



**FPL**

Florida Power & Light Company, 6501 S. Ocean Drive, Jensen Beach, FL 34957

June 2, 2008

L-2008-121  
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 Amendment  
Request for Additional Information Response  
Alternative Source Term Amendment – TAC Nos. MD6173 and MD6202

On July 16, 2007, Florida Power and Light Company (FPL) submitted the St. Lucie Unit 1 and 2 Alternative Source Term (AST) license amendment requests via FPL letters L-2007-085 and L-2007-087. On January 29, 2008, the NRC docketed a Request for Additional Information (RAI) for the control room outside air intake (CROAI) isolation setpoint. On February 14, 2008, FPL responded to the NRC RAI concerning the CROAI isolation setpoint via FPL letter L-2008-022.

Attachment 1 to this correspondence provides closure on the open items contained in letter L-2008-022. The no significant hazard analyses submitted with FPL letter L-2007-087 required revision to account for the proposed change in the existing Unit 2 CROAI setpoint and is included in Attachment 2. The Unit 1 no significant hazard analyses submitted in letter L-2008-085 remains bounding so no change was required. Attachment 3 provides the TS markups, Attachment 4 provides the word processed TS changes, and Attachment 5 provides an informational copy of the proposed TS Bases changes.

In accordance with the FPL Quality Assurance Topical Report, this RAI followup response was reviewed by the St. Lucie Onsite Review Group. In accordance with 10 CFR 50.91(b)(1), a copy of the proposed amendment was forwarded to the State Designee for the State of Florida.

Please contact Ken Frehafer at 772-467-7748 if there are any questions about this submittal.

ADD  
NRR

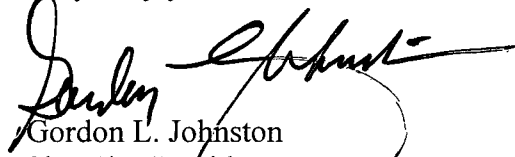
St. Lucie Units 1 and 2  
Docket Nos. 50-335 and 50-389  
Proposed License Amendment  
Request for Additional Information Response  
Alternative Source Term Amendment – TAC Nos. MD6173 and MD6202

L-2008-121  
Page 2

I declare under penalty of perjury that the foregoing is true and correct.

Executed on the 20<sup>th</sup> day of June 2008.

Very truly yours,

  
Gordon L. Johnston  
Site Vice President  
St. Lucie Plant

GLJ/KWF

Attachment

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

In the FPL response, letter L-2008-022 dated February 14, 2008, to the NRC RAI dated January 29, 2008, the following open items were left for closure.

1. FPL was to provide the setpoint methodology for the control room outside air intake (CROAI) radiation monitor isolation setpoint.
2. FPL was to provide the TS markups showing the new setpoint.
3. FPL was to provide TS Bases markups.

FPL provides the following information to close these open items.

## **1.0 Setpoint Methodology**

This methodology is applicable to the CROAI isolation setpoints for the St. Lucie Units 1 and 2 control room emergency ventilation systems. The setpoint was determined consistent with the guidance provided in EPRI Technical Report TR-102644 "Calibration of Radiation Monitors at Nuclear Power Plants." As stated in TR-102644, the setpoint of a radiation monitor can be established in either of two ways:

- If there is a requirement for the radiation monitor to actuate an accident mitigation safety feature when the actual radioactivity reaches a specific concentration, then the monitor's actuation setpoint is established based on actual radioactivity.
- In other cases, requirements are based on the setpoint being as low as possible without causing spurious alarms. For this case the setpoint is typically established as a multiple of background (such as 8 times background).

Per Unit 1 UFSAR section 9.4.1.2, the existing Unit 1 CROAI radiation monitor setpoint (of approximately 320 cpm) is based on a  $\text{Kr}^{85}$  concentration of  $2 \times 10^{-6}$   $\mu\text{ci/cc}$ . It appears that this setpoint was established in a manner consistent with the first of the two methods documented in TR-102644. However, the existing UFSAR setpoint basis is incomplete since: there is no clear link to a specific accident scenario or associated activity transport analysis, there is no allowance for uncertainty in the response of the radiation monitor, and the UFSAR count rate can not be substantiated via the radiation monitor sensitivity curve.

Per Unit 2 Technical Specification Table 3.3-6, the current Unit 2 CROAI radiation monitor setpoint is 2 times background, which would indicate that it was established in a manner consistent with the second of the two methods documented in TR-102644. It is also noted that Unit 2 has experienced spurious actuation of the Control Room Emergency Cleanup System, which appears to be, at least in part, caused by using a setpoint background multiplier that is too low (i.e., multiplier of 2 rather than 8).

As a result, the CROAI radiation monitor actuation setpoint design basis was re-created to determine a setpoint that is as low as possible without causing spurious alarms and will also ensure that automatic actuation will occur when the actual radioactivity reaches a concentration or equivalent count rate that is bounded by the accident analyses. The setpoint was determined using the following methodology:

1. Calculate the radiation monitor response in counts per minute (cpm) for each event where automatic actuation of the control room emergency ventilation system credited.
2. Establish a bounding total loop uncertainty value for the CROAI radiation monitor.
3. Establish a proposed actuation setpoint in cpm.
4. Confirm that the proposed setpoint will ensure that automatic actuation will occur for the limiting case (lowest activity) event after accounting for the bounding total loop uncertainty.

Using the above methodology, the proposed actuation setpoint was determined to be 320 cpm. This setpoint is based on the following assumptions/determinations:

1. The total loop uncertainty was conservatively determined to be 100%. This value was then doubled and a bounding total loop uncertainty of 200% was assumed.
2. With a total loop uncertainty of 200%, the upper bound for the proposed setpoint of 320 cpm is 960 cpm.
3. The limiting case event is the Unit 1 Stuck Open MSSV event with a total radiation monitor count rate of 2.5 E+3 cpm.
4. The limiting case event count rate exceeds the upper bound of the radiation monitor setpoint by a factor of 160%.

The St. Lucie TSs are custom TSs and do not conform to the Improved Standard Technical Specification (ISTS) format. To be consistent with the format established for all other area radiation monitors in Technical Specification Table 3.3-6, the CROAI Radiation Monitor Technical Specification setpoint will have an upper limit of 320 cpm and be formally shown as  $\leq 320$  cpm. Again to be consistent with the St. Lucie conventions established for other area radiation monitors, the surveillance procedure setting tolerance will ensure that the as-left setting is conservative with respect to the Technical Specification setpoint limit. A setting tolerance range of 280 cpm to 320 cpm will be utilized, based on the existing CROAI radiation monitor surveillance procedure and the equipment accuracy. The method used to establish this setting tolerance range is consistent with standard St. Lucie practice, wherein the surveillance procedure setting tolerance is based on equipment accuracy.

In addition to the radiation monitor accuracy, a radiation monitor drift allowance of 12% has also been accounted for in the setpoint determination. Based on this drift allowance, an as-found channel operability limit of 350 cpm will be captured in the surveillance procedures. If the as-found setting exceeds the nominal setpoint of 320 cpm but is less than the operability limit of 350 cpm, the setting will be restored to the nominal setpoint value. If the as-found setting exceeds 350 cpm, the channel will be removed from service

and corrective actions will be taken in accordance with the Technical Specifications and the St. Lucie Corrective Action Program. Note that the concept of Allowable Value is not used in Technical Specification Table 3.3-6. The upper limit of 350 cpm is equivalent to the Allowable Value. As such, the implications of exceeding an Allowable Value with respect to channel operability are addressed in the preceding as-found discussion.

The proposed setpoint of  $\leq 320$  cpm will ensure that automatic actuation of the control room ventilation system will occur for all applicable events with adequate margin for the bounding total loop uncertainty of 200%. The method used to determine the setpoint is consistent with the guidance provided in EPRI Technical Report TR-102644 in that it is as low as possible without causing spurious alarms and it will also ensure that automatic actuation will occur when the actual radioactivity reaches a concentration or equivalent count rate that is bounded by the accident analyses. The as-found and as-left limits are conservative with respect to the corresponding uncertainty allowances in the setpoint determination.

For both St. Lucie Units 1 and 2, FPL determined that a new TS surveillance is required to provide verification that the Control Room Isolation channel response time is within limits. These proposed surveillances are included in the marked up and word processed TS changes include in Attachments 3 and 4, and are consistent with the requirements found in the ISTSs. Because the addition of the new surveillance requirement is a more restrictive change to TS, the no significant hazards evaluations previously submitted bound the addition of the new TS surveillance requirements.

FPL also committed to changing the existing St. Lucie Unit 2 TS setpoint from  $\leq 2X$  background to the value determined from the CROAI setpoint methodology ( $\leq 320$  cpm). FPL determined that the new setpoint necessitates a revision to the no significant hazards evaluation previously submitted in letter L-2008-087. The revised no significant hazards evaluation for St. Lucie Unit 2 is provided in Attachment 2.

## **2.0 TS Changes**

Provided in Attachments 3 and 4

## **3.0 TS Bases Changes**

Provided in Attachment 5.

### **Revised St. Lucie Unit 2 No Significant Hazards Determination**

The Commission has provided standards in 10 CFR 50.92(c) for determining whether a significant hazards consideration exists. A proposed amendment to an operating license for a facility involves no significant hazard 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 the margin of safety. FPL has reviewed this proposed license amendment for FPL's St. Lucie Unit No. 2 and determined that its adaptation would not involve a significant hazards determination. The bases for this determination are:

This proposed change does not involve a significant hazards consideration for the following reasons:

1. The proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

Alternative source term calculations have been performed for St. Lucie Unit 2 which demonstrate that the dose consequences remain below limits specified in NRC Regulatory Guide 1.183 and 10 CFR 50.67. The proposed changes modify the setpoint for Control Room Isolation radiation monitoring instrumentation and add a new surveillance requirement. Control Room Isolation radiation monitoring instrumentation does not adversely affect accident initiators or precursors or prevent the ability of structures, systems, and components to perform their intended function to mitigate the consequences of an initiating event within the assumed acceptance limits. The modified setpoint and new surveillance requirement will ensure that the Control Room is isolated within the limits assumed in the AST analysis. The use of the AST only changes the regulatory assumptions regarding the analytical treatment of the design basis accidents and has no direct effect on the probability of any accident. The AST has been utilized in the analysis of the limiting design basis accidents listed above. The results of the analyses, which include the proposed changes to the Technical Specifications, demonstrate that the dose consequences of these limiting events are all within the regulatory limits.

The proposed Technical Specification changes are consistent with, or more restrictive than, the current TS requirements, with the possible exception of the alarm/trip setpoint for Control Room Isolation radiation monitoring instrumentation. The current alarm/trip setpoint of  $\leq 2$  times background is variable. A background reading of approximately 40 cpm is typical for the Control Room Isolation radiation monitors. It is possible that the background reading could increase to above 160 cpm. Revising the Control Room Isolation alarm/trip setpoint from  $\leq 2$  times background to  $\leq 320$  cpm will establish a maximum setpoint value and ensure automatic actuation of the control room emergency ventilation system for the limiting case event with adequate margin for the bounding total loop uncertainty of 200%. None of the affected systems, components or programs are related to accident initiators. As such, the

revised TS requirements can not affect the probability of an accident and can only reduce the consequences of analyzed accidents.

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

2. The proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated.

Other than discussed below, the proposed change does not affect any plant structures, systems, or components. The operation of plant systems and equipment will not be affected by this proposed change. Neither implementation of the alternative source term methodology nor establishing more restrictive TS requirements have the capability to introduce any new failure mechanisms or cause any analyzed accident to progress in a different manner.

The proposed changes associated with the Control Room Isolation radiation monitoring instrumentation setpoint and new surveillance requirement are not accident initiators. These proposed changes do not involve a physical alteration of the plant (i.e., no new or different type of equipment will be installed) or a significant change in the methods governing normal plant operation. These changes do not alter any safety analysis assumptions and will not affect or degrade the ability of structures, systems, and components to perform their specified safety function.

Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. The proposed amendment does not involve a significant reduction in the margin of safety.

The proposed implementation of the alternative source term methodology is consistent with NRC Regulatory Guide 1.183. The proposed Technical Specification changes are consistent with, or more restrictive than, the current TS requirements with the possible exception of the alarm/trip setpoint for Control Room Isolation radiation monitoring instrumentation. The current alarm/trip setpoint of  $\leq 2$  times background is variable. A background reading of approximately 40 cpm is typical for the Control Room Isolation radiation monitors. It is possible that the background reading could increase to above 160 cpm. Revising the Control Room Isolation radiation monitoring instrumentation alarm/trip setpoint from  $\leq 2$  times background to  $\leq 320$  cpm will establish a maximum setpoint value and ensure automatic actuation of control room emergency ventilation system for the limiting case event with adequate margin for the bounding total loop uncertainty of 200%. These TS requirements support the AST revisions to the limiting design basis accidents. As such, the current plant margin of safety is preserved. Conservative methodologies, per the guidance of RG 1.183, have been used in performing the accident analyses. The radiological consequences of these accidents are all within the regulatory acceptance criteria associated with use of the alternative source term methodology.

The proposed changes continue to ensure that the doses at the exclusion area and low population zone boundaries and in the Control Room are within the corresponding regulatory limits of RG 1.183 and 10 CFR 50.67. The margin of safety for the radiological consequences of these accidents is considered to be that provided by meeting the applicable regulatory limits, which are set at or below the 10 CFR 50.67 limits. An acceptable margin of safety is inherent in these limits.

Therefore, the proposed change does not involve a significant reduction in the margin of safety.

Based on the above discussion, FPL has determined that the proposed change does not involve a significant hazards consideration.

### **Environmental Considerations**

10 CFR 51.22(c)(9) provides criterion for and identification of licensing and regulatory actions eligible for categorical exclusion from performing an environmental assessment. A proposed amendment of an operating license for a facility requires no environmental assessment if the operation of the facility in accordance with the proposed amendment would not: (1) involve a significant hazards consideration, (2) result in a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or (3) result in a significant increase in individual or cumulative occupational radiation exposure. FPL has reviewed this proposed license amendment request and determined that the proposed amendment does not involve a significant hazards consideration, does not introduce any new effluents or significantly increase the quantities of existing effluents, and does not result in any physical plant changes or new surveillance that would significantly increase the cumulative occupational radiation exposure. Therefore the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment needs to be prepared in connection with the issuance of this amendment.



St. Lucie Units 1 and 2  
Docket Nos. 50-335 and 50-389  
Proposed License Amendment  
Request for Additional Information Response  
Alternative Source Term Amendment – TAC No. MD6173 and MD 6202

L-2008-121  
Attachment 3  
Page 1 of 5

TS Mark Ups

U1

Page 3/4 3-21  
Page 3/4 3-22

U2

Page 3/4 3-24  
Page 3/4 3-25

**INSTRUMENTATION**

**3/4.3.3 MONITORING INSTRUMENTATION**

**RADIATION MONITORING**

**LIMITING CONDITION FOR OPERATION**

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

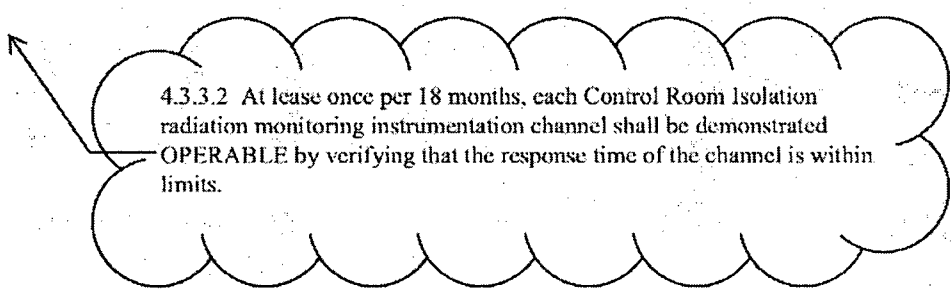
**APPLICABILITY:** As shown in Table 3.3-6.

**ACTION:**

- a. With a radiation monitoring channel alarm setpoint exceeding the value shown in Table 3.3-6, adjust the setpoint to within the limit within 4 hours or declare the channel inoperable.
- b. With one or more radiation monitoring channels inoperable, take the ACTION shown in Table 3.3-6.
- c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

**SURVEILLANCE REQUIREMENTS**

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



4.3.3.2 At least once per 18 months, each Control Room Isolation radiation monitoring instrumentation channel shall be demonstrated OPERABLE by verifying that the response time of the channel is within limits.



**INSTRUMENTATION**

**3/4.3.3 MONITORING INSTRUMENTATION**

**RADIATION MONITORING INSTRUMENTATION**

**LIMITING CONDITION FOR OPERATION**

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

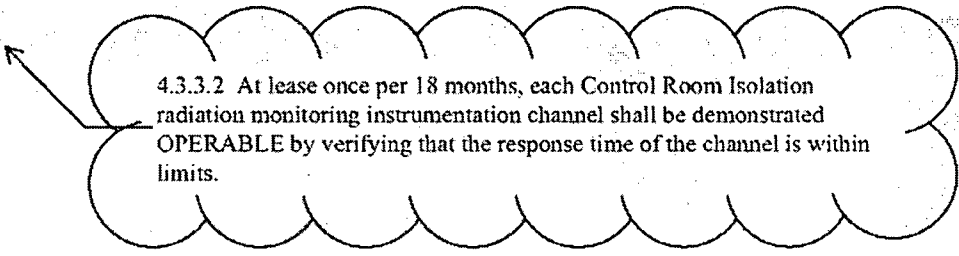
**APPLICABILITY:** As shown in Table 3.3-6.

**ACTION:**

- a. With a radiation monitoring channel alarm/trip setpoint exceeding the value shown in Table 3.3-6, adjust the setpoint to within the limit within 4 hours or declare the channel inoperable.
- b. With one or more radiation monitoring channels inoperable, take the ACTION shown in Table 3.3-6.
- c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

**SURVEILLANCE REQUIREMENTS**

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



4.3.3.2 At lease once per 18 months, each Control Room Isolation radiation monitoring instrumentation channel shall be demonstrated OPERABLE by verifying that the response time of the channel is within limits.

**TABLE 3.3-6**  
**RADIATION MONITORING INSTRUMENTATION**

<u>INSTRUMENT</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ALARM/TRIP SETPOINT</u>	<u>MEASUREMENT RANGE</u>	<u>ACTION</u>
<b>1. AREA MONITORS</b>					
a. Fuel Storage Pool Area					
i. Criticality and Ventilation System Isolation Monitor	4	*	≤ 20 mR/hr	10 <sup>-1</sup> – 10 <sup>4</sup> mR/hr	22
b. Containment Isolation	3	****	≤ 90 mR/hr	1 – 10 <sup>7</sup> mR/hr	25
c. Control Room Isolation	1 per intake	ALL MODES	≤ 2x background	10 <sup>-7</sup> – 10 <sup>-2</sup> μCi/cc	26
d. Containment Area – Hi Range	1	1, 2, 3 & 4	Not Applicable	1 – 10 <sup>7</sup> R/hr	27
<b>2. PROCESS MONITORS</b>					
a. Fuel Storage Pool Area Ventilation System					
i. Gaseous Activity	1	**	***	10 <sup>-7</sup> – 10 <sup>-2</sup> μCi/cc	24
ii. Particulate Activity	1	**	***	1 – 10 <sup>6</sup> cpm	24
b. Containment					
i. Gaseous Activity RCS Leakage Detection	1	1, 2, 3 & 4	Not Applicable	10 <sup>-7</sup> – 10 <sup>-2</sup> μCi/cc	23
ii. Particulate Activity RCS Leakage Detection	1	1, 2, 3 & 4	Not Applicable	1 – 10 <sup>6</sup> cpm	23

≤ 320 cpm

- \* With fuel in the storage pool or building.
- \*\* During movement of recently irradiated fuel assemblies or during crane operations with loads over recently irradiated fuel assemblies in the spent fuel storage pool.
- \*\*\* The Alarm/Trip Setpoints are determined and set in accordance with requirements of the Offsite Dose Calculation Manual.
- \*\*\*\* During movement of recently irradiated fuel assemblies within containment.

St. Lucie Units 1 and 2  
Docket Nos. 50-335 and 50-389  
Proposed License Amendment  
Request for Additional Information Response  
Alternative Source Term Amendment – TAC No. MD6173 and MD 6202

L-2008-121  
Attachment 4  
Page 1 of 5

WORD PROCESSED TS PAGES

U1

Page 3/4 3-21  
Page 3/4 3-22

U2

Page 3/4 3-24  
Page 3/4 3-25

**INSTRUMENTATION**

**3/4.3.3 MONITORING INSTRUMENTATION**

**RADIATION MONITORING**

**LIMITING CONDITION FOR OPERATION**

---

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

**APPLICABILITY:** As shown in Table 3.3-6.

**ACTION:**

- a. With a radiation monitoring channel alarm setpoint exceeding the value shown in Table 3.3-6, adjust the setpoint to within the limit within 4 hours or declare the channel inoperable.
- b. With one or more radiation monitoring channels inoperable, take the ACTION shown in Table 3.3-6.
- c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

**SURVEILLANCE REQUIREMENTS**

---

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

4.3.3.2 At least once per 18 months, each Control Room Isolation radiation monitoring instrumentation channel shall be demonstrated OPERABLE by verifying that the response time of the channel is within limits.

**TABLE 3.3-6**  
**RADIATION MONITORING INSTRUMENTATION**

<u>INSTRUMENT</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ALARM SETPOINT</u>	<u>MEASUREMENT RANGE</u>	<u>ACTION</u>
<b>1. AREA MONITORS</b>					
a. Fuel Storage Pool Area	1	*	≤ 15 mR/hr	10 <sup>-1</sup> – 10 <sup>4</sup> mR/hr	13
b. Containment (CIS)	3	****	≤ 90 mR/hr	1 – 10 <sup>5</sup> mR/hr	16
c. Containment Area – Hi Range	1	1, 2, 3, & 4	≤ 10 R/hr	1 – 10 <sup>7</sup> R/hr	15
d. Control Room Isolation	1	ALL MODES	≤ 320 cpm	10 – 10 <sup>6</sup> cpm	17
<b>2. PROCESS MONITORS</b>					
a. Containment					
i. Gaseous Activity RCS Leakage Detection	1	1, 2, 3 & 4	Not Applicable	10 – 10 <sup>6</sup> cpm	14
ii. Particulate Activity RCS Leakage Detection	1	1, 2, 3 & 4	Not Applicable	10 – 10 <sup>6</sup> cpm	14
b. Fuel Storage Pool Area Ventilation System					
i. Gaseous Activity	1	**	***	10 <sup>-7</sup> – 10 <sup>5</sup> μCi/cc	12
ii. Particulate Activity	1	**	***	1 – 10 <sup>6</sup> cpm	12

\* With fuel in the storage pool or building.  
\*\* With recently irradiated fuel in the storage pool.  
\*\*\* The Alarm Setpoints are determined and set in accordance with requirements of the Offsite Dose Calculation Manual.  
\*\*\*\* During movement of recently irradiated fuel assemblies within containment.



**INSTRUMENTATION**

**3/4.3.3 MONITORING INSTRUMENTATION**

**RADIATION MONITORING INSTRUMENTATION**

**LIMITING CONDITION FOR OPERATION**

---

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

**APPLICABILITY:** As shown in Table 3.3-6.

**ACTION:**

- a. With a radiation monitoring channel alarm/trip setpoint exceeding the value shown in Table 3.3-6, adjust the setpoint to within the limit within 4 hours or declare the channel inoperable.
- b. With one or more radiation monitoring channels inoperable, take the ACTION shown in Table 3.3-6.
- c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

**SURVEILLANCE REQUIREMENTS**

---

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

4.3.3.2 At least once per 18 months, each Control Room Isolation radiation monitoring instrumentation channel shall be demonstrated OPERABLE by verifying that the response time of the channel is within limits.

TABLE 3.3-6

RADIATION MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ALARM/TRIP SETPOINT</u>	<u>MEASUREMENT RANGE</u>	<u>ACTION</u>
1. AREA MONITORS					
a. Fuel Storage Pool Area					
i. Criticality and Ventilation System Isolation Monitor	4	*	≤ 20 mR/hr	10 <sup>-1</sup> – 10 <sup>4</sup> mR/hr	22
b. Containment Isolation	3	****	≤ 90 mR/hr	1 – 10 <sup>7</sup> mR/hr	25
c. Control Room Isolation	1 per intake	ALL MODES	≤ 320 cpm	10 <sup>-7</sup> – 10 <sup>-2</sup> μCi/cc	26
d. Containment Area – Hi Range	1	1, 2, 3 & 4	Not Applicable	1 – 10 <sup>7</sup> R/hr	27
2. PROCESS MONITORS					
a. Fuel Storage Pool Area Ventilation System					
i. Gaseous Activity	1	**	***	10 <sup>-7</sup> – 10 <sup>-2</sup> μCi/cc	24
ii. Particulate Activity	1	**	***	1 – 10 <sup>6</sup> cpm	24
b. Containment					
i. Gaseous Activity RCS Leakage Detection	1	1, 2, 3 & 4	Not Applicable	10 <sup>-7</sup> – 10 <sup>-2</sup> μCi/cc	23
ii. Particulate Activity RCS Leakage Detection	1	1, 2, 3 & 4	Not Applicable	1 – 10 <sup>6</sup> cpm	23

- \* With fuel in the storage pool or building.
- \*\* During movement of recently irradiated fuel assemblies or during crane operations with loads over recently irradiated fuel assemblies in the spent fuel storage pool.
- \*\*\* The Alarm/Trip Setpoints are determined and set in accordance with requirements of the Offsite Dose Calculation Manual.
- \*\*\*\* During movement of recently irradiated fuel assemblies within containment.

St. Lucie Units 1 and 2  
Docket Nos. 50-335 and 50-389  
Proposed License Amendment  
Request for Additional Information Response  
Alternative Source Term Amendment – TAC No. MD6173 and MD 6202

L-2008-121  
Attachment 5  
Page 1 of 3

Information Only  
TS Bases Mark Ups

SECTION NO.: 3/4.3	TITLE: TECHNICAL SPECIFICATIONS BASES ATTACHMENT 5 OF ADM-25.04 INSTRUMENTATION ST. LUCIE UNIT 1	PAGE: 4 of 5
REVISION NO.: 1		
<p><b>3/4.3 INSTRUMENTATION (continued)</b></p> <p><b><u>BASES</u> (continued)</b></p> <p><b>3/4.3.1 and 3/4.3.2 (continued)</b></p> <p>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.</p> <p>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.</p> <p><b>3/4.3.3 MONITORING INSTRUMENTATION</b></p> <p><b>3/4.3.3.1 RADIATION MONITORING INSTRUMENTATION</b></p> <p>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.</p> <p><b>3/4.3.3.2 Deleted</b></p> <p><b>3/4.3.3.3 Deleted</b></p> <p><b>3/4.3.3.4 Deleted</b></p> <div data-bbox="644 1470 1362 1743" style="border: 1px solid black; border-radius: 50%; padding: 10px; margin-top: 20px;"> <p>Surveillance Requirement 4.3.3.2 ensures that the channel actuation response times are less than the maximum times assumed in the analyses. Testing of the final actuating devices, which make up the bulk of the response time, is included in the surveillance testing.</p> </div>		

RI1

SECTION NO.: 3/4.3	TITLE: TECHNICAL SPECIFICATIONS BASES ATTACHMENT 5 OF ADM-25.04 INSTRUMENTATION ST. LUCIE UNIT 2	PAGE: 5 of 6
REVISION NO.: 1		
<p><b>3/4.3 INSTRUMENTATION (continued)</b></p> <p><b><u>BASES</u> (continued)</b></p> <p><b>3/4.3.3 MONITORING INSTRUMENTATION</b></p> <p><b>3/4.3.3.1 RADIATION MONITORING INSTRUMENTATION</b></p> <p>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.</p> <p><b>3/4.3.3.2 <del>DELETED</del></b></p> <p><b>3/4.3.3.3 DELETED</b></p> <p><b>3/4.3.3.4 DELETED</b></p> <p><b>3/4.3.3.5 REMOTE SHUTDOWN INSTRUMENTATION</b></p> <p>The OPERABILITY of the remote shutdown instrumentation ensures that sufficient capability is available to permit shutdown and maintenance of HOT STANDBY of the facility from locations outside of the control room. This capability is required in the event control room habitability is lost and is consistent with General Design Criteria 19 of 10 CFR 50.</p> <p>The OPERABILITY of the remote shutdown system instrumentation ensures that a fire will not preclude achieving safe shutdown. The remote shutdown system instrumentation, control circuits, and transfer switches are independent of areas where a fire could damage systems normally used to shut down the reactor. This capability is consistent with General Design Criterion 3 and Appendix R to 10 CFR Part 50.</p> <div data-bbox="545 1564 1362 1816" style="border: 1px solid black; border-radius: 50%; padding: 10px; margin-top: 20px;"> <p>Surveillance Requirement 4.3.3.2 ensures that the channel actuation response times are less than the maximum times assumed in the analyses. Testing of the final actuating devices, which make up the bulk of the response time, is included in the surveillance testing.</p> </div>		