

PHILADELPHIA ELECTRIC COMPANY

NUCLEAR GROUP HEADQUARTERS

955-65 CHESTERBROOK BLVD.

WAYNE, PA 19087-5691

(215) 640-6000

June 10, 1993

STATION SUPPORT DEPARTMENT

Docket Nos. 50-352  
50-353

License Nos. NPF-39  
NPF-85

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

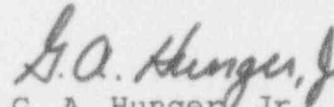
SUBJECT: Limerick Generating Station, Units 1 and 2  
Response to Request For Additional Information  
Battery Surveillance Extensions Included in Technical  
Specifications Change Request to Support 24-Month  
Refueling Cycles

Gentlemen:

By letter dated May 5, 1993, Philadelphia Electric Company received a Request for Additional Information related to the extension of battery surveillance intervals at Limerick Generating Station (LGS), Units 1 and 2, from 18 months to 24 months as requested by our September 1, 1992 Technical Specifications Change Request to support 24 month refueling cycles at LGS. The specific NRC's requests and our responses are provided in Attachment 1. Revised proposed Technical Specifications pages are provided in Attachment 2, and a sample of battery service test results is provided in Attachment 3.

If you have any questions or require additional information, please do not hesitate to contact us.

Very truly yours,



G. A. Hunger, Jr., Director  
Licensing Section

Attachments

cc: T. T. Martin, Administrator, Region I, USNRC w/ attachments  
N. S. Perry, USNRC Senior Resident Inspector, LGS "  
W. P. Dornsife, Commonwealth of Pennsylvania "

1700  
9306180236 930610  
PDR ADDCK 05000352  
P PDR

ADD 11

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 response to an NRC Request for Additional Information regarding battery surveillance extensions included in Technical Specifications Change Request No. 92-02-0 to support 24-month refueling cycles at the Limerick Generating Station, Units 1 and 2, 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.

*G. R. Rainey*

Vice President

Subscribed and sworn to before me this *10th* day of *June* 1993.

*Erica A. Santon*

Notary Public

Notarial Seal  
Erica A. Santon, Notary Public  
Trinity Twp. 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

Response to Request For Additional Information  
Battery Surveillance Extensions Included in  
Technical Specifications Change Request to  
Support 24-Month Refueling Cycles

By letter dated May 5, 1993, Philadelphia Electric Company (PECo) received a Request for Additional Information (RAI) related to the extension of battery surveillance intervals at Limerick Generating Station (LGS), Units 1 and 2, from 18 months to 24 months as requested by our September 1, 1992 Technical Specifications Change Request (TSCR) to support 24 month refueling cycles at LGS. Each of the NRC's specific requests is restated below followed by our response.

1. Institute of Electrical and Electronics Engineers (IEEE) Standard 450-1980, "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Large Lead Storage Batteries for Generating Stations and Substations," Section 5.2.3, states that "Annual performance tests of battery capacity should be given to any battery that shows signs of degradation or has reached 85% of the service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% of rated capacity from its average on previous performance tests, or is below 90% of the manufacturer's rating." The proposed Technical Specifications (TS) Surveillance Requirement (SR) 4.8.2.1.f would change the current once-per-18-months during shutdown TS frequency requirement for this test to once-per-24-months. Provide additional justification to support this change, specifically addressing the IEEE recommendations.

#### Response

As indicated in the section of our September 1, 1992 TSCR related to TS SR 4.8.2.1.f, the review of the surveillance test history demonstrated that there is no evidence of any failures that would invalidate the conclusions presented in our TSCR related to system availability. The review of surveillance test history also demonstrates, however, that there is no evidence of any failures that would be indicative of degradation of battery capacity as defined by IEEE Standard 450-1980. In addition, the batteries at LGS, Units 1 and 2, have not yet reached 85% of their service life. As a result, TS SR 4.8.2.1.f has not yet had to be performed at LGS. Therefore, we do not have sufficient surveillance test data at the current time to determine the appropriate surveillance interval once degradation of the batteries has actually occurred.

Based on the above discussion, we withdraw our request to extend the surveillance interval for TS SR 4.8.2.1.f to once-per-24-months, and will maintain the current TS surveillance interval of once-per-18-months pending future evaluation of this surveillance requirement in conjunction with possible future changes to IEEE Standard 450.

As described in our September 1, 1992 TSCR, the words "during shutdown" are proposed to be deleted from TS SR 4.8.2.1.f in accordance with the guidance provided in NRC Generic Letter No. 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," dated April 2, 1991. This proposed change is not affected by withdrawal of the change to the surveillance interval.

The affected proposed TS page has been revised to reflect the change as described above, and is provided in Attachment 2.

2. IEEE Standard 450-1980, Section 4.3.3.2, states that "At least once each year, tighten bolted connections to manufacturer's recommended torque value followed by cell-to-cell and terminal connection detail resistance." The proposed TS SR 4.8.2.1.c.3 would change the current once-per-18-months TS frequency requirement for this test to once-per-24-months. Provide additional justification to support this change, specifically addressing the IEEE recommendations.

#### Response

Although IEEE Standard 450-1980 recommends checking the tightness of the bolted connections and the terminal and cell-to-cell resistances once each year, LGS Unit 1 and Unit 2 TS currently require performing these battery surveillances once-per-18-months. LGS TS are based on NUREG-0123, "Standard Technical Specifications for General Electric Boiling Water Reactors," Revision 3 (1980), which specifies an 18-month interval for these battery surveillances. As indicated in the section of our September 1, 1992 TSCR related to these battery surveillances, the review of the surveillance test history demonstrated that there is no evidence of any failures which would invalidate our conclusion that the impact of the proposed change to extend the surveillance interval to 24 months on system availability, if any, is small.

Considering the recommendations in IEEE Standard 450-1980, however, we withdraw our request to extend the surveillance interval for TS SRs 4.8.2.1.c.1, 4.8.2.1.c.2, and 4.8.2.1.c.3 to once-per-24-months, and will maintain the current TS surveillance interval of once-per-18-months pending future evaluation of these surveillance requirements in conjunction with possible future changes to IEEE Standard 450. Our request to extend the surveillance interval for TS SR 4.8.2.1.c.4, regarding testing of the battery chargers, to once-per-24-months, as indicated in our September 1, 1992 TSCR, is not affected by this withdrawal.

The affected proposed TS pages and Bases pages have been revised to reflect the changes as described above, and are provided in Attachment 2.

3. Provide additional justification to include pertinent data for extending the service-testing interval for the Class 1E batteries from once-per-18-months to once-per-24-months.

Response

The battery surveillance testing, as described in the Bases for TS SR 4.8.2.1.d, is in accordance with Regulatory Guide (RG) 1.129, "Maintenance, Testing, and Replacement of Large Lead Storage Batteries for Nuclear Power Plants," Revision 1, dated February 1978, which endorses IEEE Standard 450-1975. RG 1.129 specifies a recommended surveillance interval for the battery service test, i.e., that "the battery service test should be performed during refueling operations or at some other outage, with intervals between tests not to exceed 18 months." The "18 months" frequency was the nominal refueling cycle length at the time RG 1.129 was issued.

We have concluded that our proposed change to the surveillance interval for the battery service test, i.e., TS SR 4.8.2.1.d, from once-per-18-months to once-per-24-months is consistent with the recommended surveillance interval in RG 1.129. RG 1.129 specifically states that the battery service test should be performed during an outage, whether refueling or otherwise. The implication is that the battery service test should not be performed while the unit is operating. Our proposed TS change is commensurate with the change to our refueling cycle duration to 24 months, i.e., the battery service test would be performed while the unit is shutdown for refueling.

In addition, Attachment 3 provides a sample of the results of battery service tests that have been performed at LGS, i.e., for LGS, Unit 1, Division 1 batteries 1A1D101 and 1A2D101. The attachment specifies the date, the elapsed time, and the voltage under loaded conditions. As indicated by the test results, the battery voltages remained well above the limit specified by TS SR 4.8.2.1.d, and supports our request to extend the surveillance interval for performing the service test from once-per-18-months to once-per-24-months.