



Carolina Power & Light Company

June 29, 1981

File: NG-3514(b)

Serial No.: NO-81-1105

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, Section 50.90 and Section 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 an exemption for 72 hours from the containment oxygen concentration Technical Specification LCO 3.6.6.3. This was discussed with NRC staff on June 28-29, 1981. This change is necessary to allow Brunswick-2 to operate until repairs can be made to a rupture in the Containment Atmospheric Control (CAC) inerting line which is common to both units.

DISCUSSION

During a startup sequence, Brunswick-2 reached 15% power level at 6:30 a.m. on June 28, 1981. We began to inert containment at about 11:00 a.m. using the CAC system. However, at 12:10 p.m., June 28, the CAC inerting line experienced a rupture downstream of the vaporizer valve. This event terminated the inerting procedure and caused Brunswick-2 to be unable to reach 4% oxygen concentration by 6:30 a.m. on June 29 as required by Technical Specifications.

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A temporary repair has been installed on the CAC inerting line, and inerting is presently in progress on Brunswick-2. If no problems are encountered with the temporary repair, the Brunswick-2 containment atmosphere should be inerted to less than 4% oxygen concentration by noon time on June 29. Oxygen concentration would then be maintained by the Containment Atmospheric Dilution (CAD) System while CAC is taken out of service for permanent repairs. These repairs would begin during the afternoon of June 29 and would require about 24 hours.

Brunswick-1 is scheduled to start up on June 30, 1981, and a similar Technical Specification change may be needed for this unit. If this proves to be necessary, it will be handled separately.

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 72-hour exemption period is extremely remote. Present Technical Specifications allow deinerting 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 product. 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 CAD System at the Brunswick Plant is fully qualified (seismic, safety-related) and 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.
- (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 72 hours being requested for Brunswick-2.
- (5) With regard to fire protection considerations for operating in a deinerted condition, the plant fire brigade will be alerted to the degraded fire protection condition in containment.

June 29, 1981

ADDITIONAL CONSIDERATIONS

Brunswick Plant is convening a meeting to study this event and determine its root cause so that a solution can be expedited. In addition, Brunswick Plant will station an operator at the local CAC control station each time inerting via CAC is in progress. This will provide prompt notification to operations personnel in case of a recurrence and will allow additional surveillance during inerting operations.

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).

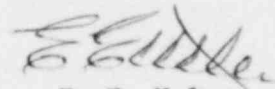
CONCLUSION

It is CP&L's intent to inert the Brunswick-2 containment as soon as possible. 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 of this request.

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 \$4000 is enclosed.

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

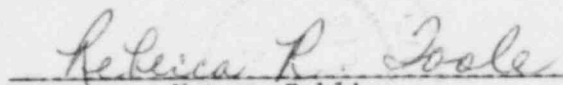
Yours very truly,



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

JAM/jc (N#62)
Attachments

Sworn to and subscribed before me this
29th day of June, 1981.


Notary Public

My commission expires:

My Commission Expires 6-8-86