



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

FLORIDA POWER AND LIGHT COMPANY

DOCKET NO. 50-250

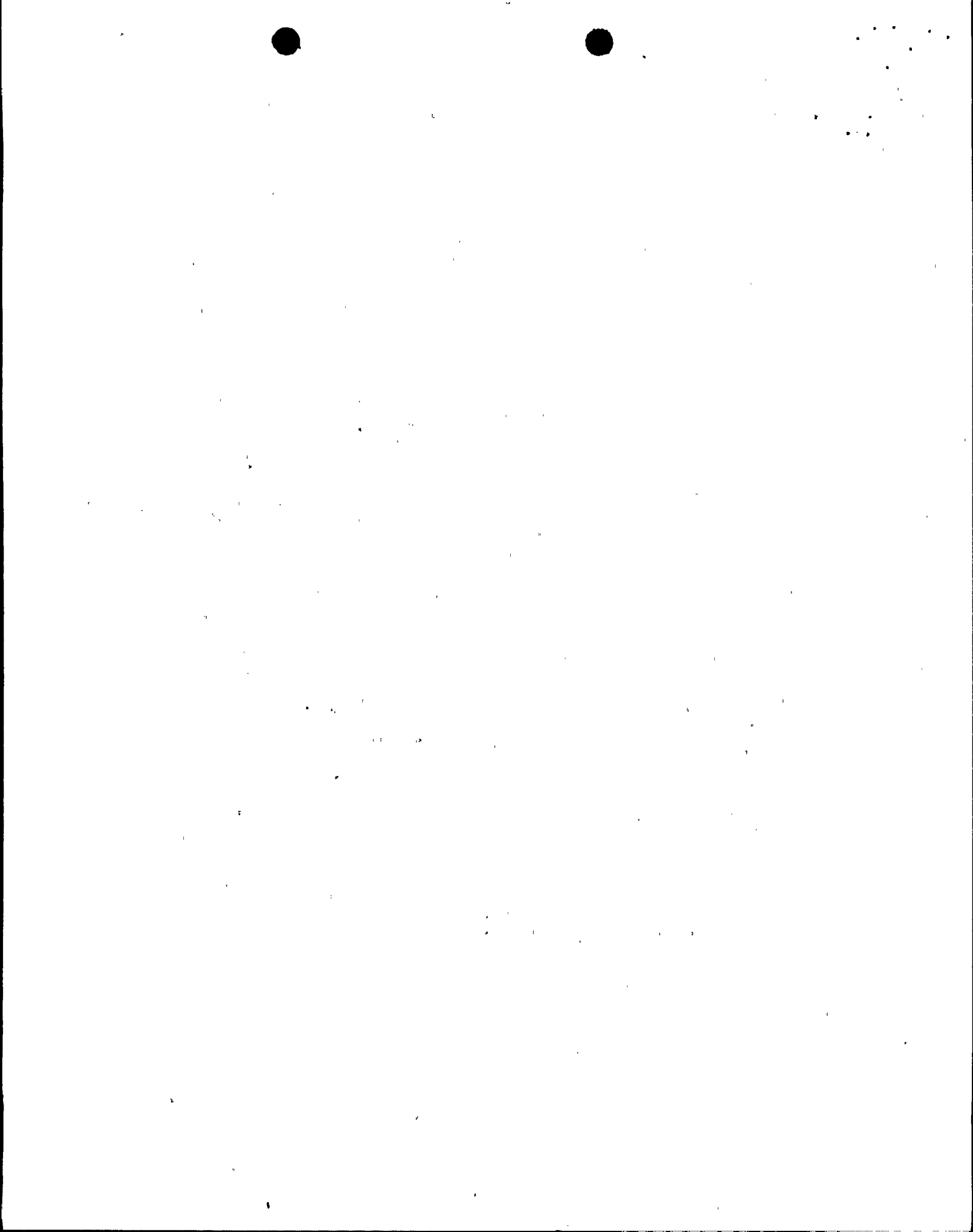
TURKEY POINT PLANT UNIT NO. 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 124  
License No. DPR-31

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Florida Power and Light Company (the licensee) dated May 7, 1986, as supplemented on February 20, 1987, and April 23, 1987 complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public;  
and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-31 is hereby amended to read as follows:

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(B) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No.124 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of issuance and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Lester S. Rubenstein, Director  
Project Directorate II-2  
Division of Reactor Projects-I/II  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: June 8, 1987



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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

FLORIDA POWER AND LIGHT COMPANY

DOCKET NO. 50-251

TURKEY POINT PLANT UNIT NO. 4

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 118  
License No. DPR-41

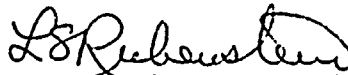
1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Florida Power and Light Company (the licensee) dated May 7, 1986, as supplemented on February 20, 1987, and April 23, 1987, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-41 is hereby amended to read as follows:

(B) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 118, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of issuance and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Lester S. Rubenstein, Director  
Project Directorate II-2  
Division of Reactor Projects-I/II  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: June 8, 1987



ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 124 FACILITY OPERATING LICENSE NO. DPR-31

AMENDMENT NO. 118 FACILITY OPERATING LICENSE NO. DPR-41

DOCKET NOS. 50-250 AND 50-251

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### 3.8 STEAM AND POWER CONVERSION SYSTEMS

Applicability: Applies to the operating status of the steam and power conversion systems.

Objective: To define conditions of the steam-relieving capacity.

Specification:

1. When the reactor coolant of a nuclear unit is heated above 350°F, the following conditions must be met:
  - a. TWELVE (12) of its steam generator safety valves shall be operable (except for testing).
  - b. Its main steam stop valves shall be operable and capable of closing in 5 seconds or less.
  - c. System piping, interlocks and valves directly associated with the related components in TS 3.8.1 a, b shall be operable.
2. The iodine-131 activity on the secondary side of a steam generator shall not exceed 0.67  $\mu\text{Ci/gm}$ .
3. With the reactor coolant system above 350°F, if any of above specifications cannot be met within 48 hours, the reactor shall be shutdown and the reactor coolant temperature reduced below 350°F. Specification 3.0.1 applies.



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**TABLE 3.16-1**

**PRIMARY COOLANT SYSTEM PRESSURE ISOLATION VALVES**

<u>System</u>	<u>Valve No.</u>		<u>Maximum (a)(b) Allowable Leakage</u>
High-Head Safety Injection	Unit 3	Unit 4	5.0 gpm
Loop A, hot leg	3-874A	4-874A	5.0 gpm
cold leg	3-875A	4-875A	5.0 gpm
cold leg	3-873A	4-873A	5.0 gpm
Loop B, hot leg	3-874B	4-874B	5.0 gpm
cold leg	3-875B	4-875B	5.0 gpm
cold leg	3-873B	4-873B	5.0 gpm
Loop C, cold leg	3-875C	4-875C	5.0 gpm
cold leg	3-873C	4-873C	5.0 gpm
Residual Heat Removal			
Loop A, cold leg	3-876A	4-876A	5.0 gpm
		4-876E	5.0 gpm
Loop B, cold leg	3-876B	4-876B	5.0 gpm
	3-876D	4-876D	5.0 gpm
Loop C, cold leg	3-876C	4-876C	5.0 gpm
	3-876E		

- 
- (a) 1. Leakage rates less than or equal to 1.0 gpm are considered acceptable.
2. Leakage rates greater than 1.0 gpm but less than or equal to 5.0 gpm are considered acceptable if the latest measured rate has not exceeded the rate determined by the previous test by an amount that reduces the margin between measured leakage rate and the maximum permissible rate of 5.0 gpm by 50% or greater.
3. Leakage rates greater than 1.0 gpm but less than or equal to 5.0 gpm are considered unacceptable if the latest measured rate exceeded the rate determined by the previous test by an amount that reduces the margin between measured leakage rate and the maximum permissible rate of 5.0 gpm by 50% or greater.
4. Leakage rates greater than 5.0 gpm are considered unacceptable.
- (b) Minimum differential test pressure shall not be less than 150 psid.

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## 3.18.1 .

- a) Two independent auxiliary feedwater trains including 3 pumps as specified in Table 3.18-1 and associated flowpaths shall be OPERABLE, except as provided in ACTION statement 4 below.

APPLICABILITY: MODES 1, 2, and 3

ACTION:

- 1) With one of the two required independent auxiliary feedwater trains inoperable, either restore the inoperable train to an OPERABLE status within 72 hours, or place the affected unit(s) in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- 2) With both required auxiliary feedwater trains inoperable, within 2 hours either restore both trains to an OPERABLE status, or restore one train to an OPERABLE status and follow ACTION statement 1 above for the other train. If neither train can be restored to an OPERABLE status within 2 hours, verify the availability of both standby feedwater pumps and place the affected unit(s) in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. Otherwise, initiate corrective action to restore at least one auxiliary feedwater train to an OPERABLE status as soon as possible and follow ACTION statement 1 above for the other train. (See Note 1 below)
- 3) With a single auxiliary feedwater pump inoperable, within 4 hours, verify OPERABILITY of two independent auxiliary feedwater trains, or follow ACTION statements 1 or 2 above as applicable. Upon verification of the OPERABILITY of two independent auxiliary feedwater trains, restore the inoperable auxiliary feedwater pump to an OPERABLE status within 30 days, or place the operating unit(s) in at least HOT STANDBY within 6 hours and in HOT SHUTDOWN within the following 6 hours. (See Note 1 below)
- 4) The provisions of Specification 3.0.4 are not applicable to the third auxiliary feedwater pump, provided the 30 day limit as described in ACTION statement 3 above is not exceeded. (See Note 1 below)

NOTES: 1) Refer to Bases Page B3.18-1 for additional guidance.

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TABLE 3.18-1

## AUXILIARY FEEDWATER SYSTEM OPERABILITY

<u>Unit</u>	<u>Train</u>	<u>Steam Supply Flowpath</u>	<u>Pump</u>	<u>Discharge Water Flowpaths</u>
3	1	SG 3C via MOV-3-1405 or SG 3B via MOV-3-1404 <sup>(1)</sup>	A or C <sup>(2)</sup>	SG 3A via CV-3-2816 SG 3B via CV-3-2817 SG 3C via CV-3-2818
3	2	SG 3A via MOV-3-1403 or SG 3B via MOV-3-1404 <sup>(1)</sup>	B or C <sup>(2)</sup>	SG 3A via CV-3-2831 SG 3B via CV-3-2832 SG 3C via CV-3-2833
4	1	SG 4C via MOV-4-1405 or SG 4B via MOV-4-1404 <sup>(1)</sup>	A or C <sup>(2)</sup>	SG 4A via CV-4-2816 SG 4B via CV-4-2817 SG 4C via CV-4-2818
4	2	SG 4A via MOV-4-1403 or SG 4B via MOV-4-1404 <sup>(1)</sup>	B or C <sup>(2)</sup>	SG 4A via CV-4-2831 SG 4B via CV-4-2832 SG 4C via CV-4-2833

NOTES

- (1) Steam admission valves MOV-3-1404 and MOV-4-1404 can be aligned to either train (but not both) to restore operability in the event MOV-3-1403 or MOV-3-1405, or MOV-4-1403 or MOV-4-1405 are inoperable.
- (2) During single and two unit operation, one pump shall be OPERABLE in each train and the third auxiliary feedwater pump shall be OPERABLE and capable of being powered from, and supplying water to either train, except as noted in ACTION 4 of Technical Specification 3.18. The third auxiliary feedwater pump (normally the "C" pump) can be aligned to either train to restore OPERABILITY in the event one of the required pumps is inoperable.

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2. The second part of the document is a table with several columns and rows, containing numerical data.

3. The third part of the document is a section containing several lines of text, possibly a list or a set of instructions.

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**3.19**      **CONDENSATE STORAGE TANKS**

**3.19.1**      The Condensate Storage Tanks shall be OPERABLE with a contained water volume of at least 185,000 gallons of water as follows:

**3.19.1.1**    **Single Unit Prior to Escalating into Mode 3**

- a) ONE water supply from either Condensate Storage Tank including flowpath piping and valves.

**3.19.1.2**    **Second Unit Prior to Escalating into Mode 3**

- a) ONE water supply from each unit corresponding Condensate Storage Tank including flowpath piping and valves.

**APPLICABILITY:**    MODES 1, 2, and 3.

**ACTION:**

**Single Unit at or Above Mode 3**

- 1) With one water supply from a Condensate Storage Tank inoperable, within 4 hours, either realign the other Condensate Storage Tank containing the required water volume to the suction of the Auxiliary Feedwater pumps or restore the inoperable water supply to OPERABLE status or be in at least HOT STANDBY in the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- 2) With both water supplies from the Condensate Storage Tanks inoperable, within 4 hours restore the water supply from either Condensate Storage Tank to Operable status or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

**Both Units at or Above Mode 3**

- 1) With one water supply from a Condensate Storage Tank inoperable, restore the inoperable water supply to OPERABLE status within 4 hours or place one unit in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. Refer to Single Unit Operation ACTION for single unit at or above MODE 3.
- 2) With both water supplies from the Condensate Storage Tanks inoperable within 1 hour restore one water supply from a Condensate Storage Tank to OPERABLE status or place one unit in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. If unable to restore at least one water supply from a Condensate Storage Tank to OPERABLE status within 4 hours from initial declaration of inoperability, the second unit shall be placed in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

10 11/10 1951

MEMORANDUM FOR THE DIRECTOR

CONFIDENTIAL

RE: [Illegible]

DATE: 11/10/51

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4.22

CONDENSATE STORAGE TANKS

4.22.1

The Condensate Storage Tanks shall be demonstrated OPERABLE at least once per 12 hours by verifying the contained water volume is within its limit when the tank is the supply source for the auxiliary feedwater pumps.

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**B3.8 BASES FOR LIMITING CONDITIONS FOR OPERATION,  
STEAM AND POWER CONVERSION SYSTEMS**

The limit on secondary coolant iodine-131 specific activity is based on a postulated release of secondary coolant equivalent to the contents of three steam generators to the atmosphere due to a net load rejection. The limiting dose for this case would result from radioactive iodine in the secondary coolant. I-131 is the dominant isotope because of its low MPC in air and because the other shorter lived iodine isotopes cannot build up to significant concentrations in the secondary coolant under the limits of primary system leak rate and activity. One tenth of the iodine in the secondary coolant is assumed to reach the site boundary making allowance for plate-out and retention in water droplets. The inhalation thyroid dose at the site boundary is then;

$$\text{Dose (Rem)} = C \cdot V \cdot B \cdot \text{DCF} \cdot X/Q \cdot 0.1$$

Where: C = secondary coolant I-131 specific activity

= 1.34 curies/m<sup>3</sup> (μCi/cc) or 0.67 Ci/m<sup>3</sup>, each unit

V = equivalent secondary coolant volume released = 214 m<sup>3</sup>

B = breathing rate = 3.47 x 10<sup>-4</sup> m<sup>3</sup> sec.

X/Q = atmospheric dispersion parameter = 1.54 x 10<sup>-4</sup> sec/m<sup>3</sup>

0.1 = equivalent fraction of activity released

DCF = dose conversion factor, Rem/ci

The resultant thyroid dose is less than 1.5 Rem.

In the unlikely event of complete loss of electrical power to the nuclear units, decay heat removal will be assured by the availability of the steam-driven auxiliary feedwater pumps and steam discharge via the steam generator safety valves and PORVs.(1)

(1) FSAR - Section 10.3

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### **B3.18 BASES - AUXILIARY FEEDWATER SYSTEM**

The OPERABILITY of the Auxiliary Feedwater System ensures that the Reactor Coolant System can be cooled down to less than 350°F from normal operating conditions in the event of a total loss of off-site power. Steam can be supplied to the pump turbines from either or both units through redundant steam headers. Two D.C. motor operated valves and one A.C. motor operated valve on each unit isolate the three main steam lines from these headers. Both the D.C. and A.C. motor operated valves are powered from safety related sources. Auxiliary feedwater can be supplied through redundant lines to the safety related portions of the main feedwater lines to each of the steam generators. Air operated fail closed flow control valves are provided to modulate the flow to each steam generator. Each steam driven auxiliary feedwater pump has sufficient capacity for single and two unit operation to ensure that adequate feedwater flow is available to remove decay heat and reduce the Reactor Coolant System temperature to less than 350°F when the Residual Heat Removal System may be placed into operation.

ACTION statement 2 describes the actions to be taken when both auxiliary feedwater trains are inoperable. The requirement to verify the availability of both standby feedwater pumps is to be accomplished by verifying that both pumps have successfully passed their monthly surveillance tests within the last surveillance interval. The requirement to complete this action before beginning a unit shutdown is to ensure that an alternate feedwater train is available before putting the affected unit through a transient. If no alternate feedwater trains are available, the affected unit is to stay at the same condition until an auxiliary feedwater train is returned to service, and then invoke ACTION statement 1 for the other train. If both standby feedwater pumps are made available before one auxiliary feedwater train is returned to an OPERABLE status, then the affected unit(s) shall be placed in HOT STANDBY within 6 hours and HOT SHUTDOWN within the following 6 hours.

ACTION statement 3 describes the actions to be taken when a single auxiliary feedwater pump is inoperable. The requirement to verify that two independent auxiliary feedwater trains are OPERABLE is to be accomplished by verifying that the requirements for Table 3.18-1 have been successfully met for each train within the last surveillance interval.

ACTION statement 4 states that the provisions of Specification 3.0.4 are not applicable to the third auxiliary feedwater pump provided it has not been inoperable for longer than 30 days. This means that a unit(s) can change OPERATIONAL MODES during a unit(s) heatup with a single auxiliary feedwater pump inoperable as long as the requirements of ACTION statement 3 are satisfied.

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**B3.19 BASES - CONDENSATE STORAGE TANKS**

There are two (2) seismically designed 250,000 gallon condensate storage tanks. A minimum of 185,000 gallons is maintained in each tank. The OPERABILITY of the condensate storage tank with the minimum water volume ensures that sufficient water is available to maintain the Reactor Coolant System at HOT STANDBY conditions for approximately 23 hours or maintain the Reactor Coolant System at HOT STANDBY conditions for 15 hours and then cool down the Reactor Coolant System to below 350°F at which point the Residual Heat Removal System may be placed into operation.

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555



SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 124 TO FACILITY OPERATING LICENSE NO. DPR-31  
AND AMENDMENT NO. 118 TO FACILITY OPERATING LICENSE NO. DPR-41

FLORIDA POWER AND LIGHT COMPANY

TURKEY POINT UNIT NOS. 3 AND 4

DOCKET NOS. 50-250 AND 50-251

I. BACKGROUND

By letter dated May 7, 1986, Florida Power and Light Company (FPL), the licensee for Turkey Point, Units 3 and 4, proposed changes to the plant Technical Specifications to provide individual specifications for the auxiliary feedwater (AFW) system and the condensate storage tanks (CSTs). Presently, specifications for the AFW system and CSTs are included in Technical Specification (TS) 3.8, Steam and Power Conversion Systems. The proposed changes will add TS 3.18, Auxiliary Feedwater System, TS 3.19, Condensate Storage Tank, and TS 4.21 regarding CST surveillance requirements. Bases for the AFW system and CSTs have also been added. In addition, Table 3.16-1 will be changed to correct errors in the valve numbers for two primary coolant system pressure isolation valves. The format of the proposed specifications and bases (i.e., limiting conditions for operation (LCO), applicability, action requirements and bases) is based on NUREG-0452, Standard Technical Specifications for Westinghouse Pressurized Water Reactors (WSTS).

II. DISCUSSION

The LCO for TS 3.18 proposed by the licensee's May 7, 1986 letter would require that two of three turbine-driven AFW pumps be operable for both single and two unit operation. This is less restrictive than the present specification, which requires two turbine-driven AFW pumps to be operable for single unit operation and three pumps to be operable for two unit operation. At the staff's request, the licensee modified their proposal by letter dated February 20, 1986, to require all three turbine-driven AFW pumps to be operable for single and two unit operation. However, because TS 3.20 provides for the availability of the standby feedwater system (two motor driven pumps), the allowable outage time for one of the three turbine-driven pumps has been extended to 30 days.

III. EVALUATION

The proposed specifications, as modified by the February 20, 1987 and April 23, 1987 letters, require two independent AFW trains, including three AFW pumps, to be operable for single and two unit operation. With one of the two trains inoperable, operation may continue for up to 72 hours before placing

the affected unit(s) in hot shutdown within twelve hours. With both AFW trains inoperable and neither train capable of being restored within 2 hours, the plant will be brought to hot shutdown within 12 hours if both standby feedwater pumps are operable. With a single AFW pump inoperable, operation may continue for up to 30 days provided two AFW trains are verified operable. Section 3.18, Action Items 3 and 4 were clarified by the April 23, 1987, letter to assure the proper interpretation of the required actions.

The above described specifications are consistent with the guidelines of SRP Section 10.4.9 and follow the guidance of the WSTS, with modifications necessitated by the uniqueness of the Turkey Point AFW system design (i.e., shared system, three turbine-driven AFW pumps, two motor-driven standby feedwater pumps, etc.).

Proposed TS 3.19 regarding the condensate storage tanks requires the CST(s) to be operable with a specified water volume, i.e., either CST, including piping and valves, may be used for single unit operation, but both CSTs, including piping and valves, must be available for two unit operation. If these conditions cannot be restored within 4 hours, then the affected unit(s) will be brought to hot shutdown within the following 12 hours. The proposed CST specification is consistent with the guidelines of SRP Section 9.2.6 and the WSTS, modified to accommodate the sharing capability of the CSTs.

#### IV. FINDINGS

Based on its review of the proposed changes to the Turkey Point Units 3 and 4 Technical Specifications regarding the AFW system and the CSTs, the staff concludes that the proposed changes are consistent with the guidelines of SRP Sections 9.2.6 and 10.4.9 and the Westinghouse Standard Technical Specifications. The staff, therefore, concludes the proposed changes are acceptable.

#### V. ENVIRONMENTAL CONSIDERATION

These amendments involve changes in the installation, use or surveillance of the facility components located within the restricted areas as defined in 10 CFR 20. The staff has determined that these amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that these amendments involve no significant hazards consideration and there has been no public comment on such finding. Accordingly, these amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of these amendments.

#### IV. CONCLUSION

We have concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities

will be conducted in compliance with the Commission's regulations and the issuance of these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Dated: June 8, 1987

Principal Contributors:

W. LeFave  
D. McDonald

