



Carolina Power & Light Company

January 24, 1980

FILE: NG-3514(B)

SERIAL NO.: NO-80-109

Office of Nuclear Reactor Regulation
ATTENTION: Mr. T. A. Ippolito, Chief
Operating Reactors Branch No. 3
United States Nuclear Regulatory Commission
Washington, D.C. 20555

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 LICENSE AMENDMENT - SOURCE RANGE INSTRUMENTATION

Dear Mr. Ippolito:

In accordance with the Code of Federal Regulations, Title 10, Part 50.90 and Part 2.101, Carolina Power & Light Company (CP&L) hereby requests revisions to the Technical Specifications for its Brunswick Steam Electric Plant (BSEP) Unit Nos. 1 and 2. The requested changes revise the requirements for source range monitor (SRM) instrumentation to delete the requirement for removing the "shorting links" during core alterations. Removal of the "shorting links" establishes a "one out of one" neutron monitoring system and, while this appears to be conservative, it is not necessary for safety reasons and has significant deleterious effects on plant equipment and operations.

Reactor scrams from the SRMs are not referenced or discussed in either the FSAR or the Technical Specification bases. The low level neutron monitoring system scrams considered in the FSAR and bases are based upon the Intermediate Range Monitoring (IRM) system. The SRM scram setpoint with the "shorting links" removed is 5×10^5 cps which is approximately 2.5×10^{-4} % power. The IRM scram setpoint on range one is 1.6×10^{-3} % power. Power levels in this low range produce no detectable radiation level or thermal changes. Removal of the SRM scram signal will therefore not decrease the margin of safety for either personnel or fuel damage.

The Reactor Protection System (RPS) is designed with a "one out of two taken twice" trip logic. This logic is analyzed in the FSAR and provides both reliability and redundancy. It is also designed such that a single component failure will not result in a false reactor scram. However, with the "shorting links" removed on the SRM system, any component problem results in a reactor scram. With the "shorting links" removed, experience has shown that reactor

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scrams are common during refueling because personnel working in the area of the SRM cables unavoidably causes movement of the cables. This situation would not be a significant concern with normal RPS logic, but in a "one out of one" logic situation it becomes more serious. Spurious reactor scrams while the unit is in refueling have two undesirable side effects. First, these unnecessary scrams contribute to seal failures in the control rod drives. Secondly, the scrams have a negative impact on the water clarity in the reactor vessel which significantly affects or even stops refueling activities for a considerable period following each spurious scram.

In summary, removal of the "shorting links" is neither required nor analyzed as a means of fuel or personnel protection and it has a negative impact on control rod drive performance and on refueling activities. Since neither the FSAR nor the Technical Specification bases have ever addressed the removal of the "shorting links", we have determined, in accordance with 10 CFR 170.12(c), that this revision constitutes one Class II and one Class I amendment. Accordingly our check for \$1,600.00 is enclosed.

Attached you will find the Technical Specification pages for BSEP Units 1 and 2 which reflect this revision. The changes are indicated by vertical lines in the right-hand margins of the affected pages.

This change would be very useful in our Spring, 1980 refueling outages, and therefore we would appreciate your handling this request on an expedited basis.

Please do not hesitate to call upon my staff if you have any questions.

Yours very truly,

M. A. McOffe
for E. E. Utley

Executive Vice President
Power Supply & Customer Services

CSB/jcb

Attachments

Sworn to and subscribed before me this 24th day of January, 1980.

Franklin Murray
Notary Public

My Commission expires October 4, 1981.

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