

BEFORE THE

UNITED STATES NUCLEAR REGULATORY COMMISSION

In the Matter of

PHILADELPHIA ELECTRIC COMPANY

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Docket Nos. 50-277
50-278

APPLICATION FOR AMENDMENT
OF
FACILITY OPERATING LICENSES
DPR-44 & DPR-56

Edward G. Bauer, Jr.
Eugene J. Bradley

2301 Market Street
Philadelphia, Pennsylvania 19101

Attorneys for
Philadelphia Electric Company

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Philadelphia Electric Company, Licensee under Facility Operating Licenses DPR-44 and DPR-56 for Peach Bottom Atomic Power Station Unit No. 2 and Unit No. 3, respectively, hereby requests that the Technical Specifications incorporated in Appendix A of the Operating Licenses be amended as indicated by a vertical bar in the margin of attached pages 218, 218a and 224. The amendment would change the criteria for station battery testing by substituting a service test for a performance test (rated load discharge test) for the station battery (dc emergency

power) surveillance required during each refueling outage. The performance test would be specified for every third refueling outage. The service test will not be performed during a refueling outage in which a performance test is done.

There are two independent 125/250-V, 3-wire, dc systems per unit. Each system is comprised of two 125-V batteries, each with its own charger. Each 125/250-V battery is located in a separate ventilated battery room. The two batteries for each unit are redundant. Power for all dc control functions, such as that required for the control of the 13-kV and 4-kV circuit breakers, control relays, annunciators, and power for exit lighting, is supplied at 125V from each of the two 125-V sources of each system and distributed through 125-V dc power distribution panels. Power required for the larger loads, such as dc motor-driven pumps and valves, is supplied at 250V from the two 125-V sources of each system connected in series and distributed through 250-V dc motor control centers. Each 125-V battery is an Exide lead-calcium type and consists of 58 shock absorbent, clear plastic cells.

The four 125/250-V dc power supplies are designed to provide an adequate power source for supplying the engineered safeguard loads of one unit, and the shutdown loads of the second unit, with concurrent loss of off-site power and any single failure in the dc system.

Due to recent performance test results, the station batteries have been scheduled for replacement during the next Unit 2 and Unit 3 refueling outages. Consequently, the original batteries experienced a service life of only twelve years, far short of the manufacturer's warranty of twenty years. Our investigation indicates that frequent cycling of the batteries will cause the positive calcium grid to physically enlarge, resulting in a reduction in cell capacity. The requirement in the Technical Specifications to perform a performance test (rated load discharge test) once each operating cycle represents a more severe testing requirement than recommended by both industry and NRC standards and appears to be a major factor in the premature end-of-service life of the batteries.

Institute of Electrical and Electronic Engineers (IEEE) Standard 450 (1975), "Recommended Practice for Maintenance, Testing and Replacement of Large Lead Storage Batteries", and Regulatory Guide 1.129, Revision 1 (February 1978), "Maintenance, Testing and Replacement of Large Lead Storage Batteries for Nuclear Power Plants" recommend a performance test every five years, a service test during refueling outages, and an annual performance test in lieu of the five year test when any battery shows "signs of degradation or has reached 85% of the service life expected for the application". The proposed change would specify a performance test every third refueling outage and a service test during the other refueling outages. Since Peach Bottom operates on an 18-month fuel cycle, once every third

refueling outage for the performance test approximates the 5-year provision in the standards.

A performance test and service test are both capacity tests conducted by discharging the batteries at a constant current for a specified duration. The difference between the tests involves the discharge rate and test length. The performance test is a more severe test and is performed at a discharge rate and duration equivalent to the manufacturer's rating of the battery. The service test is performed at a discharge rate and duration equivalent to the design requirements of the dc power system and tests the ability of the batteries to supply and maintain in operable status the dc emergency loads for the design basis accident. The service test will use the four-hour LOCA load profile which determines the required capacity of the new batteries.


The proposed changes are intended to improve the reliability of the dc emergency power system by extending the service life of the station batteries, while maintaining a level of surveillance needed to assure the batteries' capability of performing their safety function. The proposed change conforms to the industry and NRC standards previously referenced. The proposed changes do not involve a significant hazards consideration since the request does not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated, or (2) create the possibility of a

new or different kind of accident from any accident previously evaluated, or (3) involve a significant reduction in a margin of safety.

Pursuant to 10 CFR Section 170.22, "Schedule of Fees for Facility License Amendments", Philadelphia Electric Company proposes that this Application for Amendment be considered a Class III Amendment for Unit 2 and a Class I Amendment for Unit 3, since the proposed changes involve a single safety issue, have acceptability for the issue clearly identified by an NRC position, and are deemed not to involve a significant hazards consideration.

The Plant Operation and Review Committee and the Nuclear Review Board (off-site safety review committee) have reviewed these proposed changes to the Technical Specifications, 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.

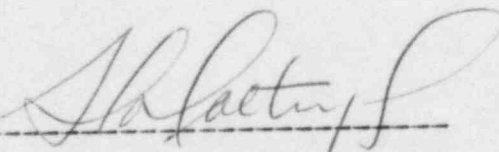
Respectfully submitted,
PHILADELPHIA ELECTRIC COMPANY


Vice President

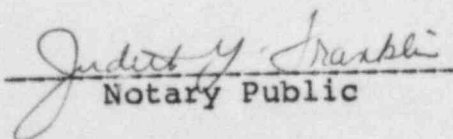
COMMONWEALTH OF PENNSYLVANIA :
COUNTY OF PHILADELPHIA : ss.

S. L. Daltroff, 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 Licenses 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 2ND day
of APRIL, 1984


Notary Public

JUDITH Y. FRANKLIN
Notary Public, Phila., Phila. Co.
My Commission Expires July 28, 1987