CP&L

Carolina Power & Light Company
P.O. Box 10429
Southport, NC 28461-0429

C.S. Hinnant
Vice President
Brunswick Nuclear Plant

FEB 23 1998

SERIAL: BSEP 98-0034
TSC 97TSB10

10 CFR 50.90

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

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NO. 1
DOCKET NO. 50-325/LICENSE NO. DPR-71
REQUEST FOR LICENSE AMENDMENT
FUEL CYCLE 12 RELOAD LICENSING

Gentlemen:

In accordance with the Code of Federal Regulations, Title 10, Parts 50.90 and 2.101, Carolina Power & Light (CP&L) Company is requesting a revision to the Technical Specifications for the Brunswick Steam Electric Plant (BSEP), Unit No. 1. The proposed license amendment (1) revises the safety limit minimum critical power ratio (SLMCPR) referenced in Technical Specification 2.1.2 from 1.10 to 1.09, including removal of a footnote associated with the SLMCPR value which was added to limit use of the value to only one operating cycle; and (2) deletes a document reference in Technical Specification 6.9.3.2.c. The basis for these changes is provided in Enclosure 1.

CP&L is providing, in accordance with 10 CFR 50.91(b), Mr. Mel Fry of the State of North Carolina a copy of the proposed license amendment.

The proposed license amendment should not be issued until the end of the current Unit 1 operating cycle (i.e., Cycle 11) because the proposed changes do not apply to the fuel types and core configuration currently in use. Based on the planned outage schedule, CP&L requests issuance of the proposed license amendment on or after April 25, 1998 (i.e., the start date for Refueling Outage 11). In order to allow time for procedure revision and orderly incorporation into copies of the Technical Specifications, CP&L requests that the proposed license amendment, once approved by the NRC, be issued with a requirement for implementation prior to startup of Unit 1 following Refueling Outage 11.

The General Electric Nuclear Energy (GE) document in Enclosure 2 provides a comparison of the Unit 1 Cycle 12 SLMCPR to the generic GE13 SLMCPR. Some of the information contained in the document is considered GE proprietary information and should be withheld

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from public disclosure in accordance with 10 CFR 9.17(a)(4) and 10 CFR 2.790(a)(4). An affidavit attesting to this fact is provided in Enclosure 3. A non-proprietary version of the GE document is provided in Enclosure 4.

Please refer any questions regarding this submittal to Mr. Keith R. Jury, Manager - Regulatory Affairs, at (910) 457-2783.

Sincerely,

C S Hinnant

C. S. Hinnant

WRM/wrm

Enclosures:

1. Basis for Change Request
2. General Electric Nuclear Energy Document Entitled "Additional Information Regarding the 1.09 Cycle Specific SLMCPR for Brunswick Unit 1 Cycle 12" **(Proprietary Information)**
3. General Electric Nuclear Energy Affidavit Regarding Withholding from Public Disclosure
4. General Electric Nuclear Energy Document Entitled "Additional Information Regarding the 1.09 Cycle Specific SLMCPR for Brunswick Unit 1 Cycle 12" **(Non-Proprietary Version)**
5. 10 CFR 50.92 Evaluation
6. Environmental Considerations
7. Page Change Instructions
8. Typed Technical Specification Pages - Unit No. 1
9. Marked-up Technical Specification Pages - Unit No. 1
10. Typed Page Revision To Previously Submitted ITS Conversion - Unit No. 1
11. Mark-up For Revision To Previously Submitted ITS Conversion - Unit No. 1

C. S. Hinnant, 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, and agents of Carolina Power & Light Company.

Dora S Mason

Notary (Seal)

My commission expires: August 21, 1999

cc (with enclosures):

U. S. Nuclear Regulatory Commission, Region II
ATTN: Mr. Luis A. Reyes, Regional Administrator
Atlanta Federal Center
61 Forsyth Street, SW, Suite 23T85
Atlanta, GA 30303

U. S. Nuclear Regulatory Commission
ATTN: Mr. Charles A. Patterson, NRC Senior Resident Inspector
7470 River Road
Southport, NC 28461-8869

U. S. Nuclear Regulatory Commission
ATTN: Mr. David C. Trimble, Jr. (Mail Stop OWFN 14H22)
11555 Rockville Pike
Rockville, MD 20852-2738

The Honorable Jo A. Sanford
Chairman - North Carolina Utilities Commission
P.O. Box 29510
Raleigh, NC 27626-0510

Mr. Mel Fry
Director - Division of Radiation Protection
North Carolina Department of Environment and Natural Resources
3825 Barrett Drive
Raleigh, NC 27609-7221

ENCLOSURE 1

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NO. 1
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REQUEST FOR LICENSE AMENDMENT
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BASIS FOR CHANGE REQUEST

PROPOSED CHANGE 1:

Current Requirement

Technical Specification 2.1.2 states:

> The MINIMUM CRITICAL POWER RATIO (MCPR) shall not be less than 1.10* with the reactor vessel steam dome pressure greater than 800 psia and core flow greater than 10% of rated flow.
>
> * MCPR values in Technical Specification 2.1.2 are applicable only for Cycle 11 operation.

Proposed Change

Revise the safety limit MCPR value specified in Technical Specification 2.1.2 from 1.10 to 1.09. In addition, delete the footnote associated with the safety limit MCPR value (i.e., footnote *)

Basis For Proposed Change

On October 17, 1996, the NRC approved Amendment No. 182 to the Operating License for the Brunswick Steam Electric Plant (BSEP), Unit No. 1. This amendment revised the safety limit MCPR specified in Technical Specification 2.1.2 from 1.07 to 1.10 based on the use of a new fuel type (i.e., GE13 fuel). Because the new safety limit MCPR value was based on a cycle-specific analysis for Unit 1 Cycle 11, the approval of the new safety limit MCPR value was limited to Cycle 11 operation by inclusion of a footnote to the safety limit MCPR value.

Prior to 1996, General Electric Report NEDE-24011-P-A-11, "General Electric Standard Application for Reactor Fuel (GESTAR II)" stipulated that the safety limit MCPR for a new fuel design be performed for a large, high power density plant assuming a bounding equilibrium reactor core. The generic safety limit MCPR for the GE13 fuel type was determined, according to this specification, and found to be 1.09. Plant/cycle-specific safety limit MCPR analyses now are used to confirm the calculated safety limit MCPR value on a plant/cycle-specific basis using the uncertainties defined in NEDE-31152-P, Revision 6, "General Electric Fuel Bundle Designs."

For the Unit 1 Cycle 12 reactor core, General Electric Nuclear Energy (GE) has performed plant-specific evaluations using the methods described in NEDO-10958-A, "General Electric BWR Thermal Analysis Basis (GETAB): Data, Correlation and Design Application." This evaluation yields a calculated safety limit MCPR value of 1.09, which is equivalent to the generic safety limit MCPR value of 1.09 discussed above. The GE document provided in Enclosure 2 provides a comparison of the Unit 1 Cycle 12 safety limit MCPR to the generic GE13 safety limit MCPR.

Some of the information contained in the document provided in Enclosure 2 is considered GE proprietary information and should be withheld from public disclosure in accordance with 10 CFR 9.17(a)(4) and 10 CFR 2.790(a)(4). An affidavit attesting to this fact is provided in Enclosure 3. A non-proprietary version of the GE document is provided in Enclosure 4.

The fuel types that have been reviewed and approved by the NRC for use in Unit 1 reactor cores are listed in Technical Specification 5.3.1. Currently, the BP8x8R, GE8x8EB, BE8x8NB-3, and GE13 fuel types have been approved by the NRC. For Unit 1 Cycle 12 operation, Carolina Power & Light (CP&L) Company plans to use the GE13 fuel type as reload fuel; therefore, no revision to Technical Specification 5.3.1 is necessary.

PROPOSED CHANGE 2:

Current Requirement

Technical Specification 6.9.3.2 states:

> The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC, specifically those described in the following documents.
>
> c. The NRC Safety Evaluation for Brunswick Unit 1 Amendment No. 182.

Proposed Change

Delete reference "c" from the list of documents in Technical Specification 6.9.3.2.

Basis For Proposed Change

As previously discussed, Amendment No. 182 for Unit No. 1 revised the safety limit MCPR specified in Technical Specification 2.1.2 from 1.07 to 1.10 based on the use of a new fuel type (i.e., GE13 fuel). Because the new safety limit MCPR value was based on a cycle-specific analysis for Unit 1 Cycle 11, the approval of the new safety limit MCPR value was limited to Cycle 11 operation by inclusion of a footnote to the safety limit MCPR value. In addition, a reference was added to Technical Specification 6.9.3.2 (i.e., item "c") to document NRC acceptance of the GE methods used for determining the Unit 1 Cycle 11 safety limit MCPR value, including GE Topical Report NEDC-32505P, "R-Factor Calculation Method for GE11, GE12, and GE13 Fuel, November 1995." Since the revised safety limit MCPR value of 1.09 is

equivalent to the generic safety limit MCPR value of 1.09 for GE13 fuel, reference "c" in Technical Specification 6.9.3.2 is no longer needed and is being deleted.

ADMINISTRATIVE INFORMATION

On November 1, 1996 (Serial: BSEP 96-0414), as supplemented on October 13, 1997 (Serial: BSEP 97-0443), CP&L submitted a license amendment request for the conversion of the current BSEP Technical Specifications to the Improved Technical Specifications (ITS), as contained in Revision 1 of NUREG-1433, "Standard Technical Specifications General Electric Plants, BWR/4." Enclosure 10 provides mark-ups of the ITS submittal to reflect the following changes:

1. In Safety Limit (SL) 2.1.1.2, deletion of the note indicating the MCPR SL values are only applicable for Cycle 11 operation, revision of the MCPR value from 1.10 to 1.09 for two recirculation loop operation, and revision of the MCPR from 1.12 to 1.10 for single recirculation loop operation.

2. In the Bases for the Reactor Core Safety Limits (i.e., B 2.1.1), deletion of the paragraph in the discussion of Safety Limits that indicates the MCPR SL values are based on cycle-specific input parameters.

3. In Reporting Requirement 5.6.5.b, deletion of item 5 referencing the NRC Safety Evaluation for Unit 1 Amendment No. 182.

Enclosure 11 provides typed, replacement pages for the previously submitted ITS which reflect the changes described above.

ENCLOSURE 3

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NO. 1
DOCKET NO. 50-325/LICENSE NO. DPR-71
REQUI ST FOR LICENSE AMENDMENT
FUEL CYCLE 12 RELOAD LICENSING

GENERAL ELECTRIC NUCLEAR ENERGY
AFFIDAVIT REGARDING WITHHOLDING
FROM PUBLIC DISCLOSURE

GE Nuclear Energy

General Electric Company
P. O. Box 780, Wilmington, NC 28402

Affidavit

I, Glen A. Watford, being duly sworn, depose and state as follows:

(1) I am Manager, Nuclear Fuel Engineering, General Electric Company ("GE") and have been delegated the function of reviewing the information described in paragraph (2) which is sought to be withheld, and have been authorized to apply for its withholding.

(2) The information sought to be withheld is contained in the attachment to the letter, W.H. Hetzel (GE Nuclear Energy) to A.T. Kremer (Carolina Power & Light Company), *Brunswick 1 Cycle 12 Safety Limit MCPR,* Letter no. WHH:98-009.

(3) In making this application for withholding of proprietary information of which it is the owner, GE relies upon the exemption from disclosure set forth in the Freedom of Information Act ("FOIA"), 5 USC Sec. 552(b)(4), and the Trade Secrets Act, 18 USC Sec. 1905, and NRC regulations 10 CFR 9.17(a)(4) and 2.790(a)(4) for "trade secrets and commercial or financial information obtained from a person and privileged or confidential" (Exemption 4). The material for which exemption from disclosure is here sought is all "confidential commercial information," and some portions also qualify under the narrower definition of "trade secret," within the meanings assigned to those terms for purposes of FOIA Exemption 4 in, respectively, Critical Mass Energy Project v. Nuclear Regulatory Commission, 975F2d871 (DC Cir. 1992), and Public Citizen Health Research Group v. FDA, 704F2d1280 (DC Cir. 1983).

(4) Some examples of categories of information which fit into the definition of proprietary information are:

a. Information that discloses a process, method, or apparatus, including supporting data and analyses, where prevention of its use by General Electric's competitors without license from General Electric constitutes a competitive economic advantage over other companies;

b. Information which, if used by a competitor, would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing of a similar product;

c. Information which reveals cost or price information, production capacities, budget levels, or commercial strategies of General Electric, its customers, or its suppliers;

d. Information which reveals aspects of past, present, or future General Electric customer-funded development plans and programs, of potential commercial value to General Electric;

e. Information which discloses patentable subject matter for which it may be desirable to obtain patent protection.

The information sought to be withheld is considered to be proprietary for the reasons set forth in both paragraphs (4)a. and (4)b., above.

(5) The information sought to be withheld is being submitted to NRC in confidence. The information is of a sort customarily held in confidence by GE, and is in fact so held. Its initial designation as proprietary information, and the subsequent steps taken to prevent its unauthorized disclosure, are as set forth in (6) and (7) following. The information sought to be withheld has, to the best of my knowledge and belief, consistently been held in confidence by GE, no public disclosure has been made, and it is not available in public sources. All disclosures to third parties including any required transmittals to NRC, have been made, or must be made, pursuant to regulatory provisions or proprietary agreements which provide for maintenance of the information in confidence.

(6) Initial approval of proprietary treatment of a document is made by the manager of the originating component, the person most likely to be acquainted with the value and sensitivity of the information in relation to industry knowledge. Access to such documents within GE is limited on a "need to know" basis.

(7) The procedure for approval of external release of such document typically requires review by the staff manager, project manager, principal scientist or other equivalent authority, by the manager of the cognizant marketing function (or his delegate), and by the Legal Operation, for technical content, competitive effect, and determination of the accuracy of the proprietary designation. Disclosures outside GE are limited to regulatory bodies, customers, and potential customers, and their agents, suppliers, and licensees, and others with a legitimate need for the information, and then only in accordance with appropriate regulatory provisions or proprietary agreements.

(8) The information identified in paragraph (2) is classified as proprietary because it contains details of GE's Safety Limit MCPR analysis and the corresponding results which GE has applied to this specific plant and cycle's actual core design with GE's fuel.

The development of the methods used in these analysis, along with the testing, development and approval of the supporting critical power correlation was achieved at a significant cost, on the order of several million dollars, to GE.

(9) Public disclosure of the information sought to be withheld is likely to cause substantial harm to GE's competitive position and foreclose or reduce the availability of profit-making opportunities. The stability analysis is part of GE's comprehensive BWR safety and technology base, and its commercial value extends beyond the original development cost. The value of the technology base goes beyond the extensive physical database and analytical methodology and includes development of the expertise to determine and apply the appropriate evaluation process. In addition, the technology base includes the value derived from providing analyses done with NRC-approved methods.

The research, development, engineering, analytical, and NRC review costs comprise a substantial investment of time and money by GE.

The precise value of the expertise to devise an evaluation process and apply the correct analytical methodology is difficult to quantify, but it clearly is substantial.

GE's competitive advantage will be lost if its competitors are able to use the results of the GE experience to normalize or verify their own process or if they are able to claim an equivalent understanding by demonstrating that they can arrive at the same or similar conclusions.

The value of this information to GE would be lost if the information were disclosed to the public. Making such information available to competitors without their having been required to undertake a similar expenditure of resources would unfairly provide competitors with a windfall, and deprive GE of the opportunity to exercise its competitive advantage to seek an adequate return on its large investment in developing these very valuable analytical tools.

State of North Carolina)
County of New Hanover) SS:

Glen A. Watford, being duly sworn, deposes and says:

That he has read the foregoing affidavit and the matters stated therein are true and correct to the best of his knowledge, information, and belief.

Executed at Wilmington, North Carolina, this 27th day of January, 1998

Glen A. Watford
General Electric Company

Subscribed and sworn before me this 27 day of January, 1998

JAMES E. McGINNESS
Notary Public, State of North Carolina
New Hanover County
My Commision Expires 1/23/2001

Notary Public, State of North Carolina

My Commission Expires _____

ENCLOSURE 4

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NO. 1
DOCKET NO. 50-325/LICENSE NO. DPR-71
REQUEST FOR LICENSE AMENDMENT
FUEL CYCLE 12 RELOAD LICENSING

GENERAL ELECTRIC NUCLEAR ENERGY DOCUMENT ENTITLED
"ADDITIONAL INFORMATION REGARDING THE 1.09
CYCLE SPECIFIC SLMCPR FOR BRUNSWICK UNIT 1 CYCLE 12"
(NON-PROPRIETARY VERSION)

References

[1] *General Electric BWR Thermal Analysis Basis (GETAB): Data, Correlation and Design Application*, NEDO-10958-A, January 1977.

[2] *General Electric Standard Application for Reactor Fuel (GESTAR II)*, NEDE-24011-P-A-11, November 1995.

[3] *General Electric Standard Application for Reactor Fuel (GESTAR II)*, NEDE-24011-P-A-13, August 1996.

[4] *General Electric Fuel Bundle Designs*, NEDE-31152-P, Revision 6, April 1997.

[5] *Methodology and Uncertainties for Safety Limit MCPR Evaluations*, NEDC-32601P, Class III, December 1996.

[6] *R-Factor Calculation Method for GE11, GE12 and GE13 Fuel*, NEDC-32505P, Revision 1, June 1997.

Proposed Changes

CP&L requests that the Technical Specifications contained in Appendix A to the Brunswick Nuclear Plant Unit 1 Operating License DPR-71 be amended to revise Technical Specifications Sections 2.1.2 to reflect changes in the Safety Limit Minimum Critical Power Ratio (SLMCPR).

Comparison of the Brunswick Unit 1 Cycle 12 SLMCPR to the Generic GE13 SLMCPR Value

Table 1 summarizes the relevant input parameters and results of the SLMCPR evaluation for both the generic GE13 and the Brunswick Unit 1 Cycle 12 core. The generic evaluation and the plant/cycle specific evaluations all were performed using the methods described in GETAB[1]. The evaluations yield the same calculated SLMCPR values although the inputs that are used are different. The quantities that have been shown to have some impact on the determination of the safety limit MCPR (SLMCPR) are provided. Much of this information is redundant but is provided in this case because it has been provided previously to the NRC to assist them in understanding the differences between plant/cycle specific SLMCPR evaluations and the generic values calculated previously for each fuel product line. [[...]]

Prior to 1996, GESTAR II[2] stipulated that the SLMCPR analysis for a new fuel design be performed for a large high power density plant assuming a bounding equilibrium core. The GE13 product line generic SLMCPR value was determined according to this specification and found to be 1.09. Later revisions to GESTAR II[3] that have been submitted to the NRC describe how plant/cycle specific SLMCPR analyses are used to confirm the calculated SLMCPR value on a plant/cycle specific basis using the uncertainties defined in Reference [4].

In comparing the generic GE13 value to the Brunswick Unit 1 Cycle 12 SLMCPR value, it is important to note that the Brunswick Unit 1 Cycle 12 core is not an equilibrium core. It is a mixed core with GE10 and GE13 fuel. The latest reload consists of GE13 fuel making up [[...]] of the total bundles in the core. The fresh GE13 fuel has an average bundle enrichment of [[...]], as compared to a core average enrichment of [[3.78%]], as shown in Table 1. By way of comparison, the generic GE13 equilibrium core has batch and core average enrichments of [[...]]. Higher enrichment in the fresh GE13 fuel for the Brunswick Unit 1 Cycle 12 core (compared to the average of the core) produces higher power in the fresh bundles relative to the rest of the core. [[...]]

[[...]]

[[...]]

[[...]]

[[...]]

The uncontrolled bundle pin-by-pin power distributions were compared between the Brunswick Unit 1 Cycle 12 bundles and the bundles used for the generic GE13 evaluation. Pin-by-pin power distributions are characterized in terms of R-factors using the methodology defined in Reference [6].
[[...]]

The flatness of the pin R-factor distribution within a particular bundle is characterized [[...]]

[[...]] **This supports the conclusion that the equivalent calculated SLMCPR value for Brunswick Unit 1 Cycle 12 is due to the compensating effects of a flatter core MCPR distribution and more peaked bundle R-factors relative to those used for the generic GE13 evaluation.**

Table 1 Comparison of Generic GE13 and Brunswick Unit 1 Cycle 12 Core and Bundle Quantities that Impact the SLMCPR [[

]]

Summary

The calculated nominal 1.09 Monte Carlo SLMCPR for Brunswick Unit 1 Cycle 12 is consistent with what one would expect [[...]] the 1.09 SLMCPR value is appropriate.

Various quantities [[...]] have been used over the last year to compare quantities that impact the calculated SLMCPR value. These other quantities have been provided to the NRC previously for other plant/cycle specific analyses using a format similar to that given in Table 1. These other quantities have also been compared for this core/cycle [[...]] The key parameters in Table 1 support the conclusion that the Brunswick Unit 1 Cycle 12 core/cycle compare well given the compensating power distributions [[...]] to what was used to perform the GE13 generic SLMCPR evaluations. These distributions contribute to the equivalent calculated SLMCPR relative to the GE13 generic SLMCPR evaluation.

Based on all of the facts, observations and arguments presented above, it concluded that the calculated SLMCPR value of 1.09 for the Brunswick Unit 1 Cycle 12 core is appropriate.

For single loop operations (SLO) the SLMCPR was calculated to be 1.10, or 0.01 greater than the calculated two loop value. [[...]]

Prepared by:

S. B. Shelton
Technical Program Manager
Nuclear Fuel Engineering

Verified by:

G. M. Baka
Technical Program Manager
Nuclear Fuel Engineering

ENCLOSURE 5

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NO. 1
DOCKET NO. 50-325/LICENSE NO. DPR-71
REQUEST FOR LICENSE AMENDMENT
FUEL CYCLE 12 RELOAD LICENSING

10 CFR 50.92 EVALUATION

Carolina Power & Light (CP&L) Company has concluded that the proposed changes to the Brunswick Steam Electric Plant (BSEP), Unit No. 1 Technical Specifications to revise the safety limit minimum critical power ratio (MCPR) value to 1.09, delete the footnote associated with the safety limit MCPR value, and delete reference "c" from the list of documents in Technical Specification 6.9.3.2 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 license amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

   The proposed license amendment establishes a revised safety limit MCPR value of 1.09 for use during Unit 1 Cycle 12 operation. General Electric (GE) has determined that both generic and plant-specific evaluations yield the same calculated safety limit MCPR value. Additionally, a document referenced by the Technical Specification 6.9.3.2 of methodologies used in determining core operating limits is being removed.

   The probability of an evaluated accident is derived from the probabilities of the individual precursors to that accident. The consequences of an evaluated accident are determined by the operability of plant systems designed to mitigate those consequences. Limits have been established, consistent with NRC approved methods, to ensure that fuel performance during normal, transient, and accident conditions is acceptable.

   The probability of an evaluated accident is not increased by revising the safety limit MCPR value to 1.09. The change does not require any physical plant modifications or physically affect any plant components. Therefore, no individual precursors of an accident are affected.

   The proposed license amendment establishes a revised safety limit MCPR that ensures the fuel is protected during normal operation and during any plant transients or anticipated operational occurrences. Specifically, the reload analysis demonstrates that a safety limit MCPR value of 1.09 ensures that less than 0.1 percent of the fuel rods will experience boiling transition during any plant operation if the limit is not violated.

The methods for calculating the safety limit MCPR have been approved by the NRC and are described in GE's reload licensing methodology topical report NEDE-24011, "General Electric Standard Application for Reactor Fuel (GESTAR II)." Based on (1) the determination of the new safety limit MCPR value using conservative approved methods, and (2) the operability of plant systems designed to mitigate the consequences of accidents not having been changed; the consequences of an accident previously evaluated have not been increased.

Additionally, removal of the footnote on the safety limit MCPR value in Technical Specification 2.1.2 and removal of reference "c" from the document list in Technical Specification 6.9.3.2 will not increase the probability or consequences of accidents previously evaluated. The footnote on the safety limit MCPR value in Technical Specification 2.1.2 and reference "c" in Technical Specification 6.9.3.2 were associated with the safety limit MCPR value of 1.10 for Unit 1 Cycle 11 operation. Since the current safety limit MCPR value of 1.10 applies only to Unit 1 Cycle 11 operation, the footnote on the safety limit MCPR value in Technical Specification 2.1.2 and the reference "c" in Technical Specification 6.9.3.2 are no longer needed and should be deleted. Thus, removal of the footnote on the safety limit MCPR value in Technical Specification 2.1.2 and removal of reference "c" from Technical Specification 6.9.3.2 is an administrative change that has no effect on the probability or consequences of accidents previously evaluated.

2. The proposed license amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated.

   This proposed license amendment involves a revision of the safety limit MCPR from 1.10 to 1.09 based on the results of both cycle-specific and generic analyses, removal of the footnote on the safety limit MCPR value in Technical Specification 2.1.2, and the removal of a document reference listed in Technical Specification 6.9.3.2 describing the methods used only during Unit 1 Cycle 11 to determine core operating limits. Creation of the possibility of a new or different kind of accident would require the creation of one or more new precursors of that accident. New accident precursors may be created by modifications of the plant configuration, including changes in allowable modes of operation. This proposed license amendment does not involve any modifications of the plant configuration or changes in the allowable modes of operation. Therefore, no new precursors of an accident are created and no new or different kinds of accidents are created.

3. The proposed license amendment does not involve a significant reduction in a margin of safety.

   As previously stated, the methods for calculating the safety limit MCPR have been previously approved by the NRC and are described in GE's reload licensing methodology topical report NEDE-24011. Use of these methods ensures that the resulting safety limit MCPR satisfies the fuel design safety criteria that less than 0.1 percent of the fuel rods

experience boiling transition if the safety limit is not violated. Based on the assurance that the fuel design safety criteria will be met, the proposed license amendment does not involve a significant reduction in a margin of safety.

Additionally, removal of the footnote on the safety limit MCPR value in Technical Specification 2.1.2 and removal of reference "c" from the document list in Technical Specification 6.9.3.2 will not decrease the margin of safety for accidents previously evaluated. The footnote on the safety limit MCPR value in Technical Specification 2.1.2 and reference "c" in Technical Specification 6.9.3.2 were associated with the safety limit MCPR value of 1.10 for Unit 1 Cycle 11 operation. Since the current safety limit MCPR value of 1.10 applies only to Unit 1 Cycle 11 operation, the footnote on the safety limit MCPR value in Technical Specification 2.1.2 and the reference "c" in Technical Specification 6.9.3.2 are no longer needed and should be deleted. Thus, removal of the footnote on the safety limit MCPR value in Technical Specification 2.1.2 and removal of reference "c" from Technical Specification 6.9.3.2 is an administrative change that does not reduce the margin of safety.

ENCLOSURE 6

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NO. 1
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FUEL CYCLE 12 RELOAD LICENSING

ENVIRONMENTAL CONSIDERATIONS

Carolina Power & Light (CP&L) Company has concluded that the proposed changes to the Brunswick Steam Electric Plant (BSEP), Unit No. 1 Technical Specifications revising the safety limit minimum critical power ratio (MCPR) to 1.09, removing the footnote on the safety limit MCPR value in Technical Specification 2.1.2, and deleting the reference listed in Technical Specification 6.9.3.2.c are eligible for categorical exclusion from performing an environmental assessment. In support of this determination, an evaluation of each of the three (3) criteria set forth in 10 CFR 51.22(c)(9) is provided below.

1. The proposed license amendment does not involve a significant hazards consideration, as shown in Enclosure 5.

2. The proposed license amendment does not result in a significant change in the types or a significant increase in the amounts of any effluent that may be released offsite. The proposed license amendment establishes a revised safety limit MCPR that ensures the fuel is protected during normal operation and during any plant transients or anticipated operational occurrences. The proposed license amendment does not introduce any new equipment nor require any existing equipment or systems to perform a different type of function than they are presently designed to perform. The proposed license amendment does not alter the function of existing equipment and will ensure that the consequences of any previously evaluated accident do not increase. Specifically, the revised safety limit MCPR will ensure that that less than 0.1 percent of the fuel rods will experience boiling transition if the safety limit is not violated. Therefore, CP&L has concluded that there will not be a significant increase in the types or amounts of any effluent that may be released offsite and, as such, the proposed license amendment does not involve irreversible environmental consequences beyond those already associated with normal operation.

3. The proposed license amendment does not result in an increase in individual or cumulative occupational radiation exposure.

ENCLOSURE 7

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NO. 1
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REQUEST FOR LICENSE AMENDMENT
FUEL CYCLE 12 RELOAD LICENSING

PAGE CHANGE INSTRUCTIONS

UNIT NO. 1	
Removed page	Inserted page
2-1	2-1
6-23	6-23