

**CP&L**

Carolina Power & Light Company

P. O. Box 101, New Hill, NC 27562  
July 30, 1985

50-400

NRC-383

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Dr. J. Nelson Grace  
United States Nuclear Regulatory Commission  
Region II  
101 Marietta Street, Northwest (Suite 2900)  
Atlanta, Georgia 30323

CAROLINA POWER & LIGHT COMPANY  
SHEARON HARRIS NUCLEAR POWER PLANT  
1986 - 900,000 KW - UNIT 1  
WELD DEFICIENCIES IN UNIT 1 CHILLED WATER VALVES,  
HAMMEL DAHL ITT - ITEMS 127 & 199

Dear Dr. Grace:

Attached is our final report on the subject items which were deemed reportable per the provisions of 10CFR50.55(e) and 10CFR, Part 21 on May 5, 1983, (Item 127) and December 21, 1984 (Item 199).

This report supersedes the previous final report on Item 127 issued October 31, 1983. With this report, Carolina Power & Light Company considers this matter closed.

If you have any questions regarding this matter, please do not hesitate to contact me.

Yours very truly,

*R. A. Watson*

R. A. Watson, Vice President  
Shearon Harris Nuclear Power Plant

MW/sjp

Attachment

cc: Messrs. G. Maxwell/R. Prevatte (NRC-SHNPP)  
Mr. R. C. DeYoung (NRC)

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CAROLINA POWER & LIGHT COMPANY

SHEARON HARRIS NUCLEAR POWER PLANT

UNIT NO. 1

WELD DEFICIENCIES IN UNIT 1 CHILLED WATER VALVES

ITEM 127  
&  
ITEM 199

FINAL REPORT

JULY 30, 1985

REPORTABLE UNDER 10CFR50.55(e) AND 10CFR21

SUBJECT:

Shearon Harris Nuclear Power Plant Unit No. 1, 10CFR50.55(e) and 10CFR, Part 21 reportable items. Shop weld deficiencies of valve body reducer welds in valves purchased under Purchase Order NY435176.

ITEM:

Item 127 - DDR-1422, Valve 3CX-W25SB-1  
Item 199 - NCR-84-2372, Valves 3CX-W17SA-1 and 3CX-W24SB-1  
NCR-85-0209, Valves - 3AF-F4SB-1  
3AF-F5SB-1  
3AF-F6SB-1  
3CX-W15SA-1  
3CX-W16SA-1  
3CX-W18SA-1  
3CX-W22SB-1  
3CX-W23SB-1

NOTE: NCR-85-0209 was generated based on a thorough inspection of valves purchased under Purchase Orders NY435176 with reducers butt welded to the valve body at vendor shop.

SUPPLIED BY:

Hammel Dahl ITT, Warwick, Rhode Island

NATURE OF DEFICIENCY:

In March 1983, (Item 127) and in December 1984, (Item 199), the Quality Assurance Department, Shearon Harris Nuclear Power Plant, reported lack of penetration on the I.D. of vendor shop welds in the subject valves.

DATE PROBLEM OCCURRED:

Refer to the section above.

DATE PROBLEM REPORTED:

On May 5, 1983 (Item 127) and December 21, 1984 (Item 199), CP&L (Mr. N. J. Chiangi) notified the NRC (Mr. A. Hardin) that these items were reportable per the provisions of 10CFR50.55(e) and 10CFR, Part 21.

On October 31, 1983, CP&L (Mr. R. M. Parsons) issued a final report to the NRC (Mr. J. P. O'Reilly) on Item 127.

On January 18, 1985, CP&L (Mr. R. M. Parsons) issued an interim report to the NRC (Mr. J. P. O'Reilly) which reopened Item 127 and detailed the status of both Items 127 and 199.

SCOPE OF  
PROBLEM:

After finding the weld deficiencies in valves noted per DDR-1422 and NCR-84-2372, valves with body reducer shop welds purchased under Purchase Order NY435176 were inspected and weld deficiencies were found in eight (8) additional valves, five (5) of Chilled Water Return "CX" System and three (3) of Auxiliary Feedwater "AF" System, as listed above against NCR-85-0209.

A review of valve purchase orders revealed that the problem was isolated to PO NY435176.

The deficiencies involve the loss of safety-related chilled water and auxiliary feedwater.

SAFETY  
IMPLICATION:

1. The loss of safety related chilled water could potentially increase the environmental temperature in the areas served by the affected air handling units due to less cooling available to those units.
2. The loss of auxiliary feedwater could result in insufficient flow of water to the steam generators and may damage the reactor core.

REASON DEFICIENCY  
IS REPORTABLE:

1. The loss of chilled water due to the failure of the welds could result in a reduction in cooling to the air handling units connected to the noted valves. This would result in a heat up and may exceed environmental qualification temperature of the safety related equipment located in the area served by the affected air handling units.
2. One of the functions of auxiliary feedwater system is an engineered safeguard system. The system is directly relied upon to prevent core damage during plant transients resulting from a loss of normal feedwater flow, steam line rupture or loss of off-site power by providing the feedwater to the unaffected steam generators to maintain their inherent heat sink capability.

The failure of the welds at the noted "AF" valves would result in the loss of auxiliary feedwater on the discharge side of the auxiliary feedwater turbine driven pump, which serves as a backup to the two motor driven "AF" pumps.

CORRECTIVE  
ACTION:

The three (3) valves noted in the DDR-1422 and NCR-84-2372 were returned to the vendor for repair.

CORRECTIVE  
ACTION:

The three (3) valves noted in the DDR-1422 and NCR-84-2372 were returned to the vendor for repair. The repaired valves have been received back and accepted at the site.

For the additional eight (8) valves identified by QA/QC with weld deficiencies, NCR-85-0209 was generated to correct the problem. Due to the long turnaround time to repair the valves at the vendor's shop, an authorization was obtained from the vendor to repair the valves on site. The repair on these valves has been completed per project QA/QC requirements and repaired valves have been accepted by the site QA/QC departments.

PREVENTIVE  
MEASURES:

CP&L was informed by ITT Hammel Dahl of the following preventive measures.

The vendor's QC procedure has been revised to require more stringent inspections to the weld procedures and sign-off. Fabrication control papers have been rewritten in a more clear and step-by-step manner which requires welder sign-off and the work is verified by the shop foreman. Training sessions for shop and QA/QC people were held to upgrade the level of performance.