



Carolina Power & Light Company

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[APR 13 1993]

SERIAL: NLS-93-099
10 CFR 50.90
TSC 92TSB05

H. W. HABERMEYER, JR.
Vice President
Nuclear Services Department

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

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 & 50-324/LICENSE NOS. DPR-71 & DPR-62
REQUEST FOR LICENSE AMENDMENTS
DESIGN CHANGE - SPENT FUEL STORAGE DRAINAGE

Gentlemen:

In accordance with the Code of Federal Regulations, Title 10, Parts 50.90 and 2.101, Carolina Power & Light Company hereby requests a revision to Appendix A of Operating Licenses DPR-71 and DPR-62 (the Technical Specifications) for the Brunswick Steam Electric Plant (BSEP), Units 1 and 2.

The proposed amendments revise design features information pertaining to the elevation at which the spent fuel storage pool is designed to prevent inadvertent draining. Currently, Technical Specification 5.9.2 cites this elevation as 116' 4". The proposed amendments revise this elevation to 115' 11" based on the actual spent fuel pool design.

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

Enclosure 2 details, in accordance with 10 CFR 50.91(a), the basis for the Company's determination that the proposed changes do not involve a significant hazards consideration.

Enclosure 3 provides an environmental evaluation which demonstrates that the proposed amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental assessment needs to be prepared in connection with issuance of the amendment.

Enclosure 4 provides page change instructions for incorporating the proposed revisions.

Enclosure 5 provides proposed marked-up Technical Specification pages for Unit 1.

Enclosure 6 provides proposed marked-up Technical Specification pages for Unit 2.

Enclosure 7 provides proposed typed Technical Specification pages for Unit 1.

Enclosure 8 provides proposed typed Technical Specification pages for Unit 2.

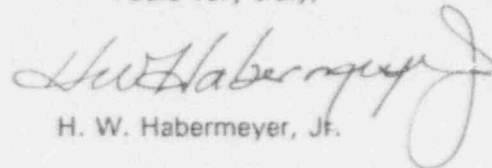
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Carolina Power & Light Company is providing, in accordance with 10 CFR 50.91(h), Mr. Dayne H. Brown of the state of North Carolina with a copy of the proposed license amendments.

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 amendments. Please refer any questions regarding this submittal to Mr. D. B. Waters at (919) 546-3678.

Yours very truly,


H. W. Habermeyer, Jr.

DAF/daf (nls93099.wpf)

Enclosures:

1. Basis for Change Request
2. 10 CFR 50.92 Evaluation
3. Environmental Considerations
4. Page Change Instructions
5. Marked-Up Technical Specification Pages - Unit 1
6. Marked-Up Technical Specification Pages - Unit 2
7. Typed Technical Specification Pages - Unit 1
8. Typed Technical Specification Pages - Unit 2

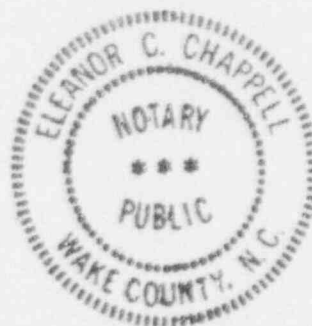
H. W. Habermeyer, Jr., having been first duly sworn, did depose and say that the information contained herein is true and correct to the best of his information, knowledge and belief; and the sources of his information are officers, employees, contractors, and agents of Carolina Power & Light Company.



Notary (Seal)

My commission expires: 2/6/94

cc: Ms. P. D. Anderson
Mr. Dayne H. Brown
Mr. S. D. Ebner
Mr. P. D. Milano
Mr. R. I. Prevatte



ENCLOSURE 1

BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2
NRC DOCKET NOS. 50-325 & 50-324
OPERATING LICENSE NOS. DPR-71 & DPR-62
REQUEST FOR LICENSE AMENDMENT
SPENT FUEL STORAGE DRAINAGE

BASIS FOR CHANGE REQUEST

Background:

The spent fuel storage pool has two main functions: to provide a storage place for irradiated fuel and other radioactive equipment requiring shielding and to provide a convenient area for performing work on selective radioactive equipment.

Brunswick Amendments 77 and 104 (issued on October 25, 1984) for Units 1 and 2 revised Specification 3.9.9, Water Level - Spent Fuel Storage Pool, to reduce the water level required above the top of irradiated fuel rods seated in the spent fuel storage racks. The amendments revised this level from 22' 3" to 20' 6"¹. This was based on an NRC issued SER (dated December 15, 1983) which authorized increasing the storage capacity for BWR fuel in the spent fuel pools for BSEP Unit Nos. 1 and 2. This was achieved at Brunswick by replacing some of the existing spent fuel storage racks with newer high density storage racks. Using new spent fuel rack elevations and also taking credit for the difference in the reference points between the top of the irradiated fuel assemblies and the top of the irradiated fuel rods, it was permissible to allow a lower limit of 20' 6" over the top of active irradiated fuel assemblies in the spent fuel storage racks. After the amendments were issued, it was noted that Specification 5.6.2 incorrectly stated the elevation below which inadvertent draining is designed against.

Current Requirement:

The current design feature states the spent fuel pool shall be maintained to prevent inadvertent draining of the pool below elevation 116' 4".

Proposed Change:

The proposed requirement, or design feature, as described in Specification 5.6.2, "DRAINAGE," would state the following:

The spent fuel storage pool is designed and shall be maintained to prevent inadvertent draining of the pool below elevation 115' 11".

¹ See Brunswick Analysis 80011-M-02-F, "BSEP Spent Fuel Storage Expansion for D_{eff} for a Fuel Handling Accident."

The 115' 11" value, which corresponds to a 20' 10-7/8" water level above the top of irradiated fuel rods seated in the spent fuel storage racks, is the only change proposed in this amendment request. This amendment request will not result in any physical plant changes, nor will this request impact the requirements of water level in the spent fuel storage pool (Specification 3.9.9).

Basis:

Various Brunswick design drawings (F-49071, D- 2608, and F-1190) confirm that the normal operating water level in the spent fuel pool to be 116' 4". However, it is possible that the pool could drain below this level by draining through piping connected to the pool coupled with no flow into the pool. It is not possible, however, with the fuel pool gates installed, that the fuel pool could be inadvertently drained below the bottom of the pool overflows to the skimmer surge tanks. The elevation at the bottom of the overflows to the skimmer surge tanks is 115' 11", as shown on Brunswick Design Drawing F-1190. This elevation is equal to 20' 10-7/8" above the top of the irradiated fuel rods seated in the storage racks. This level is in excess of the minimum required by Technical Specification 3.9.9, which is 20' 6" above the top of the irradiated fuel rods seated in the storage racks.

While this appears to be a change in a less conservative direction, it is noted that there is no basis for the current design feature value since it is possible to inadvertently drain below this level. As such, the normal operating water level at elevation 116' 4" has been mischaracterized as the design parameter below which inadvertent pool draining is prevented from occurring. This was an oversight incorporated during the issuance of the initial standard Brunswick Technical Specifications.

Conclusion:

Specification 5.6.2 should be revised to correctly reflect the design characteristic of maintaining a minimum water level of elevation 115' 11" in the spent fuel pool. This water level corresponds to 20' 10-7/8" of water above the top of irradiated fuel rods seated in storage racks in the spent fuel pool.

ENCLOSURE 2

BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2 NRC DOCKET NOS. 50-325 & 50-324 OPERATING LICENSE NOS. DPR-71 & DPR-62 REQUEST FOR LICENSE AMENDMENT SPENT FUEL STORAGE DRAINAGE

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. Pursuant to 10 CFR 50.91(a)(1), 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:

The proposed requirement, or design feature, as described in Specification 5.6.2, "DRAINAGE," would state the following:

The spent fuel storage pool is designed and shall be maintained to prevent inadvertent draining of the pool below elevation 115' 11".

The 115' 11" value, which corresponds to a 20' 10-7/8" water level above the top of irradiated fuel rods seated in the spent fuel storage racks, is the only change proposed in this amendment request. This amendment request will not result in any physical plant changes, nor will this request impact the requirements of water level in the spent fuel storage pool (Specification 3.9.9).

Basis:

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

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

The current value in Specification 5.6.2 is incorrect. No basis can be determined for including this value in Specification 5.6.2 other than incorrectly characterizing the normal fuel pool water level as the design level to be maintained to prevent inadvertent draining of the fuel pool. This value was incorrectly incorporated into the initial standard Brunswick Technical Specifications, Water Level - Spent Fuel Storage Pool.

The 115' 11" elevation is equal to 20' 10-7/8" above the top of the spent fuel rods seated in the storage racks. This level is still in excess of the minimum level required (20' 6") by Technical Specification 3.9.9.

The accident discussed in UFSAR Section 9.1.2.3.2.4.2, Loss of Spent Fuel Pool Cooling, is not impacted by this change since the spent fuel pool safety functions are not impacted and Technical Specification minimum fuel pool levels (Specification 3.9.9) are not changed. As such, the proposed amendments do not involve a significant increase in the probability of an accident previously evaluated.

The radiological consequences of this accident are discussed in UFSAR Section 9.1.2.3.2.5. This analysis assumes spent fuel pool boiling. In addition, the facilities description of the spent fuel storage pool (Section 9.1.2.2.1), states that the surface of the water will be maintained at Elevation 116.3 ft, which is the normal water level of the pool. Therefore, the (lower) designed level to prevent inadvertent pool draining is not relevant within this analysis. As such, the proposed amendments do not involve a significant increase in the consequences of an accident previously evaluated.

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

This amendment request corrects a mischaracterization of the design features and does not involve a change in fuel pool operations. Specification 5.6.2 states that the fuel pool is designed to prevent inadvertent draining of the pool below elevation 116' 4". However, it is possible that the pool could drain below this level by draining through piping connected to the pool coupled with no flow into the pool. It is not possible, however, with the fuel pool gates installed, that the fuel pool could be inadvertently drained below the bottom of the pool overflows to the skimmer surge tanks. The elevation at the bottom of the overflows to the skimmer surge tanks is 115' 11". Therefore, this is the correct value to cite in the design features section of Technical Specifications.

The proposed 115' 11" elevation will not result in new drain pathways, nor will the minimum fuel pool water level required by the Technical Specifications be impacted by this change. Therefore, the proposed amendments do not create the possibility of a new or different type of accident from any accident previously evaluated.

3. The proposed amendments do not involve a significant reduction in the margin of safety.

The proposed amendments do not change safety limits, setpoints, or plant operations. The plant is actually designed to prevent inadvertent draining of the fuel pool below elevation 115' 11" as discussed above. This change is not an actual design change; it is a design clarification correcting the level at which inadvertent draining of the spent fuel pool is prevented. As such, the proposed amendments do not involve a significant reduction in the margin of safety at Brunswick.

ENCLOSURE 3

BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2
NRC DOCKET NOS. 50-325 & 50-324
OPERATING LICENSE NOS. DPR-71 & DPR-62
REQUEST FOR LICENSE AMENDMENT
SPENT FUEL STORAGE DRAINAGE

ENVIRONMENTAL CONSIDERATIONS

10 CFR 51.22(c)(9) provides criterion for and identification of licensing and regulatory actions eligible for categorical exclusion from performing an environmental assessment. A proposed amendment to an operating license for a facility requires no environmental assessment if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant hazards consideration; (2) result in a significant change in the types or significant increase in the amounts of any effluents that may be released offsite; (3) result in an increase in individual or cumulative occupational radiation exposure. Carolina Power & Light Company has reviewed this request and determined that the proposed amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment needs to be prepared in connection with the issuance of the amendment. The basis for this determination follows:

Proposed Change:

The proposed requirement, or design feature, as described in Specification 5.6.2, "DRAINAGE," would state the following:

The spent fuel storage pool is designed and shall be maintained to prevent inadvertent draining of the pool below elevation 115' 11".

The 115' 11" value, which corresponds to a 20' 10-7/8" water level above the top of irradiated fuel rods seated in the spent fuel storage racks, is the only change proposed in this amendment request. This amendment request will not result in any physical plant changes, nor will this request impact the requirements of water level in the spent fuel storage pool (Specification 3.9.9).

Basis:

The change meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) for the following reasons:

1. As demonstrated in Enclosure 2, the proposed amendments do not involve a significant hazards consideration.
2. The proposed amendments do not result in a significant change in the types or significant increase in the amounts of any effluents that may be released offsite.

The proposed change does not reduce the level of radiological effluent control. The proposed change does not impact spent fuel pool accident mitigation functions or surveillance requirements. No safety-related equipment, safety functions, or plant

operations will be altered as a result of this change. The spent fuel pool design will not change as a result of these amendments.

As such, the proposed amendments cannot affect the types or amounts of any effluents that may be released offsite.

3. The proposed amendments do not result in an increase in individual or cumulative occupational radiation exposure.

The proposed change does not involve any personnel exposure and will not reduce the level of radiological effluent control. Personnel functions are not impacted by this proposed change and there is no impact on plant operation or individual/occupational radiation exposure.

Therefore, the proposed amendments have no effect on either individual or cumulative occupational radiation exposure.