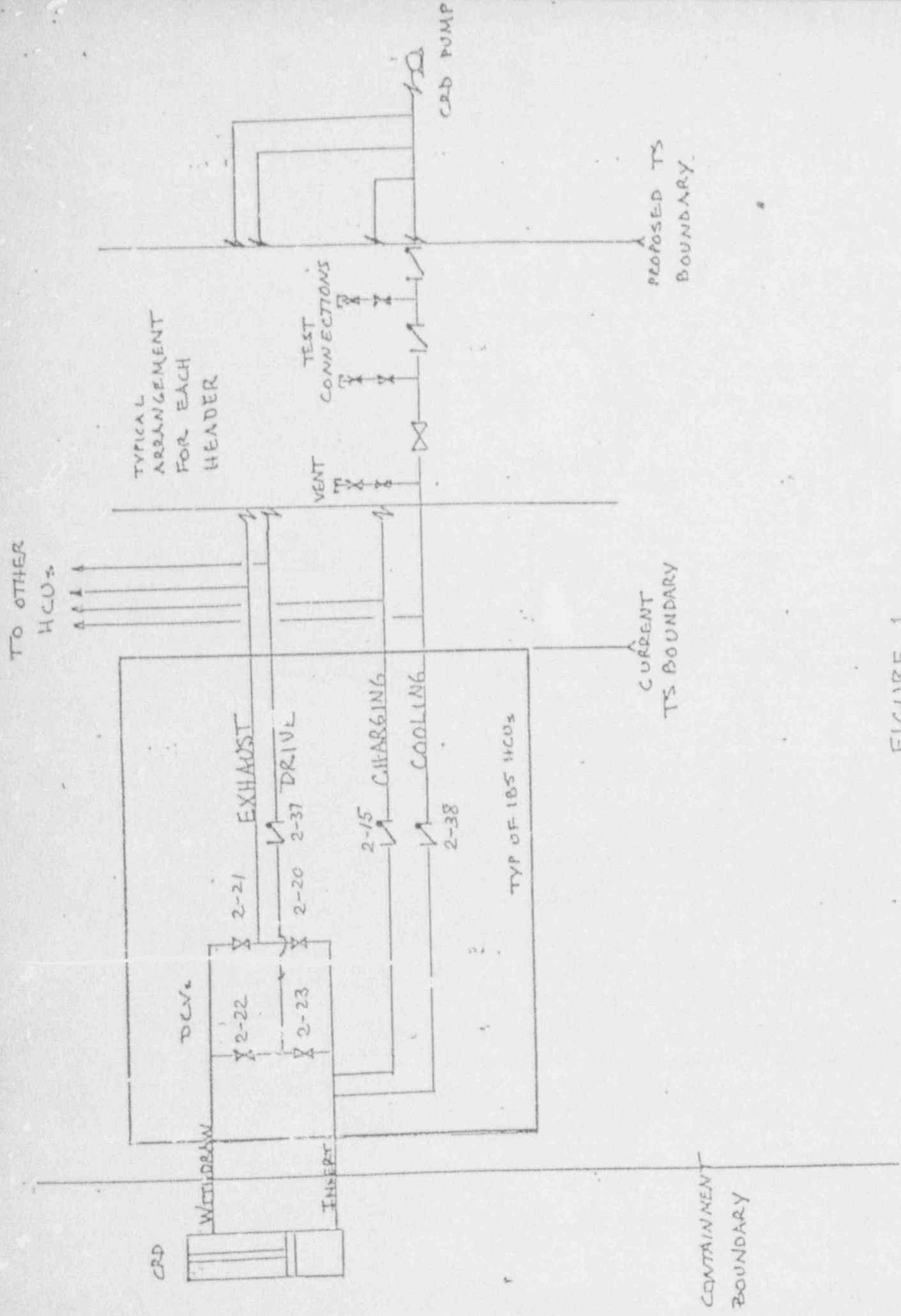


FIGURE 1