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RECIP.NAME RECIPIENT AFFILIATION
REID,R.W. ***OPERATING REACTORS BRANCH 4

SUBJECT: Loop Current Step Response tests to date indicate that time constants of RPS RTD's are all less that 8.0 second limit specified by Tech Spec Table 3.3-2, & there is no evidence of generic trend to increasing time constants for sensors.

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FLORIDA POWER & LIGHT COMPANY

January 3, 1979
L-79-2

Office of Nuclear Reactor Regulation
Attention: Mr. R. W. Reid, Chief
Operating Reactors Branch #4
Division of Operating Reactors
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Reid:

Re: St. Lucie Unit 1
Docket No. 50-335
Resistance Temperature Detectors

This letter gives the status of the Florida Power & Light Company (FPL) verification program for the Loop Current Step Response (LCSR) technique of measuring Resistance Temperature Detector (RTD) time constants at St. Lucie Unit 1.

In January, 1978, the surveillance required by Technical Specification 4.3.1.1.3 was performed by an FPL consultant on the Reactor Protection System (RPS) Channel A RTD's. The test results were discussed with members of the NRC staff during several telephone conversations. As a result of the discussions, and in accordance with our letter L-78-180 of May 19, 1978, available spare RTD's were installed (in May) in place of the four Channel A RTD's and were tested by the LCSR method during the startup of Cycle 2. In further conformance with our May 19 letter, surveillance testing of all 16 RTD's supplying input to the RPS was performed in October, 1978. The results of these tests are tabulated below:

	Time Constant, seconds		
Tag No.	January, 1978	May, 1978*	October, 1978
TE-1112CA	4.0 ± 0.2	4.2 ± 0.4	4.0 ± 0.4
TE-1112HA	6.2 ± 0.5	4.4 ± 0.3	4.4 ± 0.2
TE-1122CA	5.5 ± 0.2	5.7 ± 0.3	6.0 ± 0.6
TE-1122HA	5.0 ± 0.5	5.6 ± 0.3	5.3 ± 0.5
TE-1112CB	---	---	5.0 ± 0.5
TE-1112HB	---	---	5.0 ± 0.9
TE-1122CB	---	---	5.9 ± 0.3
TE-1122HB	---	---	5.8 ± 0.3
TE-1112CC	---	---	4.5 ± 0.7
TE-1112HC	---	---	5.4 ± 0.4
TE-1122CC	---	---	5.4 ± 0.3
TE-1122HC	---	---	5.4 ± 0.4
TE-1112CD	---	---	4.8 ± 0.3
TE-1112HD	---	---	4.9 ± 0.5
TE-1122CD	---	---	5.7 ± 0.5
TE-1122HD	---	---	4.3 ± 0.5

*Spare RTD's installed in Channel A

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Comparison of the May test results (replacement sensors) with the January test results (original sensors) shows an apparent improvement in only one of the four time constants. Comparison of the October test results with the May test results indicates that there was no significant change in the measured time constants of the four Channel A RTD's during the 5-month interval between tests.

In summary, the results to date of LCSR testing at St. Lucie Unit 1 indicate:

1) The time constants of the RPS RTD's are all less than the 8.0 second limit specified by Technical Specification Table 3.3-2.

2) There is no evidence of a generic trend toward increasing time constants for these sensors.

Very truly yours,

Robert E. Uhrig

Robert E. Uhrig
Vice President
Advanced Systems and Technology

REU/MAS/cpc

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