



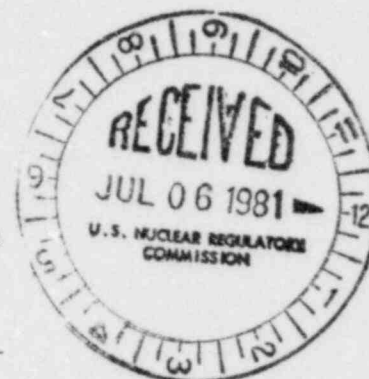
Carolina Power & Light Company

June 30, 1981

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Mr. Darrell G. Eisenhut, Director
Division of Licensing
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
NUREG-0737: July 1, 1981 ITEMS

Dear Mr. Eisenhut:

Carolina Power & Light Company (CP&L) hereby forwards the required documentation and commitments for completion of NUREG-0737, "Clarification of TMI Action Plan Requirements" items which are applicable to the Brunswick Steam Electric Plant (BSEP) and required to be complete by July 1, 1981. Enclosure 1 contains a listing of these July 1, 1981 items along with CP&L's commitment. The attachments to this enclosure clarify CP&L's position on these items.

If you have any questions concerning these items, please contact our staff.

Yours very truly,

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

JHE/lr (0706)

cc: Mr. J. P. O'Reilly (NRC-R11)
Mr. J. Van Vliet (NRC)

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BRUNSWICK NUREG-0737: JULY 1, 1981 ITEMS

<u>ITEM</u>	<u>TITLE</u>	<u>DESCRIPTION</u>	<u>CP&L COMMITMENT</u>	<u>REFERENCES</u>
II.B.1	Reactor Coolant System Vents	1. Design Vents	Complete	Attachment 1
II.D.1	Relief & Safety Valve Testing	2a. Complete Testing	Complete	Attachment 2
II.E.4.1	Dedicated Hydrogen Penetrations	2. Install	Next Refueling	CP&L ltr. 6/30/81
II.E.4.2	Containment Isolation Dependability	5. Containment Pressure Setpoint	Complete	CP&L ltr. 12/31/80
		7. Radiation Signal on Purge Valves	10/1/81	Attachment 3
II.F.1	Accident Monitoring	3. Containment High Range Monitor Documentation	Complete	Attachment 4
II.K.3	Final Recommendation B&O Task Force	13. HPCI & RCIC Init. Levels	Next Refueling	CP&L ltr. 4/10/80
		15. Isolation of HPCI & RCIC Modification	Complete	Attachment 5
		16a. Challenges & Failures to Relief Valves Study	Complete	Attachment 6
		25. Power on Pump Seals	Complete	Attachment 7
		27. Common Reference Level	Complete	Attachment 8

ATTACHMENT 1

Item II.B.1, "Reactor Coolant System Vents"

In accordance with the discussions on reactor coolant system vents contained in CP&L's submittals of December 31, 1979, and December 15, 1980, no additional venting capability is required due to inherent capability already contained in the Brunswick Plant. In its December 15, 1980 letter, CP&L committed to work with the GE BWR Owners' Group to provide additional information on this subject as requested in a letter from Mr. T. M. Novak dated September 10, 1980. By letter dated April 24, 1981, the Owners' Group submitted the requested information. CP&L now considers this item complete.

ATTACHMENT 2

Item II.D.1, "Relief & Safety Valve Testing"

NUREG-0737 requires that CP&L prepare a plant specific submittal confirming the adequacy of safety and relief valves (S/RV) based on a preliminary review of the generic BWR S/RV test program. The Brunswick Plant employs the Target Rock type of S/RV, Model Nos. 7467F and 7567F. The test results for the Target Rock Valve, Model Nos. 7467F and 7567F are applicable to the Brunswick valves. A preliminary review of the generic BWR S/RV test program results demonstrates that the tested valve satisfies the acceptance criteria for operability. Consequently, based on this preliminary review the operational adequacy of the S/RV's for the Brunswick Plant has been demonstrated.

ATTACHMENT 3

Item II.E.4.2.7, "Radiation Signal on Purge Valves"

In its letter of December 15, 1980, CP&L committed to completing this item by July 1, 1981. At the time we reviewed this item, CP&L's interpretation was for an isolation on Reactor Building exhaust high radiation. Therefore CP&L believed that Brunswick would comply with this requirement.

However, based on recent discussions between the NRC and the BWR Owners' Group, CP&L has learned that the NRC's intent was to have a containment high radiation level isolate the purge valves. It is CP&L's current understanding that the purpose of this requirement is to provide isolation of the large purge valves if the radiation levels of the exhausted containment atmosphere reach levels where the site boundary dose would be a significant percentage of 10CFR100 limits.

In light of this new interpretation, CP&L has examined its current design and procedures at Brunswick. The large purge valves are limited for use during inerting and de-inerting and therefore are open a very small percentage of the time. Additionally, several methods of reactor coolant leakage detection are employed which makes the likelihood of a leak going undetected highly unlikely. Also, any containment purge will pass up the plant stack, thus the plant stack radiation monitor would detect any high levels of radiation release.

For large breaks, the subject valves will automatically isolate on high drywell pressure or low vessel water level. For smaller leaks CP&L believes that adequate equipment is provided to detect the leak and any associated radiation release, and provide feedback to the operator for action.

Based on this preliminary review, CP&L proposes the following action plan.

- (1) Insure that all necessary procedures provide the operator the proper guidance to avoid a significant radiation release under the scenario of purge valves open and a small to moderate leak begins in the containment.
- (2) Perform calculations to verify that sufficient time exists for operator response without a significant release occurring.

These actions will be completed by October 1, 1981 and based on the outcome of the analysis further action may be necessary. If so, CP&L will advise you of such by October 1, 1981. If the analysis substantiates our preliminary assessment we will so advise and provide the backup necessary.

ATTACHMENT 4

Item II.F.1-3, "Containment High Range Monitor"

NUREG-0737 states that deviations from the requirements of this item must be identified by July 1, 1981. Brunswick will satisfy all requirements with the following exception. The required calibrated radiation source calibration of the decade below 10 R/hr will be performed in the plant's test lab rather than in the installed location. Use of a portable source for insitu testing is impractical due to the size of the source required for the large volume ion chamber detector being employed. Electronic checks built into the instruments will adequately confirm loop operability in the installed configuration.

ATTACHMENT 5

Item II.K.3.15, "Isolation of HPCI and RCIC Modification"

NUREG-0737 requires that the plant modify break detection logic to prevent spurious isolation of high-pressure coolant injection and reactor core isolation cooling by July 1, 1981. CP&L has completed the necessary modifications at Brunswick which satisfy the requirements of this item. The plant modification packages are available onsite for review.

Item II.K.3.16, "Challenges and Failures to Relief Valves"

NUREG-0737 requested that each utility evaluate the feasibility of reducing challenges to the S/RVs by various methods. A reduction factor of an order of magnitude was the goal set for the evaluation.

To respond to this requirement the BWR Owners' Group undertook an evaluation of the potential benefit of various design changes for reducing the likelihood of a stuck open relief valve (SORV) event. To perform the evaluation an operating BWR/4 was selected as the benchmark case. CP&L submitted the Owners' Group Report by letter dated May 7, 1981.

CP&L concurs with the findings of the Owners' Group Report. The reduction by an order of magnitude in the likelihood of a SORV event can be accomplished in two ways as shown by items (E) and (G) in Table 5.1 of that report. Item (E) requires replacing 3 stage target rock S/RVs with 2 stage valves and the incorporation of the manual equivalent of the low-low set relief concept. Item (G) is the same as item (E) except it requires changing the MISV isolation setpoint of low vessel level from Level 2 to Level 1. Using 100 as the SORV event frequency for the benchmark plant, (like Brunswick) the normalized event frequency if the changes of items (E) or (G) are made is 11 or 9, respectively. Previous to this report, CP&L was proceeding with the modification of the S/RV to two stage valves. CP&L currently plans on completing this modification on both units in 1982. The manual equivalent of the low-low set relief concept is incorporated in the BWR Owners' Group Emergency Procedure Guidelines. CP&L's current schedule calls for the new emergency instructions to be in place by the 2nd quarter of 1982.

Upon implementation of the new procedures and completion of the S/RVs modification Brunswick will have achieved the goal of an order of magnitude reduction in the probability of an SORV event.

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Upon implementation of the new procedures and completion of the S/RVs modification Brunswick will have achieved the goal of an order of magnitude reduction in the probability of an SORV event.

ATTACHMENT 7

Item II.K.3.25, "Effect of Loss of AC Power on Pump Seals"

As required by NUREG-0737, the study of the effect of a loss of offsite AC power on recirculation pump seals has been completed. This study justifies the suitability of the current design. Final CP&L verification review of this report is not yet complete, but CP&L does not anticipate any changes that will negate its conclusion. Therefore, CP&L has satisfied the requirements of this item. A copy of the report is available onsite for review.

ATTACHMENT 8

Item II.K.3.27, "Common Reference Level"

NUREG-0737 requires that CP&I provide a common reference level for the reactor vessel water level instrumentation by July 1, 1981. Modifications which satisfy the requirements of this item have been completed at the Brunswick Plant. The plant modification packages are available onsite for NRC review.