



Carolina Power & Light Company

OCT 12 1984

SERIAL: NLS-84-405

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  
BWR FEEDWATER AND CRD RETURN LINE NOZZLE CRACKING, NUREG-0619

Dear Mr. Vassallo:

SUMMARY

By letter dated June 1, 1984, Carolina Power & Light Company committed to provide the status and schedule for rerouting the reactor water cleanup (RWCU) system piping to each feedwater line and the schedule for evaluation of the feedwater controller. The purpose of this letter is to provide that status and the Company's plans for resolving this issue.

DISCUSSION

The NRC has stated that the modifications to the feedwater controller and the rerouting of the reactor water cleanup system piping should be complementary, rather than independent, solutions to BWR feedwater nozzle cracking. The NRC further indicated that the evaluation of the feedwater controller and plant-specific start-up and turbine warm-up procedures may obviate the need for rerouting of the reactor water cleanup system piping.

The Company, in conjunction with General Electric (GE), has determined that the existing instrumentation at Brunswick does not provide sufficient operating data to evaluate the possible need for controller modifications or reactor water cleanup system piping rerouting. The Company has, therefore, contracted GE to propose recommendations concerning the necessary additional instrumentation. In addition, GE is preparing procedures to be used to calculate feedwater nozzle fatigue usage factors and to collect plant-specific operating data for use in calculating feedwater nozzle crack growth. General Electric currently anticipates completion of instrumentation and procedure recommendations by December 1984.

Based on the GE instrument and procedure recommendations, a schedule will be developed to purchase and install the necessary additional instrumentation and to determine the fuel cycle at each unit during which plant-specific operating data will be collected. It is anticipated that installation of the additional instrumentation may require the unit to be in a refueling outage and that

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sufficient plant-specific operating data may be collected during one complete fuel cycle for each unit. The schedule to complete the evaluation of the feedwater controller and the benefits of rerouting the RWCU system piping will be determined within three months after receipt of the GE instrumentation and procedure recommendations.

The installation of additional instrumentation and the collection of plant-specific operating data are necessary in order to evaluate the existing feedwater controller and determine the benefits of rerouting the reactor water cleanup system piping. The evaluation would be consistent with the guidance provided by the NRC. Therefore, any modifications to the feedwater controller or reactor water cleanup system piping prior to the completion of this evaluation is not warranted.

The following nondestructive examinations were performed on the Brunswick-1 and Brunswick-2 feedwater nozzles with no significant indications identified.

#### Brunswick-1

1. Liquid penetrant testing per BSEP Procedures SP-79-10 (first refueling outage).
2. Ultrasonic testing of the feedwater nozzle inner radii (third refueling outage).
3. Ultrasonic testing of the feedwater nozzle safe ends (third refueling outage).

#### Brunswick-2

1. Liquid penetrant testing of the accessible portions (approximately 80 percent) of the feedwater nozzle internal blend radii. The accessible area includes the lower portion of the blend radius which has the highest susceptibility to cracking (fifth refueling outage).
2. Ultrasonic testing of the feedwater nozzle inner radii (fifth refueling outage).
3. Ultrasonic testing of the feedwater nozzle safe ends (fifth refueling outage).

The Company will continue to adhere to the NUREG-0619 Table 2 Inspection Requirements.

#### CONCLUSION

Based on the nondestructive examinations on Brunswick-1 and Brunswick-2, it has been determined that the current plan for evaluating the feedwater controller and the benefit of rerouting the reactor water cleanup system piping and the implementation of any modifications, if necessary, does not represent a challenge to the continued safe operation of Brunswick-1 and Brunswick-2. This plan will provide the time necessary to obtain the GE

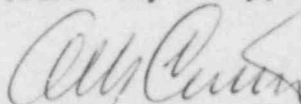
Mr. D. B. Vassallo

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instrumentation and procedure recommendations, to purchase and install additional instrumentation, and to collect sufficient plant-specific operating data. The schedule for evaluation of the feedwater controller and the benefits of rerouting the RWCU system piping is expected to be submitted by March 1985.

Should you have any questions regarding this matter, please contact Mr. Sherwood R. Zimmerman at (919) 836-6242.

Yours very truly,



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

MAT/ccc (581MAT)

cc: Mr. D. O. Myers (NRC-BNP)  
Mr. J. P. O'Reilly (NRC-RII)  
Mr. M. Grotenhuis (NRC)