



Carolina Power & Light Company
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MAY 02 1997

SERIAL: BSEP 97-0108

U. S. Nuclear Regulatory Commission
ATTENTION: Document Control Desk
Washington, DC 20555

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 AND 50-324/LICENSE NOS. DPR-71 AND DPR-62
INTERGRANULAR STRESS CORROSION CRACKING (IGSCC) INSPECTION PLAN FOR
RWCU PIPING WELDS OUTBOARD OF THE SECOND CONTAINMENT ISOLATION VALVE
(GENERIC LETTER 88-01)

Gentlemen:

The purpose of this letter is to request NRC concurrence with Carolina Power & Light (CP&L) Company's plans to remove from the inspection extent and frequency outlined in NRC Generic Letter 88-01, the piping welds outboard of the second containment isolation valve in the Reactor Water Clean-Up systems of the Brunswick Steam Electric Plant (BSEP), Unit Nos. 1 and 2. The removal of these welds is based on criteria previously used by the NRC to review and approve a similar request for the Limerick Generating Station. Enclosure 1 demonstrates that the NRC staff criteria for not performing the augmented intergranular stress corrosion cracking (IGSCC) inspections specified in NRC Generic Letter 88-01, have been met.

NRC approval of this request is needed by August 1, 1997, in order to support planning activities for the Unit 2 Reload 12 (B213R1) refueling outage, currently scheduled to begin on September 13, 1997.

Please refer any questions regarding this submitte, to Mr. Mark Turkal, Supervisor — Licensing at (910) 457-3066.

Sincerely,

Keith R. Jury

Keith R. Jury
Manager — Regulatory Affairs
Brunswick Steam Electric Plant

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WRM/wrm

Enclosure



pc (with enclosure):

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U. S. Nuclear Regulatory Commission
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U. S. Nuclear Regulatory Commission
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The Honorable J. A. Sanford
Chairman - North Carolina Utilities Commission
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Division of Boiler and Pressure Vessel
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ENCLOSURE 1

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 AND 5-324
LICENSE NOS. DPR-71 AND DPR-62
IGSCC INSPECTION PLAN FOR RWCU PIPING WELDS
OUTBOARD OF THE SECOND CONTAINMENT
ISOLATION VALVE (GENERIC LETTER 88-01)

SUMMARY:

The purpose of this letter is to request NRC concurrence with Carolina Power & Light (CP&L) Company's plans to remove from the inspection extent and frequency outlined in NRC Generic Letter 88-01, "NRC Position On IGSCC In BWR Austenitic Stainless Steel Piping," the piping welds outboard of the second containment isolation valve in the Reactor Water Clean-Up (RWCU) systems of the Brunswick Steam Electric Plant (BSEP), Unit Nos. 1 and 2. The removal of these welds is based on criteria previously used by the NRC to review and approve a similar request for the Limerick Generating Station.

On January 25, 1988, the NRC issued Generic Letter 88-01; the technical basis for the NRC staff position was published in NUREG-0313, Revision 2, "Technical Report on Material Selection and Processing Guidelines for BWR Coolant Pressure Boundary Piping." The scope of both NRC Generic Letter 88-01 and NUREG-0313 applied to boiling water reactor (BWR) piping made of austenitic stainless steel that is four inches or larger in nominal diameter and contains reactor coolant at a temperature above 200°F during power operation, regardless of piping Code classification.

By letter dated July 18, 1988, CP&L agreed to follow the NRC staff position regarding the extent and frequency of inspection for various categories of weldments. Susceptible piping welds in RWCU system outboard of the second containment isolation valve were included in this inspection scope.

DISCUSSION:

Since the issuance of Generic Letter 88-01, the NRC staff has established criteria regarding the acceptable inspection schedules for the portion of the RWCU system outboard of the second containment isolation valve. By letter dated June 21, 1995, as supplemented by letter dated January 5, 1996, Philadelphia Electric Company (PECO) requested approval to eliminate IGSCC inspection (ultrasonic testing) of RWCU system piping welds outboard of the primary containment isolation valves at the Limerick Generating Station. The NRC approved the PECO request in a letter dated February 7, 1996. To qualify for not performing any augmented IGSCC inspections in the subject piping, the following conditions were required to be met:

- 1) The piping outboard of the second containment isolation valve is made of resistant material,

- 2) Absence of IGSCC indications in RWCU system piping welds inboard of the second isolation valves (on-going NRC Generic Letter 88-01 inspection), and
- 3) Absence of IGSCC indications in RWCU system piping welds outboard of the second isolation valves after inspecting a minimum of 10 percent of the susceptible piping welds.

CP&L is requesting approval to remove from the inspection extent and frequency outlined in NRC Generic Letter 88-01 the piping welds in the BSEP Unit Nos. 1 and 2 RWCU systems outboard of the second containment isolation valve. The following bases for the removal of these welds demonstrates that the previously used NRC acceptance criteria for not performing the augmented IGSCC inspections as specified in Generic Letter 88-01 have been met.

Piping Outboard of the Second Isolation Valve Is Made of Resistant Material

By letter dated January 27, 1989 (Serial: NLS-89-017), for BSEP Unit No. 1; and by letter dated February 21, 1990 (Serial: NLS-90-036), for BSEP Unit No. 2; CP&L notified the NRC staff that the susceptible portions of the RWCU systems (outboard of the second containment isolation valve) have been replaced with a low carbon wrought austenitic stainless steel material (i.e., IGSCC resistant) in accordance with the recommendations outlined in NUREG-0313, Revision 2.

Absence of IGSCC Indications In RWCU System Piping Welds Inboard of the Second Isolation Valves (On-going NRC Generic Letter 88-01 Inspection)

The inspection extent and frequency of the susceptible RWCU system piping welds inboard of the second containment isolation valve, as outlined in NRC Generic Letter 88-01, are being met. The inspection methods recommended in NUREG-0313 for detecting and evaluating IGSCC are also being implemented for these weldments. To date, at least 25 percent of the RWCU system susceptible piping welds inboard of the containment isolation valves for BSEP Unit No. 1 and BSEP Unit No. 2 have been inspected in accordance with these requirements; no observed IGSCC indications have been observed.

Absence of IGSCC Indications In RWCU Piping Welds Outboard of the Second Isolation Valve

Since the replacement of the RWCU system piping, inspections in accordance with the recommendations outlined in NRC Generic Letter 88-01 and NUREG-0313 have been performed. To date, 13 of the 82 (approximately 16 percent) susceptible BSEP Unit No. 1 RWCU system weldments have been inspected in accordance with these requirements. Of the 83 susceptible piping welds in the BSEP Unit No. 2 RWCU system, 14 weldments (approximately 17 percent) have been inspected in accordance with the above requirements. No IGSCC indications have been detected on either system during these inspections.

Additional Criterion:

While considering the PECO application, the NRC staff also reviewed PECO's actions and commitments regarding completion of all Generic Letter 89-10, "Safety-Related (1) Motor-Operated Valve Testing And Surveillance" required actions for the RWCU system isolation valves. By letter dated June 21, 1995, CP&L notified the NRC staff that the implementation of

the motor-operated valve (MOV) program, in accordance with NRC Generic Letter 89-10, was completed for BSEP Unit No. 1. Subsequently, by letter dated April 12, 1996, CP&L notified the NRC staff that the implementation of the MOV program, in accordance with NRC Generic Letter 89-10, was also completed for BSEP Unit No. 2. These letters stated that the proper MOV performance and design configuration controls using NRC and Boiling Water Reactor Owners' Group (BWROG) guidance as well as plant-specific, industry test data and operating experience would continue. RWCU system containment isolation valves, 1-G31-F001, 1-G31-F004, 2-G31-F001 and 2-G31-F004 are part of the MOV program. Thus, the actions outlined in NRC Generic Letter 89-10 for the RWCU system containment isolation valves have been satisfactory completed.

CONCLUSION:

Based on the above, CP&L has satisfied the NRC staff criteria previously used for not performing augmented inspection on the subject welds and requests approval to remove these welds from the inspection extent and frequency identified in NRC Generic Letter 88-01 and NUREG-0313, Revision 2.

An additional consideration is the significant accumulation of personnel radiation exposure associated with the augmented inspection of these weldments. The personnel radiation exposure associated with these augmented inspections are dependent on the time needed to remove and reinstall insulation, supports, and/or other interferences; prepare the weld for examination; and perform the examinations. Based on the current augmented inspection schedule and the remaining period of operation authorized by the BSEP operating licenses, approximately 65 person-rem of personnel radiation exposure savings could result from the approval of this request.

BSEP Technical Specification 4.0.5.f states that the Inservice Inspection Program for piping identified in NRC Generic Letter 88-01 shall be performed in accordance with the staff positions on schedule, methods, personnel, and sample expansion included in this letter. CP&L proposes to remove the subject weldments from the inspection extent and frequency outlined in NRC Generic Letter 88-01. As a result, CP&L plans to submit a license amendment request to modify Technical Specification 4.0.5.f to allow for NRC staff approved alternatives for in-service inspection of piping addressed by NRC Generic Letter 88-01. CP&L plans to submit this license amendment request by May 30, 1997.

The continued imposition of the augmented inspection recommendations specified in NRC Generic Letter 88-01 for this portion of the RWCU system constitutes a hardship to CP&L, particularly with regard to personnel radiation exposure, without a compensating increase in quality and safety. Approval of this request by August 1, 1997 is necessary to support planning activities for the BSEP Unit No. 2 Reload 12 (B213R1) refueling outage. This refueling outage is currently scheduled to begin on September 13, 1997.