



Carolina Power & Light Company

P.O. Box 1551 • Raleigh, N.C. 27602

FEB 19 1991

SERIAL: NLS-91-037  
10CFR50.90  
91TSB03

G. E. VAUGHN  
Vice President  
Nuclear Services Department

United States Nuclear Regulatory Commission  
ATTENTION: Document Control Desk  
Washington, DC 20555

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NO. 2  
DOCKET NO. 50-324/LICENSE NO. DPR-62  
REQUEST FOR LICENSE AMENDMENT  
ONE-TIME EXTENSION OF 18-MONTH BATTERY SURVEILLANCES

Gentlemen:

In accordance with the Code of Federal Regulations, Title 10, Parts 50.90 and 2.101, Carolina Power & Light Company hereby request a revision to the Technical Specifications for the Brunswick Steam Electric Plant (BSEP), Units 1 and 2.

Technical Specifications 4.8.2.3.2.c and 4.8.2.3.2.d require certain surveillances of the 125 volt batteries and chargers be performed at least once per 18 months. The proposed amendment revises the surveillance interval associated with Technical Specifications 4.8.2.3.2.c and 4.8.2.3.2.d to allow a one-time only extension of these surveillances until the end of the Brunswick Unit 2 Refuel 9 outage, currently scheduled for mid-November 1991.

Currently, the surveillances associated with Technical Specifications 4.8.2.3.2.c and 4.8.2.3.2.d are planned to be performed during the Unit 2 surveillance testing outage scheduled to begin in June 1991, approximately 21.5 months since the last time the surveillances were performed (within the allowable 25% extension). The Unit 2 125 volt batteries reach 85% of their service life in 1991. A conservative decision has been made to replace the batteries during the Unit 2 Refuel 9 outage, currently scheduled to begin September 7, 1991. Since battery replacement is scheduled to occur approximately 2 months after the overdue date, CP&L is requesting the one-time extension of the 18-month surveillance interval until the end of the Unit 2 Refuel 9 outage. This will avoid the need to unnecessarily test the batteries just prior to permanently removing them from service. The normal weekly, monthly, and quarterly surveillances will continue as scheduled during this period, ensuring operability of the batteries and chargers.

Enclosure 1 provides a detailed description of the proposed changes and the basis for the changes.

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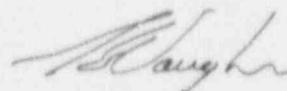
Enclosure 2 details the basis for the Company's determination that the proposed changes do not involve a significant hazards consideration.

Enclosure 3 provides the proposed Technical Specification pages for Unit 2.

CP&L requests that the NRC approve the requested license amendment by May 15, 1991 to facilitate planning of the June 1991 surveillance testing outage. In order to allow time for procedure revision and orderly incorporation into copies of the Technical Specifications, CP&L requests that the proposed amendments, once approved by the NRC, be issued with an effective date to be no later than 60 days from the issuance of the amendment.

Please refer any questions regarding this submittal to Mr. M. R. Oates at (919) 546-6063.

Yours very truly,



G. E. Vaughn

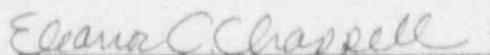
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Enclosures:

1. Basis for Change Request
2. 10 CFR 50.92 Evaluation
3. Technical Specification Page - Unit 2

cc: Mr. Dayne H. Brown  
Mr. S. D. Ebnetter  
Mr. N. B. Le  
Mr. R. L. Prevatte

G. E. Vaughn, having been first duly sworn, did depose and say that the information contained herein is true and correct to the best of his information, knowledge and belief; and the sources of his information are officers, employees, contractors, and agents of Carolina Power & Light Company.

  
Notary (Seal)

My commission expires:

My Commission Expires 2/6/96



## ENCLOSURE 1

BRUNSWICK STEAM ELECTRIC PLANT, UNIT 2  
NRC DOCKET 50-324  
OPERATING LICENSE DPR-62  
REQUEST FOR LICENSE AMENDMENT  
ONE-TIME EXTENSION OF 18-MONTH BATTERY SURVEILLANCES  
BASIS FOR CHANGE REQUEST

### Proposed Change

Technical Specifications 4.8.2.3.2.c and 4.8.2.3.2.d require certain surveillances of the 125 volt batteries and chargers be performed at least once per 18 months. The proposed amendment revises the surveillance interval associated with Technical Specifications 4.8.2.3.2.c and 4.8.2.3.2.d to allow a one-time only extension of these surveillances until the end of the Brunswick Unit 2 Reload 9 outage, currently scheduled for mid-November 1991.

### Basis

The 125/250 volt batteries at Brunswick are replaced or battery capacity testing is increased to a yearly frequency when any of the following three conditions are met:

1. The batteries reach 85% of their expected service life (approximately 17 years of service).
2. The battery capacity drops by more than 10% of rated capacity from the average of previous capacity tests.
3. The battery capacity is less than 90% of the manufacturer's rating.

Battery replacement is mandatory if capacity drops to 80% of the manufacturer's rating.

Currently, the surveillances associated with Technical Specifications 4.8.2.3.2.c and 4.8.2.3.2.d are planned to be performed during the Unit 2 surveillance testing outage scheduled to begin in June 1991, approximately 21.5 months since the last time the surveillances were performed (within the allowable 25% extension). The Unit 2 125 volt batteries reach 85% of their service life in 1991. A conservative decision has been made to replace the batteries during the Unit 2 Refuel 9 outage, currently scheduled to begin September 7, 1991. Battery replacement is presently scheduled near the beginning of the refueling outage, as such the expected extension of the required surveillances is approximately 2 months beyond the 22.5 months permitted by the Technical Specifications. However, to allow for flexibility in scheduling battery replacement during

the outage, the extension is being requested until the end of the Refuel 9 outage (mid-November 1991). This will avoid the need to unnecessarily test the batteries just prior to permanently removing them from service. The normal weekly, month and quarterly surveillances will continue as scheduled during this period, ensuring operability of the batteries and chargers. The new batteries will be tested in accordance with Technical Specifications 4.8.2.3.2.c and 4.8.2.3.2.d as part of operability testing after they have been installed.

The last performance capacity test (Technical Specification 4.8.2.3.2.e) of the Unit 2 batteries was performed in March 1988, at which time the battery capacities were found to be as follows:

Battery 2A-1	100.28%
Battery 2A-2	102.55%
Battery 2B-1	104.80%
Battery 2B-2	111.30%

The Brunswick DC Load Study determined that the batteries can provide 100% of load requirements at full capacity (including temperature effects and design margin). Therefore, a minimum margin of 20% battery capacity remained as of the last capacity test.

The Brunswick batteries are also subjected to a service capacity test (Technical Specification 4.8.2.3.2.d) which is more stringent than the performance capacity test. This test demonstrates the batteries ability to provide loads above worst case DC system loading (simulated load profile). The service capacity test was last performed and successfully completed in September 1989. In addition to battery testing, the battery cell links were resistance tested and torqued to ensure optimum connections and the associated battery chargers were satisfactorily tested in accordance with Technical Specification requirements in September 1989.

Per discussions with the battery manufacturer, battery capacity drops from 100% to 80% can typically be expected to occur between 85% and 100% of their service life (a span of 3 years for the Brunswick batteries). The Brunswick batteries will reach 85% of their service life in 1991, therefore, it is expected that the capacity decline during the approximately 2 month surveillance interval extension will be minimal and will remain far above the 80% minimum. Based on previous testing and maintenance practices, the Unit 2 125/250 volt batteries and chargers should be fully capable of providing their designed safety function during the requested surveillance extension.

As stated above, the normal weekly, monthly (an expanded version of the required weekly surveillance), and quarterly surveillances will continue as scheduled during this period. These surveillances (4.8.2.3.2.a and 4.8.2.3.2.b) require visual inspections and verification of electrolyte level, float voltage, and specific gravity. These surveillances as

well as the Company's practice of maintaining the batteries in accordance with IEEE-450, 1980 provide adequate assurance that the batteries will remain capable of performing their intended safety function during the requested surveillance interval extension.

## ENCLOSURE 2

BRUNSWICK STEAM ELECTRIC PLANT, UNIT 2  
NRC DOCKET 50-324  
OPERATING LICENSE DPR-62  
REQUEST FOR LICENSE AMENDMENT  
ONE-TIME EXTENSION OF 18-MONTH BATTERY SURVEILLANCES

### BASIS FOR CHANGE REQUEST

#### 10 CFR 50.92 EVALUATION

The Commission has provided standards in 10 CFR 50.92(c) for determining whether a significant hazards consideration exists. A proposed amendment to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated, (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. Carolina Power & Light Company has reviewed this proposed license amendment request and determined that its adoption would not involve a significant hazards consideration. The bases for this determination are as follows:

#### Proposed Change

Technical Specification 4.8.2.3.2.c and 4.8.2.3.2.d require certain surveillances of the 125 volt batteries and chargers be performed at least once per 18 months. The proposed amendment revises the surveillance interval associated with Technical Specifications 4.8.2.3.2.c and 4.8.2.3.2.d to allow a one-time only extension of these surveillances until the end of the Brunswick Unit 2 Reload 9 outage, currently scheduled for mid-November 1991.

#### Basis

The change does not involve a significant hazards consideration for the following reasons:

1. The proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated because the batteries will remain capable of performing their intended safety function during the requested extension of the 18-month surveillance interval. The last Technical Specification 4.8.2.3.2.e performance capacity test of the Unit 2 batteries was

performed in March 1988, at which time the battery capacities were found to be as follows:

Battery 2A-1	100.28%
Battery 2A-2	102.55%
Battery 2B-1	104.80%
Battery 2B-2	111.30%

The Brunswick DC Load Study determined that the batteries can provide 100% of load requirements at 80% capacity (including temperature effects and design margin). Therefore, a minimum margin of 20% battery capacity remained as of the last capacity test.

The Brunswick batteries are also subjected to a service capacity test (Technical Specification 4.8.2.3.2.d) which is more stringent than the performance capacity test. This test demonstrates the batteries ability to provide loads above worst case DC system loading (simulated load profile). The service capacity test was last performed and successfully completed in September 1989. In addition to battery testing, the battery cell links were resistance tested and torqued to ensure optimum connections and the associated battery chargers were satisfactorily tested in accordance with Technical Specification requirements in September 1989.

Per discussions with the battery manufacturer, battery capacity drops from 100% to 80% can typically be expected to occur between 85% and 100% of their service life (a span of 3 years for the Brunswick batteries). The Brunswick batteries will reach 85% of their service life in 1991, therefore, it is expected that the capacity decline during the approximately 2 month surveillance interval extension will be minimal and will remain far above the 80% minimum. Based on previous testing and maintenance practices, the Unit 2 125/250 volt batteries and chargers should be fully capable of providing their designed safety function during the requested surveillance extension.

The normal weekly, monthly, and quarterly surveillances will continue as scheduled during this period. These surveillances (4.8.2.3.2.a and 4.8.2.3.2.b) require visual inspections and verification of electrolyte level, float voltage, and specific gravity. These weekly and monthly surveillances as well as the Company's practice of maintaining the batteries in accordance with IEEE-450, 1980 provide adequate assurance that the batteries will remain capable of performing their intended safety function during the requested surveillance interval extension.

2. The proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated. The proposed amendment only provides a one-time only extension of the 18-month surveillance

interval for the Unit 2 batteries. There is no change to the plant or its manner of operation. Also, there are no changes to the surveillance acceptance criteria. Therefore, the proposed change cannot create the possibility of a new or different kind of accident from any previously evaluated.

3. The proposed amendment does not involve a significant reduction in the margin of safety. As demonstrated in Item 1 above, the proposed one-time extension of the 18-month surveillance requirements for the Unit 2 batteries will not affect the ability of the batteries to perform their intended safety function. Per discussions with the battery manufacturer, battery capacity drops from 100% to 80% can typically be expected to occur between 85% and 100% of their service life (a span of 3 years for the Brunswick batteries). The Brunswick batteries will reach 85% of their service life in 1991, therefore, it is expected that the capacity decline during the approximately 2 month surveillance interval extension will be minimal and will remain far above the 80% minimum. Based on previous testing and maintenance practices, there is every indication that the Unit 2 125/250 volt batteries and chargers are fully capable of providing their designed safety function during the requested surveillance extension.

Granting this amendment will actually result in a slight improvement in the margin of safety because it will avoid the need to remove the batteries from service for a significant portion of their remaining life (a total time of approximately 1 week during the remaining 2 months prior to their planned permanent removal) in order to perform a test which will not significantly increase the level of assurance in battery operability.