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SUBJECT: Responds to NRC Bulletin 89-002, "Stress Corrosion Cracking of High-Hardness Type 410 Stainless Steel Internal..."

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 TITLE: Bulletin Response 89-02 re Cracking of High-Hardness Type 410 Bolting

NOTES:Application for permit renewal filed. 05000400

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Vice President  
Nuclear Services Department

United States Nuclear Regulatory Commission  
ATTENTION: Document Control Desk  
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BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2  
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SHEARON HARRIS NUCLEAR POWER PLANT  
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H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2  
DOCKET NO. 50-261/LICENSE NO. DPR-23

RESPONSE TO NRC BULLETIN NO. 89-02: STRESS CORROSION CRACKING OF HIGH-HARDNESS TYPE 410 STAINLESS STEEL INTERNAL PRELOADED BOLTING IN ANCHOR DARLING MODEL S350W SWING CHECK VALVES OR VALVES OF SIMILAR DESIGN

Gentlemen:

On July 19, 1989, the NRC staff issued NRC Bulletin No. 89-02 which requests licensees to identify, disassemble, and inspect certain types of swing check valves which may contain Type 410 stainless steel (SS) bolting material of sufficiently high hardness to be susceptible to stress corrosion cracking or failure. Specifically, the Bulletin requests licensees to disassemble and inspect all safety-related Anchor Darling Model S350W swing check valves supplied with internal retaining block studs of ASTM Specification A193, Grade B6, Type 410 SS. The Bulletin also requests licensees to review the design of other safety-related check valves to determine if similar designs and material selection to the Anchor Darling Model S350W are used at their facilities, and, if so, to perform similar inspections of such valves.

Carolina Power & Light Company (CP&L) responses to the specific actions requested by the Bulletin are provided as follows for the Brunswick Steam Electric Plant, Unit Nos. 1 & 2 (BSEP), the Shearon Harris Nuclear Power Plant (SHNPP), and the H. B. Robinson Steam Electric Plant, Unit No. 2 (HBR2). Documentation of the activities performed in response to the Bulletin will be maintained in accordance with plant procedures for safety-related equipment at BSEP, SHNPP, and HBR2 as stipulated by the Bulletin.

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### BSEP RESPONSE

In response to the Bulletin, safety-related check valves were reviewed to determine if any Anchor Darling S350W swing check valves, supplied with internal retaining block studs of ASTM Specification A193, Grade B6, Type 410 SS are used at BSEP. Also, design of other vendors' safety-related check valves were reviewed to determine if similar design and/or material selection were used. No safety-related Anchor Darling Model S350W check valves subject to the Bulletin requirements were identified at the BSEP. Additionally, no safety-related check valves supplied by other vendors with design and material characteristics similar to the Anchor Darling Model S350W were identified at the BSEP.

### SHNPP RESPONSE

In response to the Bulletin, safety-related check valves were reviewed to determine if any Anchor Darling S350W swing check valves, supplied with internal retaining block studs of ASTM Specification A193, Grade B6, Type 410 SS are used at SHNPP. Also, design of other vendors' safety-related check valves were reviewed to determine if similar design and/or material selection were used. No safety-related Anchor Darling Model S350W check valves subject to the Bulletin requirements were identified at the SHNPP. Although this review did identify some valves at SHNPP of a similar mechanical design to that of the Anchor Darling Model S350W, no Type 410 SS was found in these valves. Therefore, no similarities exist as to the bolting material used in these valves at SHNPP and that of the Anchor Darling Model S350W referenced in the Bulletin.

### HBR2 RESPONSE

On October 14, 1988, NRC Information Notice No. 88-85 "Broken Retaining Block Studs on Anchor Darling Check Valves" was issued by the Staff to alert addressees to potential problems relating to the failure of retaining block studs on Anchor Darling check valves and the possible generic implications. Although no specific action was requested by the Information Notice, safety-related check valves were reviewed to determine if any Anchor Darling S350W swing check valves, supplied with internal retaining block studs of ASTM Specification A193, Grade B6, Type 410 SS, were in use at HBR2. Nine safety-related Anchor Darling swing check valves were identified as containing Type 410 SS parts. During the 1988 Refueling Outage, the valves were disassembled, and the Type 410 SS parts were replaced with ASTM A564-630-11 (Type 17-4PH steel). The Type 410 SS parts were discarded at that time. As indicated in the Information Notice, Type 17-4PH steel is the material recommended by Anchor Darling for replacement of bolts and studs in borated water service. Therefore, by July 19, 1989, the date of issuance of NRC Bulletin No. 89-02, no Type 410 SS material subject to the Bulletin requirements was installed in Anchor Darling check valves at HBR2.

A documentation review to identify similar design swing check valves at HBR2 with internal preloaded Type 410 SS bolting is being conducted concurrent with the Managed Valve Maintenance Program in effect at HBR2. Valves containing SS

internal bolting subject to the Bulletin requirements will be identified prior to Refueling Outage No. 13, currently scheduled for the fall of 1990. Any resulting required disassembly and inspection of such valves per the requirements of the Bulletin will occur during Refueling Outage No. 13.

If you have any questions concerning this information, please contact Mr. L. I. Loflin at (919) 546-6242.

Yours very truly,



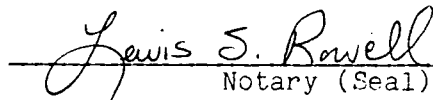
A. B. Cutter

JCP/ecc (571CRS)

cc: Mr. R. A. Becker  
Mr. S. D. Ebner  
Mr. L. Garner (NRC - HBR)  
Mr. R. Lo  
Mr. W. H. Ruland  
Mr. J. E. Tedrow  
Mr. E. G. Tourigny

A. B. Cutter, 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.

My commission expires: 7/12/94

  
Notary (Seal)

