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CONTROL NO: 1197

FILE: INCIDENT REPORT

FROM: Florida Power & Light Co. Miami, Fla. 33101 A.D. Schmidt	DATE OF DOC	DATE REC'D	LTR	TWX	RPT	OTHER
	1-30-75	2-3-75	XX			

TO:	ORIG	CC	OTHER	SENT AEC PDR	SENT LOCAL PDR
Mr. E. Case	1 signed			XX	XX

CLASS	UNCLASS	PROP INFO	INPUT	NO CYS REC'D	DOCKET NO:
	XX			1	50-251

DESCRIPTION: Ltr reporting Abnormal Occurrence AO-50-251/75-2 on 1-20-75 re low boron concentration boron injection tank & "C" boric acid storage tank.....

ENCLOSURES:

ACKNOWLEDGED

Do Not Remove

PLANT NAME: Turkey Pt. Unit 4

FOR ACTION/INFORMATION DHL 2-4-75

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P.O. BOX 3100 MIAMI, FLORIDA 33101

FLORIDA POWER & LIGHT COMPANY

Regulatory Docket File

January 30, 1975

Mr. Edson G. Case, Acting Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Case:

ABNORMAL OCCURRENCE NO. 251-75-2
OCCURRENCE DATE: JANUARY 20, 1975
TURKEY POINT PLANT UNIT NO. 4

LOW BORON CONCENTRATION - BORON INJECTION TANK AND 'C' BORIC ACID STORAGE TANK

A. CONDITIONS PRIOR TO OCCURRENCE

Unit No. 4 was operating at approximately 100% reactor power. The Boron Injection Tank (BIT) recirculation line connecting the BIT outlet with the Boric Acid Storage Tank (BAST) was blocked by boric acid crystals. Temporary high pressure hoses were connected between the BIT outlet recirculation piping and the Boric Acid Batching Tank to enable concentrated boric acid from a BAST to be periodically pumped through the BIT while the normal recirculation line was blocked.

B. DESCRIPTION OF THE OCCURRENCE

On January 20, 1975 at 2:27 p.m., a sample of the 'C' BAST was analyzed and found to contain 18,900 ppm of boron. This is below the Technical Specification limit of 20,000 ppm. The 'C' BAST was immediately taken out of service and the 'B' BAST lined up for service on Unit No. 4.

At 2:58 p.m., sample results for the Unit No. 4 BIT were determined to be 17,800 ppm boron. The Technical Specification limit is 20,000 ppm. Immediate load reduction of Unit No. 4 was commenced along with pumping concentrated boric acid from 'B' BAST through the BIT to return the boron concentration to within the specified limits.

C. CAUSE OF THE OCCURRENCE

Demineralized water used to flush the temporary hoses resulted in dilution of the boric acid in the Batching Tank. The diluted boric acid was then inadvertently pumped to the 'C' BAST without taking action to ensure that it would not dilute the contents of the 'C' BAST to a boron concentration below the specified limit. This action in fact resulted in the dilution of boron concentration in 'C' BAST below specified limits and upon subsequent circulation of the 'C' BAST contents through the BIT resulted in dilution of the BIT boron concentration to a value below the specified limit.

1197

D. ANALYSIS OF THE OCCURRENCE

The contents of the BIT are used for controlling the consequences of a steam line break. The analysis of the steam line break presented in the FSAR assumes a minimum boron concentration of 20,000 ppm. While the actual plant condition with respect to this assumption was less conservative, there are other significant parameters, such as reactor shutdown reactivity margin and rate of injection of borated water, whose actual plant values are more conservative than those assumed in the FSAR analysis. These factors, coupled with the margin to DNB that exists even for the most conservative case analyzed in the FSAR, lead to the conclusion that an analysis based on actual plant parameters would yield results that are acceptable. Therefore, it can be concluded that the dilution of the BIT contents did not present any danger to the public health and safety.

E. CORRECTIVE ACTION

The 'C' Boric Acid Storage Tank was removed from service and the 'B' Boric Acid Storage Tank was placed in service. The boron concentration of the contents of 'C' Boric Acid Storage Tank was increased to a value within the specified limits by the addition of concentrated boric acid from the Batching Tank. The BIT contents were returned to the proper boron concentration by circulating concentrated boric acid through the tank.

The plant operators have been cautioned to ensure that appropriate sampling and analysis for boron concentration are carried out before transferring boric acid from the Batching Tank to a BAST and before placing a BAST in service.

Permanent corrective action will be to clear or renew the blocked recirculation line. In addition, a design change that will provide for continuous recirculation of the BIT contents with the contents of a BAST is currently in the process of being reviewed prior to implementation.

F. FAILURE DATA

This is the fifth abnormal occurrence in which dilution of the contents of the BIT has occurred at Turkey Point and the fourth occurrence on Unit No. 4.

Very truly yours,

A. D. Schmidt
Vice President
Power Resources

HNP/cpc

cc: Mr. Norman C. Moseley
Jack R. Newman, Esquire