

September 30, 2003

Mr. J. A. Stall
Senior Vice President, Nuclear and
Chief Nuclear Officer
Florida Power and Light Company
P.O. Box 14000
Juno Beach, Florida 33408-0420

SUBJECT: ST. LUCIE UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS REGARDING
ENGINEERED SAFETY FEATURE ACTUATION SYSTEM
INSTRUMENTATION (TAC NOS. MB5670 AND MB5671)

Dear Mr. Stall:

The Commission has issued the enclosed Amendment Nos. 188 and 132 to Facility Operating License Nos. DPR-67 and NPF-16 for the St. Lucie Plant, Units 1 and 2. These amendments consist of changes to the Technical Specifications in response to your application dated July 18, 2002.

These amendments revise the time period that inoperable channels of the engineered safety feature actuation system can be in the bypassed or tripped condition.

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,

/RA/

Brendan T. Moroney, Project Manager, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-335
and 50-389

Enclosures:

1. Amendment No. 188 to DPR-67
2. Amendment No. 132 to NPF-16
3. Safety Evaluation

cc w/enclosures: See next page

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FLORIDA POWER & LIGHT COMPANY

DOCKET NO. 50-335

ST. LUCIE PLANT UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 188
License No. DPR-67

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Florida Power & Light Company (the licensee), dated July 18, 2002, 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. DPR-67 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. 188, 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 its date of issuance and shall be implemented within 60 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Allen G. Howe, Chief, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: September 30, 2003

ATTACHMENT TO LICENSE AMENDMENT NO. 188

TO FACILITY OPERATING LICENSE NO. DPR-67

DOCKET NO. 50-335

Replace the following pages of the Appendix A Technical Specifications with the attached pages. The revised pages are identified by amendment number and contain marginal lines indicating the area of change.

Remove Pages

3/4 3-10
3/4 3-11
3/4 3-13

Insert Pages

3/4 3-10
3/4 3-11
3/4 3-13
3/4 3-13a

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. 132
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 July 18, 2002, 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. 132, 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 its date of issuance and shall be implemented within 60 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Allen G. Howe, Chief, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: September 30, 2003

ATTACHMENT TO LICENSE AMENDMENT NO. 132

TO FACILITY OPERATING LICENSE NO. NPF-16

DOCKET NO. 50-389

Replace the following pages of the Appendix A Technical Specifications with the attached pages. The revised pages are identified by amendment number and contain marginal lines indicating the area of change.

Remove Pages

3/4 3-12
3/4 3-13
3/4 3-14

Insert Pages

3/4 3-12
3/4 3-13
3/4 3-14
3/4 3-16a
3/4 3-16b

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 188 AND 132

TO FACILITY OPERATING LICENSES NOS. DPR-67 AND NPF-16

FLORIDA POWER AND LIGHT COMPANY, ET AL.

ST. LUCIE PLANT, UNITS NOS. 1 AND 2

DOCKET NOS. 50-335 AND 50-389

1.0 INTRODUCTION

By letter dated July 18, 2002, the Florida Power and Light Company (the licensee) submitted a request to amend the Technical Specifications (TSs) for St. Lucie, Units 1 and 2. The proposed TS changes will revise the time period that the inoperable channels of the engineered safety feature actuation system (ESFAS) instrumentation can be in the bypassed or tripped condition.

The current TSs allow indefinite plant operation with one inoperable channel of the recirculation actuation signal (RAS), the containment spray actuation signal (CSAS), and the auxiliary feedwater actuation signal (AFAS) instrumentation in the bypassed or tripped condition. Each of these instrumentation systems has four instrument channels powered by four vital buses. Backup power to these vital buses is supplied by two safety-related batteries. Combustion Engineering (CE) Information Bulletin 97-02, "Spurious Recirculation Actual Signal," dated May 23, 1997, identified that, for some plant designs, a single failure of RAS instrumentation may cause premature actuation of RAS with one instrumentation channel in an indefinite trip condition. Also, with one RAS instrumentation channel in indefinite bypass, a single failure of a backup power supply may result in failure to generate an RAS signal. The licensee's evaluation of the information bulletin's concerns determined it was applicable to the St. Lucie Unit 1 and 2 RAS and also applicable to CSAS and AFAS, including auxiliary feedwater isolation (AFI), instrumentation. The licensee established administrative controls to limit the time an inoperable RAS and AFAS instrumentation channel may be placed in a bypass or trip conditions. The licensee currently does not have any administrative controls for the CSAS instrumentation channels.

The proposed amendments were submitted based on the licensee's conclusion that TS revisions in lieu of existing administrative controls were appropriate to enhance the functional capability and/or performance level of equipment required for safe operation of St. Lucie Units 1 and 2.

2.0 REGULATORY EVALUATION

Title 10 of the Code of Federal Regulations (10 CFR), Part 50, Appendix A contains the General Design Criteria (GDC) for nuclear power plants. GDC 21, "Protection system reliability and testability," requires protection systems to be designed to assure that no single failure will result in loss of the protective function. The Institute of Electrical and Electronics Engineers (IEEE) standard IEEE-279, "Criteria for Protection Systems for Nuclear Power Generating Stations," also requires protection against single failure. The St. Lucie Updated Final Safety Analysis Reports (UFSAR) state that the ESFAS systems are designed to meet GDC 21 and IEEE-279.

Limiting Conditions for Operation (LCOs) for ESFAS systems are included in the TS for St. Lucie Unit 1 and 2. Per 10 CFR 50.36, "Technical Specifications," LCOs must specify, at a minimum, the lowest functional capability or performance level of equipment required for the safe operation of the facility. The U. S. Nuclear Regulatory Commission (NRC, the Commission) issued Administrative Letter (AL) 98-10, "Dispositioning of Technical Specifications That Are Insufficient to Assure Plant Safety," on December 29, 1998, to inform licensees that if TSs are found to be nonconservative, a TS amendment must be submitted to correct the condition. Administrative controls could be established as an interim measure.

Following its review of CE Infobulletin 97-02, the licensee recognized that some ESFAS systems were vulnerable to single failure when subjected to extraordinary failure mechanisms (including a vital direct current (DC) bus failure) that were not considered in the original TS and established administrative controls. The proposed TS changes will provide the additional conservatism to address potential single-failure vulnerability of the affected ESFAS instruments and are responsive to the guidance in AL 98-10.

The licensee states that the 48-hour outage time is based on ESFAS applications in the CE Standard Technical Specifications (STSs), NUREG-1432, Vol. 1, Rev.1, which was approved by the NRC in April 1995.

3.0 TECHNICAL EVALUATION

3.1 General Considerations:

Generally, the proposed TS will impose a 48-hour completion time to restore an inoperable channel of the subject ESFAS TS. When compared to the existing ESFAS TS, this time limit is more restrictive in most cases, particularly where the existing TS specifies no limit on restoring an inoperable channel. The licensee provided the following bases for the 48-hour completion time:

- a. The 48-hour value is specified for similar ESFAS applications in the CE STS. According to this reference, the 48-hour completion time is based on operating experience (a qualitative judgment), which has demonstrated that a random failure of a second channel occurring during the 48-hour period is a low-probability event.

- b. A review of the plant maintenance history found transmitter and power supply repairs have taken about 2 days and the 48-hour completion time is comparable to other ESFAS instrument failure response action times.

Generally, with one less than the minimum number of channels operable, the proposed TS would permit operation to continue provided one inoperable channel is bypassed and the other inoperable channel is placed in the tripped condition within 1 hour. If one of the inoperable channels cannot be restored to operable status within 48 hours, the plant must be in hot standby within 6 hours and in hot shutdown within the following 6 hours. The proposed TS requirement to be in hot shutdown within 12 hours is more restrictive than the current TSs, which specify no limits on restoring an inoperable channel. The licensee stated that this 12-hour completion time for being in hot shutdown is based on the following principles:

- a. The period is comparable to the 12-hour value used in the CE STSs, which states that the 12 hour-completion time is reasonable, based on operating experience, to reach the required plant conditions from full-power conditions in an orderly manner and without challenging plant systems.
- b. This time period is reasonable for bringing the plant from full power to hot shutdown.

The staff finds that imposing a time limit for operation with an inoperable channel is conservative and more restrictive than the existing TSs. The 48-hour operating time limit and the 12-hour shutdown time limit are reasonable and consistent with the CE STSs and are acceptable.

3.2 Individual Instrumentation Considerations:

For Unit 1, all proposed changes are to TS Section 3.3.2.1, Table 3.3-3.

For Unit 2, all proposed changes are to TS Section 3.3.2, Table 3.3-3.

RAS - Unit 1 TS Changes:

Functional Unit 5.b, Containment Sump Recirculation (RAS), Refueling Water Tank - Low: Replace current Action 9 by revised Action 13 and delete Note "#," which states, "The provisions of Specification 3.0.4 are not applicable."

The current Action 9 states: "With the number of OPERABLE channels one less than the Total Number of Channels, Operation may proceed provided the following conditions are satisfied:

- "a. The inoperable channel is placed in either the bypassed or tripped condition within 1 hour. For the purpose of testing and maintenance, the inoperable channel may be bypassed for up to 48 hours from the time of initial loss of OPERABILITY; however, the inoperable channel shall then be either restored to OPERABLE status or placed in the tripped condition.
- "b. Within one hour, all functional units receiving an input from the inoperable channel are also placed in the same condition (either bypass or tripped, as applicable) as that required by a. above for the inoperable channel.

- “c. The Minimum Channels OPERABLE requirement is met; however, one additional channel may be bypassed for up to 48 hours while performing tests and maintenance on that channel provided the other inoperable channel is placed in the tripped condition.”

The revised Action 13 states: “With the number of channels OPERABLE one less than the Total Number of Channels, operation may proceed provided the following conditions are satisfied:

- “a. The inoperable channel is placed in either the bypassed or tripped condition within 1 hour. If OPERABILITY can not be restored within 48 hours, be in at least HOT STANDBY within 6 hours and in HOT SHUTDOWN within the following 6 hours.
- “b. The Minimum Channels OPERABLE requirement is met; however, one additional channel may be bypassed for up to 2 hours while performing tests and maintenance on that channel provided the other inoperable channel is placed in the tripped condition.”

The licensee’s single failure vulnerability evaluation indicates that unlimited operation of one channel in the tripped condition may result in high pressure safety injection and containment spray pump actuation with an inadequate suction source, which would impact the core cooling and containment safety function. The proposed TS change will remedy this condition by limiting the duration an RAS channel may be placed in tripped or bypassed condition.

The first requirement in the revised Action 13.a is the same as the current Action 9.a. The proposed change adds a restriction that is not in the current 9.a, that is, if operability of this inoperable channel cannot be restored within 48 hours, be in hot standby in 6 hours and hot shutdown within the following 6 hours. The unnecessary restriction of “performing tests and maintenance” during the 48-hour period is removed and is in conformance with CE STS. As discussed in the General Considerations, the staff finds the 48-hour time period to restore an inoperable channel to operable status or be in hot standby in 6 hours and hot shutdown within the following 6 hours to be acceptable. The proposed change also removes the option of unlimited operation with one channel in the tripped condition (if the inoperable channel cannot be restored to operable state after 48 hours bypassed operation). This is more restrictive and is acceptable.

The proposed TS Action 13.b reduces the time period for the contingency that a second channel may be bypassed for test or maintenance from 48 hours to 2 hours. This is a more restrictive TS and is acceptable.

The licensee is removing the requirement of current Action 9.b since it not applicable to this functional unit. No other ESFAS functional units receive an input from the refueling water tank level channel. The staff finds the removal of this statement acceptable.

The proposed revision would remove the reference to Note “#,” which states that the provisions of TS 3.0.4 are not applicable to the associated Action statement. The licensee stated that the removal of this note is conservative and exception from TS 3.0.4 is not appropriate because continued noncompliance with the condition results in a plant shutdown to comply with the action requirements. The staff finds that Note “#” is used with current Actions 9 (for RAS) in

order to permit unlimited plant operation with one channel in bypassed or tripped condition, which is no longer applicable. Elimination of this note will require compliance to TS 3.0.4, is more conservative, and is acceptable.

RAS - Unit 2 TS Changes:

Functional Unit 5.b, Containment Sump Recirculation (RAS), Refueling Water Tank - low: Replace current Action 17 by new Action 19.

The current Action 17 states: "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."

New Action 19 states: "With the number of channels OPERABLE one less than the Total Number of Channels, operation may proceed provided the following conditions are satisfied:

- "a. Within 1 hour the inoperable channel is placed in either the bypassed or tripped condition. If OPERABILITY can not be restored within this 48-hour period, be in at least HOT STANDBY in 6 hours and in HOT SHUTDOWN in the following 6 hours.
- "b. The Minimum Channels OPERABLE requirement is met; however, one additional Channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1"

The proposed TS change to replace current Action 17 with new Action 19 will make the Unit 1 and Unit 2 TS requirements comparable and is acceptable to the staff for the reasons stated above in the evaluation of the Unit 1 changes.

CSAS - Unit 1 TS Changes:

Functional Unit 2.b, Containment Spray Actuation Signal (CSAS), Containment Pressure - High-High: Replace current Action 10 by revised Action 10. Add Note "#," which states, "The provisions of Specification 3.0.4 are not applicable." to the revised Actions 10.a and 10.b.

The current Action 10 states, "With the number of OPERABLE channels one less than the Total Number of Channels, operation may proceed provided the inoperable channel is placed in the bypass condition and 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 4.3.2.1.1."

The revised Action 10 states: "With the number of channels OPERABLE one less than the Total Number of Channels, operation may proceed provided the following conditions are satisfied:

- "a. The inoperable channel is placed in either the bypassed or tripped condition and the Minimum Channels OPERABLE requirement is demonstrated within 1 hour.

If the inoperable channel can not be restored to OPERABLE status within 48 hours, then place the inoperable channel in the tripped condition.

- “b. Within 1 hour, all functional units receiving an input from the inoperable channel are also placed in the same condition (either bypassed or tripped, as applicable) as that required by a. above for the inoperable channel.
- “c. With the number of channels OPERABLE one less than the Minimum Channels Operable, operation may proceed provided one of the inoperable channels has been bypassed and the other inoperable channel has been placed in the tripped condition within 1 hour. Restore one of 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.”

The licensee’s single failure vulnerability evaluation indicated that, with one channel in the bypassed condition, a vital DC bus failure could preclude containment spray actuation.

The current Action 10 requires putting an inoperable channel in bypass within 1 hour, and allows unlimited operation in that condition. The proposed new Action 10.a requires one inoperable channel to be in the bypassed or tripped condition within 1 hour when the number of channels operable is one less than the total number of channels. It also limits operation with one channel in the bypassed condition to 48 hours and requires the inoperable channel to be placed in the tripped condition if operability cannot be restored. Operation with one channel tripped is unlimited. The licensee states that with a channel in trip, there are no credible single failure scenarios that would preclude CSAS actuation. The licensee also states that spurious actuation is unlikely since the CSAS circuits are designed using the energize-to-actuate principle to prevent spurious initiation from a loss of power scenario, and employ a safety injection actuation system permissive signal that reduces the possibility of spurious actuation. Furthermore, even though spurious actuation is undesirable, it is not a concern from nuclear safety perspective. Staff finds these actions of placing a channel in the tripped condition and allowing continued operation in this condition to be acceptable, based on the noncredible potential of system failure to actuate and the unlikely potential for spurious actuation. The 48-hour time period specified in revised Actions 10.a is acceptable based on the General Considerations discussed earlier.

The current Action 10 does not allow operation with less than the minimum operable channels, with the exception that one additional channel may be bypassed for up to 2 hours for surveillance testing. The licensee states that the inoperable channel is normally placed in the tripped condition while the second one is being tested. The proposed Action 10.c would allow operation with one less than the minimum operable channels for up to 48 hours provided one channel is placed in trip and the other placed in bypass within 1 hour. Both the current and the proposed TS would require the plant to be shut down if the conditions cannot be met. The proposed change effectively extends the period for having one less than the minimum operable channels from 2 hours to 48 hours. The staff finds that some allowance for testing and restoration of a second inoperable channel is reasonable and consistent with the STS. The proposed 48-hour time period is acceptable based on the General Considerations discussed earlier. The current Action 10 does not specify the shutdown requirements if the minimum number of operable channels cannot be maintained. In this case, TS 3.0.3 would apply and

would require the plant to be in hot standby within 6 hours, hot shutdown within the next 6 hours and cold shutdown within the following 24 hours. The proposed Action 10.c is similar, but does not require the plant to be placed in cold shutdown. The operability requirements for Functional Unit 2.b are applicable in Operating Modes 1, 2 and 3. Generally, a TS LCO specifies the end mode in which the specification no longer applies. In this case, it would be Mode 4 (Hot Shutdown). Thus, the staff finds the proposed Action 10.c to be acceptable, based on the above discussion.

The revised Action 10.b adds a new requirement that all functional units that receive an input from the inoperable channel in a bypassed or tripped condition shall also be placed in the same condition as required by Action 10.a. This action and the proposed wording is comparable to the requirements for other Unit 1 ESFAS functional units that receive input from containment pressure instrument channels. The staff finds this change acceptable.

The symbol “#” is also added to Actions 10.a and 10.b to note the exception to TS 3.0.4. This is appropriate since the proposed TS will allow operation with an inoperable channel under the conditions specified. The licensee stated that placing the facility in a higher mode of operation with an inoperable channel would not adversely affect plant safety and continued noncompliance with these conditions would not result in a plant shutdown. The staff finds this change acceptable.

CSAS - Unit 2 TS Changes:

Functional Unit 2.b, Containment Spray Actuation Signal (CSAS), Containment Pressure- High-High: Replace current Action 17 by new Action 18 and add Note “*,” which states, “The provisions of Specification 3.0.4 are not applicable” to Action 18.a and 18.b.

The current Action 17 states, “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.”

The proposed new Action 18 states: “With the number of channels OPERABLE one less than the Total Number of Channels, operation may proceed provided the following conditions are satisfied:

- “a. The inoperable channel is placed in either the bypassed or tripped condition and the Minimum Channels OPERABLE requirement is demonstrated within 1 hour. If the inoperable channel can not be restored to OPERABLE status within 48 hours, then place the inoperable channel in the tripped condition.
- “b. With a channel process measurement circuit that affects multiple functional units inoperable or in test, bypass or trip all associated functional units as listed in ACTION 13.
- “c. With the number of channels OPERABLE one less than the Minimum Channels Operable, operation may proceed provided one of the inoperable channels has been bypassed and the other inoperable channel has been placed in the tripped

condition within 1 hour. Restore one of 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.”

The current Action 17 is similar to current Action 10 for Unit 1, with one exception (i.e., the current Unit 2 TSs already allow 48 hours to place an inoperable channel in the tripped condition). The proposed Action 18 for the Unit 2 CSAS instrumentation is equivalent to the revised Action 10 for Unit 1. The note regarding exemption from TS 3.0.4 for proposed Actions 18.a and 18.b are equivalent to those for Unit 1 Actions 10.a and 10.b. The staff finds the proposed TS revisions acceptable for the reasons stated previously for the Unit 1 CSAS.

AFAS and AFI - Unit 1 TS Changes:

The first change revises actions to be taken for inoperable AFAS logic channels. Functional Unit 7.b, Auxiliary Feedwater (AFAS), Automatic Actuation Logic: Replace current Action 8 by current Action 11.

The current Action 8 states, “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.”

The current Action 11 states, “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 HOT SHUTDOWN within the following 6 hours.”

Both Action 8 and Action 11 require plant shutdown to hot standby within 6 hours if functional unit operability cannot be restored within 48 hours. Action 8 then specifies 30 hours to bring the unit from hot standby to cold shutdown, while Action 11 specifies 6 hours to bring the unit from hot standby to hot shutdown. Both TS 3.7.1.2 for Auxiliary Feedwater and TS Table 3.3-3, Functional Unit 7.b, AFAS Automatic Actuation Logic, specify applicability in Modes 1, 2, and 3. The end mode of cold shutdown specified in Action 8 is not consistent with this requirement or the CE STS. Generally, the TS LCO specifies the end Mode in which the specification no longer applies, which is Mode 4 (hot shutdown) for this application. Based on these considerations, the staff finds the proposed changes acceptable.

The remaining changes address inoperability of channels providing input to the AFAS logic. The associated instrument channels include steam generator low level, steam generator A/B differential pressure, and feedwater header A/B differential pressure.

For AFAS Functional Unit 7.c, Auxiliary Feedwater (AFAS), SG Level (1A/1B) - Low: Replace current Actions 13 and 14 with revised Action 14. Add Note “#,” which states, “The provision of Specifications 3.0.4 are not applicable.” to Actions 14.a and 14.b. The current Action 13 has Note “#” associated with it.

For AFI Functional Unit 8.a, Auxiliary Feedwater Isolation, SG 1A-SG1B Differential Pressure: Replace current Actions 13 and 14 with revised Action 14. Add Note “#,” which states, “The

provision of Specifications 3.0.4 are not applicable.” to Actions 14.a and 14.b. The current Action 13 has Note “#” associated with it.

For AFI Functional Unit 8.b, Auxiliary Feedwater Isolation, Feedwater Headers SG1A-SG1B Differential Pressure: Replace current Actions 13 and 14 with revised Action 14.a and 14.c, and make an editorial change to replace “SG-1A - SG-1B” with “1A - 1B.” Add Note “#,” which states, “The provision of Specifications 3.0.4 are not applicable.” to Action 14.a. The current Action 13 has Note “#” associated with it.

The current Action 13 states, “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.”

The current Action 14 states: “With the number of channels OPERABLE one less than the Minimum Channels OPERABLE, STARTUP and/or OPERATION may continue provided that one of the inoperable channels has been bypassed and the other inoperable channel has been placed in the tripped condition within 1 hour.”

The revised Action 14 states: “With the number of channels OPERABLE one less than the Total Number of Channels, operation may proceed provided the following conditions are satisfied:

- “a. The inoperable channel is placed in either the bypassed or tripped condition within 1 hour. If the inoperable channel can not be restored to OPERABLE status within 48 hours, then both AFAS-1 and AFAS-2 in the inoperable channel shall be placed in the bypassed condition. 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 the next COLD SHUTDOWN.
- “b. Within 1 hour, all functional units receiving an input from the inoperable channel are also placed in the same condition (either bypassed or tripped, as applicable) as that required by a. above for the inoperable channel.
- “c. With the number of channels OPERABLE one less than the Minimum Channels Operable, operation may proceed provided one of the inoperable channels has been bypassed and the other inoperable channel has been placed in the tripped condition within 1 hour. Restore one of 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.”

The revised Action 14 retains all the requirements of the current Action 13 and Action 14, and adds some additional requirements.

The current Action 13 permits indefinite operation with a channel in the tripped or bypassed condition. The licensee’s single-failure vulnerability evaluation indicates that a single failure with one channel in indefinite trip may result in the Auxiliary Feedwater System pumping water

to a ruptured feedwater header. Placing both actuation relays (AFAS-1 and AFAS-2) for the inoperable channel in bypass will preclude this consequence of a single failure. The proposed TS change will eliminate indefinite operation in the tripped or bypassed condition by imposing a 48-hour restoration time. If the inoperable channel cannot be restored to operable status in 48 hours, then both AFAS-1 and AFAS-2 in the inoperable channel shall be placed in the bypassed condition. The 48-hour time period specified in revised Actions 14.a is acceptable based on the General Considerations discussed earlier. Continued operation with the AFAS-1 and AFAS-2 relays in bypass is acceptable based on the single-failure evaluation.

The current Action 14 permits continued operation with one less than the minimum operable channels as long as one channel is tripped and the other is bypassed. The proposed TS Action 14.c limits this to 48 hours, which provides a reasonable time period for the contingency that a second channel may be inoperable or require testing while the first channel is inoperable. This time period is comparable to the 48-hour completion time provided for the first inoperable channel, and is justified on the same basis. The licensee states that having the additional AFAS channel in the bypassed or tripped condition does increase the risk of AFAS misoperation if any one of the postulated single failures is considered; however, the AFAS still provides the minimum required level of performance in this configuration and the increased risk with the second inoperable channel is not significant. The proposed Action 14.c also requires a plant shutdown if one channel cannot be restored to operable status within 48 hours. This is more restrictive than the current TS. The 48-hour time period for restoring operability and the time allowed for bringing the plant to hot shutdown are acceptable based on the General Considerations discussed earlier.

Unchanged in this proposed TS revision is the requirement to place an inoperable channel in either tripped or bypassed condition within 1 hour. The revision also retains the requirement for the review, in accordance with TS 6.5.1.6m, of the desirability of maintaining a channel in the bypassed condition.

The editorial change to functional unit 8.b corrects an inaccurate description of the channel instrumentation and is acceptable.

The symbol “#” is added to proposed Actions 14.a and 14.b to note the exception to TS 3.0.4. These actions are comparable to those in the current Action 13, which has the exception. The licensee stated that placing the facility in a higher mode of operation with an inoperable channel would not adversely affect plant safety, and continued noncompliance to these conditions would not result in a shutdown to comply with the action requirements. The staff finds this exception to TS 3.0.4 acceptable for these channels.

AFAS and AFI - Unit 2 TS Changes:

The first change revises actions to be taken for inoperable AFAS logic channels. Functional Unit 7.b, Auxiliary Feedwater (AFAS), Automatic Actuation Logic: Replace current Action 12 by current Action 15.

The current Action 12 states, “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.”

The current Action 15 states, "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 HOT SHUTDOWN within the following 6 hours."

This change is the same as the proposed change for the comparable Unit 1 TS and is acceptable for the reasons previously stated.

The remaining changes address inoperability of channels providing input to the AFAS logic.

For AFAS Functional Unit 7.c, Auxiliary Feedwater (AFAS), SG Level (2A/2B) - Low: Replace current Actions 13 and 14 by new Action 20. Add Note "*", which states, "The provision of Specifications 3.0.4 are not applicable" to Actions 20.a and 20.b. The current Action 13 has Note "*" associated with it in the current TS for this function.

For AFI Functional Unit 8.a, Auxiliary Feedwater Isolation, SG2A - SG2B Differential Pressure: Replace current Actions 13 and 14 by new Action 20 and add Note "*", which states, "The provisions of Specification 3.0.4 are not applicable," to Actions 20.a and 20.b. The current Action 13 has Note "*" associated with it in the current TS for this function.

For AFI Functional Unit 8.b, Auxiliary Feedwater Isolation, Feedwater Header SG2A -SG2B Differential Pressure: Replace current Actions 13 and 14 by new Action 20.a and 20.c and "SG-2A - SG-2B" by "2A-2B." Add Note "*", which states, "The provision of Specifications 3.0.4 are not applicable." to Action 20.a. The current Action 13 has Note "*" associated with it in the current TS for this function.

The current Action 13 states, "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." [Units then listed]

The current Action 14 states, "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." [Units then listed - same as for Action 13]

The proposed new Action 20 states: "With the number of channels OPERABLE one less than the Total Number of Channels, operation may proceed provided the following conditions are satisfied:

- "a. The inoperable channel is placed in either the bypassed or tripped condition within 1 hour. If the inoperable channel can not be restored to OPERABLE status within 48 hours, then both AFAS-1 and AFAS-2 in the inoperable channel shall be placed in the bypassed condition. 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.
- "b. With a channel process measurement circuit that affects multiple functional units inoperable or in test, bypass or trip all associated functional units as listed in ACTION 13.
- "c. With the number of channels OPERABLE one less than the Minimum Channels Operable, operation may proceed provided one of the inoperable channels has been bypassed and the other inoperable channel has been placed in the tripped condition within 1 hour. Restore one of 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."

The staff finds the proposed changes for Functional Units 7.b, 8.a and 8.b are the same as the proposed changes for the comparable Unit 1 TS, and are acceptable for the reasons previously stated.

On the basis of the above regulatory and technical evaluations of the licensee's justifications for TS changes, the staff concludes that the licensee's proposed TS changes are acceptable. The proposed changes will eliminate administrative control of RAS, AFAS and CSAS instrumentation and eliminate indefinite operation of an inoperable channel in any of these three systems in the bypassed and/or tripped condition. The proposed TS changes are responsive to the concern raised in AL 98-10. They are also in conformance with NUREG-1432, Vol. 1, Rev. 1, or with similar requirements in the existing TSs.

4.0 STATE CONSULTATION

Based upon a letter dated May 2, 2003, from Michael N. Stephens of the Florida Department of Health, Bureau of Radiation Control, to Brenda L. Mozafari, Senior Project Manager, U.S. Nuclear Regulatory Commission, the State of Florida does not desire notification of issuance of license amendments.

5.0 ENVIRONMENTAL CONSIDERATION

These amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes

surveillance requirements. The NRC staff has determined that the 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 the amendments involve no significant hazards consideration and there has been no public comment on such finding (67 FR 53987, dated August 20, 2002). 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.

6.0 CONCLUSION

The Commission has 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, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

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Date: September 30, 2003

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