



Carolina Power & Light Company

SERIAL: NLS-84-045

January 31, 1984

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
United States Nuclear Regulatory Commission
Washington, DC 20555

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NO. 1
DOCKET NO. 50-325
LICENSE NO. DPR-71
INTERGRANULAR STRESS CORROSION CRACKING INSPECTIONS

Dear Mr. Denton:

The purpose of this letter is to respond to concerns raised by your staff concerning the quality of the Intergranular Stress Corrosion Cracking (IGSCC) inspections performed by Carolina Power & Light Company (CP&L) at the Brunswick Steam Electric Plant (BSEP) Unit 1 during the January 1983 outage. In addition, CP&L has been asked to comment on the period of operation to the next refueling outage, which is presently scheduled for March 1985.

During the January 1983 outage, thirty-six Recirculation and Residual Heat Removal system welds were inspected in accordance with the criteria of Inspection and Enforcement Bulletin (IEB) 82-03. The sample size was chosen using the guidelines of a draft version of IEB 83-02. As previously committed by CP&L, six additional 28-inch weld joints were inspected during the October 1983 outage. Welds which were found to contain IGSCC indications were repaired with weld overlays, using a conservative methodology subsequently approved by your staff.

In order to address your concerns, CP&L commits to the following:

- 1) CP&L will conduct a mid-cycle inspection at BSEP Unit 1 which will begin on or before October 15, 1984. The sample size, the inspection method used by the examiners, and welds to be inspected during this outage are discussed in Attachment 1.
- 2) CP&L will institute additional mitigating measures discussed in Attachment 2.

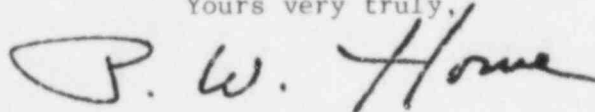
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Carolina Power & Light Company believes that the inspections and repairs that have been performed, along with the interim mitigating measures described in Attachment 2 provide adequate assurances that Brunswick Unit 1 can be safely operated until the committed October 15, 1984 outage. The inspection outlined in Attachment 1 will provide the additional confidence needed to continue operation until the refueling outage presently scheduled for March 1985.

Should you have any questions concerning this letter, please do not hesitate to contact a member of our licensing staff.

Yours very truly,

A handwritten signature in dark ink, appearing to read "P. W. Howe". The signature is fluid and cursive, with the first letters of each name being capitalized and prominent.

P. W. Howe

Vice President

Brunswick Nuclear Project

PPC/lev (9410PPC)

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

ATTACHMENT 1

CP&L LETTER - NLS-84-045

January 31, 1984

The samples in Table 1 and 2 contains 20% (but not less than four welds) of each pipe size of IGSCC sensitive welds (in ASME Class 1 piping) not inspected previously and 20% (but not less than two welds) of each pipe size inspected during the January 1983 outage and found not to be cracked. The above also includes the only repaired circumferential weld where a crack longer than 10% of the circumference was measured. If cracks are found during this outage, the inspection scope will be expanded in accordance with the criteria of IEB 83-02 and appropriate corrective action will be taken. The above plan is consistent with criteria published by the NRC.

The performance capability of all level 2 and level 3 UT examiners performing evaluations will be demonstrated in accordance with IEB 83-02.

All level 1, 2, or 3 UT examiners performing operations other than evaluations (general scanning observations and discrete signal interpretation) will be required to demonstrate their field performance capability. All examiners performing evaluations will be able to view the CRT display for the entire time that the transducer is in contact with the pipe for scanning, either in real time, remotely, or on tapes.

TABLE 1

WELDS TO BE RE-INSPECTED ON UNIT 1

1-B32-RECIRC-12"-AR-E-4	Pipe to Safe-end extension
1-B32-RECIRC-12"-AR-B-3	Elbow to Pipe
1-B32-RECIRC-12"-BR-G-3	Elbow to Pipe
1-B32-RECIRC-12"-BR-J-4	Pipe to Safe-end extension
1-E11-RHR-20"-A-SUCT-2	Bimetallic Weld
1-B32-RECIRC-22"-BM-1	Discharge Header End Cap
1-B32-RECIRC-22"-BM-1BC-A	Discharge Header End Sweepolet
1-E11-RHR-24"-1-DISCH-12	Bimetallic Weld
1-E11-RHR-24"-B-13	Bimetallic Weld
1-B32-RECIRC-28"-A-10	Suction Elbow to Pipe
1-B32-RECIRC-28"-B-15	Discharge Elbow to Pipe
1-B32-RECIRC-4"-A-10	Discharge Valve Bypass
1-B32-RECIRC-4"-B-10	Discharge Valve Bypass
1-B32-RECIRC-28"-A-14	Discharge Valve to Elbow (overlay repaired)
1-G31-4"-2	RWCU pipe to valve

TABLE 2

SAMPLE OF WELDS NOT
PREVIOUSLY INSPECTED

1-G31-6"-5	RWCU Pipe to Elbow
1-G31-6"-6	RWCU Pipe to Elbow
1-G31-6"-9	RWCU Pipe to Elbow
1-G31-6"-15	RWCU Pipe to Elbow
1-G31-4"-3	RWCU Pipe to Valve
1-B32-RECIRC-12"-AR-A1	Riser Pipe to Sweepolet
1-B32-RECIRC-12"-BR-G1	Riser Pipe to Sweepolet
1-B32-RECIRC-12"-AR-D3	Riser Pipe to Elbow
1-B32-RECIRC-12"-AR-B2	Riser Pipe to Elbow
1-F11-RHR-20"-A-SUCT-1	Pipe to Tee
1-E11-RHR-20"-A-SUCT-1EC	RWCU Branch Connection
1-B32-RECIRC-22"-BM-IBC-B	Sweepolet to Heaper
1-B32-RECIRC-22"-AM-5BC-A	Sweepolet to Heaper
1-B32-RECIRC-22"-AM-2	Header Pipe to Valve
1-B32-RECIRC-22"-BM-2	Header to Cross
1-B32-RECIRC-28"-A-4	Suction Pipe to Elbow
1-B32-RECIRC-28"-A-7	Suction Pipe to Elbow
1-B32-RECIRC-28"-A-9	Suction Valve to Pipe
1-B32-RECIRC-28"-B-9	Suction Valve to Pipe
1-B32-RECIRC-28"-B-4	Suction Pipe to Elbow
1-B32-RECIRC-28"-B-7	Suction Pipe to Elbow
1-B32-RECIRC-28"-B-10	Suction Pipe to Elbow

ATTACHMENT 2

CP&L LETTER - NLS-84-045

January 31, 1984

INTERIM MEASURES

The following mitigating measures will be taken at BSEP Unit 1:

1. Plant shutdown shall be initiated for inspection and corrective action shall be taken when any leakage detection system indicates, within any period of 24 hours, an increase in rate of unidentified leakage in excess of 2 gpm or its equivalent, whichever occurs first. For sump level monitoring systems with fixed-measurement interval method, the level shall be monitored at 4-hour intervals or less.
2. At least one of the leakage measurement instruments associated with each sump shall be operable, and the outage time for inoperable instruments shall be limited to 24 hours or immediately initiate an orderly shutdown.
3. A visual examination for leakage of the reactor coolant piping shall be performed during each plant outage in which the containment is deinerted. The examination shall be performed consistent with the requirements of IWA-5241 and IWA-5242 of the 1980 Edition of Section XI of the ASME Boiler and Pressure Vessel Code. The system boundary subject to this examination shall contain the susceptible welds inside the primary containment.