



Carolina Power & Light Company

SERIAL: NLS-84-251

JUN 08 1984

Director of Nuclear Reactor Regulation
Attention: Mr. D. B. Vassallo, Chief
Operating Reactors Branch No. 2
Division of Licensing
United States Nuclear Regulatory Commission
Washington, DC 20555

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 & 50-324/LICENSE NOS. DPR-71 & DPR-62
RESPONSE TO GENERIC LETTER NO. 84-09
RECOMBINER CAPABILITY REQUIREMENTS OF 10 CFR 50.44(c)(3)(ii)

Dear Mr. Vassallo:

SUMMARY

This letter responds to the request for information contained in Generic Letter 84-09 dated May 8, 1984. This letter also requests that action be taken on our May 7, 1984 request (Serial No. NLS-84-194) for an exemption from the schedule requirements of 10 CFR 50(c)(3)(ii) for Brunswick Steam Electric Plant, Unit Nos. 1 and 2. With the modifications to the primary containment instrument air system discussed below, the BWR Owners' Group report "Generation and Mitigation of Combustible Gas Mixtures in Inerted BWR Mark I Containments" will be applicable to the Brunswick Units. Carolina Power & Light Company (CP&L) will submit an implementation schedule within 90 days for the proposed modifications.

DISCUSSION

In its March 16, 1983 letter, CP&L submitted its evaluation of the applicability of the BWR Owners' Group studies to Brunswick and concluded that with the making of one modification to the instrument air system at each Brunswick Unit, the study will be fully applicable to Brunswick.

With respect to the criteria provided in Generic Letter 84-09, CP&L submits the following:

- 1) "The plant has technical specifications (limiting conditions for operation) requiring that, when the containment is required to be inerted, the containment atmosphere be less than four percent oxygen."

Response: Both Brunswick Units have technical specifications (TS) requiring containment atmosphere be less than four percent oxygen when the containment is required to be inerted (refer to TS 3.6.6.3). This criterion is met.

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- 2) "The plant has only nitrogen or recycled containment atmosphere for use in all pneumatic control systems within containment."

Response: Brunswick is designed with a primary containment instrument air system that uses atmospheric air as the source of pneumatic power. Any system leakage following an accident would provide an additional source of oxygen input to primary containment that was not considered in the BWR Owners' Group analysis and could require nitrogen dilution and possibly eventual containment venting for pressure control.

In order for the BWR Owners' Group evaluation report to envelope the Brunswick Units, CP&L will modify the primary containment instrument air systems to use an inert gas or recycled containment atmosphere as the pneumatic gas during post-accident conditions rather than atmospheric air. With this modification, the BWR Owners' Group evaluation report will be fully applicable to the Brunswick Units and this criterion will be effectively met.

Preliminary engineering has already begun on the modification; however, CP&L will need sufficient time to complete design engineering, procure the equipment necessary for installing the containment instrument air system modifications, and coordinate installation with the outage schedules of the Brunswick Units. Accordingly, within 90 days CP&L will submit a schedule for implementation of these modifications.

- 3) "There are no potential sources of oxygen in containment other than that resulting from radiolysis of the reactor coolant. Consideration of potential sources of inleakage of air and oxygen into containment should include consideration of not only normal plant operating conditions but also postulated loss-of-coolant-accident conditions. These potential sources of inleakage should include instrument air systems, service air systems, MSIV leakage control systems, purge lines, penetrations pressurized with air and inflatable door seals."

Response: Carolina Power & Light Company submitted an evaluation of the BWR Owners' Group study with respect to the Brunswick Units on March 16, 1983 that concluded that the primary containment instrument air system was the only credible post-LOCA source of oxygen not considered in the Owners' Group study. The proposed modification to the primary containment instrument air system discussed in the response to criterion number 2 above will effectively meet this criterion.

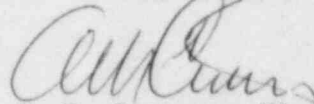
During the interim period until the instrument air system modifications can be made, the Brunswick Units will use the existing containment atmosphere control systems in conjunction with the standby gas treatment systems to avoid unacceptable concentrations of combustible gas in the unlikely event of a loss-of-coolant accident. The containment atmosphere dilution (CAD) system will be used to control the oxygen concentration after an accident by adding nitrogen. In the unlikely event of high containment pressure, the pressure may be relieved by venting through the standby gas treatment system. The combustible gas controls described above are addressed in the Brunswick FSAR.

CONCLUSION

When the proposed modifications are complete, the Brunswick Units will meet the assumptions of the BWR Owners' Group generic study and the intent of Generic Letter 84-09 criteria. The Brunswick Units will not rely upon purge/repressurization systems as the primary means of hydrogen control and, therefore, will not require the installation of hydrogen recombiners. In the interim period, an exemption from the schedule requirements of 10 CFR 50.44(c)(3)(ii) will be required. Therefore, as requested in our letter dated May 7, 1984, CP&L requests that an exemption be granted until completion of the modifications described above. This exemption is needed prior to expiration of our existing exemption on June 30, 1984.

Should you have any further questions on this issue, please contact Mr. S. R. Zimmerman at (919) 836-6242.

Yours very truly,



A. B. Cutter - Vice President
Nuclear Engineering & Licensing

JSD/ccc (205JSD)

cc: Mr. D. O. Myers (NRC-BSEP)
Mr. J. P. O'Reilly (NRC-R11)
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