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ACCESSION NBR: 9012270007    DOC. DATE: 90/12/21    NOTARIZED: YES    DOCKET. #  
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SUBJECT: Forwards response to Generic Ltr 90-06 re pressurizer PORVs & NRC position resulting from resolution of Generic Issue 70 re PORV & block valve reliability & Generic Issue 94 re addl low temp overpressure protection for LWRs.

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NOTES: Application for permit renewal filed.    05000400

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SERIAL: NLS-90-256  
10 CFR 50.54

G. E. VAUGHN  
Vice President  
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United States Nuclear Regulatory Commission  
ATTENTION: Document Control Desk  
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SHEARON HARRIS NUCLEAR POWER PLANT  
DOCKET NO. 50-400/LICENSE NO. NPF-63  
RESPONSE TO NRC GENERIC LETTER 90-06

Gentlemen:

Carolina Power & Light Company hereby submits the response to NRC Generic Letter 90-06, dated June 25, 1990, concerning Pressurizer Power Operated Relief Valves (PORVs) for the Shearon Harris Nuclear Power Plant (SHNPP). The Generic Letter presents the NRC staff positions resulting from the resolution of Generic Issue 70, "Power Operated Relief Valve and Block Valve Reliability," and Generic Issue 94, "Additional Low Temperature Overpressure Protection for Light Water Reactors." The Generic Letter requires that licensees advise the NRC staff under oath and affirmation, within 180 days of the date of the Generic Letter, of current plans relating to PORVs and block valves and to low temperature overpressure protection. The attached information provides specific responses to each of the staff's positions.

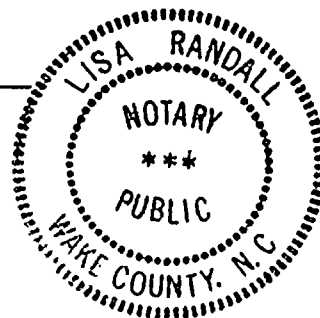
Please refer any questions regarding this submittal to Mr. John Eads at (919) 546-4165.

Yours very truly,

G. E. Vaughn

G. E. Vaughn, having been first duly sworn, did depose and say that the information contained herein is true and correct to the best of his information, knowledge and belief; and the sources of his information are officers, employees, contractors, and agents of Carolina Power & Light Company.

*Lisa M. Randall*  
Notary (Seal)



My commission expires: 6-7-93

Enclosure

JHE/jhe

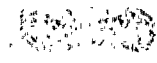
cc: Mr. R. A. Becker  
Mr. S. D. Ebnetter  
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STAFF POSITION 1, SECTION 3.1

Include PORVs and block valves within the scope of an operational quality assurance program that is in compliance with 10 CFR Part 50, Appendix B. This program should include the following elements:

- A. The addition of PORVs and block valves to the plant operational Quality Assurance List.
- B. Implementation of a maintenance/refurbishment program for PORVs and block valves that is based on the manufacturer's recommendations or guidelines and is implemented by trained plant maintenance personnel.
- C. When replacement parts and spares, as well as complete components, are required for existing non-safety-grade PORVs and block valves (and associated control systems), it is the intent of this generic letter that these items may be procured in accordance with the original construction codes and standards.

SHNPP RESPONSE:

A. The Pressurizer PORVs at SHNPP are currently highly reliable valves that are taken credit for in the Steam Generator Tube Rupture Event. The PORV components are currently included in the SHNPP Operational QA Program and classified as the following Quality Assurance Classes in accordance with Plant Procedure AP-608:

Pressure Control Valve: Q-Class A  
Pneumatic Valve Operator: Q-Class E

The PORV block valves are currently not considered safety-related. However, these valves are pressure retaining ASME Class 1 valves with emergency power supplies as required by NUREG 0737, II.G.1. The block valves are currently included in the SHNPP Operational QA Program and classified as:

Isolation Valve: Q-Class A  
Motor Operated Valve Operator: Q-Class B

During the upcoming refueling outage, a modification is scheduled which will upgrade two of the three PORVs (Valve Nos. 1-PCV-445A and 1-PCV-444B) manual control function and associated control circuits and power supplies to safety-related. Accordingly, the entire PORV operator will change classification from Q-Class E to Class A. However, the Quality Assurance classification of the third PORV, which is not being upgraded to safety-related, will remain unchanged.

B. The maintenance/refurbishment program for PORVs and block valves will be based on manufacturer's recommendations or guidelines and will be implemented by trained maintenance personnel.

C. Parts and spares will be procured in accordance with the current design which is consistent with the design basis documents and as a requirement of the PORVs and block valves being included as operational QA classification A and/or B. The parts for the upgraded PORVs will be procured under the Copes-Vulcan 10 CFR 50, Appendix B program with 10 CFR 21 reportability. Some of the subcomponents for the upgrade modification are currently requested for purchase. If the supplier cannot provide these parts under a 10 CFR 50, Appendix B program, the parts will be dedicated for safety-related applications as a commercially available item.

STAFF POSITION 2. SECTION 3.1

Include PORVs, valves in PORV control air systems, and block valves within the scope of a program covered by Section IWV, "Inservice Testing of Valves in Nuclear Power Plants," of Section XI of the ASME Boiler and Pressure Vessel Code. Stroke testing of PORVs should only be performed during Mode 3 (HOT STANDBY) or Mode 4 (HOT SHUTDOWN) and in all cases prior to establishing conditions where the PORVs are used for low-temperature overpressure protection. Stroke testing of the PORVs should not be performed during power operation. Additionally, the PORV block valves should be included in the licensees' expanded MOV test program discussed in NRC Generic Letter 89-10, "Safety-Related Motor Operated Valve Testing and Surveillance," dated June 28, 1989.

SHNPP RESPONSE:

The PORVs, the PORV control nitrogen/air system "keep full check valves" for the two upgraded PORVs, and block valves will be included within the scope of the SHNPP ASME Section XI Inservice Testing Program. The balance of the PORV control nitrogen/air system components for the safety-related PORVs will be verified as operable by successful completion of PORV inservice testing. The non-safety-related PORV and its associated block valve will be included in the Inservice Testing Program. Inclusion of the non-safety-related PORV's control nitrogen/air system valves in the Inservice Testing Program is not warranted based on the reliability improvements associated with upgrading of the other two PORVs to safety-related. Program revisions will be completed prior to achieving criticality during restart from the next refueling outage, currently scheduled for completion in May, 1991. Stroke testing of the PORVs will be performed during Mode 3 (HOT STANDBY) or Mode 4 (HOT SHUTDOWN) with the associated block valves shut and prior to establishing conditions where the PORVs are used for low temperature overpressure protection. Additionally, the PORV block valves are currently included in the MOV Test Program discussed in Generic Letter 89-10, "Safety-Related Motor Operated Valve Testing and Surveillance".

### STAFF POSITION 3. SECTION 3.1

For operating PWR plants, modify the limiting conditions of operation of PORVs and block valves in the technical specifications for Modes 1, 2, and 3 to incorporate the position adopted by the staff in recent licensing actions. Attachments A-1 through A-3 are provided for guidance. The staff recognizes that some recently licensed PWR plants already have technical specifications in accordance with the staff position. Such plants are already in compliance with this position and need merely state that in their response. These recent technical specifications require that plants that run with the block valves closed (e.g., due to leaking PORVs) maintain electrical power to the block valves so they can be readily opened from the control room upon demand. Additionally, plant operations in Modes 1, 2, and 3 with PORVs and block valves inoperable for reasons other than seat leakage is not permitted for periods of more than 72 hours.

### SHNPP RESPONSE:

Consistent with the NRC position, the existing SHNPP Technical Specifications require that when the block valves are closed due to excessive PORV seat leakage, that electrical power is maintained to the block valves so that they can be readily opened from the Control Room upon demand. However, in response to the staff position concerning continued plant operation with the PORVs inoperable for reasons other than seat leakage, CP&L will submit a Technical Specification change request modifying the limiting conditions of operations (LCO) of PORVs and block valves in MODES 1, 2, and 3 which will meet the intent of the staff guidance.

During the upcoming refueling outage, a modification is scheduled which will upgrade two of the three PORVs (Valve Nos. 1-PCV-445A and 1-PCV-444B) manual control function and associated control circuits and power supplies to safety-related. Prior to achieving criticality during restart from this next refueling outage, currently scheduled for completion in May, 1991, CP&L will submit a Technical Specification change request modifying the PORV and block valve LCO to incorporate the requirement that plant operation is not permitted for periods of more than 72 hours if either safety-related PORV or its associated block valve is inoperable for reasons other than excessive seat leakage. The combination of upgrading two of the three PORVs to safety-related and revising the LCO as described above meets the intent of the staff guidance.

### STAFF POSITION ENCLOSURE B, SECTION 3

The staff concludes that the LTOP system performs a safety-related function and inoperable LTOP equipment should be restored to an operable status in a shorter period of time. The current 7-day AOT for a single channel is considered to be too long under certain conditions. The staff has concluded that the AOT for a single channel should be reduced to 24 hours when operating in MODE 5 or 6 when the potential for an overpressure transient is highest. The operating reactor experience indicate that these events occur during planned heatup (restart of an idle reactor coolant pump) or as a result of maintenance and testing errors while in MODE 5. The reduced AOT for a single channel in MODES 5 and 6 will help to emphasize the importance of the LTOP system in mitigating overpressure transients and provide additional assurance that plant operation is consistent with the design basis transient analyses.

Based on the foregoing concerns, added assurance of LTOP availability is to be provided by revising the current Technical Specifications for Overpressure Protection to reduce the AOT for a single channel from 7-days to 24 hours when the plant is operating in MODES 5 or 6. Attachment B-1 is provided for guidance for Westinghouse and CE plants. The guidance provided is also applicable to plants that rely on both PORVs and RHR SRVs or that rely on RHR SRVs only. Attachment B-2 provides the staff bases for the Overpressure Protection Technical Specification.

#### SHNPP RESPONSE:

Prior to achieving criticality during restart from the next refueling outage, currently scheduled for completion in May, 1991, CP&L will submit a Technical Specification change request modifying the allowed outage time (AOT) for a single channel of LTOP equipment from 7 days to 24 hours when the plant is operating in MODES 5 or 6.