March 22, 1988

Docket No. 50-389

Mr. C. O. Woody
Executive Vice President
Florida Power & Light Company
P. O. Box 14000
Juno Beach, Florida 33408

Dear Mr. Woody:

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SUBJECT: ST. LUCIE UNIT 2 - ISSUANCE OF AMENDMENT RE: AUXILIARY FEEDWATER SYSTEM ACTUATION TIME DELAY (TAC NO. 63195)

The Commission has issued the enclosed Amendment No. 28 to Facility Operating License No. NPF-16 for the St. Lucie Plant, Unit No. 2. This amendment consists of changes to the Technical Specifications in response to your application dated October 17, 1986, as supplemented July 15, 1987.

This amendment (1) changes the auxiliary feedwater actuation values for steam generator steam line differential pressure and feedwater header differential pressure, (2) changes the auxiliary feedwater actuation time under low steam generator water level conditions, (3) deletes auxiliary feedwater initiation and feedwater isolation response times associated with feedwater header and steam generator steam line differential pressures, and (4) changes various operability and surveillance requirements associated with the above.

A copy of the Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

/s/

E. G. Tourigny, Project Manager
Project Directorate II-2
Division of Reactor Projects-I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 28 to NPF-16
2. Safety Evaluation

cc w/enclosures:
See next page

LA:PDII-2	PM:PDII-2	D:PDII-2	OGC
DMiller	ETourigny:bg	HBerkow	3/03/88
2/26/88	2/26/88	3/22/88	3/ /88

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Florida Power & Light Company

St. Lucie Plant

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

FLORIDA POWER & LIGHT COMPANY

ORLANDO UTILITIES COMMISSION OF

THE CITY OF ORLANDO, FLORIDA

AND

FLORIDA MUNICIPAL POWER AGENCY

DOCKET NO. 50-389

ST. LUCIE PLANT UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 28
License No. NPF-16

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Florida Power & Light Company, et al. (the licensee), dated October 17, 1986, as supplemented July 15, 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, Facility Operating License No. NPF-16 is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and by amending paragraph 2.C.2 to read as follows:

   2. Technical Specifications

      The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 28 , 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 its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Herbert N. Berkow, 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: March 22, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 28

TO FACILITY OPERATING LICENSE NO. NPF-16

DOCKET NO. 50-389

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by amendment number and contain vertical lines indicating the area of change. The corresponding overleaf pages are also provided to maintain document completeness.

Remove Pages	Insert Pages
3/4 3-14	3/4 3-14
3/4 3-15	3/4 3-15
3/4 3-16	3/4 3-16
3/4 3-18	3/4 3-18
3/4 3-21	3/4 3-21
3/4 3-23	3/4 3-23

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
4. MAIN STEAM LINE ISOLATION (MSIS)					
a. Manual (Trip Buttons	2	1	2	1, 2, 3	16
b. Steam Generator Pressure - Low	4/steam generator	2/steam generator	3/steam generator	1, 2, 3(c)	13*, 14
c. Containment Pressure - High	4	2	3	1, 2, 3	13*, 14
d. Automatic Actuation Logic	2	1	2	1, 2, 3	12
5. CONTAINMENT SUMP RECIRCULATION (RAS)					
a. Manual RAS (Trip Buttons)	2	1	2	1, 2, 3, 4	12
b. Refueling Water Storage Tank - Low	4	2	3	1, 2, 3	17
c. Automatic Actuation Logic	2	1	2	1, 2, 3	12

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
6. LOSS OF POWER (LOV)					
a. (1) 4.16 kV Emergency Bus Undervoltage (Loss of Voltage)	1/Bus	1/Bus	1/Bus	1, 2, 3	12
(2) 480 V Emergency Bus Undervoltage (Loss of Voltage)	2/Bus	2/Bus	2/Bus	1, 2, 3	12
b. (1) 4.16 kV Emergency Bus Undervoltage (Degraded Voltage)	3/Bus	2/Bus	2/Bus	1, 2, 3	17
(2) 480 V Emergency Bus Undervoltage (Degraded Voltage)	3/Bus	2/Bus	2/Bus	1, 2, 3	17
7. AUXILIARY FEEDWATER (AFAS)					
a. Manual (Trip Buttons)	4/SG	2/SG	4/SG	1, 2, 3	15
b. Automatic Actuation Logic	4/SG	2/SG	3/SG	1, 2, 3	12
c. SG Level (2A/2B) - Low	4/SG	2/SG	3/SG	1, 2, 3	13*, 14
8. AUXILIARY FEEDWATER ISOLATION					
a. SG 2A-- SG 2B Differential Pressure	4/SG	2/SG	3/SG	1, 2, 3	13*, 14
b. Feedwater Header SG 2A - SG 2B Differential Pressure	4/SG	2/SG	3/SG	1, 2, 3	13*, 14

TABLE 3.3-3 (Continued)

TABLE NOTATION

(a) Trip function may be bypassed in this MODE when pressurizer pressure is less than 1836 psia; bypass shall be automatically removed when pressurizer pressure is greater than or equal to 1836 psia.

(b) An SIAS signal is first necessary to enable CSAS logic.

(c) Trip function may be bypassed in this MODE below 700 psia; bypass shall be automatically removed at or above 700 psia.

* The provisions of Specification 3.0.4 are not applicable.

ACTION STATEMENTS

ACTION 12 - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

ACTION 13 - With the number of channels OPERABLE one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may continue provided the inoperable channel is placed in the bypassed or tripped condition within 1 hour. If the inoperable channel is bypassed, the desirability of maintaining this channel in the bypassed condition shall be reviewed in accordance with Specification 6.5.1.6m. The channel shall be returned to OPERABLE status no later than during the next COLD SHUTDOWN.

With a channel process measurement circuit that affects multiple functional units inoperable or in test, bypass or trip all associated functional units as listed below.

	Process Measurement Circuit	Functional Unit Bypassed
1.	Containment Pressure - High	Containment Pressure - High (SIAS, CIAS, CSAS) Containment Pressure - High (RPS)
2.	Steam Generator Pressure - Low	Steam Generator Pressure - Low (MSIS) Steam Generator ΔP 1 and 2 (AFAS) Thermal Margin/Low Pressure (RPS)
3.	Steam Generator Level	Steam Generator Level - Low (AFAS, RPS)
4.	Pressurizer Pressure	Pressurizer Pressure - High (RPS) Pressurizer Pressure - Low (SIAS) Thermal Margin/Low Pressure (RPS)

TABLE 3.3-3 (Continued)

TABLE NOTATION

ACTION 14 - With the number of channels OPERABLE one less than the Minimum Channels OPERABLE, STARTUP and/or POWER OPERATION may continue provided the following conditions are satisfied:

a. Verify that one of the inoperable channels has been bypassed and place the other inoperable channel in the tripped condition within 1 hour.

b. All functional units affected by the bypassed/tripped channel shall also be placed in the bypassed/tripped condition as listed below.

	Process Measurement Circuit	Functional Unit Bypassed/Tripped
1.	Containment Pressure Circuit	Containment Pressure - High (SIAS, CIAS, CSAS) Containment Pressure - High (RPS)
2.	Steam Generator Pressure - Low	Steam Generator Pressure - Low (MSIS) Steam Generator ΔP 1 and 2 (AFAS) Thermal Margin/Low Pressure (RPS)
3.	Steam Generator Level - Low	Steam Generator Level - Low (RPS) (AFAS)
4.	Pressurizer Pressure	Pressurizer Pressure - High (RPS) Pressurizer Pressure - Low (SIAS) Thermal Margin/Low Pressure (RPS)

ACTION 15 - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channels to OPERABLE status within 48 hours or be in at least HOT STANDBY within 6 hours and in HOT SHUTDOWN within the following 6 hours.

ACTION 16 - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or declare the associated valve inoperable and take the ACTION required by Specification 3.7.1.5.

ACTION 17 - With the number of OPERABLE Channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or place the inoperable channel in the tripped condition and verify that the Minimum Channels OPERABLE requirement is demonstrated within 1 hour; one additional channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1.

TABLE 3.3-4

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP VALUES

FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUES
1. SAFETY INJECTION (SIAS)		
a. Manual (Trip Buttons)	Not Applicable	Not Applicable
b. Containment Pressure - High	≤ 3.5 psig	≤ 3.6 psig
c. Pressurizer Pressure - Low	≥ 1736 psia	≥ 1728 psia
d. Automatic Actuation Logic	Not Applicable	Not Applicable
2. CONTAINMENT SPRAY (CSAS)		
a. Manual (Trip Buttons)	Not Applicable	Not Applicable
b. Containment Pressure -- High-High	≤ 5.40 psig	≤ 5.50 psig
c. Automatic Actuation Logic	Not Applicable	Not Applicable
3. CONTAINMENT ISOLATION (CIAS)		
a. Manual CIAS (Trip Buttons)	Not Applicable	Not Applicable
b. Safety Injection (SIAS)	Not Applicable	Not Applicable
c. Containment Pressure - High	≤ 3.5 psig	≤ 3.6 psig
d. Containment Radiation - High	≤ 10 R/hr	≤ 10 R/hr
e. Automatic Actuation Logic	Not Applicable	Not Applicable
4. MAIN STEAM LINE ISOLATION		
a. Manual (Trip Buttons)	Not Applicable	Not Applicable
b. Steam Generator Pressure - Low	≥ 600 psia	≥ 567 psia
c. Containment Pressure - High	≤ 3.5 psig	≤ 3.6 psig
d. Automatic Actuation Logic	Not Applicable	Not Applicable

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP VALUES

FUNCTIONAL UNIT	TRIP VALUE	ALLOWABLE VALUES
5. CONTAINMENT SUMP RECIRCULATION (RAS)		
a. Manual RAS (Trip Buttons)	Not Applicable	Not Applicable
b. Refueling Water Storage Tank - Low	5.67 feet above tank bottom	4.62 feet to 6.24 feet above tank bottom
c. Automatic Actuation Logic	Not Applicable	Not Applicable
6. LOSS OF POWER		
a. (1) 4.16 kV Emergency Bus Undervoltage (Loss of Voltage)	$\geq$ 3120 volts	$\geq$ 3120 volts
(2) 480 V Emergency Bus Undervoltage (Loss of Voltage)	$\geq$ 360 volts	$\geq$ 360 volts
b. (1) 4.16 kV Emergency Bus Undervoltage (Degraded Voltage)	$\geq$ 3848 volts with a 10-second time delay	$\geq$ 3848 volts with a 10-second time delay
(2) 480 V Emergency Bus Undervoltage (Degraded Voltage)	$\geq$ 432 volts	$\geq$ 432 volts
7. AUXILIARY FEEDWATER (AFAS)		
a. Manual (Trip Buttons)	Not Applicable	Not Applicable
b. Automatic Actuation Logic	Not Applicable	Not Applicable
c. SG 2A&2B Level Low	$\geq$ 19.0%	$\geq$ 18.0%
8. AUXILIARY FEEDWATER ISOLATION		
a. Steam Generator ΔP-High	$\leq$ 275 psid	89.2 to 281 psid
b. Feedwater Header ΔP-High	$\leq$ 150.0 psid	56.0 to 157.5 psid

TABLE 3.3-5 (Continued)

ENGINEERED SAFETY FEATURES RESPONSE TIMES

INITIATING SIGNAL AND FUNCTION	RESPONSE TIME IN SECONDS
10. Steam Generator Level-Low	
a. Auxiliary Feedwater	$\leq$ 305*/$\leq$305**

TABLE NOTATION

* Diesel generator starting and sequence loading delays included. Response time limit includes movement of valves and attainment of pump or blower discharge pressure.

** Diesel generator starting and sequence loading delays not included. Offsite power available. Response time limit includes movement of valves and attainment of pump or blower discharge pressure.

(1) Containment Isolation response time is applicable to the valves specified in Specification 3.6.3.

TABLE 4.3-2

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTAION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
1. SAFETY INJECTION (SIAS)				
a. Manual (Trip Buttons)	N.A.	N.A.	R	1, 2, 3, 4
b. Containment Pressure - High	S	R	M	1, 2, 3
c. Pressurizer Pressure - Low	S	R	M	1, 2, 3
d. Automatic Actuation Logic	N.A.	N.A.	M(1), SA(2)	1, 2, 3, 4
2. CONTAINMENT SPRAY (CSAS)				
a. Manual (Trip Buttons)	N.A.	N.A.	R	1, 2, 3, 4
b. Containment Pressure -- High - High	S	R	M	1, 2, 3
c. Automatic Actuation Logic	N.A.	N.A.	M(1), SA(2)	1, 2, 3, 4
3. CONTAINMENT ISOLATION (CIAS)				
a. Manual CIAS (Trip Buttons)	N.A.	N.A.	R	1, 2, 3, 4
b. Safety Injection SIAS	N.A.	N.A.	R	1, 2, 3, 4
c. Containment Pressure - High	S	R	M	1, 2, 3
d. Containment Radiation - High	S	R	M	1, 2, 3
e. Automatic Actuation Logic	N.A.	N.A.	M(1), SA(2)	1, 2, 3, 4
4. MAIN STEAM LINE ISOLATION				
a. Manual (Trip Buttons)	N.A.	N.A.	R	1, 2, 3
b. Steam Generator Pressure - Low	S	R	M	1, 2, 3
c. Containment Pressure - High	S	R	M	1, 2, 3
d. Automatic Actuation Logic	N.A.	N.A.	M(1), SA(2)	1, 2, 3, 4
5. CONTAINMENT SUMP RECIRCULATION (RAS)				
a. Manual RAS (Trip Buttons)	N.A.	N.A.	R	N.A.
b. Refueling Water Storage Tank - Low	S	R	M	1, 2, 3
c. Automatic Actuation Logic	N.A.	N.A.	M(1), SA(2)	1, 2, 3

TABLE 4.3.-2 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
6. LOSS OF POWER (LOV)				
a. 4.16 kV and 480 V Emergency Bus Undervoltage (Loss of Voltage)	S	R	R	1, 2, 3, 4
b. 4.16 kV and 480 V Emergency Bus Undervoltage (Degraded Voltage)	S	R	R	1, 2, 3, 4
7. AUXILIARY FEEDWATER (AFAS)				
a. Manual (Trip Buttons)	N.A.	N.A.	R	1, 2, 3
b. SG Level (A/B) - Low	S	R	M	1, 2, 3
c. Automatic Actuation Logic	N.A.	N.A.	M(1), SA(2)	1, 2, 3
8. AUXILIARY FEEDWATER ISOLATION				
a. SG Level (A/B) - Low and SG Differential Pressure (BtoA/AtoB) - High	N.A.	R	M	1, 2, 3
b. SG Level (A/B) - Low and Feedwater Header Differential Pressure (BtoA/AtoB) - High	N.A.	R	M	1, 2, 3

TABLE NOTATION

(1) Testing of Automatic Actuation Logic shall include energization/de-energization of each initiation relay (solid-state component) and verification of the OPERABILITY of each initiation relay (solid-state component).

(2) A subgroup relay test shall be performed which shall include the energization/de-energization of each subgroup relay (solid-state component) and verification of the OPERABILITY of each subgroup relay (solid-state component).

INSTRUMENTATION

3/4.3.3 MONITORING INSTRUMENTATION

RADIATION MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.1 The radiation monitoring instrumentation channels shown in Table 3.3-6 shall be OPERABLE with their alarm/trip setpoints within the specified limits.

APPLICABILITY: As shown in Table 3.3-6.

ACTION:

a. With a radiation monitoring channel alarm/trip setpoint exceeding the value shown in Table 3.3-6, adjust the setpoint to within the limit within 4 hours or declare the channel inoperable.

b. With one or more radiation monitoring channels inoperable, take the ACTION shown in Table 3.3-6.

c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.1 Each radiation monitoring instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations for the MODES and at the frequencies shown in Table 4.3-3.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 28

TO FACILITY OPERATING LICENSE NO. NPF-16

FLORIDA POWER & LIGHT COMPANY, ET AL.

ST. LUCIE PLANT, UNIT NO. 2

DOCKET NO. 50-389

1.0 INTRODUCTION

By letter dated October 17, 1986 from C. O. Woody, Florida Power & Light Company (FP&L) to Ashok C. Thadani, NRC, FP&L proposed Technical Specifications changes to reflect the installation of a time delay circuit in the Auxiliary Feedwater Actuation System (AFAS). Additional information and clarification were given to the staff by letter dated July 15, 1987 from C. O. Woody (FP&L) to NRC and during teleconferences held on September 11, October 26, November 20, 1987 and January 5, 1988.

The amendment was noticed in the Federal Register on December 3, 1986 (51 FR 4360). The additional information submittal by the licensee by letter dated July 15, 1987 did not change, in any way, the staff's no significant hazards consideration determination.

2.0 EVALUATION

2.1 Addition of AFAS Time Delay

A time delay in the St. Lucie Unit 2 AFAS circuitry would provide additional time for the operators to assess the plant conditions and take positive control of the Auxiliary Feedwater (AFW) system following a reactor-turbine trip. This time delay period allows the operators to perform the immediate post-trip actions without the AFW system actuating shortly after the trip. Full actuation of the AFW system under certain scenarios could lead to overcooling of the Reactor Coolant System (RCS) unless the AFW flow is manually throttled by the control room operators.

The presently installed AFW system for St. Lucie Unit 2 includes automatic actuation of auxiliary feedwater on low steam generator level. The proposed change to the St. Lucie Unit 2 AFW system adds an adjustable time delay to the St. Lucie Unit 2 AFAS to make it operationally similar to the AFAS for St. Lucie Unit 1.

The time delay incorporated into the AFAS circuitry provides additional time for the operators to assess the post-trip plant condition without the concern of the automatic actuation of the AFW system within seconds of the trip. Thus, the addition of the AFAS time delay allows the operator to perform the normal post-trip actions, and then take manual control of the AFW system to throttle flow and provide a controlled recovery of steam generator level without overcooling the RCS. The primary function of the AFAS time delay is to reduce challenges to the AFW system under the conditions of a plant trip with offsite power and main feedwater available. Under these conditions, if steam generator level recovers prior to the expiration of the time delay, the AFW system will not be actuated.

Two classes of events, increased heat removal and decreased heat removal, were evaluated to determine the effect of the time delay. The St. Lucie Unit 2 Cycle 2 stretch power Reload Safety Evaluation (RSE) Steam Line Breaks (SLB) events have been reanalyzed. The Hot Full Power (HFP) and Hot Zero Power (HZP) events were reanalyzed to show that the critical heat fluxes are not exceeded during this event when no delay time is present for main feedwater rampdown and auxiliary feedwater delivery. The assumption of no delay time, instead of the proposed actual time delay of 305 seconds for auxiliary feedwater, is conservative and results in a more severe transient. The staff-approved CESEC III model was used for the analysis. The HFP and HZP steam line rupture events reanalyses, including the assumed loss of offsite power, show that the core does not reach critical heat fluxes.

The loss of feedwater, loss of condenser vacuum, and feedwater line breaks presented in the Cycle 2 Stretch Power RSE were evaluated to determine the effect of the AFAS time delay. Peak RCS pressure occurs during the first few seconds following reactor trip for these events, and it is not affected by the AFAS time delay. The time delay was established to prevent the pressurizer from filling water solid as a result of the RCS heatup. The feedwater line break is limiting for this criterion and has been used to establish the maximum allowable time delay of 7 minutes total from the time the AFAS setpoint on low steam generator level is reached until the time AFW must be delivered to the steam generators. (Note that the feedwater line break analysis, submitted to the NRC via L-85-474, dated December 30, 1985 to support a Moderator Temperature Coefficient (MTC) Technical Specification change, also assumes a 7 minute time delay for AFW delivery). The maximum AFW system response time of 305 seconds is determined by subtracting fill time for the affected feedwater piping (90 seconds) and instrument errors (25 seconds) from this 7 minute limit.

The proposed time delay of 305 seconds is acceptable since it is based on the analysis described above.

2.2 Technical Specifications Changes

(a) Table 3.3-3, Page 3/4 3-14

The ** footnote to Item 7, which concerns Auxiliary Feedwater System Automatic Initiation Installation, has been deleted as the AFW automatic initiation system was completed during the construction and startup of St. Lucie Unit 2. Item 7.d has been renumbered as Item 7c. A new Item 8, entitled Auxiliary

Feedwater Isolation has been added, with the old Items 7.c. and 7.e relocated as the new Items 8.a and 8.b, respectively. This change was made as the AFW system can only be actuated automatically on low steam generator level or manually. Auxiliary feedwater isolation to a faulted steam generator is actuated when the AFAS logic circuit detects either a high steam generator differential pressure or a high feedwater header differential pressure signal in conjunction with the appropriate low steam generator level signal. Channel surveillance requirements of the AFAS are unaffected. The proposed changes are acceptable.

(b) Table 3.3-3 (Cont.), Page 3/4 3-15

Action 13, Item 3, of Table 3.3-3 has been revised to remove the AFAS on high steam generator level. This change is acceptable since the AFAS is actuated automatically only on steam generator low level.

(c) Table 3.3-3 (Cont.), Page 3/4 3-16

Action 14, Items 2 and 3 have been revised to remove the AFAS on low steam generator pressure and high steam generator level. These changes are made to remove information which does not reflect the operation of the AFAS. The changes are acceptable.

(d) Table 3.3-4 (Cont.), Page 3/4 3-18

The changes are similar to the change described in (a) above. Steam generator Δp high and feedwater Δp high are relocated under the new Item 8, "Auxiliary Feedwater Isolation." This change was made as the AFAS can be actuated automatically only on low steam generator level. The original value of < 180 psid for AFW isolation on high steam generator differential pressure was originally specified by the equipment vendor, Combustion Engineering, based upon engineering judgment and acceptable analytical results. The purpose of the < 180.0 psid trip value for AFW isolation on high steam generator differential pressure was to ensure that auxiliary feedwater would not enter a ruptured steam generator during a postulated Main Steam Line Break (MSLB) event. However, FP&L, based on operational experience, was concerned that this value could cause inadvertent AFW isolation as a result of operation of the main steam isolation valves, main steam safety valves or atmospheric dump valves.

The new limiting MSLB event submitted with FP&L's proposed AFAS time delay amendment utilized an analytical setpoint of 530 psid for AFW isolation on high steam generator differential pressure (see Sequence of Events, Table 3.2.1.5C-2). In addition, the MSLB analysis conservatively assumed that the delivery of AFW flow occurred immediately (i.e., with no time delay) at the time of trip. As stated in the Safety Evaluation included in FP&L's proposed AFAS time delay amendment, the MSLB analysis results are well within the established acceptance criteria.

The proposed Technical Specification setpoint of < 275.0 psid for AFW isolation on high steam generator pressure is determined by subtracting the associated instrument uncertainties from the analytical setpoint of 530 psid.

The licensee takes into consideration conservative margin of 170.8 psid and the calculated instrument error of 84.2 psid. This calculation results in establishing the setpoint of ≦ 275.0 psid. The allowable value of the high steam generator differential pressure is greater than 84.2 psid and less than/equal to 275 psid. The allowable value proposed in the Technical Specifications is greater than 84.2 psid plus the setpoint drift of 5 psid and less than/equal to 275 psid plus the setpoint drift of 6 psid.

The original value of < 100.0 psid for AFW isolation on high feedwater header differential pressure was specified by Combustion Engineering based upon engineering judgment and acceptable analytical results. The purpose of the original < 100.0 psid trip value for AFW isolation on high feedwater header differential pressure was to ensure that no auxiliary feedwater entered a ruptured steam generator during a MSLB event. FP&L was concerned that this trip value, based on operational experience, could cause inadvertent AFW isolation as a result of the operation of the main feedwater regulating system.

Credit is no longer taken for this AFW isolation feature in the limiting MSLB event submitted with FP&L's proposed AFAS time delay amendment. The proposed trip value of < 150.0 psid was selected to be lower than the < 275.0 trip value proposed for high steam generator differential pressure to ensure that the faulted steam generator remains isolated for an extended time period following a MSLB event. This feature is desirable since the intact steam generator pressure will eventually decrease below 275 psig. Note that the proposed trip value of < 150.0 psid was also selected to be consistent with the trip value utilized at St. Lucie Unit 1. The proposed changes are acceptable.

(e) Table 3.3-5 (Cont.), Page 3/4 3-21

The proposed change to Table 3.3-5 (Engineered Safety Features Response Times) modifies Item 10.a., response time for auxiliary feedwater actuation on steam generator level-low, to include an AFAS time delay. The new values for the AFW system response time have been established to meet the present accident analysis assumptions. The change is acceptable (see Section 2.1 of this SE).

Item 10.b. of Table 3.3-5 (Feedwater Isolation on Steam Generator Level-Low) has been deleted for the following reasons. The fast closure safety function of the main feedwater isolation valves is to close on a Main Steam Isolation Signal (MSIS) for steam line break considerations. This response time requirement for the main feedwater isolation valves is presently reflected and tested in Items 3.e and 6.a of Technical Specifications Table 3.3-5. For AFW concerns, main feedwater isolation occurs only to prevent backflow of AFW into the main feedwater system. An auxiliary feedwater actuation signal is the actual initiating signal for feedwater isolation in this case. However, the integrated response time test for the AFW system (Item 10.a. of Table 3.3-5) ensures that feedwater isolation occurs before the total AFW system response time expires. Verification of this function ensures that the AFW system operates as modeled

in present safety analyses. Old Items 11 and 12 have been deleted, as the functions listed (auxiliary feedwater and feedwater isolation) are not actuated on feedwater header or steam generator differential pressure. The NOTE following old Item 12 has been deleted as it is redundant with the AFW system response time indicated in Item 10.a. and the table notation at the bottom of the page. The proposed changes are acceptable.

(f) Table 4.3-2, Page 3/4 3-23

The proposed changes revise Table 4.3-2 (Engineered Safety Features Actuation System Instrumentation Surveillance Requirements) to be consistent with the St. Lucie Unit 1 table. Item 7.b has been deleted as these parameters do not actuate AFAS. Items 7.c and 7.d have been renumbered as Items 7.b and 7.c, respectively. The new Item 7.b has been revised to include only the steam generator low level signal for AFAS actuation. A new Item 8, Auxiliary Feedwater Isolation, has been added to be consistent with the information presented in Tables 3.3-3 and 3.3-4 and to reflect the actual operations of the AFAS. The AFAS system surveillance requirements are unaffected. The proposed changes are acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 or a change to a surveillance requirement. The staff has determined that the amendment involves 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 published a proposed finding that the amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, the amendment meets 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 the amendment.

4.0 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 the amendment will not be inimical to the common defense and security or to the health and safety of the public.

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