

November 30, 2004

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
ELIMINATION OF PRESSURE SENSOR RESPONSE TIME TESTING
REQUIREMENTS (TAC NOS. MC1396 AND MC1397)

Dear Mr. Stall:

The Commission has issued the enclosed Amendment Nos. 195 and 137 to Renewed Facility Operating License Nos. DPR-67 and NPF-16 for the St. Lucie Plant, Units 1 and 2, respectively. These amendments consist of changes to the Technical Specifications (TSs) in response to your application dated November 21, 2003, as supplemented by letters dated May 18, and August 23, 2004.

These amendments allow the licensee to revise the St. Lucie Units 1 and 2 TSs to eliminate certain pressure sensor response time testing requirements. Specifically, these amendments revise the TS Definitions 1.12, "Engineered Safety Features Response Time," and 1.26, "Reactor Protection System Response Time."

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. 195 to DPR-67
2. Amendment No. 137 to NPF-16
3. Safety Evaluation

cc w/enclosures: See next page

Mr. J. A. Stall
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Docket Nos. 50-335 and 50-389

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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 RENEWED FACILITY OPERATING LICENSE

Amendment No. 195
Renewed 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 November 21, 2003, as supplemented by letters dated May 18, and August 23, 2004, 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, Renewed 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 3.B to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 195, 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/

Michael L. Marshall, Jr., 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: November 30, 2004

ATTACHMENT TO LICENSE AMENDMENT NO. 195
TO RENEWED 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

1-3
1-6

Insert Pages

1-3
1-6

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 RENEWED FACILITY OPERATING LICENSE

Amendment No. 137
Renewed License No. NPF-16

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Florida Power & Light Company (the licensee), dated November 21, 2003, as supplemented by letters dated May 18, and August 23, 2004, 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, Renewed 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 3.B to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 137, 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/

Michael L. Marshall, Jr., 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: November 30, 2004

ATTACHMENT TO LICENSE AMENDMENT NO. 137

TO RENEWED 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

1-3
1-5

Insert Pages

1-3
1-5

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NOS. 195 AND 137
TO RENEWED FACILITY OPERATING LICENSES NOS. DPR-67 AND NPF-16
FLORIDA POWER AND LIGHT COMPANY, ET AL.
ST. LUCIE PLANT, UNITS NO. 1 AND 2
DOCKET NOS. 50-335 AND 50-389

1.0 INTRODUCTION

By letter dated November 21, 2003, as supplemented by letters dated May 18, and August 23, 2004, Florida Power and Light Company (FPL, the licensee) requested amendments to Renewed Operating Licenses DPR-67 and NPF-16 for St. Lucie Units 1 and 2, respectively. These amendments allow the licensee to revise the St. Lucie Units 1 and 2 Technical Specifications (TSs) to eliminate certain pressure sensor response time testing (RTT) requirements, as discussed in the Combustion Engineering Owners Group (CEOG) Topical Report CE NPSD-1167, Revision 2, "Elimination of Pressure Sensor Response Time Testing Requirements," which was approved by the NRC staff by letters dated July 24, 2000, and December 5, 2000. Specifically, these amendments revise the St. Lucie Units 1 and 2 TS Definitions 1.12, "Engineered Safety Features (ESF) Response Time," and 1.26, "Reactor Protection System (RPS) Response Time."

2.0 REGULATORY EVALUATION

Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, "Domestic Licensing of Production and Utilization Facilities," Section 50.55a, "Codes and Standards," establish the requirement for periodic testing of reactor trip systems. Section 50.55a(h)(2), states: "For nuclear power plants with construction permits issued after January 1, 1971, but before May 13, 1999, protection systems must meet the requirements stated in either the Institute of Electrical & Electronics Engineers (IEEE) Standard (Std.) 279, "Criteria for Protection Systems for Nuclear Power Generating Stations," or in IEEE Std. 603-1991, "Criteria for Safety Systems for Nuclear Power Generating Stations," and the correction sheet dated January 30, 1995. For nuclear power plants with construction permits issued before January 1, 1971, protection systems must be consistent with the plants' licensing basis or may meet the requirements of IEEE Std. 603-1991 and the correction sheet dated January 30, 1995."

In addition, 10 CFR 50.36(c)(2)(ii)(A) requires a TS limiting condition for operation for "installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary." Also, 10 CFR 50.36(c)(3), "Surveillance Requirements," states: "Surveillance requirements are requirements related to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained,

that facility operation will be within the safety limits, and that the limiting conditions of operation will be met." In 1975, the U. S. Nuclear Regulatory Commission (NRC) implemented a program that made RTT a requirement of the TSs.

In June 1999, the CEOG, under the auspices of ABB Combustion Engineering Nuclear Power Company, 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, the emergency core cooling system, and the isolation actuation system. In August 1999, the CEOG submitted Revision 1 to CE NPSD-1167 to change the pressure transmitter allocated response times from values that were based upon historical plant data to values that are based upon vendor data of expected response times of properly operating instruments. In May 2000, the CEOG submitted Revision 2 to CE NPSD-1167 to incorporate NRC reviewer and utility comments and to correct the Appendix C calculated values for allocated response times based on historical data for sensors on which no vendor data are available. Appendix A to CE NPSD-1167, Revision 2, was revised and resubmitted by letter CEOG-00-171, dated June 6, 2000. The revised Revision 2 was approved for reference by letters dated July 24, 2000. A correction to the Safety Evaluation (SE) was issued by letter dated December 5, 2000.

On October 24, 2000, the Nuclear Energy Institute submitted to the NRC staff the proposed Standard TS wording from the TS Task Force (TSTF) Traveler TSTF-368. This wording is to be used for plants that wish to eliminate some RTT in accordance with CE NPSD-1167. This proposed wording was reviewed by the NRC staff and approved on November 28, 2000.

The NRC staff finds that the licensee, in Attachment 1 to its submittal, appropriately addressed the applicable regulatory requirements.

3.0 TECHNICAL EVALUATION

3.1 Sensors

FPL has requested to change the St. Lucie Units 1 and 2 TSs to eliminate RTT of the following RPS, Engineering Safety Features Actuation System (ESFAS), and Auxiliary Feedwater Actuation System (AFAS) pressure sensors when used in the shown function:

Sensor	Function	
Rosemount Model 1154 Range Code 6	RPS	Reactor Coolant System (RCS) Low Flow
Rosemount Model 1153 Range Code 6		Unit 1 Containment Pressure
Rosemount Model 1153 Range Code 5		Unit 2 Containment Pressure
Rosemount Model 1154 Range Code 4		Steam Generator (SG) Level
Rosemount Model 1153 Range Code 9		Unit 1 Pressurizer Pressure

Rosemount Model 1154 Range Code 9		Unit 2 Pressurizer Pressure
Rosemount Model 1153 Range Code 9		Unit 1 SG Pressure
Rosemount Model 1154 Range Code 9		Unit 2 SG Pressure
Sensor	Function	
Rosemount Model 1153 Range Code 6	ESFAS & AFAS	Unit 1 Containment Pressure (ESFAS)
Rosemount Model 1153 Range Code 5		Unit 2 Containment Pressure (ESFAS)
Rosemount Model 1154 Range Code 4		SG Level
Rosemount Model 1153 Range Code 9		Unit 1 SG Pressure
Rosemount Model 1154 Range Code 9		Unit 2 SG Pressure
Rosemount Model 1153 Range Code 5		Refueling Water Tank (RWT) Level
Rosemount Model 1153 Range Code 9		Unit 1 Pressurizer Pressure
Rosemount Model 1154 Range Code 9		Unit 2 Pressurizer Pressure

The elimination of the RTT requirements for these sensors was approved in the NRC staff SE for the CEOG Topical Report CE NPSD-1167. Since the NRC staff has already reviewed and approved the generic analysis, no further review is required.

3.2 Technical Specification Changes

FPL has requested to change the St. Lucie Units 1 and 2 TSs to eliminate RTT of the following pressure sensors:

In the TS Definitions Section for both units, Definition 1.12, "Engineered Safety Feature (ESF) Response Time," currently states:

The ENGINEERED SAFETY FEATURES RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its ESF actuation setpoint at the channel sensor until the ESF equipment is capable of performing its safety function (i.e., the valves travel to their required positions, pump discharge pressures reach their required values, etc.). Times shall include diesel generator starting and sequence loading delays where applicable.

Two sentences will be added to the end of the definition, and it will now state:

The ENGINEERED SAFETY FEATURES RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its ESF actuation setpoint at the channel sensor until the ESF equipment is capable of performing its safety function (i.e., the valves travel to their required positions, pump discharge

pressures reach their required values, etc.). Times shall include diesel generator starting and sequence loading delays where applicable. 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.

Definition 1.26, "Reactor Protection System (RPS) Response Time," currently states:

The REACTOR TRIP SYSTEM RESPONSE TIME shall be the time Interval from when the monitored parameter exceeds its trip setpoint at the channel sensor until electrical power is interrupted to the CEA [Control Element Assembly] drive mechanism.

The same two sentences will be added to the end of this definition, and the definition will now state:

The REACTOR TRIP SYSTEM RESPONSE TIME shall be the time Interval from when the monitored parameter exceeds its trip setpoint at the channel sensor until electrical power to the CEA drive mechanism is interrupted. 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.

The proposed TS changes are in accordance with TSTF-368, which was approved by the NRC staff on November 28, 2000. No further review is required.

In addition, the licensee provided for information the conforming changes it plans to make to the TS Bases. In Basis Section 3/4.3, "Instrumentation," Subsections 3/4.3.1 and 3/4.3.2, "Protective and Engineered Safety Features (ESF) Instrumentation," the following paragraph will be replaced:

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 of offsite test measurements or 2) utilizing replacement sensors with certified response times.

This paragraph will be replaced with two new paragraphs which will state:

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.

Changes to the TS Bases will be implemented in accordance with the licensee's TS Bases Control Program.

3.3 Allocated Response Times

The TSs require licensees to demonstrate that protective functions will be accomplished within the time required by the plant accident analysis. This protective function time requirement starts when the process variable, such as the pressure or the level exceeds its setpoint and continues until the protective function is accomplished. The CEOG requests only the elimination of the sensor RTT. It leaves intact, the requirement to measure the response time of the rest of the system performing the protective function. Since the time required by the accident analysis is the sum of all response times of components performing the protective function, some assumed value for the sensor response time value must be used in lieu of an actual measured value to determine the overall protective system response time. This assumed value is the time allocated to the response of the sensor. The allocated response time values for the Rosemount sensors used by St. Lucie Units 1 and 2 were, with one exception, obtained from Rosemount and approved by the NRC staff in the SE approving CEOG Topical Report CE NPSD-1167. The allocated response times are shown in the table below:

St. Lucie Unit 1 Transmitters			
Function	Instrument	Make / Model	Allocated Response Time
RPS Transmitter	RCS Low Flow	Rosemount Model 1154 Range Code 6	.800 seconds
	Containment Pressure	Rosemount Model 1153 Range Code 6	.200 second
	SG Level	Rosemount Model 1154 Range Code 4	.500 second

	Pressurizer Pressure	Rosemount Model 1153 Range Code 9	.200 second
	SG Pressure	Rosemount Model 1153 Range Code 9	.200 second
ESFAS & AFAS Transmitter	Containment Pressure (ESFAS)	Rosemount Model 1153 Range Code 6	.200 second
	SG Level	Rosemount Model 1154 Range Code 4	.500 second
	SG Pressure	Rosemount Model 1153 Range Code 9	.200 second
	RWT Level	Rosemount Model 1153 Range Code 5	.200 second
	Pressurizer Pressure	Rosemount Model 1153 Range Code 9	.200 second

St. Lucie Unit 2 Transmitters

Function	Instrument	Make / Model	Allocated Response Time
RPS Transmitter	RCS Low Flow	Rosemount Model 1154 Range Code 6	.200 second
	Containment Pressure	Rosemount Model 1153 Range Code 5	.200 second
	SG Level	Rosemount Model 1154 Range Code 4	.500 second
	Pressurizer Pressure	Rosemount Model 1154 Range Code 9	.200 second
	SG Pressure	Rosemount Model 1154 Range Code 9	.200 second
ESFAS & AFAS Transmitter	Containment Pressure (ESFAS)	Rosemount Model 1153 Range Code 5	.200 second
	SG Level	Rosemount Model 1154 Range Code 4	.500 second
	SG Pressure	Rosemount Model 1154 Range Code 9	.200 second
	RWT Level	Rosemount Model 1153 Range Code 5	.200 second
	Pressurizer Pressure	Rosemount Model 1154 Range Code 9	.200 second

FPL noted that the Unit 1 Pressurizer Pressure transmitters were incorrectly identified in CE NPSD-1167 as Rosemount Model 1154 range code 9, and this was corrected in the above table. The NRC staff agrees with FPL that this correction of model number does not adversely affect the applicability of the CEOG Topical Report to St. Lucie Unit 1.

With one exception, the above transmitters and allocated response times, based on manufacturers' specifications, were included and identified within the scope of CEOG Topical Report CE NPSD-1167 and the Electric Power Research Institute (EPRI) Report NP-7243 for elimination of RTT (reference CE NPSD-1167 Table 3.1). The Unit 1 RCS Low Flow

transmitters were omitted from the scope of CE NPSD-1167 since they include a variable damping option. FPL has stated that 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, and that this value represents the physical and electronic limitations of the damping circuit assuming the potentiometer setting is maximized. This exception is discussed in section 3.4, part 4, below.

The other values were reviewed in the NRC staff SE approving CEOG Topical Report CE NPSD-1167 for reference, and therefore no further review is required.

3.4 EPRI Recommendations

EPRI Topical Report NP-7243, Revision 1, is the report on which the CEOG based its Topical Report CE NPSD-1167 on eliminating RTT. This EPRI topical report recommends several actions to ensure that sensors are operating correctly and that calibration or other surveillance will provide an accurate indication that the dynamic characteristics of the instrument will be accurately reflected in a static calibration. The CEOG has included these recommendations in its topical report and has suggested that utilities wishing to eliminate sensor RTT should incorporate the recommended actions into their revised RTT program. The recommendations of EPRI NP-7243, and the licensee response are as follows:

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.

Licensee response: 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 [Environmental Qualification] 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.

This response is acceptable to the NRC staff.

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.

Licensee response: 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.

This response is acceptable to the NRC staff.

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.

Licensee response: 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.

This response is acceptable to the NRC staff.

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.

Licensee response: Unit 1 RCS Low Flow transmitters (tag numbers PDT-1111A, B, C, D and PDT-1121A, B, C, D) were omitted from the scope of CE NPSD-1167 since they include a variable damping option. However, Rosemount transmitters with the variable damping option are addressed in EPRI Report NP-7243, and as discussed above, the EPRI report is the primary justification bases document for elimination of RTT. As documented in section 3 of the EPRI report, a detailed FMEA [Failure Mode and Effects Analysis] was performed for Rosemount differential pressure transmitters including the variable damping circuit. Based on the results of this FMEA, EPRI concluded that implementation of a method to ensure the potentiometer is at the required setting would eliminate the need for RTT to detect any adverse variable damping circuit failure mode. The allocated response time of 0.8 seconds is conservatively based on the maximum adjustable range of the damping circuit as documented in the Rosemount technical manual for the Model 1154 series H transmitter. For each Unit 1 RCS low flow Rosemount transmitter the variable damping circuit potentiometer will be sealed in place at the existing setting. A response time test will then be performed to verify the permanent potentiometer setting results in an overall transmitter response time that is less than the allocated response time value of 0.8 seconds. This approach is consistent with the EPRI recommendation.

In addition, in the request for additional information response dated May 18, 2004, FPL stated that the work order instructions used to lock the potentiometer settings for the RCS low flow transmitters will include use of a suitable material (such as epoxy) that will be applied, such that it obstruct insertion of a screwdriver in the slotted head and inhibits any change in the potentiometer settings.

NRC staff analysis: The original Table 3-25, "Failure Modes and Effects Analysis," of EPRI Topical Report NP-7243 considered the failure of the damping circuitry. The effect is listed as "Increase response time if variable damping increases from potentiometer misadjustment" and "Decrease response time with open of spurious wiper contact." One possibility for use of sensors with variable damping would be to seal the damping adjustment potentiometer so the value can no longer be changed, and use statistical analysis on the historic values of the sealed damping response time values to provide an allocated response time. This would, however, require operation for a number of cycles with the damping adjustment potentiometer sealed to provide valid historic values. FPL has chosen to use the maximum damped value as the allocated response time, and has stated that 0.8 seconds is the maximum adjustable range of the damping circuit. It will also use epoxy to seal the damping adjustment potentiometer. The NRC staff has verified this value in Rosemount technical manuals 00809-0100-4631 and 00809-0100-4514 for Model 1154 Aphaline Nuclear Pressure Transmitters. Each of these show that the maximum time-constant value for range codes 5 - 9 is 0.8 seconds. In addition, FPL has provided the last actual response time test value for each of these transmitters to verify that the actual value is less than 0.8 seconds. When determining an allocated response time based upon historic test values, the NRC staff requires licensees to use a 95/95 value, that is, a value chosen such that there is a 95 percent confidence that 95 percent of all response time test values will be less than the allocated response time, as defined in NUREG-1475, "Applying Statistics." The NRC staff verified that the 0.8-second value is a statistically valid value by determination of the mean and 2 sigma standard deviation value of response time (value which represents 95 percent confidence level by definition). The NRC staff then determined the one-sided tolerance limit factor for a normal distribution for a 95/95 confidence level. This was done using guidance in NUREG-1475, Table T-11b, "One sided tolerance limit factor for a normal distribution." The results of these calculations are as shown below:

Sensor	Rosemount 1154 Range Code 6
Function	RCS Low Flow
Mean	0.63 seconds
Standard Deviation	0.0233 seconds
Sample Size	8
One sided tolerance limit factor (95/95 Multiplier IAW NUREG 1475)	3.187
One sided tolerance limit	0.704 seconds
St. Lucie administrative response time value	0.8 seconds

As the one-sided tolerance limit is lower than the administrative response time value, the 0.8-second value is acceptable to the NRC staff. In addition, the NRC staff believes that sealing the damping adjustment potentiometer with epoxy so that no further adjustment is possible is an acceptable method of assuring that the damping value cannot be inadvertently changed.

Based on the above review, the NRC staff concludes that the licensee has implemented the provisions of the generic SE for RTT elimination and satisfied the applicable plant-specific conditions in accordance with the approved CEOG topical report CE NPSD-1167 and TSTF-368. Therefore, the NRC staff concludes that the proposed TS changes to eliminate RTT of certain instruments are acceptable.

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 (69 FR 57675, dated September 28, 2004). 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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