

# ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8806090296 DOC. DATE: 88/05/31 NOTARIZED: YES DOCKET #  
 FACIL: 50-250 Turkey Point Plant, Unit 3, Florida Power and Light C 05000250  
 50-251 Turkey Point Plant, Unit 4, Florida Power and Light C 05000251

AUTH. NAME CONWAY, W.F.  
 RECIP. NAME

AUTHOR AFFILIATION  
 Florida Power & Light Co.  
 RECIPIENT AFFILIATION

Document Control Branch (Document Control Desk)

SUBJECT: Responds to Generic Ltr 88-05, "Boric Acid Corrosion of Carbon Steel Reactor Pressure Boundary Components in...."

DISTRIBUTION CODE: A001D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 5  
 TITLE: OR Submittal: General Distribution

### NOTES:

|           | RECIPIENT<br>ID CODE/NAME | COPIES<br>LTTR ENCL | RECIPIENT<br>ID CODE/NAME | COPIES<br>LTTR ENCL |
|-----------|---------------------------|---------------------|---------------------------|---------------------|
|           | PD2-2 LA                  | 1 0                 | PD2-2 PD                  | 5 5                 |
|           | EDISON, G                 | 1 1                 |                           |                     |
| INTERNAL: | ARM/DAF/LFMB              | 1 0                 | NRR/DEST/ADS 7E           | 1 1                 |
|           | NRR/DEST/CEB 8H           | 1 1                 | NRR/DEST/ESB 8D           | 1 1                 |
|           | NRR/DEST/MTB 9H           | 1 1                 | NRR/DEST/RSB 8E           | 1 1                 |
|           | NRR/DOEA/TSB 11           | 1 1                 | NRR/PMAS/ILRB12           | 1 1                 |
|           | <u>NUDOCS-ABSTRACT</u>    | 1 1                 | OGC 15-B-18               | 1 0                 |
|           | <u>REG FILE</u> 01        | 1 1                 | RES/DE/EIB                | 1 1                 |
| EXTERNAL: | LPDR                      | 1 1                 | NRC PDR                   | 1 1                 |
|           | NSIC                      | 1 1                 |                           |                     |

TOTAL NUMBER OF COPIES REQUIRED: LTTR 22 ENCL 19

R  
I  
D  
S  
/  
A  
D  
D  
S  
/  
A  
D  
D  
S





MAY 31 1988

L-88-239

U. S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, D. C. 20555

Gentlemen:

Re: Turkey Point Units 3 and 4  
Docket Nos. 50-250 and 50-251  
Generic Letter 88-05

Generic Letter 88-05, "Boric Acid Corrosion of Carbon Steel Reactor Pressure Boundary Components in PWR Plants," dated March 17, 1988, requested that licensees provide assurances that a program has been implemented to address the corrosive effects of reactor coolant system leakage at less than technical specification limits.

Following the instrumentation port column assembly (conoseal) leak at Turkey Point Unit 4 in March 1987, which resulted in a lengthy maintenance outage, Florida Power & Light Company implemented a program at the Turkey Point Plant to ensure that small primary coolant leaks are identified, monitored, evaluated and corrected before they cause significant corrosion damage. A summary of the program is attached.

Should there be any questions, please call us.

Very truly yours,

*W. F. Conway*  
W. F. Conway  
Senior Vice President - Nuclear

WFC/TCG/gp

Attachment

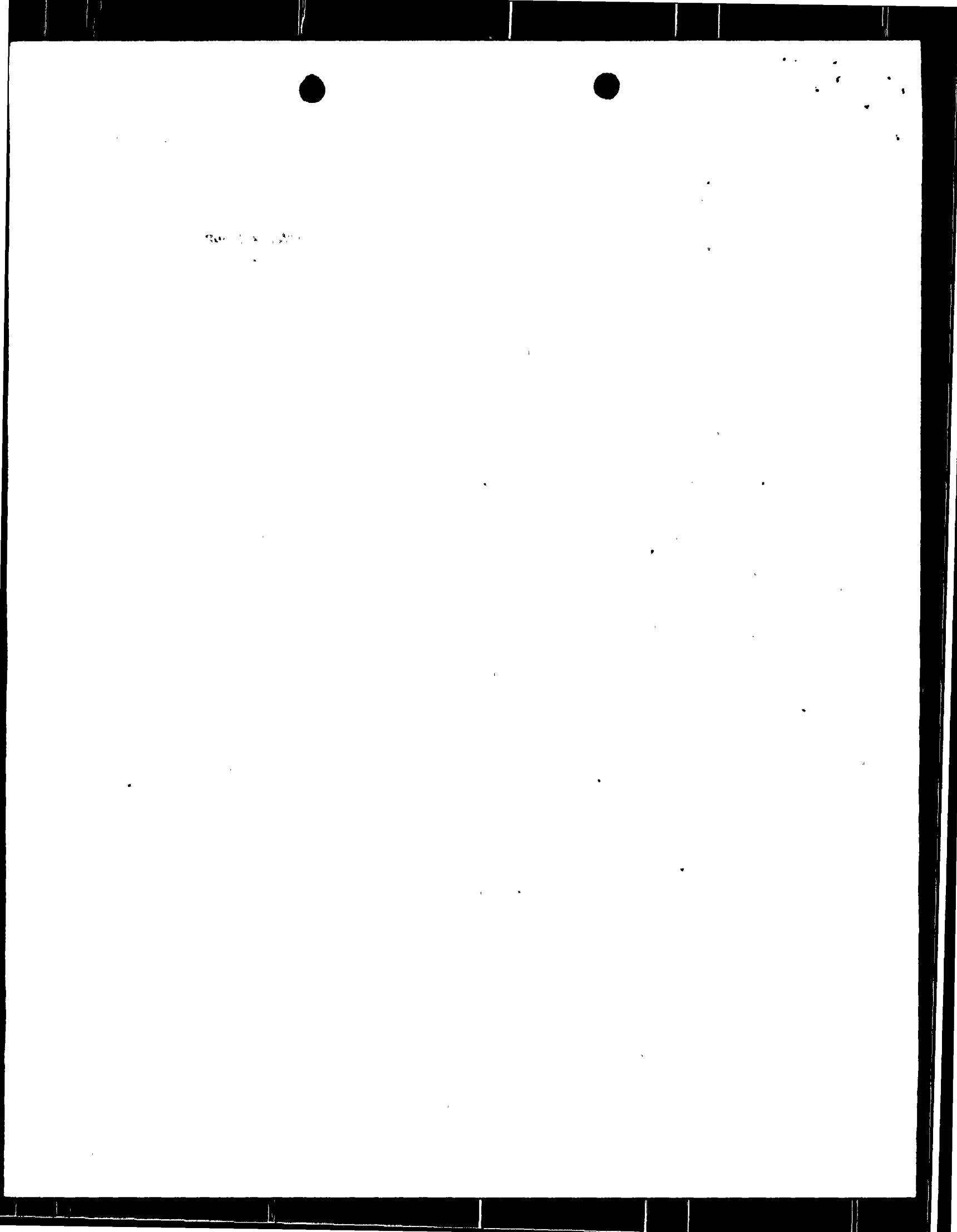
cc: Dr. J. Nelson Grace, Regional Administrator,  
Region II, USNRC  
Senior Resident Inspector, USNRC, Turkey Point Plant

8806090296 880531  
PDR ADOCK 05000250  
P DCD

TCG88-05.GL

an FPL Group company

*A001*  
*11*



STATE OF FLORIDA       )  
                                  ) ss.  
COUNTY OF PALM BEACH )

W. F. Conway being first duly sworn, deposes and says:

That he is Senior Vice President - Nuclear, of Florida Power and Light Company, the Licensee herein;

That he has executed the foregoing document; that the statements made in this document are true and correct to the best of his knowledge, information and belief, and that he is authorized to execute the document on behalf of said Licensee.

W. F. Conway  
W. F. Conway

Subscribed and sworn to before me this

31 day of May, 1988.

Roberta S. Economy

NOTARY PUBLIC, in and for the County of  
Palm Beach, State of Florida

My Commission expires

Notary Public, State of Florida  
My Commission Expires June 1, 1989  
Bonded Thru Troy Fala - Insurance, Inc.

RECEIVED  
JUL 10 1967  
U.S. DEPT. OF JUSTICE

Re: Turkey Point Units 3 and 4  
Docket Nos. 50-250 and 50-251  
Generic Letter 88-05

ATTACHMENT

The NRC in Generic Letter 88-05, "Boric Acid Corrosion of Carbon Steel Reactor Pressure Boundary Components in PWR Plants," dated March 17, 1988, requested that licensees provide assurances that a program has been implemented to address the corrosive effects of reactor coolant system leakage at less than technical specification limits. In light of the experience discussed in GL 88-05, the NRC believes that boric acid leakage potentially affecting the integrity of the reactor coolant system pressure boundary should be procedurally controlled to ensure continued compliance with the licensing basis. The program implemented should include the following:

- (1) A determination of the principal locations where leaks that are smaller than the allowable technical specification limit can cause degradation of the primary pressure boundary by boric acid corrosion. Particular consideration should be given to identifying those locations where conditions exist that could cause high concentrations of boric acid on pressure boundary surfaces.
- (2) Procedures for locating small coolant leaks (i.e., leakage rates at less than technical specification limits). It is important to establish the potential path of the leaking coolant and the reactor pressure boundary components it is likely to contact. This information is important in determining the interaction between the leaking coolant and reactor coolant pressure boundary materials.
- (3) Methods for conducting examinations and performing engineering evaluations to establish the impact on the reactor coolant pressure boundary when leakage is located. This should include procedures to promptly gather the necessary information for an engineering evaluation before the removal of evidence of leakage, such as boric acid crystal buildup.

TCG88-05.GL





- (4) Corrective actions to prevent recurrences of this type of corrosion. This should include any modifications to be introduced in the present design or operating procedures of the plant that (a) reduce the probability of primary coolant leaks at the locations where they may cause corrosion damage and (b) entail the use of suitable corrosion resistant materials or the application of protective coatings/claddings.

Procedural controls to ensure that small reactor coolant leaks are identified, monitored, evaluated, and corrected before they cause significant corrosion damage are included in the following Turkey Point Plant procedures: Operating Procedure 1004.1, Reactor Coolant System - System Leak Test Following RCS Opening, Operating Procedure 0206.7, Containment Visual Leak Inspection, and Surveillance Procedure OSP-041.1, Reactor Coolant System Leak Rate Calculation. Power Plant Engineering Department Quality Instruction JPE-QI 3.9, 10 CFR 50.59 Evaluations Performed by Power Plant Engineering, provides additional guidance for evaluation of leaks.

Operating Procedure 1004.1 provides instructions for verification of reactor coolant system (RCS) integrity following opening and reclosing of a component in the RCS after refueling and maintenance. Performance of this test satisfies the requirements of Technical Specification 4.3. and ASME Boiler and Pressure Vessel Code, Section XI.

Operating Procedure 0206.7 provides instructions for inspection and reporting of any leakage from systems inside containment, and is performed after filling and venting the RCS, prior to entry into Mode 2 - Startup, at subcritical hot standby conditions prior to going to Mode 5 - Cold Shutdown, or after component disassembly or maintenance. Guidelines for the evaluation of leaks are provided.

Surveillance Procedure OSP-041.1 provides instructions for determining reactor coolant system leakage by either of two methods: calculation for normal parameter review, or by containment visual inspection of the RCS. Guidelines for the evaluation of leaks are provided.

Each of the above procedures identify the principal locations inside containment which should be inspected for leakage. The following acceptance criteria for leakage inside containment apply. There shall be no observable leakage on or affecting the reactor pressure vessel. If leakage occurs in the reactor vessel closure head area which can be retained by insulation or other structures so that the boric acid can accumulate and create corrosion problems the leak shall be



promptly repaired once detected. If leakage exists through a fault in the RCS boundary that cannot be isolated cooldown to Cold Shutdown shall be initiated. Leaks inside containment will be repaired unless an evaluation indicates that a leak would not adversely impact plant operations. All evaluations shall be approved by the Plant Nuclear Safety Committee.

As stated above, guidelines for leak evaluation are included in Operating Procedure 0206.7 and Surveillance Procedure OSP-041.1. Operating Procedure 1004.1 references Surveillance Procedure OSP-041.1. Evaluations performed in accordance with the guidelines generally consider the following: location of leak, type of leak, leak characteristics (e.g. boric acid accumulation, steam leak, water leak, etc.), the component function in the system, other systems affected by the leak (i.e. damage, degradation, etc.), plant status and operability requirements, means of leak identification, leak monitoring (trends), Technical Specification/FSAR/procedure requirements and long term effects. Engineering safety evaluations performed in accordance with JPE-QI 3.9 to support continued operations must establish that the leakage is within Technical Specification allowables, the leakage cannot accumulate on ferritic pressure boundary surfaces in a manner that can result in accelerated corrosion of the surface, indirect effects of the leakage cannot adversely impact other safety related equipment in containment due to direct impingement or boric acid transfer effects, and the potential for the leak to propagate into a LOCA or other accident conditions must be demonstrated not to exist.

In addition to the procedural controls discussed above, FPL has modified the Turkey Point Unit 3 and 4 CRDM vent shrouds to add access doors to allow inspection of the reactor vessel head area. These doors aided in detecting and evaluating recent CRDM housing canopy seal leaks. A non-safety grade single channel radiation monitor was also added in the Turkey Point Unit 3 CRDM vent ducting to aid in detecting the onset of small leaks in the enclosed volume swept by the ventilation flow stream. Its use is currently being evaluated for implementation in Turkey Point Unit 4.

