C 10/03/78

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DOCTYPE: LETTER NOTARIZED: YES
SUBJECT:

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LTR 3 ENCL 40

REQUESTING EXTENSION FOR AUTHORIZATION TO CONTINUE OPERATION OF UNIT 3 FOR AN ADDL 4 EQUIVALENT MONTHS INSTEAD OF PROCEEDING WITH SUBJECT FACILITY"S STEAM GENERATOR INSPEC DURING THE MONTH OF OCT, 1978 BEGINING OCT 17, 1978... W/ATT
~~SUPPORTING INFO~~ re Extension [redacted] OF AUTHORIZED OPERATING INTERVAL.

PLANT NAME: TURKEY PT #3

REVIEWER INITIAL: XJM
DISTRIBUTOR INITIAL: RTW

********** DISTRIBUTION OF THIS MATERIAL IS AS FOLLOWS **********

GENERAL DISTRIBUTION FOR AFTER ISSUANCE OF OPERATING LICENSE.
(DISTRIBUTION CODE A001)

FOR ACTION: BR CHIEF ORB#1 BC**W/7 ENCL

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DISTRIBUTION: LTR 40 ENCL 39
SIZE: 2P+4P

CONTROL NBR: 781570210

********** THE END **********

CCP Thank you

P. O. BOX 013100, MIAMI, FL 33101

FLORIDA POWER & LIGHT COMPANY

September 26, 1978
L-78-312

Office of Nuclear Reactor Regulation
Attn: Mr. Victor Stello, Director
Division of Operating Reactors
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Stello:

Re: Turkey Point Unit 3
Docket No. 50-250
Proposed Amendment to
Operating License DPR-31

Turkey Point Unit 3 is required by operating license DPR-31 to be shutdown for a steam generator inspection during the month of October. As you know, steam generator inspections involve significant costs to our customers because of the differential costs of the fuel which must be consumed to generate replacement power for the unit.

The inspection also involves considerable exposure to our workers. For these reasons it is important to perform only those inspections necessary to ensure safe and efficient operation.

The attached analysis concludes that Turkey Point Unit 3 can safely be operated for an additional four equivalent months of operation. We believe that this analysis is conservative and provides an adequate basis for an additional four months of operation prior to performing a steam generator reinspection.

We have concluded that our operating experience subsequent to the steam generator inspection completed in February 1978, does not justify a steam generator inspection prior to the next refueling outage. The next refueling outage for Unit 3 is scheduled to begin in early January 1979. There has been one shutdown of PTP3 as a result of a tube leak since the last inspection. We have also had indications of a very slight primary to secondary leak for approximately the last week in that short lived radio-nuclides have been detected at the air ejector exhaust. This extremely small leak is less than the minimum threshold for leak rate determination.

781570210

A001 1/5 *
3/40

This amendment request has been reviewed by the Turkey Point Plant Nuclear Safety Committee and the Florida Power & Light Company Nuclear Review Board. They have concluded that operation of Unit 3 in accordance with this amendment will continue to ensure that the health and safety of the public is protected.

We request that you respond to this request as soon as possible. Our existing operating license requires us to shutdown Unit 3 by October 17, 1978 for a steam generator inspection. System considerations will require us to shutdown by October 9, unless we are assured that this request will be granted. We would be glad to meet with you or your staff to aid you in your review of this request.

Very truly yours,

E. L. Goldsmith

for Robert E. Uhrig
Vice President
Advanced Systems & Technology

cc: Robert Lowenstein, Esquire
J. P. O'Reilly, Region II

REU/GDW/cf

TURKEY POINT UNIT 3

EXTENSION OF AUTHORIZED OPERATING INTERVAL

Turkey Point Unit 3 is presently authorized to operate 8 equivalent operating months beyond the last steam generator inspection outage. At that inspection, it was determined that flow slot closure had occurred. Therefore, the current authorized operating interval enables operation to 8 EFPM beyond closure. This analysis evaluates continued operation of Turkey Point Unit 3 for an additional 4 equivalent months (ie. 12 EFPM beyond closure).

Turkey Point Unit 4 has had 2 S/G re-inspections at points beyond full closure of flow slots (at approximately 5 EFPM and 12 EFPM). Because inspection results and operating history have shown that denting is more advanced in Unit 4 than in Unit 3, utilizing these inspection results to predict the condition of Turkey Point Unit 3 will provide conservative estimates of Unit 3's condition.

The two re-inspections (Unit 4) provided data representing 6 individual S/G conditions (2 inspections, 3 S/G's per inspection). These 6 inspections were reviewed, and the one with the highest ratio of restricted tubes in the tube lane to total unplugged tubes in the tube lane (within the 17 1/2% strain boundary) was selected. Restricted tubes were defined as those which restricted either the .650, .610 or .540 probes.

The most restrictive condition was S/G 4A at 5 EFPM.

$$\frac{\text{129 restricted tubes in the tube lane}}{\text{227 total unplugged tubes in the tubelane}}$$

Then the Unit 3 S/G with the most unplugged tubes (within the 17 1/2% strain boundary at 5 EFPM) was selected. The result was 171 unplugged tubes in S/G 3A. Therefore, at the end of 5 EFPM beyond closure for Turkey Point Unit 3, the predicted number of restricted tubes is as follows:

$$171 \text{ unplugged tubes} \times \frac{\text{129 restricted tubes}}{\text{227 unplugged tubes}} = 98 \text{ restricted tubes}$$

Now looking at Unit 3 after 12 EFPM beyond closure, the resulting number of unplugged tubes (within the 17 1/2% strain boundary) is 320.

Therefore, at the end of 12 EFPM beyond closure, the predicted number of restricted tubes is:

$$98 \text{ restricted tubes } X \frac{320}{171} = 184 \text{ restricted tubes}$$

A very conservative approach is to assume that all of these restricted tubes would develop through wall cracks during a postulated main steam line break (MSLB) analysis. As presented in previously submitted analyses, each tube would yield a leakage of less than 0.05 GPM.

Considering the 184 tubes above, the estimated increase in leakage is:

184 X 0.05 GPM = 9.2 GPM

This added to the 0.3 GPM leakage assumed to be present at the start of the MSLB (which would increase to approximately 0.7 GPM due to the MSLBΔP), yields a total leakage of less than 10 GPM. An analysis has been previously submitted analyzing primary to secondary leakage during a MSLB assuming a 10 GPM leak rate.

Previous analyses have also established that a 10 GPM leak rate has a negligible effect on primary system thermal hydraulic parameters, the DNB ratio, the percentage of reactor coolant lost by leakage and the time to terminate the core transient during a postulated MSLB accident.

The LOCA effects previously analyzed still apply since these effects are only dependent on the size and number of through wall cracks existing at the time of the accident. The size and number of cracks are maintained within safe values by the .3 GPM per steam generator operating limit already imposed. The effect of secondary to primary leakage during LOCA would be negligible relative to primary system thermal hydraulic parameters when compared to the effects of the LOCA on these parameters.

This analysis supports operation of Turkey Point Unit 3 through 12 EFPM beyond closure of the slots. The analysis was developed using very conservative assumptions:

ie. - Used Turkey Point Unit 4 inspection results to extrapolate Unit 3 predictions.

- The method used to calculate the number of restricted tubes maximized the resulting number of tubes for consideration.

- Assumed that all restricted tubes would fail during the postulated MSLB. This includes tubes which restrict the .650 probe and are not plugged to justify a 6 month operating interval.

Additionally, Turkey Point Unit 3 will actually operate less than 12 EFPM (approx. 11 EFPM) before a refueling shutdown is required.

Based upon the results of this conservative analysis, Florida Power & Light Company has concluded that Turkey Point Unit 3 can be safely operated an additional four (4) equivalent operating months beyond the currently authorized eight (8) equivalent operating months.

STATE OF FLORIDA)
) ss.
COUNTY OF DADE)

E. A. Adomat, being first duly sworn, deposes and says:

That he is Executive Vice President of Florida Power & Light Company, the herein;

That he has executed the foregoing document; that the statements made in this said 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

E. A. Adomat

Subscribed and sworn to before me this

27th day of September, 1978

Betty Brittain
NOTARY PUBLIC in and for the County of Dade, State of Florida

NOTARY PUBLIC STATE OF FLORIDA at LARGE
MY COMMISSION EXPIRES MARCH 27, 1982
BONDED THRU MAYNARD BONDING AGENCY

My commission expires:

BETTY BRITTAIN NOTARY PUBLIC STATE OF FLORIDA


NOTARY
PUBLIC