



November 21, 2003

L-2003-265  
10 CFR 50.90

U. S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555

RE: St. Lucie Units 1 and 2  
Docket Nos. 50-335 and 50-389  
Proposed License Amendments  
Elimination of RPS, AFAS and ESFAS  
Pressure Sensor Response Time Testing Requirements

Pursuant to 10 CFR 50.90, Florida Power & Light Company (FPL) requests to amend Facility Operating Licenses DPR-67 and NPF-16 for St. Lucie Units 1 and 2. The proposed changes revise the St. Lucie Units 1 and 2 Technical Specification (TS) Definitions 1.12, Engineered Safety Features (ESF) Response Time, and 1.26, Reactor Protection System (RPS) Response Time.

CEOG Topical Report CE NPSD 1167, *Elimination of Pressure Sensor Response Time Testing Requirements* was submitted as a final NRC approved report on January 18, 2001. This report justifies the elimination of response time testing for RPS and engineered safety features actuation system (ESFAS) pressure sensors. To incorporate these changes, the definitions of RPS RESPONSE TIME and ESF RESPONSE TIME need to be revised to allow for determination by addition of an allocated sensor response time with the measured response time for the remaining portion of the protection channel loop. The proposed changes are modeled after Nuclear Energy Institute Technical Specification Task Force TSTF 368 and Revision 2 of NUREG-1432, *Standard Technical Specifications - Combustion Engineering Plants*. The TS Bases for TS 3/4.3.1 and 3/4.3.2 will be revised to add a clarification regarding the use of allocated sensor response times in lieu of measurements. Reference to the CEOG Topical Report is also added to the TS Bases of the RPS and ESF specifications.

Attachment 1 is a description of the proposed changes and the supporting justification. Attachment 2 is the Determination of No Significant Hazards and Environmental Considerations. Attachments 3 and 4 are marked up copies of the proposed Technical Specification changes. Attachments 5 and 6 are information copies of the proposed changes to the TS Bases. Attachments 7 and 8 are copies of the retyped TS pages.

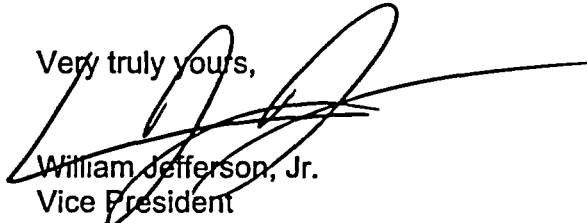
The St. Lucie Facility Review Group and the Florida Power & Light Company Nuclear Review Board have reviewed the proposed amendment. In accordance with 10 CFR 50.91 (b)(1), a copy of the proposed amendment is being forwarded to the State Designee for the State of Florida.

ADD 1

St. Lucie Units 1 and 2  
Docket Nos. 50-335 and 50-389  
L-2003-265 Page 2

Approval of this proposed license amendment is requested by October 2004 to support the fall 2004 St. Lucie Unit 2 Refueling outage SL2-15. Please issue the amendment to be effective on the date of issuance and to be implemented within 60 days of receipt by FPL. Please contact George Madden at 772-467-7155 if there are any questions about this submittal.

Very truly yours,



William Jefferson, Jr.  
Vice President  
St. Lucie Plant

WJ/GRM

Attachments

cc: Mr. William A. Passetti, Florida Department of Health

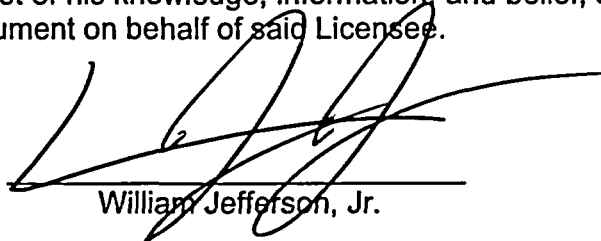
St. Lucie Units 1 and 2  
Docket Nos. 50-335 and 50-389  
L-2003-265 Page 3

STATE OF FLORIDA                     )  
  )  
COUNTY OF ST. LUCIE            )       ss.

William Jefferson, Jr. being first duly sworn, deposes and says:

That he is Vice President, St. Lucie Plant, for the Nuclear Division of Florida Power & Light Company, the Licensee herein;

That he has executed the foregoing document; that the statements made in this document are true and correct to the best of his knowledge, information, and belief, and that he is authorized to execute the document on behalf of said Licensee.

  
\_\_\_\_\_  
William Jefferson, Jr.

STATE OF FLORIDA

COUNTY OF ST LUCIE

Sworn to and subscribed before me

this 21 day of Nov., 2003  
by William Jefferson, Jr., who is personally known to me.

  
\_\_\_\_\_  
Name of Notary Public - State of Florida



Leslie J. Whitwell  
MY COMMISSION # DD020212 EXPIRES  
May 12, 2005  
BONDED THRU TROY FAIR INSURANCE, INC.

\_\_\_\_\_  
(Print, type or stamp Commissioned Name of Notary Public)

## ATTACHMENT 1

### DESCRIPTION OF THE PROPOSED CHANGES AND JUSTIFICATION

#### INTRODUCTION

A change is proposed to revise the St. Lucie Units 1 and 2 Technical Specification (TS) Definitions 1.12, Engineered Safety Features (ESF) Response Time, and 1.26, Reactor Protection System (RPS) Response Time. CEOG Topical Report CE NPSD 1167, *Elimination of Pressure Sensor Response Time Testing Requirements* was submitted as a final NRC approved report on January 18, 2001. This report justifies the elimination of response time testing for RPS and engineered safety features actuation system (ESFAS) pressure sensors. To incorporate this change, the definitions of RPS RESPONSE TIME and ESF RESPONSE TIME need to be revised to allow for determination by addition of an allocated sensor response time with the measured response time for the remaining portion of the protection channel loop. The proposed change is modeled after Nuclear Energy Institute Technical Specification Task Force TSTF 368 and Revision 2 of NUREG-1432, *Standard Technical Specifications - Combustion Engineering Plants*. The TS Bases for TS 3/4.3.1 and 3/4.3.2 are revised to add clarification regarding the use of allocated sensor response times in lieu of measurements.

#### BACKGROUND

Current St. Lucie Unit 1 and Unit 2 Technical Specifications require FPL to periodically perform response time testing (RTT) for instrument channels in the RPS and the ESFAS. The intent of these tests is to ensure that changes in response time of instrumentation beyond the limits assumed in safety analyses are detected. Due to cost and radiation dose considerations it is desirable to eliminate these requirements for RTT.

The basis for elimination of RTT is contained in Section 6.3.4 of IEEE 338-1977 which states: "Response time testing is not required if, in lieu of response time testing, the response time of the safety equipment is verified by functional testing, calibration checks or other tests. This is acceptable if it can be demonstrated that changes in response time beyond acceptable limits are accompanied by changes in performance characteristics which are detectable during routine periodic tests." This IEEE standard was endorsed by Regulatory Guide 1.118, *Periodic Testing of Electric Power and Protection Systems*.

EPRI Report NP-7243, *Investigation of Response Time Testing Requirements* was issued in May 1991. This report included a failure mode and effects analysis (FMEA) of certain sensors as well as an evaluation of response time test data. The report determined that for analyzed sensors, any failure that would affect the response time characteristics of the sensors would also affect the calibration and other routine surveillance tests. Therefore, a separate response time test is not required to demonstrate response time assumptions used in the Updated Final Safety Analysis Report (UFSAR).

In June 1999, the Combustion Engineering Owners Group (CEOG) issued Topical Report CE NPSD-1167, *Elimination of Pressure Sensor Response Time Testing Requirements*. In CE NPSD-1167, the CEOG proposed eliminating the requirements for RTT of selected pressure sensors in the RPS and ESF actuation systems. In August 1999, the CEOG submitted Revision 1 of CE NPSD-1167 to modify the pressure transmitter allocated response times from values that were based upon historical RTT data to values that are based upon vendor specifications of expected response time. In May 2000, the CEOG submitted Revision 2 to CE NPSD-1167 to incorporate NRC and utility comments and to correct Appendix C calculated values for allocated response times that were based upon historical data, for those sensors where no vendor response time specifications are available.

CE NPSD-1167, Revision 2 was approved by the NRC via letters dated July 24, 2000 and December 5, 2000. The fundamental conclusion of the NRC Safety Evaluation (SE) is that "for the sensors and systems specified in NPSD-1167, Revision 2, response time testing is not required to demonstrate satisfactory sensor performance."

**APPLICABILITY OF CEOG TOPICAL REPORT NPSD-1167 AND EPRI REPORT NP-7243 TO ST. LUCIE UNITS 1 AND 2**

CEOG Topical Report NPSD-1167 included plant specific information from five licensees with a total of 11 nuclear power plants:

- Entergy, Arkansas Nuclear One, Unit 2, and Waterford, Unit 3
- Arizona Public Service Company (APS), Palo Verde Units 1, 2 and 3
- Baltimore Gas & Electric (BGE), Calvert Cliffs Units 1 and 2
- Florida Power & Light (FPL), St. Lucie Units 1 and 2
- Southern California Edison (SCE), San Onofre Units 2 & 3

The following transmitters and allocated response times, based on manufacturers' specifications, were included/identified within the scope of CEOG Topical Report NPSD-1167 and EPRI Report NP-7243 for elimination of RTT (reference CE-NPSD-1167 Table 3.1):

TABLE-1 CEOG/EPRI Evaluated Transmitters and Allocated Response Times			
Manufacturer	Model Number	Range Code	Allocated Response Time
Rosemount	1152 (DP, HP, AP, GP)	3	0.3 seconds
Rosemount	1152 (DP, HP, AP, GP)	4, 5	0.2 seconds
Rosemount	1152 (DP, HP, AP, GP)	6, 7, 8, 9, 0	0.1 seconds
Rosemount	1153 (D, H, A, G)	3	2.0 seconds
Rosemount	1153 (D, H, A, G)	4	0.5 seconds
Rosemount	1153 (D, H, A, G)	5, 6, 7, 8, 9	0.2 seconds
Rosemount	1154 (DP, HP, GP)	4	0.5 seconds
Rosemount	1154 (DP, HP, GP)	5, 6, 7, 8, 9, 0	0.2 seconds
Rosemount	1154H (D, H, S)	4	0.5 seconds
Rosemount	1154H (D, H, S)	5, 6, 7, 8, 9	0.2 seconds

TABLE-1 CEOG/EPRI Evaluated Transmitters and Allocated Response Times			
Manufacturer	Model Number	Range Code	Allocated Response Time
Barton	763	N/A	0.18 seconds
Barton	763A	N/A	0.18 seconds
Barton	764	N/A	0.18 seconds

The specific St. Lucie Units 1 and 2 pressure and DP transmitters for which RTT elimination is requested are shown in Table 2 below.

TABLE-2 St. Lucie Units 1 and 2 Installed Transmitters and Allocated Response Times							
Unit	System	Function	Tag Numbers	Make	Model Number <sup>(1)</sup>	Range Code	Allocated Time
1	RPS	RCS Low Flow	PDT-1111A,B,C,D PDT-1121A,B,C,D	Rosemount	1154HH	6	0.8 seconds <sup>(2)</sup>
1	RPS	Cont Press	PT-07-2A,B,C,D	Rosemount	1153DB	6	0.2 seconds
1	RPS	SG Level	LT-9013A,B,C,D LT-9023A,B,C,D	Rosemount	1154DP	4	0.5 seconds
1	RPS	PZR Press	PT-1102A,B,C,D	Rosemount	1153GD <sup>(3)</sup>	9	0.2 seconds
1	RPS	SG Press	PT-8013A,B,C,D PT-8023A,B,C,D	Rosemount	1153GD	9	0.2 seconds
1	ESFAS	Cont Press	PT-07-2A,B,C,D	Rosemount	1153DB	6	0.2 seconds
1	ESFAS	SG Level	LT-9013A,B,C,D LT-9023A,B,C,D	Rosemount	1154DP	4	0.5 seconds
1	ESFAS	SG Press	PT-8013A,B,C,D PT-8023A,B,C,D	Rosemount	1153GD	9	0.2 seconds
1	ESFAS	RWT Level	LT-07-2A,B,C,D	Rosemount	1153DB	5	0.2 seconds
1	ESFAS	PZR Press	PT-1102A,B,C,D	Rosemount	1153GD <sup>(3)</sup>	9	0.2 seconds
2	RPS	RCS Low Flow	PDT-1111A,B,C,D PDT-1121A,B,C,D	Rosemount	1154HH	6	0.2 seconds
2	RPS	Cont Press	PT-07-2A,B,C,D	Rosemount	1153DB	5	0.2 seconds
2	RPS	SG Level	LT-9013A,B,C,D LT-9023A,B,C,D	Rosemount	1154DP	4	0.5 seconds
2	RPS	PZR Press	PT-1102A,B,C,D	Rosemount	1154SH	9	0.2 seconds
2	RPS	SG Press	PT-8013A,B,C,D PT-8023A,B,C,D	Rosemount	1154SH	9	0.2 seconds
2	ESFAS	Cont Press	PT-07-2A,B,C,D	Rosemount	1153DB	5	0.2 seconds
2	ESFAS	SG Level	LT-9013A,B,C,D LT-9023A,B,C,D	Rosemount	1154DP	4	0.5 seconds
2	ESFAS	SG Press	PT-8013A,B,C,D PT-8023A,B,C,D	Rosemount	1154SH	9	0.2 seconds
2	ESFAS	RWT Level	LT-07-2A,B,C,D	Rosemount	1153DB	5	0.2 seconds
2	ESFAS	PZR Press	PT-1102A,B,C,D	Rosemount	1154SH	9	0.2 seconds

(1) To more accurately reflect installed plant equipment, the model numbers shown in Table 2 include the Rosemount transmitter series designator, which is not reflected in Table 1. For example, Table 2 differentiates between the model 1153 Series B transmitters and the 1153 Series D transmitters, whereas Table 1 does not reflect this additional level of detail. There was no need to differentiate between 1153 Series B &

D in the CEOG report since the response time specifications (for the various range codes) are identical. In addition, the failure modes and effects analysis that formed the basis of EPRI Report NP-7243 was performed generically for all Rosemount transmitter model numbers based on design similarity. With this explanation it is apparent that the model numbers utilized at St. Lucie are reflected within the scope of CEOG Topical Report CE-NPSD-1167.

- (2) Unit 1 RCS Low Flow transmitters were omitted from the scope of NPSD-1167 since they include a variable damping option. The allocated response time of 0.8 seconds is based on the maximum adjustable range of the damping circuit as documented in the Rosemount technical manual for the model 1154 Series H transmitter. This value represents the physical & electronic limitations of the damping circuit assuming the potentiometer setting is maximized, and is substantiated by both circuit analysis and testing performed by the manufacturer. Use of the Rosemount specified maximum adjustable range value is no less conservative than using the Rosemount published response time value for other transmitters that do not include a damping circuit.
- (3) The Unit 1 Pressurizer Pressure transmitters were incorrectly identified in NPSD-1167 as Rosemount model 1154 range code 9. This correction of model number does not adversely affect the applicability of the CEOG Topical Report to St. Lucie Unit 1.

Comparison of Tables 1 and 2 above shows that all transmitter model numbers currently installed at St. Lucie Units 1 and 2 are included within the scope of CEOG Topical Report NPSD-1167 and EPRI Report NP-7243. In addition, the allocated response times proposed for use at St. Lucie Units 1 and 2 are fully consistent with published Rosemount specifications, and with NPSD-1167 and NP-7243.

#### **DESCRIPTION OF PROPOSED CHANGES**

In CE NPSD-1167, the CEOG requested elimination of RTT for sensors evaluated in EPRI Report NP-7243 and used by CE plants. The elimination of RTT will require a change to the TS to remove the requirement to perform RTT of sensors and systems specified in CE Topical Report NPSD-1167, Revision 2. Nuclear Energy Institute (NEI) TSTF 368 presented the proposed changes to the NUREG-1432 to implement CE NPSD-1167. The proposed changes to the St. Lucie Units 1 and 2 TS are modeled after TSTF 368 that was approved by the NRC on November 28, 2000.

1. For St. Lucie Units 1 and 2, the last sentence of the present TS Definition 1.26 is reworded to model NUREG-1432 Revision 2 wording. This is a simple editorial change to be consistent with NUREG-1432, Revision 2.

“...is interrupted to the CEA drive mechanism.” is changed to “...to the CEA drive mechanism is interrupted.”

2. For St. Lucie Units 1 and 2, insert the following wording after the last sentence in TS Definitions 1.12 and 1.26.

"The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured."

3. For St. Lucie Units 1 and 2, insert the following wording after the sentence added via change #2 above in TS Definitions 1.12 and 1.26.

"In lieu of measurement, response time may be verified for selected components provided that the components and methodology for verification have been previously reviewed and approved by the NRC."

### **JUSTIFICATION OF THE PROPOSED CHANGE**

Change #1 above is a simple editorial change to reword the RPS response time definition to model it after NUREG-1432, Revision 2.

Change #2 above adds the statement that the response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured. A similar statement is currently in the bases of the RPS and ESF TS. It is added to the TS Definitions to be consistent with NUREG-1432, revision 2. These proposed changes are not technical changes since the clarification was previously in the TS Bases.

The statement added via Change #3 above reflects the wording of TSTF 368 and NUREG-1432, revision 2. The justification for this proposed change is as follows.

CEOG Topical Report NPSD-1167 depended primarily on the analysis performed in EPRI Report NP-7243. In addition, the CEOG reviewed approximately 1400 sensor data points, and determined that no failures of response time had been detected. With one exception, the sensors for which the CEOG requested elimination of RTT were all subject to the FMEAs contained in the EPRI report, and, therefore, no further analysis was required. The one sensor that was not analyzed in EPRI NP-7243 (i.e., the Barton Model 763A) is not currently used at St. Lucie Plant. The EPRI report concluded that RTT was not useful in the identification of transmitters that failed response time testing and that calibration and other periodic surveillance tests would detect transmitter response time failures. The EPRI report FMEA showed that for the transmitters selected for RTT elimination, any component failure that would affect the response time characteristics would also affect the calibration or surveillance test results. NRC acceptance of the CEOG and EPRI reports as the basis for an RTT elimination TS amendment is documented in the SE transmitted via letter dated December 5, 2000, pending plant specific justification of applicability and compliance with EPRI recommendations. The applicability of CEOG Topical Report NPSD-1167 and EPRI Report NP-7243 to St. Lucie Units 1 and 2 is documented above. Compliance with EPRI recommendations



associated with elimination of RTT (as identified in section 3.4 of NPSD-1167 "Consistency with EPRI Recommendations") is documented in the following section.

#### **COMPLIANCE WITH EPRI RECOMMENDATIONS ASSOCIATED WITH ELIMINATION OF RTT**

The results of EPRI Report NP-7243 form the basis for justifying the elimination of response time testing requirements for selected RPS and ESFAS transmitters. In this report EPRI makes several recommendations for programmatic changes pertinent to elimination of RTT. CEOG Topical Report NPSD-1167 endorsed those EPRI recommendations potentially applicable to one or more of its member utilities, and stated that the utilities should incorporate applicable recommendations into their revised RTT programs. The EPRI recommendations potentially applicable to the CEOG plants are shown below along with the FPL response to each recommendation.

1. Perform a hydraulic RTT prior to installation of a new transmitter/switch or following refurbishment of the transmitter/switch (e.g., sensor cell or variable damping components) to determine an initial sensor-specific response time value. The power interrupt test is an alternate method to use on force-balance transmitters; the purpose of this test is to verify sensor response time is within the limits of the allocated value for the transmitter function.

RTT will be performed prior to installation of a new transmitter/switch or following refurbishment of a transmitter/switch involving the sensor cell or variable damping circuit. In accordance with this EPRI recommendation, replacement of circuit cards (for EQ or other reasons) in Rosemount transmitters that do not include damping circuits do not necessitate performance of RTT. As allowed by the existing Technical Specification Bases for Section 3/4.3, sensor response time verification may be demonstrated by either 1) in place, onsite, or offsite test measurements or 2) utilizing replacement sensors with certified response times.

2. For transmitters and switches that use capillary tubes, RTT should be performed after initial installation and after any maintenance or modification activity that could damage the capillary tubes.

At this time St. Lucie does not use capillary tube arrangements for any application subject to periodic RTT. Although very unlikely, if the RPS or ESFAS design is ever changed to include a capillary tube arrangement, this recommendation for RTT following maintenance or modification activities that could damage the capillary tubes will be incorporated.

3. Perform periodic drift monitoring on all Rosemount pressure and differential pressure transmitters, models 1151, 1152, 1153, and 1154. Guidance on drift monitoring can be found in EPRI NP-7121 and Rosemount Technical Bulletins. Drift monitoring intervals should be based on utility response to NRC Bulletin 90-01.

The final EPRI Report was issued in May 1991, prior to Supplement 1 of NRC Bulletin 90-01, and prior to the initial FPL response to Bulletin 90-01. As discussed throughout the EPRI Report, this recommendation was specifically directed at, and limited to, those Rosemount transmitters susceptible to loss of fill oil. Based on design changes and improvements in the manufacturing process, Rosemount transmitters manufactured after July 11, 1989 were not subject to the replacement and enhanced surveillance monitoring requirements of Bulletin 90-01. The St. Lucie response to NRC Bulletin 90-01, *Loss of Fill Oil in Transmitters Manufactured by Rosemount*, consisted of the complete replacement of all transmitters susceptible to a loss of fill oil. This response was reviewed by the NRC and found to be acceptable as documented in the Safety Evaluation dated October 5, 1994. As-Found transmitter calibration data is routinely reviewed and the corrective action program is used to identify, formally evaluate, and trend unacceptable variations in transmitter as-found calibration data.

4. If variable damping is used, implement a method to ensure that the potentiometer is at the required setting and cannot be inadvertently changed. This approach should eliminate the need for RTT to detect a variable damping failure mode. Otherwise, RTT each transmitter by hydraulic or electronic white noise analysis methods, at a minimum, following each transmitter calibration.

St. Lucie has elected to address this recommendation using a more conservative approach. Rather than attempting to lock the potentiometer setting, an allocated response time equal to the maximum adjustable range of the damping circuit will be used in the overall channel response time summation. The allocated response time will then represent the physical & electronic limitations of the damping circuit assuming the potentiometer setting is maximized, and is substantiated by both circuit analysis and testing performed by the manufacturer. Use of the Rosemount specified maximum adjustable range value is equivalent to, and no less conservative than, using the Rosemount published response time value for other transmitters that do not include a damping circuit.

## **REFERENCES**

1. EPRI Report NP-7243, *Investigation of Response Time Testing Requirements*
2. CEOG Topical Report NPSD-1167, *Elimination of Pressure Sensor Response Time Testing Requirements*, Rev 2
3. Nuclear Energy Institute (NEI) Technical Specification Task Force (TSTF) 368

## **CONCLUSIONS**

Elimination of RTT for selected types of pressure and differential pressure transmitters in RPS and ESFAS applications has been justified on a generic basis via EPRI Report NP-7243 and CEOG Topical Report NPSD-1167. The transmitter types and model numbers utilized at St. Lucie Units 1 and 2 are among those evaluated in the EPRI & CEOG reports. The allocated sensor response times that are proposed for use at St. Lucie are

consistent with the EPRI & CEOG reports. The proposed allocated response time for the Unit 1 RCS flow transmitters, that use a variable damping circuit, has been shown to be more conservative than the value that would result from application of the EPRI report recommendation. St. Lucie commitments regarding the RTT programmatic recommendations identified in the EPRI report are documented above in the corresponding section. The proposed Technical Specification changes reflect the wording of TSTF 368 and NUREG-1432, Revision 2.

## ATTACHMENT 2

### DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATION

#### Introduction

A change is proposed to revise the St. Lucie Units 1 and 2 Technical Specification (TS) Definitions 1.12, Engineered Safety Features (ESF) Response Time, and 1.26, Reactor Protection System (RPS) Response Time. CEOG Topical Report CE NPSD 1167, *Elimination of Pressure Sensor Response Time Testing Requirements* was submitted as a final NRC approved report on January 18, 2001. This report justifies the elimination of response time testing for RPS and engineered safety features actuation system (ESFAS) pressure sensors. To incorporate this change, the definitions of RPS RESPONSE TIME and ESF RESPONSE TIME need to be revised to allow for determination by addition of an allocated sensor response time with the measured response time for the remaining portion of the protection channel loop. The proposed change is modeled after Nuclear Energy Institute Technical Specification Task Force TSTF 368 and Revision 2 of NUREG-1432, *Standard Technical Specifications - Combustion Engineering Plants*. The TS Bases for TS 3/4.3.1 and 3/4.3.2 are revised to add clarification regarding the use of allocated sensor response times in lieu of measurements.

#### Determination of No Significant Hazards Consideration

The NRC provides standards for determining whether a significant hazard consideration will exist (10 CFR 50.92(c)). A proposed amendment to an operating license for a facility involves no significant hazards consideration, if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety. Each standard is discussed below for the proposed amendment.

- (1) **Operation of the facility in accordance with the proposed amendments would not involve a significant increase in the probability or consequences of an accident previously evaluated.**

The proposed changes allow the elimination of pressure sensor response time testing. Response time testing is not an initiator of any accident previously evaluated. Consequently, the probability of an accident previously evaluated is not significantly increased. The allocated pressure sensor response times allowed in lieu of measurement have been determined to adequately represent the response time of the components such that the safety systems utilizing those components will continue to perform their accident mitigation function as assumed in the safety analysis. Therefore, the consequences of an accident previously evaluated are not significantly increased by this change. Therefore,

this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

- (2) **Operation of the facility in accordance with the proposed amendments would not create the possibility of a new or different kind of accident from any accident previously evaluated.**

The proposed changes allow the elimination of pressure sensor response time testing. The proposed change does not involve a physical alteration of the plant (no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

- (3) **Operation of the facility in accordance with the proposed amendments would not involve a significant reduction in a margin of safety.**

The proposed change allows the elimination of pressure sensor response time testing. EPRI Report NP-7243, *Investigation of Response Time Testing Requirements*, and CEOG Topical Report NPSD-1167, *Elimination of Pressure Sensor Response Time Testing Requirements*, demonstrate that elimination of RTT does not adversely affect the ability to monitor instrument performance and capability to meet design basis requirements. The proposed change also allows the use of allocated response times for certain pressure sensors in lieu of measurement of those response times. These EPRI and CEOG Reports also determined that allocated response times may be used with no reduction in the margin of safety provided by the safety systems supported by those pressure sensors. Therefore, this change does not involve a significant reduction in a margin of safety.

## **Summary**

Based on the above discussion, FPL has determined that the proposed amendment request does not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated, (2) create the possibility of a new or different kind of accident from any accident previously evaluated, or (3) involve a significant reduction in a margin of safety; therefore, the proposed changes do not involve a significant hazards consideration as defined in 10 CFR 50.92.

## **Environmental Impact Consideration Determination**

The proposed license amendment changes requirements with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The proposed amendment involves no significant increase in the amounts and no significant change in the types of any effluents that may be released offsite, and no significant increase in individual or cumulative occupational radiation exposure. FPL

St. Lucie Units 1 and 2  
Docket Nos. 50-335 and 50-389  
L-2003-265 Attachment 2 Page 3

has concluded that the proposed amendment involves no significant hazard consideration, and therefore, meets the criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), an environmental impact statement or environmental assessment need not be prepared in connection with issuance of the amendment.

St. Lucie Units 1 and 2  
Docket Nos. 50-335 and 50-389  
L-2003-265 Attachment 3 Page 1

### **ATTACHMENT 3**

#### **ST. LUCIE UNIT 1 MARKED-UP TECHNICAL SPECIFICATION PAGES**

The attached marked-up TS Pages reflect the currently issued version of the Technical Specifications. Pending Technical Specification changes or Technical Specification changes issued subsequent to this submittal are not reflected.

#### **TS Pages**

1-3

1-6

**Insert 1 to TS Definition 1.12**

The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured. In lieu of measurement, response time may be verified for selected components provided that the components and methodology for verification have been previously reviewed and approved by the NRC.

**Insert 2 to TS Definition 1.26**

The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured. In lieu of measurement, response time may be verified for selected components provided that the components and methodology for verification have been previously reviewed and approved by the NRC.



## DEFINITIONS

### DOSE EQUIVALENT I-131

- 1.10 DOSE EQUIVALENT I-131 shall be that concentration of I-131 ( $\mu\text{Ci}/\text{gram}$ ) which alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134 and I-135 actually present. The thyroid dose conversion factors used for this calculation shall be those listed in ICRP-30, Supplement to Part 1, pages 192-212, Tables entitled, "Committed Dose Equivalent in Target Organs or Tissues per Intake of Unit Activity ( $\text{Sv/Bq}$ )."

### $\bar{E}$ - AVERAGE DISINTEGRATION ENERGY

- 1.11  $\bar{E}$  shall be the average (weighted in proportion to the concentration of each radionuclide in the reactor coolant at the time of sampling) of the sum of the average beta and gamma energies per disintegration (in MEV) for isotopes, other than iodines, with half lives greater than 15 minutes, making up at least 95% of the total non-iodine activity in the coolant.

### ENGINEERED SAFETY FEATURES RESPONSE TIME

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INSERT 1

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**ATTACHMENT 4**

**ST. LUCIE UNIT 2 MARKED-UP TECHNICAL SPECIFICATION PAGES**

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**TS Page**

1-3

1-5

**Insert 1 to TS Definition 1.12**

The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured. In lieu of measurement, response time may be verified for selected components provided that the components and methodology for verification have been previously reviewed and approved by the NRC.

**Insert 2 to TS Definition 1.26**

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  - Leakage into the containment atmosphere from sources that are both specifically located and known either not to interfere with the operation of leakage detection systems or not to be PRESSURE BOUNDARY LEAKAGE, or
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### **PURGE – PURGING**

1.24 PURGE or PURGING is the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration or other operating condition, in such a manner that replacement air or gas is required to purify the confinement.

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- c. The sealing mechanism associated with each penetration (e.g., welds, bellows or O-rings) is OPERABLE.

St. Lucie Units 1 and 2  
Docket Nos. 50-335 and 50-389  
L-2003-265 Attachment 5 Page 1

**ATTACHMENT 5**

**ST. LUCIE UNIT 1 MARKED-UP TECHNICAL SPECIFICATION BASES PAGES**

**Insert 1**

Response time may be demonstrated by any series of sequential, overlapping or total channel measurements, including allocated sensor response time, provided that such tests demonstrate total channel response time as defined. CEOG Topical Report CE NPSD-1167, and FPL No Significant Hazards Evaluation PSL-ENG-SEIS-03-043 provide the basis and methodology for using allocated sensor response times in the overall verification of the channel response time for specific sensors identified in these documents. The allocated sensor response time must be verified prior to placing a new component in operation and re-verified after maintenance that may adversely affect the sensor response time (e.g., replacement of a transmitter DP cell or variable damping circuits). Sensor response time verification may be demonstrated by either 1) in place, onsite or offsite test measurements or 2) utilizing replacement sensors with certified response times.

The CEOG topical report and FPL evaluation only cover certain sensor model numbers. If sensors are replaced with types not previously evaluated, then periodic response time testing (RTT) for the new sensor must either be performed and the appropriate changes made to plant procedures, or an additional request for RTT elimination must be submitted and approved by the NRC. If, however, the replacement sensor is one for which RTT elimination has been approved, then FPL may modify the plant procedures, using an allocated response time based upon a vendor-supplied response time value, or upon statistical analysis of historical data for that transmitter type and model.



SECTION NO.: 3/4.3	TITLE: TECHNICAL SPECIFICATIONS BASES ATTACHMENT 5 OF ADM-25.04 INSTRUMENTATION ST. LUCIE UNIT 1	PAGE: 3 of 4
REVISION NO.: 0		

**BASES FOR SECTION 3/4.3**

**3/4.3 INSTRUMENTATION**

**BASES**

**3/4.3.1 and 3/4.3.2 PROTECTIVE AND ENGINEERED SAFETY FEATURES (ESF) INSTRUMENTATION**

The OPERABILITY of the protective and ESF instrumentation systems and bypasses ensure that 1) the associated ESF action and/or reactor trip will be initiated when the parameter monitored by each channel or combination thereof reaches its setpoint, 2) the specified coincidence logic is maintained, 3) sufficient redundancy is maintained to permit a channel to be out of service for testing or maintenance, and 4) sufficient system functional capability is available for protective and ESF purposes from diverse parameters.

The OPERABILITY of these systems is required to provide the overall reliability, redundancy and diversity assumed available in the facility design for the protection and mitigation of accident and transient conditions. The integrated operation of each of these systems is consistent with the assumptions used in the accident analyses.

The surveillance requirements specified for these systems ensure that the overall system functional capability is maintained comparable to the original design standards. The periodic surveillance tests performed at the minimum frequencies are sufficient to demonstrate this capability.

The measurement of response time at the specified frequencies provides assurance that the protective and ESF action function associated with each channel is completed within the time limit assumed in the accident analyses. No credit was taken in the analyses for those channels with response times indicated as not applicable.

Response time may be demonstrated by any series of sequential, overlapping or total channel test measurements provided that such tests demonstrate the total channel response time as defined. Sensor response time verification may be demonstrated by either 1) in place, onsite or offsite test measurements or 2) utilizing replacement sensors with certified response times.

The Safety Injection Actuation Signal (SIAS) provides direct actuation of the Containment Isolation Signal (CIS) to ensure containment isolation in the event of a small break LOCA.

REPLACE WITH INSEAT 1

St. Lucie Units 1 and 2  
Docket Nos. 50-335 and 50-389  
L-2003-265 Attachment 6 Page 1

**ATTACHMENT 6**

**ST. LUCIE UNIT 2 MARKED-UP TECHNICAL SPECIFICATION BASES PAGES**

**Insert 1**

Response time may be demonstrated by any series of sequential, overlapping or total channel measurements, including allocated sensor response time, provided that such tests demonstrate total channel response time as defined. CEOG Topical Report CE NPSD-1167, and FPL No Significant Hazards Evaluation PSL-ENG-SEIS-03-043 provide the basis and methodology for using allocated sensor response times in the overall verification of the channel response time for specific sensors identified in these documents. The allocated sensor response time must be verified prior to placing a new component in operation and re-verified after maintenance that may adversely affect the sensor response time (e.g., replacement of a transmitter DP cell or variable damping circuits). Sensor response time verification may be demonstrated by either 1) in place, onsite or offsite test measurements or 2) utilizing replacement sensors with certified response times.

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SECTION NO.: 3/4.3	TITLE: TECHNICAL SPECIFICATIONS BASES ATTACHMENT 5 OF ADM-25.04 INSTRUMENTATION ST. LUCIE UNIT 2	PAGE: 4 of 5
REVISION NO.: 0		

3/4.3 INSTRUMENTATION (continued)

BASES (continued)

3/4.3.1 and 3/4.3.2 (continued)

The measurement of response time at the specified frequencies provides assurance that the protective and ESF action function associated with each channel is completed within the time limit assumed in the safety analyses. No credit was taken in the analyses for those channels with response times indicated as not applicable.

Response time may be demonstrated by any series of sequential, overlapping, or total channel test measurements provided that such tests demonstrate the total channel response time as defined. Sensor response time verification may be demonstrated by either (1) in place, onsite, or offsite test measurements or (2) utilizing replacement sensors with certified response times.

The Safety Injection Actuation Signal (SIAS) provides direct actuation of the Containment Isolation Signal (CIS) to ensure containment isolation in the event of a small break LOCA.

3/4.3.3 MONITORING INSTRUMENTATION

3/4.3.3.1 RADIATION MONITORING INSTRUMENTATION

The OPERABILITY of the radiation monitoring channels ensures that: (1) the radiation levels are continually measured in the areas served by the individual channels; and (2) the alarm or automatic action is initiated when the radiation level trip setpoint is exceeded; and (3) sufficient information is available on selected plant parameters to monitor and assess these variables following an accident. This capability is consistent with the recommendations of Regulatory Guide 1.97, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident," December 1980 and NUREG-0737, "Clarification of TMI Action Plan Requirements," November 1980.

REPLACE WITH INSERT 1

St. Lucie Units 1 and 2  
Docket Nos. 50-335 and 50-389  
L-2003-265 Attachment 7 Page 1

## **ATTACHMENT 7**

### **ST. LUCIE UNIT 1 RETYPED TECHNICAL SPECIFICATION PAGES**

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## DEFINITIONS

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- 1.10 DOSE EQUIVALENT I-131 shall be that concentration of I-131 ( $\mu\text{Ci}/\text{gram}$ ) which alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134 and I-135 actually present. The thyroid dose conversion factors used for this calculation shall be those listed in ICRP-30, Supplement to Part 1, pages 192-212, Tables entitled, "Committed Dose Equivalent in Target Organs or Tissues per Intake of Unit Activity ( $\text{Sv}/\text{Bq}$ )."

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St. Lucie Units 1 and 2  
Docket Nos. 50-335 and 50-389  
L-2003-265 Attachment 8 Page 1

## **ATTACHMENT 8**

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