



Carolina Power & Light Company

June 11, 1981

FILE: NG-3514(B)

SERIAL NO.: NO-81-1022

Office of Nuclear Reactor Regulation  
ATTENTION: Mr. T. A. Ippolito, Chief  
Operating Reactors Branch No. 2  
United States Nuclear Regulatory Commission  
Washington, D. C. 20555



BRUNSWICK STEAM ELECTRIC PLANT, UNIT NO. 2  
DOCKET NO. 50-324  
LICENSE NO. DPR-62  
REQUEST FOR LICENSE AMENDMENT  
CONTAINMENT OXYGEN CONCENTRATION

Dear Mr. Ippolito:

SUMMARY

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 No. 2. These changes would allow a one-time only exemption for seven days from the containment oxygen concentration Technical Specification LCO 3.6.6.3. This was discussed with NRC staff on June 9, 1981. The change is necessary to allow Brunswick-2 to start up and operate until repairs can be made to our oil-fired boiler which provides steam to vaporize liquid nitrogen that is used to inert containment. Repairs to the boiler (or procuring a temporary replacement boiler) should not require more than seven days.

DISCUSSION

All three of CP&L's nuclear units have been in extended outages during Spring, 1981, and Brunswick-2 is now ready to start up. However, on June 8, the existing on-site oil-fired boiler (which is a replacement for the plant auxiliary boilers that became contaminated in 1980) experienced a flame-out/re-ignition event causing significant damage that may take up to seven days to repair even with maximum manpower working 24 hours a day. As a parallel effort, we are also expediting procurement of a replacement boiler from Mississippi; in our effort to inert as soon as possible, we will put this boiler into service if this can be accomplished before completing repairs on the damaged boiler. Steam from one of these sources is needed for the Containment Atmospheric Control (CAC) System in order to vaporize liquid nitrogen for inerting

containment during startup. There is no other means at Brunswick to produce steam for inerting. CP&L's present system load/capacity situation and our coal supply indicate the need for nuclear generation.

Need for Power - CP&L's peak load for June 10 was 5855 MW. Producing this power without nuclear generation required CP&L to use 726 MW of internal combustion (IC) turbines and to purchase over 1500 MW of power from neighboring utilities. The remainder of our generation was primarily from coal. With constant weather patterns projected for the next week, our generation mix would remain about the same without nuclear capacity. Our coal inventory has dwindled to about a 32-day supply based on a projected burn analysis without nuclear capacity. The Harris Mine, our largest coal supplier, is experiencing a constructor union strike with no resolution in sight. The coal strike at other mines has ended but normal deliveries from these other sources will not occur for at least two more weeks. Without maximum utilization of available nuclear generation, our coal supply situation will become critical.

Justification and Safety Evaluation - The following safety considerations have been evaluated in preparation of this Technical Specification change request:

- (1) The probability of occurrence of a LOCA during the seven day exemption period is extremely remote. Present Technical Specifications allow de-inerting for a total of two days during and after a shutdown, and the time period requested by this change will present no significant additional safety hazard.
- (2) CP&L is operating the Brunswick containment purging system in accordance with NRC's October 22, 1979 "Interim Position on Containment Purging and Venting." The purge isolation valves are capable of closing against the dynamic forces of a LOCA.
- (3) Regulatory Guide 1.7 Revision 2 discusses production of combustible gases resulting from a LOCA and states that hydrogen concentrations would reach flammable limits within a day to a month after a LOCA. The Brunswick Plant has a fully qualified (seismic, safety-related) Containment Atmospheric Dilution (CAD) System which is designed to maintain containment inerted following a LOCA. The CAD System can be operated to inject nitrogen into containment to dilute combustible gases after a LOCA. CP&L commits to utilize this system as a combustible gas control measure if a LOCA were to occur during the period Brunswick-2 operates deinerted.

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- (4) The latest edition of Standard Technical Specifications (STS) for BWR-4 plants allows deinerted operation for 120 Effective Full Power days during the Startup Test Program. This is a significantly longer time period than the seven calendar days being requested for Brunswick-2.
- (5) As described in the "DISCUSSION" section above, CP&L is expediting parallel efforts to repair and/or replace the on-site boiler. These efforts will take no longer than seven days, and CP&L commits to inert containment as soon as the equipment is available to accomplish it in advance of the June 19, 1981 deadline.

Concurrence - This Technical Specification change request and its safety justifications have been reviewed and concurred with by both the on-site safety review group (Plant Nuclear Safety Committee) and the off-site safety review group (Corporate Nuclear Safety Unit).

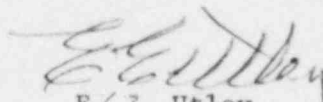
#### CONCLUSION

It is CP&L's intent to inert the Brunswick-2 containment as soon as possible after startup. Since Technical Specifications require oxygen concentration to be less than 4% within 24 hours after exceeding 15% of rated thermal power, we request an expedited review and amendment issuance by June 12, 1981.

Attached you will find the revised Technical Specifications page with the changes indicated by vertical lines in the right-hand margin. We believe that this request involves a single technical issue and thus constitutes one Class III amendment in accordance with 10CFR170.22. Accordingly, our check for \$4,000 is enclosed.

Should you have any questions regarding this matter, please contact my staff.


Yours very truly,



E. J. Utley  
Executive Vice President  
Power Supply and  
Engineering & Construction

JAM/dk (89-4433)  
Attachments

Sworn to and subscribed before me this 11<sup>th</sup> day of June, 1981.

  
Notary Public

My commission expires: 6/5/84