Station Support Department
10 CFR 50.90

PECO NUCLEAR
A Unit of PECO Energy

PECO Energy Company
965 Chesterbrook Boulevard
Wayne, PA 19087-5691

April 9, 1997

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 No. 96-24-0
Station Battery Specific Gravity Changes

Gentlemen:

PECO Energy Company is submitting Technical Specifications (TS) Change Request No. 96-24-0, in accordance with 10 CFR 50.90, requesting a change to TS (i.e., Appendix A) of operating License Nos. NPF-39 and NPF-85 for Limerick Generating Station (LGS), Units 1 and 2.

The proposed changes will clarify existing battery specific gravity requirements, delete the requirement to correct specific gravity values based on electrolyte level, and allow the use of charging current measurements to verify the battery's state of charge.

Information supporting this TS Change Request is contained in Attachment 1 to this letter, and copies of the "marked-up" Technical Specifications pages are contained in Attachment 2. This information is being submitted under affirmation, and the required affidavit is enclosed.

We request that if approved, the changes be issued by October 1, 1997, and become effective within 30 days of issuance.

If you have any questions, please do not hesitate to contact us.

A001

Very truly yours,

G. A. Hunger, Jr.
Director - Licensing

Attachments
Enclosure

cc: H. J. Miller, Administrator, Region I, USNRC (w/attachment, enclosure)
N. S. Perry, USNRC Senior Resident Inspector, LGS (w/attachment, enclosure)
R. R. Janati, PA Bureau of Radiation Protection (w/attachment, enclosure)

COMMONWEALTH OF PENNSYLVANIA :

: ss

COUNTY OF CHESTER :

D. B. Fetters, being first duly sworn, deposes and says: That he is Vice President of PECO Energy Company, the Applicant herein; that he has read the enclosed Technical Specifications Change Request No. 96-24-0 "Station Battery Specific Gravity Changes," for Limerick Generating Station, Unit 1 and Unit 2, Facility Operating License Nos. NPF-39 and NPF-85, 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.

Subscribed and sworn to
before me this 8th day
of April 1997.

Notary Public

Notarial Seal
Mary Lou Skrocki, Notary Public
Tredyffrin Twp., Chester County
My Commission Expires May 17, 1999
Member, Pennsylvania Association of Notaries

ATTACHMENT 1

LIMERICK GENERATING STATION
UNITS 1 AND 2

DOCKET NOS.
50-352
50-353

LICENSE NOS.
NPF-39
NPF-85

"Station Battery Specific Gravity Changes"

Information Supporting Changes - 5 Pages

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

DISCUSSION AND DESCRIPTION OF THE PROPOSED CHANGES

PECO Energy Company (PECO Energy) is requesting Technical Specifications (TS) changes which will revise TS Table 4.8.2.1-1 "Battery Surveillance Requirements," and the TS Bases Section 3/4 8.2 "D.C. Sources" regarding the TS table. The following changes are proposed.

Table 4.8.2.1-1:

1. The word "AND" is added between the specific gravity, Category B limits and allowable value parameters.
2. The specific gravity, Category B allowable value for each connected cell is revised to replace the existing statement describing the value with an equivalent discrete value of 1.170.
3. An existing note, number 6 - "Or battery charging current is less than 1 amperes when on float charge" is applied to the specific gravity Category B allowable value (i.e., 1.170) for each connected cell.
4. Note number 5 - "Corrected for average electrolyte temperature of 77 ° F and full level" is modified to delete the full electrolyte level correction.

TS Bases Section B 3/4 8-2:

1. TS Bases Section B 3/4 8-2 will be revised to reflect the above proposed changes regarding TS Table 4.8.2.1-1.

The above changes are in accordance with IEEE Standard 450-1995 "IEEE Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead-Acid Batteries for Stationary Applications." Therefore, IEEE Std 450-1995 will be added as a commitment for electrolyte level surveillance requirements.

SAFETY ASSESSMENT

TS Table 4.8.2.1-1 specific gravity, Category B limits and allowable values are implied to be an "AND" statement; however the lack of the word "AND" may cause confusion about its interpretation. Adding the word "AND" clarifies that both conditions must be met in order to meet the specific gravity surveillance requirement. This change is consistent with NUREG 1433 "Standard Technical Specifications, General Electric Plants, BWR/4."

The present specific gravity allowable value for each connected cell is part of the bases statement and should be a discrete number. The proposed change to the specific gravity allowable value for each connected cell will eliminate the possibility that the surveillance requirement could be misinterpreted, which could place the system in a non-conservative condition by unnecessarily disabling a battery. TS Table 4.8.2.1-1, Category B specific gravity allowable value for each connected cell currently states, "Not more than 0.020 below the average of all connected cells." This could be confusing and be misinterpreted to mean that the connected cell cannot be less than 0.020 below the measured average of all connected cells. The present TS Bases (3) regarding Table 4.8.2.1-1states that "the allowable value for an individual cell's specific gravity, ensures that the individual cell's specific gravity will not be more than 0.040 below the manufacturer's full charge specific gravity and that the overall capability of the battery will be maintained within an acceptable limit." The manufacturer was contacted to verify the actual intent of the surveillance requirement. The manufacturer stated that the surveillance minimum allowable specific gravity is 1.170. The 1.170 value is 0.020 less than the 1.190 average allowable value which is described in the current TS Bases (i.e., 0.040 below the manufacturer's full charge specific gravity).

Applying note number 6 to the specific gravity, Category B, allowable value for each connected cell in addition to note 6 currently applied to the allowable value for the average of all connected cells, allows the use of the charging current to verify the battery's state of charge. This is an alternate method to determine battery operability rather than using specific gravity. The proposed change does not eliminate specific gravity measurements but provides more time (within the 7 days allowed) to allow all cell parameters to rise above the Category B limits. Charging current stability at a low rate is an indication that the battery is fully charged. Specific gravity measurements may not be accurate after water is added to the battery or at times when the battery is being charged and periods immediately following battery charging. This measurement provides a more reliable method of determining the state of charge of the battery following the addition of water or during and following battery charging. The practice of using the charging current to determine the state of charge of the battery is an acceptable alternate discussed in Annex B of IEEE Standard 450-1980 and 1995.

Current manufacturer's recommendations for monitoring specific gravity no longer require level correction. An increase in the specific gravity is normal with a decrease in water level due to the electrolyte becoming more concentrated. The manufacturer states that the battery performance is not affected by variations in the electrolyte level. Furthermore, IEEE Standard 450-1995 does not require specific gravity correction due to variations in

the electrolyte level. IEEE Standard 450-1995 states that when the electrolyte level is between the minimum and maximum level marks and the temperature corrected specific gravity is within the manufacturer's nominal specific gravity range, it is not necessary to correct the specific gravity for electrolyte level. The elimination of the specific gravity correction does not affect battery operation. Under the new requirement, electrolyte level will still be inspected and the level recorded.

As a result of the changes listed above, the TS Bases that pertain to Table 4.8.2.1-1 will be revised to reflect the changes and will incorporate IEEE Standard 450-1995.

Information Supporting a Finding of No Significant Hazards Consideration

We have concluded that the proposed changes to the Limerick Generating Station, Unit 1 and Unit 2, Technical Specifications (TS) which will revise TS Table 4.8.2.1-1 and its Bases, do not involve a Significant Hazards Consideration. In support of this determination, an evaluation of each of the three (3) standards set forth in 10 CFR 50.92 is provided below.

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

   Changes to Technical Specifications surveillance requirements for specific gravity and Technical Specifications Bases commitments do not change the frequency or consequences of any accident previously evaluated. The proposed changes which commit to IEEE Standard 450-1995 for specific gravity testing, providing battery charging current as an alternate method to specific gravity measurements, and eliminating the commitment to perform electrolyte level correction do not prevent the DC system from performing its intended safety function. The proposed changes to the Technical Specification battery surveillance requirements and commitment to IEEE Standard 450-1995 for specific gravity are in accordance with current industry practices. These changes do not reduce the readiness and performance of the 1E DC power system to perform its intended function during a design basis event.

   The proposed changes do not affect seismic specifications, separation criteria or environmental qualifications. The proposed changes do not impose an increase in or more severe test requirements, an increase in the frequency of operation, reduce independence or redundancy, modify the system or

equipment protective features, introduce new equipment failures or impose additional loads than any previously evaluated. The Class 1E battery system will continue to meet all of the design standards applicable to the system and will not cause the system to operate outside of its design or testing limits.

Batteries or battery chargers and their failure are not initiators of the accidents previously evaluated. The proposed changes do not affect, degrade or prevent the response of active or passive systems described or assumed in the LGS accidents previously evaluated. In addition, the proposed TS changes will improve the availability of the station batteries.

Therefore, the changes will not increase the probability or consequences of an accident previously evaluated.

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

The proposed Technical Specifications changes which will revise the surveillance requirements and the TS Bases, do not increase the failure rate of the battery. The proposed changes clarify and enhance Operation's focus on the key battery parameters which will improve the availability of the station batteries. The station batteries are not accident initiators. The single failure of an electrical component was previously evaluated in the LGS accident analysis. Unexpected failures beyond the postulated single failure are no more likely to occur under the clarified surveillance requirements.

Therefore, these changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

The revision clarifies and reduces the battery surveillance requirements for specific gravity. The revision eliminates the possibility for misinterpretation and provides consistency of the surveillance requirements. The specific gravity value for each connected cell is being revised to reflect a discrete number which meets the existing manufacturer's recommendations and does not differ from the value described in the present bases. LGS is currently committed to

earlier revisions of IEEE Standard 450 (i.e., 1975 and 1980), and the incorporation of IEEE Standard 450-1995 for specific gravity will reflect current industry practices regarding specific gravity.

Therefore, the proposed changes do not involve a significant reduction in a margin of safety.

INFORMATION SUPPORTING AN ENVIRONMENTAL ASSESSMENT

An Environmental Assessment is not required for the Technical Specifications changes proposed by this TS Change Request because the requested changes to the Limerick Generating Station, Unit 1 and Unit 2, TS conform to the criteria for "actions eligible for categorical exclusion," as specified in 10 CFR 51.22 (c)(9). The requested changes will have no impact on the environment. The proposed TS changes do not involve a Significant Hazards Consideration as discussed in the preceeding safety assessment section. The proposed changes do not involve a significant change in the types or significant increase in the amounts of any effluent that may be released offsite. In addition, the proposed TS 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 Limerick Generating Station, Unit 1 and Unit 2, Technical Specifications, and have concluded that they do not involve an unreviewed safety question, they do not involve a Significant Hazards Consideration, and they will not endanger the health and safety of the public.