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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 EXEMPTION TO 10 CFR 50, APPENDIX R AND ADDITIONAL INFORMATION
ON THERMO-LAG ISSUES

Gentlemen:

The purpose of this letter is to provide an update to Carolina Power & Light Company's Request for Exemption to 10 CFR 50, Appendix R dated August 31, 1995 (Serial No. BSEP 95-0378) and updated on January 10, 1996 (Serial No. BSEP 95-0659). Enclosure 1 summarizes CP&L's previous submittals and withdraws the exemption revision requested for fire areas RB1-6 and RB2-6. As stated in the March 23, 1995 submittal (Serial No. BSEP 95-0142), resolution of the overall Thermo-Lag issue for Brunswick Unit 1 and 2 is expected to be completed 90 days after the end of the Brunswick Unit 1 refueling outage (B111R1 - completed November 7, 1996), but completion within this time-frame is contingent on the NRC staff approval of the remaining exemption request with time for implementation. To implement complete resolution of the Thermo-Lag issue CP&L requires 60 days beyond the NRC staff approval of this exemption.

Please refer any questions regarding this letter to Mr. Mark Turkal at (910) 457-3066.

Sincerely,

William R. Campbell

GMT/

Enclosures:

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cc: Mr. S. D. Ebnetter, NRC Regional Administrator, Region II
Mr. C. A. Patterson, NRC Senior Resident Inspector - Brunswick Plant
Mr. D. C. Trimble, Jr., NRR Project Manager - Brunswick Plant
The Honorable H. Wells, Chairman - North Carolina Utilities Commission

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 EXEMPTION TO 10 CFR 50, APPENDIX R AND ADDITIONAL INFORMATION
ON THERMO-LAG ISSUES

RESPONSE TO SUPPORT EXEMPTION REVISION

Discussion

By the letter dated August 31, 1995 (Serial No. BSEP 95-0378), and updated January 10, 1996 (Serial No. 95-0659), Carolina Power & Light Company (CP&L) requested an exemption along with a request to revise existing exemptions to 10 CFR 50, Appendix R. The revision to the exemption requested for fire areas RB1-6 and RB2-6 is now being withdrawn. The following summarizes CP&L's exemption requests.

III.L Exemption

CP&L requested an exemption on August 31, 1995, pertaining to the extent that reactor coolant must remain above the top of the core during the use of the alternate shutdown system. This exemption would allow the use of Low Pressure Coolant Injection (LPCI) and safety/relief valves as the redundant safe shutdown system for reactor pressure and level control.

CP&L's January 10, 1996 submittal documented that the III.L exemption portion is also applicable to Section III.G.1.a, III.L.1.b, III.L.1.c in addition to III.L.2.b. Although the capability to maintain hot shutdown identified in these sections cannot be achieved through the use of LPCI and the safety/relief valves, the performance functions outlined in III.L.2 can still be accomplished with the exception of core uncover, by the use of this alternative shutdown approach.

10 CFR 50, Appendix R, Section III.G.1.a identifies that one train of systems necessary to achieve and maintain hot shutdown from either the control room or emergency control stations must be free of fire damage. Section III.L.1.c also identifies that alternate shutdown capability should achieve and maintain hot shutdown conditions. CP&L's August 31, 1995, exemption request addressed the specific requirement related to core uncover in Section III.L.2.b, but did not identify that achieving and maintaining the hot shutdown requirements in Sections III.G.1.a and III.L.1.c would also be affected by this exemption request.

As stated in our August 31, 1995 request for exemption, CP&L discussed the use of LPCI in conjunction with the safety relief valves as an alternate shutdown system if a fire disables the normal RCIC shutdown capability. CP&L has determined that a fire in the following areas could potentially disable RCIC, but would not impact the use of LPCI in conjunction with the safety relief valves as an alternate shutdown system:

RB1 and RB2 Fire Areas

- 1) For a fire on the north side of the Reactor Building, fire damage could occur to the cables associated with the RCIC steam isolation valve (1/2-E51-F007). These cables are routed in conduit from the transfer contactor to the drywell penetration on the north side of the Reactor Building.
- 2) For a fire in the separation zone on the Reactor Building 20' elevation east and southwest (Unit 1 only), fire damage could occur to the cables and transfer contactors associated with the RCIC steam isolation valve (1/2-E51-F007), RCIC steam injection valve (1-E51-F013), and the RCIC vent valve (1/2-E51-F062). The cables are routed in conduit as they pass into these separation zones. These zones are controlled by administrative procedures to ensure transient combustibles are not stored in the zone. A fixed suppression and detection system is provided in the separation zones.

Although the potential exists for fire damage to occur to the RCIC cables and components identified above, the risk is limited to a small number of locations. The cables involved are contained in enclosed raceways, thereby limiting the potential fire damage. The remaining RCIC system components will be free of fire damage since they are separated in accordance with 10 CFR 50, Appendix R. If the proposed exemption is granted, reactor coolant inventory control and the capability to achieve and maintain cold shutdown will still be available through the use of LPCI in conjunction with the safety relief valves which are separated in accordance with 10 CFR 50, Appendix R.

As stated in the March 23, 1995 submittal (Serial No. BSEP 95-0142), resolution of the overall Thermo-Lag issue for Brunswick Unit 1 and 2 is expected to be completed 90 days after the end of the Brunswick Unit 1 refueling outage (B111R1 - completed November 7, 1996), but completion within this time-frame was contingent on the NRC staff approval of this exemption request with time for implementation. To implement complete resolution of the Thermal-Lag issue CP&L requires 60 days beyond the NRC staff approval of this exemption.

Withdrawal of RB1-6 and RB2-6 Exemption Revision

CP&L withdraws the request for the change to the existing exemption for fire areas RB1-6 and RB2-6, Emergency Core Cooling System (ECCS) rooms while alternative methods are being pursued. This exemption change request, submitted on August 31, 1995, requested a change to the existing exemption that relied on the separation provided by a 1 Hour Thermo-Lag fire wrap in fire areas RB1-6 and RB2-6, the Emergency Core Cooling System (ECCS) rooms. The change to the exemption would have involved removing the 1 hour Thermo-Lag fire wrap protecting the RCIC circuits and using an alternative shutdown methodology (LPCI/safety relief valves) requested in the preceding section.

RB1 and RB2 Exemption Revision (Withdrawn)

In the January 10, 1996 letter (Serial BSEP 95-0659) CP&L requested withdrawal of the exemption request submitted in August 31, 1995, that would have allowed the removal of the Thermo-Lag material enclosure from a bank of cable trays in each Unit's Reactor

Building East separation zones, on the 50 foot elevation, and its replacement with fire breaks at each end of the separation zone. The existing NRC Safety Evaluation, dated December 30, 1986, for this separation zone provides an option to enclose the cable trays with either a one hour enclosure or a non-combustible material enclosure in order to eliminate the intervening combustibles. CP&L now plans to remove the Thermo-Lag material and enclose the cable trays containing cables with a non-combustible material. Based on this approach, the exemption revision request for RB1 and RB2 is no longer required and was withdrawn.

ENCLOSURE 2

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2 DOCKET NOS. 50-325 AND 50-324/LICENSE NOS. DPR-71 AND DPR-62 REQUEST FOR EXEMPTION TO 10 CFR 50, APPENDIX R AND ADDITIONAL INFORMATION ON THERMO-LAG ISSUES

RESPONSE TO THERMO-LAG ISSUES

Cable Ampacity Derating

The following information updates information supplied on the impact of Thermo-Lag enclosures on cable ampacity. CP&L's January 10, 1996, submittal identified a proposed resolution for conduits containing power cables in the Unit 1 Reactor Building separation zone enclosed with Thermo-Lag material. This response documented that the Thermo-Lag material would be replaced with alternate material and the cable ampacity addressed as part of the design process. An alternative resolution approach has since been identified which involves electrical circuit modifications to eliminate the need for any type of fire wrap protection for these conduits. The current plans for the remaining Thermo-Lag material would involve removing the Thermo-Lag material in the separation zone and where Thermo-Lag remains on the conduit outside the separation zone a cable ampacity derating evaluation would be performed.

ENCLOSURE 3

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2 DOCKET NOS. 50-325 AND 50-324/LICENSE NOS. DPR-71 AND DPR-62 REQUEST FOR EXEMPTION TO 10 CFR 50, APPENDIX R AND ADDITIONAL INFORMATION ON THERMO-LAG ISSUES

LIST OF REGULATORY COMMITMENTS

The following table identifies those actions committed to by Carolina Power & Light Company in this document. Any other actions discussed in the submittal represent intended or planned actions by Carolina Power & Light Company. They are described to the NRC for the NRC's information and are not regulatory commitments. Please notify the Manager-Regulatory Affairs at the Brunswick Nuclear Plant of any questions regarding this document or any associated regulatory commitments.

Commitment	Committed date or outage
1. Completion of the Thermo-Lag corrective actions, including removal/replacement of the Thermo-Lag material on selected raceways, will be performed in accordance with the schedule outlined in our letter dated March 23, 1995, (Serial No. BSEP 95-0142). Commitment change: To implement complete resolution of the Thermal-Lag issue CP&L requires 60 days beyond the NRC staff approval of this exemption.	B111R1 + 90 days
1 a. The NEI test results of the Thermo-Lag configurations will be incorporated into the analysis. Commitment change: This commitment is withdrawn with the withdrawal of the exemption change for RB1-6 and RB2-6 fire areas.	N/A
1 b. The Thermo-Lag currently protecting the RCIC cables in the ECCS rooms will be evaluated to determine the fire duration capability of the as-built configurations. Commitment change: This commitment is withdrawn with the withdrawal of the exemption change for RB1-6 and RB2-6 fire areas.	N/A
1 c. Conduits containing power cables in a Unit 1 Reactor Building separation zone are to have the existing Thermo-Lag material replaced with an alternate three hour rated fire wrap material. Commitment change: The current plans for the remaining Thermo-Lag material would involve removing the Thermo-Lag material in the separation zone and where Thermo-Lag remains on the conduit outside the separation zone a cable ampacity derating evaluation would be performed.	N/A

Commitment	Committed date or outage
1 d. Power cables contained in the bank of cable trays located in the Reactor Building 50' elevation separation zone are to have the existing Thermo-Lag material replaced with an alternate non-combustible material.	N/A
1 e. Conduits containing power cables in the Diesel Generator building will have the existing Thermo-Lag material around them removed.	N/A