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50-251 Turkey Point Plant, Unit 4, Florida Power and Light C 05000251
AUTH.NAME AUTHOR AFFILIATION
UHRIG,R.E. Florida Power & Light Co.
RECIP.NAME RECIPIENT AFFILIATION
EISENHUT,D.G. Division of Licensing

SUBJECT: Forwards addl info re accuracy of flux vs load check,in response to NRC request & as supplement to 770125 request for amend.Draft operating Procedure 12304.3 encl.

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FLORIDA POWER & LIGHT COMPANY

May 1, 1980
L-80-134

Office of Nuclear Reactor Regulation
Attention: Mr. Darrell G. Eisenhut
Acting Director
Division of Operating Reactors
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Eisenhut:

Re: Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
"ΔT vs Reactor Power" Curve

The attached information is provided in response to a request from your staff and supplements our amendment request of January 25, 1977 (L-77-32).

Very truly yours,

Robert E. Uhrig
Vice President
Advanced Systems & Technology

REU/RAK/ah

Attachment

cc: J. P. O'Reilly, Region II
Harold F. Reis, Esquire

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ATTACHMENT

Re: Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
"ΔT vs Reactor Power" Curve

1. Florida Power & Light Company has determined that the flux vs load check is accurate to within ±1%, and the ΔT vs reactor power check is accurate to within ±0.7%. Input signal to curve contributors have been considered in the accuracy determination.

2. The ΔT vs reactor power check will be included in a Turkey Point Plant operating procedure. An example of a draft procedure is shown in the attached marked up copy of Operating Procedure 12304.3.

3. We plan to perform both the flux vs load and ΔT vs reactor power checks initially.

4. We do not intend to delete the flux vs load check from the operating procedures, but plan to retain it as a back-up to the ΔT vs reactor power check.

FLORIDA POWER & LIGHT COMPANY
TURKEY POINT UNITS 3 & 4
OPERATING PROCEDURE 12304.3
NOVEMBER 30, 1976



1.0 Title:

POWER RANGE NUCLEAR INSTRUMENTATION SHIFT CHECKS AND DAILY CALIBRATIONS

2.0 Approval and List of Effective Pages:

2.1 Approval:

Change Dated 11/30/76 Reviewed by PNSC November 30 1976

Approved by J. K. Hays Plant Supt., December 4, 1976

2.2 List of Effective Pages:

| Page | Date | Page | Date | Page | Date |
|---|---|---|---|---|---|
| 1 | 11/30/76 | 4 | 11/30/76 | 7 | 8/28/75 |
| 2 | 11/30/76 | 5 | 10/23/75 | 8 | 11/30/76 |
| 3 | 11/30/76 | 6 | 11/30/76 | | |

3.0 Purpose:

This procedure provides the necessary instruction to perform the shift checks and daily calibrations of the Nuclear Power Range Instrument Channels.

4.0 Precautions and Limits:

4.1 Shift checks and daily calibrations shall be done when the reactor is above 10 percent of rated power.

4.2 Before adjusting a power range gain, verify none of the other three channels are in the trip mode.

4.3 Adjust only one power range gain at a time.

4.4 NIS Power Range Meters will be maintained within the following limits:

1. Reactor Power equal to or greater than 90 percent, the average of the power range meters should be within $\pm$ 1 percent of the thermal calorimetric.

2. Reactor power less than 90 percent, the average of the power range meters should be within $\pm$ 2 percent of the thermal calorimetric.

8.0 Instructions: ~~Use~~ PERFORM EITHER SECTION 8.1 OR 8-2

8.1 Shift Check of NIS - Use Data and Worksheet: ~~Shift Check of NIS~~ FLUX vs. LOAD

NOTE: All curves referred to below are from the Plant Curve Book - Section I.

1. Read the generator load, condenser vacuum, barometric pressure and power range meters and record.

2. Calculate the back pressure (barometer - condenser vacuum) and record.

3. Obtain and record the estimated reactor power from the Flux-vs-Load Curve (Figure ~~8~~ 1 PCB) using the generator load and back pressure.

4. Obtain the correction, C, from the most recent NIS Calibration.

5. Calculate the corrected Figure 1 power by adding the correction C, to the power obtained in 8.1.3.

6. Calculate the average of the power range meter readings recorded in 8.1.1 and record it in the space provided.

7. Calculate the estimated NIS error (%) as the difference between the average meter reading and the corrected Figure 1 power.

8. If the estimated NIS error exceeds the values stated in step 4.4, complete section ~~8.2.~~ 8.3

INSERT SECTION 8.2 SEE ATTACHED SHEET

8.3 ~~8.2~~ Daily thermal calibration of the NIS

8.3.1 ~~8.2.1~~ DDPS Method

1. Compute the reactor power by using the datalogger's program (CAL). Record the necessary data outputed to the line printer on a form similar to that displayed on page 8. Minimum information shall include % power from all operating power range channels, calorimetric power, meter correction factor, flux vs. load power and shift check correction factor.

   NOTE: If the datalogger is inoperative the manual method described in step ~~8.2.2~~ 8.3.2 shall be used.

2. Power Range currents may also be recorded.

3. Calculate a meter correction value for each NIS channel as the calorimetric power minue the meter reading. The error printed from the DDPS is inaccurate and shall not be used for a meter correction.

8.2 SHIFT CHECK OF 1.5-USE DATA } WORKSHEET: ΔT vs. POWER

NOTE: ALL CURVES REFERRED TO BELOW ARE FROM THE PLANT CURVE BOOK - SECTION I.

1) READ THE GENERATOR MWD, CONDENSER VACUUM, BAROMETRIC PRESSURE } POWER RANGE METERS } RECORD. [SAME AS 8.1.1]

2) [SAME AS 8.1.2]

3) OBTAIN } RECORD THE ESTIMATED REACTOR POWER FROM THE ΔT-vs-POWER CURVE (FIGURE 1A PCB) USING THE AVERAGE ΔT-CONTROL VALUE FOR ΔT.

4) [SAME AS 8.1.4]

5) [SAME AS 8.1.5]

6) [SAME AS 8.1.6]

7) [SAME IS 8.1.7]

8) [SAME AS 8.1.8]