Carolina Power & Light Company

Brunswick Stream Electric Plant

P.O. Box 10429
Southport, North Carolina 28461

APR 05 1993

SERIAL: BSEP-93-0042

United States Nuclear Regulatory Commission
ATTENTION: Document Control Desk
Washington, DC 20555

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 & 50-324/LICENSE NOS. DPR-71 & DPR-62
REPLY TO NOTICE OF VIOLATION

Gentlemen:

On March 4, 1993, the Nuclear Regulatory Commission issued a Notice of Violation for the Brunswick Steam Electric Plant, Units 1 and 2. Details of the underlying NRC inspections are provided in Inspection Report Nos. 50-325/93-02 and 50-324/93-02 dated March 4, 1993. Carolina Power & Light Company hereby responds to the Notice of Violation. Enclosure 1 to this letter provides CP&L's reply to the Notice of Violation in accordance with the provisions of 10 CFR 2.201.

Please refer any questions regarding this submittal to Mr. R. C. Godley at (919) 457-2412.

Yours very truly,

Boy A. Anderson, Vice President
Brunswick Nuclear Plant

GMT/gmt

Enclosures

cc: Mr. S. D. Ebneter
Mr. P. D. Milano
Mr. R. L. Prevatte

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ENCLOSURE 1

BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2
NRC DOCKET NOS. 50-325 & 50-324
OPERATING LICENSE NOS. DPR-71 & DPR-62
REPLY TO NOTICE OF VIOLATION

VIOLATION:

During an NRC inspection conducted on January 11 - February 12, 1993, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C, the violation is listed below:

> Technical Specification 6.8.1 requires that written procedures be established, implemented, and maintained for applicable procedures recommended in Appendix A of Regulatory Guide 1.33, November 1972. Appendix A to Regulatory Guide 1.33 requires in part that specific procedures for surveillance tests, inspections and calibrations be written and implemented for each surveillance test, inspection or calibration required by the Technical Specifications. Carolina Power & Light Company Periodic Test procedure PT-20.5.1, Primary Containment Inspection, was written to provide requirements for visual inspections of the containment structure which are performed to meet Technical Specifications 4.6.1.4.1 and 4.6.2.1.e.1. Paragraph VI.C.2 of PT 20.5.1 requires that indications (rust stains or corrosion) be measured, sketched and described on the procedure data sheets. Paragraph II of procedure PT 20.5.1 requires the indications to be evaluated per ENP-12.
>
> Contrary to the above, the depth and extent of corrosion of the drywell liner plate at the intersection of the interior concrete floor and interior drywell liner plate around the entire circumference of the drywell was not measured or evaluated when the inspections were performed in 1987, 1989, 1990, and 1991 in the Unit 1 drywell and in 1988, 1990, and 1991 in the Unit 2 drywell.

This is a Severity Level IV violation (Supplement I).

RESPONSE TO VIOLATION:

A. Admission of Violation:

Carolina Power & Light Company admits this violation.

B. Reason for Violation

The violation cites various dates for inspections when extent of the corrosion was not measured or evaluated. The dates listed are not entirely correct, however. For Unit 1 in 1989 (non-ILRT outage) and 1990, no drywell liner inspections were scheduled and thus were not performed. For the Unit 1 and 2 inspections performed in 1991, evaluations were not performed based on the procedures listed acceptance criteria. Evaluation of the remaining inspections were performed but were inadequate in that the depth and extent of the corrosion was not fully documented by the inspections such that a valid evaluation could be conducted. The Unit 2 1992 liner inspection that was on-going had documented an increase in liner corrosion that would have required an evaluation, but the ability to identify the increase was aided by the inspector's previous involvement in the 1988 liner inspection.

The visual inspections conducted of the interior surfaces of the drywell liner during the series of Periodic Tests (PTs), PT-20.5.1 (Primary Containment Inspection), lacked sufficient guidance to establish a meaningful baseline for the liner corrosion. The procedure did not give a method to allow for nor give guidance for tracking corrosion growth rate over a period of time. Without this guidance the results from subsequent evaluations could not adequately build on the previous findings. Also, the Acceptance Criteria were written such that previous corrosion findings were required to be revisited. However, if there was a previous Engineering Evaluation Report the acceptance criteria could be interpreted to mean additional evaluations were not required.

Managerial standards for material condition corrosion issues were low. Plant personnel did not have the general guidance needed to determine what level of corrosion was acceptable and at what point additional/corrective action would be required. This was reflected in the subjective wording used in the procedure, like "badly corroded" that could have different meanings for different inspectors. This resulted in the inspectors not providing sketches of the deficient areas as the procedure intended.

C. Corrective Actions, Steps Taken, and Result Achieved

Special Procedure 0SP-93-010, Drywell Liner Corrosion Examination, was developed to quantify the extent and depth of the liner corrosion (see Attachment 1). The procedure provides instructions for cleaning the liner plate, designation of inspection zones, and instructions for measuring the base metal plate thickness and the depth of pits in the corroded areas. The plate thickness is measured using Ultrasonic Testing (UT) methods in unaffected areas adjacent to the corroded area. The depth of corrosion is measured using dental molding compound.

The examination of the Unit 2 liner determined that five areas required base metal repairs to restore the liner plate to an acceptable thickness, and these repairs are complete. United Engineers and Constructors has prepared a calculation to document the as-found condition of the liner and determined the liner to be operable with the corroded areas. The original UFSAR assumption that the liner yields before it buckles remains valid. The minimum

acceptance criteria for liner thickness and repair evaluation are documented in Engineering Evaluation Report (EER) 93-0173 revision 2. To minimize recurring corrosion, this area of the liner was recoated with an epoxy coating and an enhanced seal was installed in the expansion joint between the liner plate and the concrete floor that will prevent the liner from contacting the shallow standing water present in this area (see Attachment 2). This same process will be used for Unit 1, with the inspections and repairs (if required) being performed prior to the restart of Unit 1.

Other procedures used by Technical Support were reviewed for non-specific or subjective acceptance criteria, procedure wording, or guidance. This review identified 18 procedures that require enhancement.

D. Corrective Actions That Will be Taken to Avoid Future Violations

The acceptance criteria of PT-20.5.1 will be revised by September 1993 to clarify the requirements for evaluation of previously analyzed indications. The revision will also provide inspectors sufficient detail and guidance for proper inspections.

This event will be reviewed May 10, 1993, with appropriate Technical Support personnel emphasizing the need to ensure acceptance criteria for surveillance testing is satisfied and that identified concerns are addressed.

The 18 Technical Support procedures needing enhancement due to non-specific or subjective wording will be revised by September 1993.

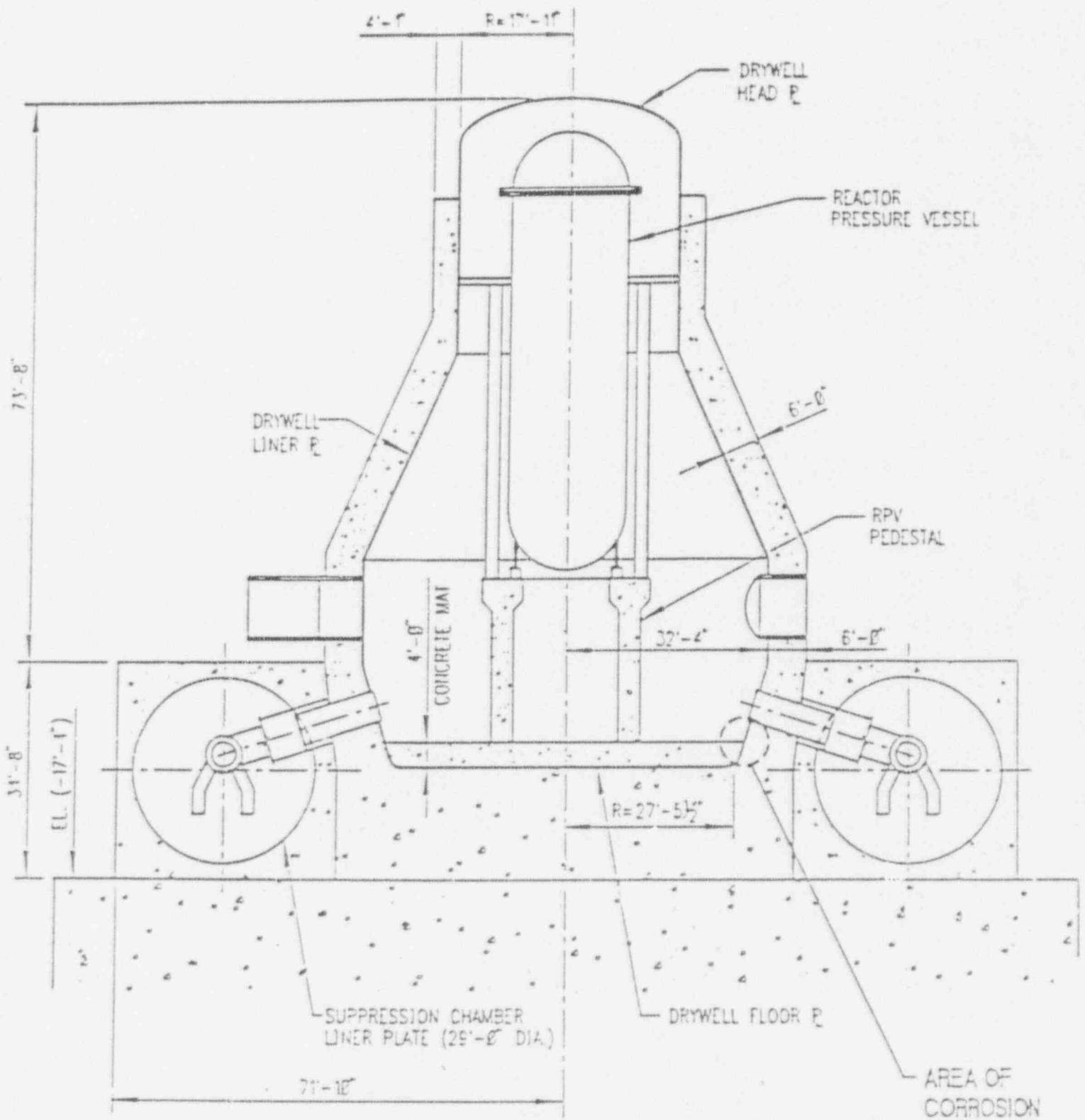
The Brunswick Nuclear Plant Three Year Plan, submitted to the NRC December 15, 1992, includes a Corrosion Control initiative (# 502). This initiative is part of a broader focus area that aims to improve system reliability and material condition. The objective of the Corrosion Control initiative is to: "Provide preventive measures to control the effects of corrosion at the cosmetic stage and well before structural integrity is challenged. Provide corrective measures to restore existing equipment and structures affected by corrosion"(sic). This initiative will develop a comprehensive program to address root causes of existing corrosion, implement preventive maintenance measures, provide repairs for existing corroded equipment and structures, and upgrade materials and coatings where appropriate. This corrosion prevention program will be integrated with inspection procedures such as PT 20.5.1 to ensure resolution of identified corrosion concerns by qualified inspectors and engineers.

Also efforts are being taken to minimize corrosion in the drywells and torus with a project to refurbish coatings. A schedule for this work will be provided to the NRC by June 30, 1993.

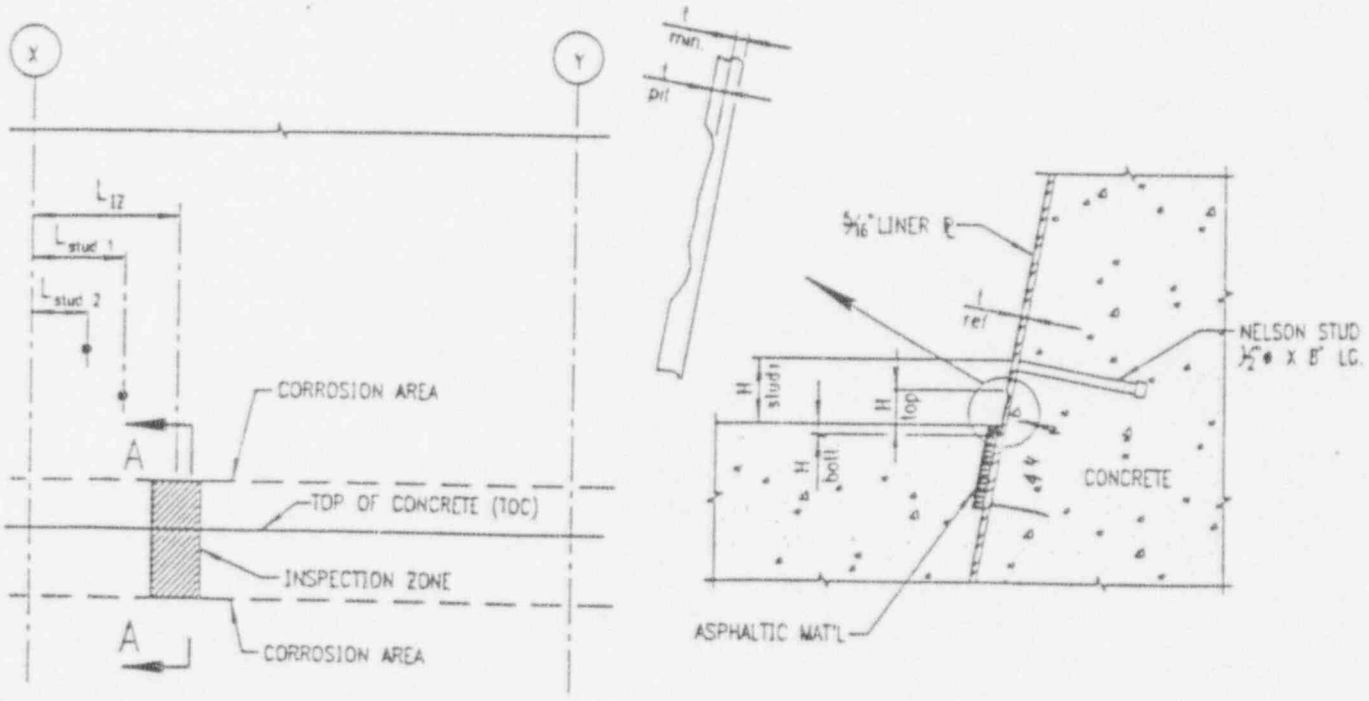
E. Date of Full Compliance

CP&L will be in full compliance upon completion of the Unit 1 drywell liner inspection, which will be performed prior to the Unit 1 Startup.

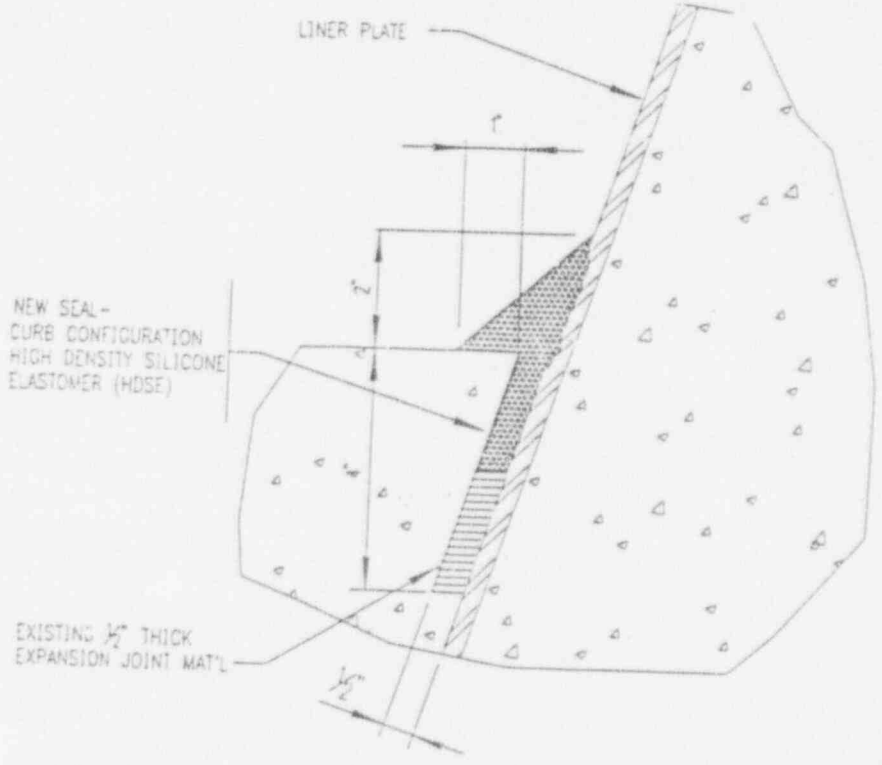
ATTACHMENT 1



SECTION THROUGH PRIMARY CONTAINMENT STRUCTURE



CORROSION AREA AND ORIGINAL SEAL



NEW SEAL CONFIGURATION