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

FPL

November 8, 2004

L-2004-245
10 CFR 50.90

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

RE: St. Lucie Unit 2
Docket No. 50-389
Proposed License Amendment
Define the Depth of the Required Tube Inspections and Clarify the
Plugging Criteria Within the Tubesheet Region of the Original Steam Generators

Pursuant to 10 CFR 50.90, Florida Power & Light Company (FPL) requests to amend Facility Operating License NPF-16 for St. Lucie Unit 2. The proposed amendment revises Technical Specification (TS) Section 4.4.5.4 to modify the definitions of steam generator tube "Plugging Limit" and "Tube Inspection," as contained in the St. Lucie Unit 2 Technical Specification (TS) Items 4.4.5.4.a.6 and 4.4.5.4.a.8, respectively. The purpose of these modifications is to define the depth of the required tube inspections and to clarify the plugging criteria within the tubesheet region.

In 2003, Florida Power & Light Company (FPL) prepared and submitted a similar proposed license amendment (PLA) (L-2003-002 dated January 23, 2003) as a contingency plan for the St. Lucie Unit 2 spring 2003 refueling outage (SL2-14). That PLA modified only TS Item 4.4.5.4.a.8, Tube Inspection, to define the inspection depth of the steam generator tubes within the tubesheet region to 5 inches below the secondary face of the tubesheet.

During subsequent discussions held on April 16, 2003, between the U.S. Nuclear Regulatory Commission (NRC) staff and FPL, the NRC staff indicated that it was addressing the inspection of the steam generator tubes in the tubesheet region generically and that approval of an amendment was not a requirement for start-up. They provided positive feedback concerning FPL participation in a joint industry program (WCAP-15975-P) aimed at resolving the tubesheet inspection issue. By FPL letter L-2003-190 dated July 30, 2003, FPL withdrew the previous PLA.

On August 30, 2004, the NRC issued Generic Letter (GL) 2004-01, Requirements For Steam Generator Tube Inspections. The GL requested PWR licensees to submit information concerning their steam generator tube inspections. The requested information would be utilized by the NRC staff to determine whether licensees are implementing steam generator tube inspections in accordance with applicable requirements (plant TS in conjunction with 10 CFR Part 50, Appendix B, and the General Design Criteria (GDC) or the plant specific design basis, as appropriate.)

FPL letter L-2004-227 dated October 29, 2004 provided the response to GL 2004-01 for St. Lucie Unit 2. The response states that the St. Lucie Unit 2 SG tube inspection methods

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**Enclosure 1 contains 2.390(a)(4) Proprietary Information**

have met the requirements of the TS in conjunction with 10 CFR Part 50, Appendix B based upon degradation assessments and inspection results through SL2-14. However, upon reviewing recent industry information, FPL has concluded that there is a potential for degradation to exist below the extent of previous inspections. This conclusion is based on recent inspection results from steam generators of similar design, when compared with St. Lucie Unit 2 inspection results. Therefore, FPL has made a decision to submit this license amendment request to define the depth of the required tube inspection and to clarify the plugging criteria within the tubesheet region, as outlined in GL 2004-01. The results of a joint industry program, WCAP-16208-P dated October 2004, Revision 0, *NDE Inspection Length for CE Steam Generator Tubesheet Region Explosive Expansions,* addresses tube structural and leakage integrity and is used as the technical basis for these changes.

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. Attachment 3 is a marked up copy of the proposed Technical Specification changes. Attachment 4 is a copy of the retyped TS pages. Enclosure 1 is a copy of WCAP-16208-P dated October 2004, Revision 0, *NDE Inspection Length for CE Steam Generator Tubesheet Region Explosive Expansions.* Enclosure 2 is a nonproprietary copy of WCAP-16208-NP dated October 2004, Revision 0, *NDE Inspection Length for CE Steam Generator Tubesheet Region Explosive Expansions.*

Westinghouse Electric Company, LLC, has determined that the information contained in Enclosure 1, WCAP-16208-P, is proprietary in nature. Therefore, it is requested that Enclosure 1 be withheld from public disclosure in accordance with the provisions of 10 CFR 2.390(a)(4). The Westinghouse reasons for the classification of this information as proprietary and the signed affidavit are included in Attachment 5. Correspondence with respect to the copyright or proprietary aspects of the items listed above or the supporting Westinghouse affidavit should reference CAW-04-1865 and should be addressed to J. A. Gresham, Manager, Regulatory Compliance and Plant Licensing, Westinghouse Electric Company LLC, P.O. Box 355, Pittsburgh, Pennsylvania 15230-0355.

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.

Approval of this proposed license amendment is requested on an expedited basis in support of the steam generator inspections planned during the upcoming St. Lucie Unit 2 refueling outage (SL2-15). SL2-15 is scheduled to start in January 2005. 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

**Enclosure 1 contains 2.390(a)(4) Proprietary Information**

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

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 8 day of November, 2004
by William Jefferson, Jr., who is personally known to me.

Carla J. Heinold.
Name of Notary Public - State of Florida

NOTARY PUBLIC STATE OF FLORIDA
OFFICIAL NOTARY SEAL
CARLA J HEINOLD
COMMISSION NUMBER
DD021761
MY COMMISSION EXPIRES
APR. 28,2005

Carla J. Heinold.
(Print, type or stamp Commissioned Name of Notary Public)

**Enclosure 1 contains 2.390(a)(4) Proprietary Information**

## ATTACHMENT 1

## DESCRIPTION OF THE PROPOSED CHANGES AND JUSTIFICATION

### Introduction

A change is proposed to revise the St. Lucie Unit 2 Technical Specification Section 4.4.5.4 to modify the definitions of steam generator tube "Plugging Limit" and "Tube Inspection," as contained in the St. Lucie Unit 2 Technical Specification (TS) Items 4.4.5.4.a.6 and 4.4.5.4.a.8, respectively. The purpose of these modifications is to define the depth of the required tube inspections and to clarify the plugging criteria within the tubesheet region.

### Background

In 2003, Florida Power & Light Company (FPL) prepared and submitted a similar proposed license amendment[1] (PLA) (Letter L-2003-002 dated January 23, 2003) as a contingency plan for the St. Lucie Unit 2 spring 2003 refueling outage (SL2-14). That PLA modified only TS Item 4.4.5.4.a.8, Tube Inspection, to define the inspection depth of the steam generator tubes within the tubesheet region to 5 inches below the secondary face of the tubesheet.

During subsequent discussions held on April 16, 2003 between the NRC staff and FPL, the NRC staff indicated that it was addressing the inspection of the steam generator tubes in the tubesheet region generically and that approval of an amendment was not a requirement for start-up[2]. The NRC provided positive feedback concerning FPL's participation in a joint industry program[3] (WCAP-15975-P) aimed at resolving the tubesheet inspection issue.

In a letter[4] to the NRC dated March 21, 2003 (L-2003-085), FPL revised its planned steam generator tube inspections for SL2-14. All active hot leg tubes would be inspected to a minimum depth of 7 inches below the bottom of the tube expansion transition rather than 5 inches below the secondary face of the tubesheet as previously committed to in FPL letter L-2003-002.

In FPL letter L-2003-190 dated July 30, 2003, FPL withdrew its PLA modifying St. Lucie Unit 2 TS Item 4.4.5.4.a.8, Tube Inspection that had previously been submitted on January 23, 2003 (L-2003-002).

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1 FPL letter L-2003-002, dated January 23, 2003, St. Lucie Unit 2 Docket No. 50-389 Proposed License Amendment, Contingency Change to the Definition of Steam Generator Tube Inspection.
2 NRC Memorandum from Eva A. Brown, Project Mgr. to Allen G. Howe, Chief Section 2, dated May 7, 2003.
3 WCAP-15975-P dated November 2002, NDE Inspection Strategy for the Tubesheet Region in St. Lucie Unit 2.
4 FPL Letter L-2003-085, dated March 31, 2003, St. Lucie Unit 2 – Steam Generator Tubesheet Inspection Practices.

After reviewing the steam generator tube inspection results from SL2-14 and associated corrective actions, the NRC issued a letter[5] to FPL dated August 16, 2004, stating that the information provided satisfied the requirements of the St. Lucie Unit 2 Technical Specifications. In addition, the NRC staff concluded that there were no technical issues that warranted follow-up action at that time since the inspections appeared to have been consistent with the objective of detecting potential tube degradation and the inspection results appeared to have been consistent with industry operating experience at similarly designed and operated units.

On August 30, 2004, the NRC issued Generic Letter (GL) 2004-01: Requirements For Steam Generator Tube Inspections.[6] The GL requested PWR licensees to submit information concerning their steam generator tube inspections. The requested information would be utilized by the NRC staff to determine whether licensees are implementing steam generator tube inspections in accordance with applicable requirements (plant TS in conjunction with 10 CFR Part 50, Appendix B, and the General Design Criteria (GDC) or the plant specific design basis, as appropriate.)

FPL letter L-2004-227 will submit the response to GL 2004-01 for St. Lucie Unit 2. The response states that the St. Lucie Unit 2 SG tube inspection methods have met the requirements of the TS in conjunction with 10 CFR Part 50, Appendix B based upon degradation assessments and inspection results through SL2-14. However, upon reviewing recent industry information FPL has concluded that there is a potential for degradation to exist below the extent of previous inspections. This conclusion is based on recent inspection results from steam generators of similar design, when compared with St. Lucie Unit 2 inspection results. Therefore, FPL has made a decision to resubmit this license amendment request to define the depth of the required tube inspection and to clarify the plugging criteria within the tubesheet region, as outlined in GL 2004-01. The results of a joint industry program[7] (WCAP-16208-P) address tube structural and leakage integrity and are used as the technical basis for these changes.

## Description of Proposed Change

FPL proposes a revision to TS 3/4.4.5 Reactor Coolant System, Steam Generators, Surveillance Requirements, for St. Lucie Unit 2. Specifically, the current definitions of steam generator tube "Plugging Limit" (Item 4.4.5.4.a.6) and "Tube Inspection" (Item 4.4.5.4.a.8) read as follows:

> "Plugging Limit means the imperfection depth at or beyond which the tube shall be removed from service and is equal to 40% of the nominal tube wall thickness."

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5 NRC Letter, August 16, 2004, St. Lucie Unit 2 – Review of the St. Lucie unit 2 Steam Generator Tube Inspection Reports for the Spring 2003 Outage.
6 NRC Generic Letter 2004-01: Requirements for Steam Generator Tube Inspections, August 30, 2004.
7 WCAP-16208-P October 2004, Revision 0, NDE Inspection Length for CE Steam Generator Tubesheet Region Explosive Expansions.

"Tube Inspection means an inspection of the steam generator tube from the point of entry (hot leg side) completely around the U-bend to the top support of the cold leg."

These definitions will be revised to read as follows:

*"Plugging Limit means the imperfection depth at or beyond which the tube shall be removed from service and is equal to 40% of the nominal tube wall thickness. This Plugging Limit is not applicable in the portion of the tube that is greater than 10.1 inches below the bottom of the hot leg expansion transition or top of the tubesheet, whichever is lower, to the tube end. Degradation detected between 10.1 inches below the bottom of the hot leg expansion transition or top of the tubesheet, whichever is lower, and the bottom of the hot leg expansion transition or top of the tubesheet, whichever is higher, shall be plugged on detection."*

*"Tube Inspection means an inspection of the steam generator tube from 10.1 inches below the bottom of the hot leg expansion transition or top of the tubesheet, whichever is lower, completely around the U-bend to the top support of the cold leg."*

**Basis/Justification for Proposed Change**

**Design -** St. Lucie Unit 2 is a 2-loop Combustion Engineering (CE) designed nuclear steam supply system (NSSS) with one Model 3410 steam generator installed in each primary loop. Each steam generator incorporates 8411 tubes (0.750-inch outside diameter (OD) x 0.048-inch wall thickness (WT) fabricated from alloy 600 in the high temperature mill annealed condition. The tube to tubesheet joints were sealed using an explosive expansion (explansion) process through the entire tubesheet thickness (21.75 inches). The resultant interference fit between each of the tubes and tubesheet provides structural integrity to resist tube pull-out, and a leak resistant boundary between the primary and secondary systems. Previous testing[8] has shown that the expansion transitions from the expanded to the unexpanded portions of the tube lie within 0.75 inches of the secondary tubesheet face for St. Lucie Unit 2 steam generators. This variation directly affects the tube engagement length and is taken into account when the depth of inspections is established for the tubesheet region. A seal weld joins the tube end to the cladding on the primary face of the tubesheet.

**Inspection Practices/Results -** The St. Lucie Unit 2 Steam Generator Inspection Program requires that a degradation assessment (DA) be performed prior to each refueling outage. Its purpose is to determine the susceptible areas of the tubing to be inspected, and the appropriate techniques for the inspection of each area. Data gathered is utilized as input to the subsequent condition monitoring (CM) and operational assessments (OA). The St.

8 Framatome Engineering Information Record, Identifier No. 51-5027055-00, May 19, 2003.

Lucie Unit 2 Steam Generator Inspection Program satisfies Nuclear Energy Institute (NEI) 97-06, Steam Generator Program Guidelines.[9]

The SL2-14 (spring 2003) steam generator tube inspections were the most thorough to date. They included bobbin probe examinations of all active tubes, and sample inspections with a rotating +Point™ Probe for low row u-bends and dings (i.e., local geometry variations due to manufacturing, installation, and maintenance). All bobbin indications of potential corrosion degradation were further interrogated using rotating probes. Additionally, all active tube hot legs were inspected with rotating probes from +3 inches to –8 inches, referenced to the secondary faces of the tubesheets to ensure that a minimum tube to tubesheet engagement length was examined. All indications of tube wall degradation, with the exception of wear, were removed from service upon detection. Wear indications were removed from service if they exceeded 39% of the tube wall thickness.

The SL2-14 and previous inspections have identified a total of seven tubes with tubesheet region defects in the St. Lucie Unit 2 A and B steam generators. All were inside diameter (ID) initiated, axial in orientation and located within 2.05 inches of the secondary face of the tubesheets. The defects were plugged upon detection, regardless of the through wall depth, because of the uncertainties associated with sizing flaws in the tubesheet region. The suspected failure mechanism for all these defects was primary water stress corrosion cracking (PWSCC).

**Analysis** - A joint industry test program (WCAP-16208-P) was conducted by Westinghouse to determine the recommended inspection length (C*) in the tubesheet region of CE design steam generators that would ensure the structural and accident-induced leakage criteria of NEI 97-06 are met. Specifically, the tube to tubesheet joints must resist burst with an internal pressure of 3 x NODP (normal operating differential pressure) or 1.4 x MSLB (main steam line break differential pressure) conditions, and they must maintain primary to secondary accident-induced leakage below 1 gpm/steam generator. It should be noted that C* is intended to define the minimum tube engagement length within the tubesheet. As such, this distance is referenced from the bottom of the hot leg expansion transition or top of the tubesheet, whichever is lower.

Tube burst is precluded for a tube with defects in the tubesheet region because of the constraint provided by the tubesheet. Therefore, tube pullout would be a prerequisite for tube burst under the limiting internal pressure conditions of NEI 97-06. WCAP-16208-P evaluated the minimum joint length required to preclude tube pull-out at a load of 3 x NODP, which bounds 1.4 x MSLB differential pressure.

The NEI 97-06 primary to secondary accident-induced leakage criteria of 1 gpm/steam generator exceeds the LCO and accident analysis leakage limits for most participating utilities, including the St. Lucie Unit 2 limit of 0.5 gpm/steam generator. To account for this disparity and to allow margin for other possible leak sources, WCAP-16208-P evaluated the minimum joint length required to maintain primary to secondary accident-induced

9 NEI 97-06 Rev. 1, Steam Generator Program Guidelines, January 2001.

leakage at 0.1 gpm/steam generator, assuming that 100% of the steam generator tubes were leaking below the C* depth.

FPL has submitted an Alternate Source Term PLA[10] that reduces the St. Lucie Unit 2 TS LCO leakage rate from 0.5 to 0.15 gpm/steam generator for Cycle 15. If approved, this modification will reduce the margin between the assumed primary to secondary leakage rate of WCAP-16208-P (0.1 gpm/steam generator) and the reduced LCO leakage rate utilized in the UFSAR accident analyses (0.15 gpm/steam generator). This remaining margin is considered adequate given the conservative assumption of WCAP-16208-P that all steam generator tubes are leaking below the C* inspection depth.

WCAP-16208-P generated empirical pullout load and leakage rate test data for a number of tube to tubesheet joint mock-up samples. The testing determined that the joint length required to satisfy the pull-out criteria was bound by that required to satisfy the leakage rate criteria. Analytical methods were utilized to correct the empirical data for tubesheet deflection effects on both the joint strength and leakage resistance. Axial position uncertainties associated with eddy current examinations were also accounted for by adding a correction factor to the data. An additional conservatism was introduced by assuming that 100 percent of the steam generator tubes were severed by a 360° circumferential crack immediately below the C* inspection length. The final result of WCAP-16208-P for St. Lucie Unit 2 (Plant N) was a C* value of 10.1 inches.

It should be noted that WCAP-16208-P was a follow-up to WCAP-15975-P (referenced in the previous FPL PLA L-2003-002 dated January 23, 2003) which produced a recommended inspection length of 5 inches in the tubesheet region. The more conservative results of WCAP-16208-P supersede those of WCAP-15975-NP.

The current St. Lucie Unit 2 SG tube inspection methods meet the Technical Specification requirements in conjunction with 10CFR Part 50, Appendix B. The rotating +Point™ Probe employed in the tubesheet region is fully capable of detecting axial and circumferential flaws, however there are significant uncertainties associated with flaw sizing. These uncertainties are addressed by the proposed TS changes to the definition of "Plugging Limit." Specifically, all tubes exhibiting degradation within the C* length of the tubesheet region shall be plugged upon detection as is our current practice.

## Conclusion

The proposed revisions to the definitions of steam generator "Tube Plugging Limit" and "Tube Inspection," as contained in the St. Lucie Unit 2 Technical Specification Items 4.4.5.4.a.6 and 4.4.5.4.a.8, respectively, maintain the structural and accident-induced leakage integrity of the steam generator tubes as required by NEI 97-06 and the plant design basis. Furthermore, the proposed revisions do not involve a significant hazard

10 FPL Letter L-2003-220 dated September 18, 2003, Proposed License Amendment Alternate Source Term and Conforming Amendments.

consideration. Therefore, this license amendment is acceptable with respect to the operation of St. Lucie Unit 2.

## ATTACHMENT 2

## DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATION

### Introduction

A change is proposed to revise the St. Lucie Unit 2 Technical Specification Section 4.4.5.4 to modify the definitions of steam generator tube "Plugging Limit" and "Tube Inspection," as contained in the St. Lucie Unit 2 Technical Specification (TS) Items 4.4.5.4.a.6 and 4.4.5.4.a.8, respectively. The purpose of these modifications is to define the depth of the required tube inspections and to clarify the plugging criteria within the tubesheet region.

### Determination of No Significant Hazards Consideration

The standards used to arrive at a determination that a request for amendment involves a no significant hazards consideration are included in the Commission's regulation, 10 CFR 50.92, which states that no significant hazards considerations are involved if the 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 as follows:

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

FPL proposes to modify the definitions of steam generator "Plugging Limit" and "Tube Inspection", as contained in the St. Lucie Unit 2 Technical Specification (TS) Items 4.4.5.4.a.6 and 4.4.5.4.a.8, respectively. These modifications maintain existing design limits and would not increase the probability or consequences of an accident involving tube burst or primary to secondary accident-induced leakage, as previously analyzed in the UFSAR. Also, the tube burst criteria of NRC Regulatory Guide 1.121 (Basis for Plugging Degraded PWR Steam Generator Tubes) would continue to be satisfied.

Tube burst is precluded for a tube with defects within the tubesheet region because of the constraint provided by the tubesheet. As such, tube pullout resulting from the axial forces induced by primary to secondary differential pressures would be a prerequisite for tube burst to occur. A joint industry test program (WCAP-16208-P) has defined the non-degraded tube to tubesheet joint length required to preclude tube pullout (C*) and maintain acceptable primary to secondary accident-induced leakage, assuming a 360° circumferential through wall crack existed immediately below this length. For St. Lucie Unit 2, C* is 10.1 inches. Any degradation below C* is shown by empirical test results and analyses to be acceptable, thereby precluding an event with consequences similar to a postulated tube rupture event.

WCAP-16208-P incorporates an assumed primary to secondary accident-induced leakage value of 0.1 gpm/steam generator. Inspection to the C* length will ensure that the postulated accident induced leakage will remain below the current and future primary to secondary LCO leakage limits of 0.5 and 0.15 gpm/steam generator, respectively, imposed by the St. Lucie Unit 2 Technical Specifications (Section 3.4.6.2) and utilized in the UFSAR accident analyses (Chapter 15).

In summary, the proposed modifications to the St. Lucie Unit 2 Technical Specifications maintain existing design limits and do not involve a significant increase in the probability or consequences of an accident previously evaluated in the UFSAR.

**(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 previously evaluated.**

Steam generator tube leakage and structural integrity will be maintained during all plant conditions upon implementation of the proposed inspection scope and plugging limit modifications to the St. Lucie Unit 2 Technical Specifications. These modifications do not introduce any new mechanisms that might result in a different kind of accident from those previously evaluated. Even with the limiting circumstances of a complete circumferential separation (360° through wall crack) of a tube below the C* length, tube pullout is precluded and leakage is predicted to be maintained within the Technical Specification limits during all plant conditions.

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

Upon implementation of the proposed inspection scope and plugging limit modifications to the St. Lucie Unit 2 Technical Specifications, operation with potential tube degradation below the C* inspection length within the tubesheet region of the steam generator tubing meets the margin of safety as defined by RG 1.121 (Basis for Plugging Degraded PWR Steam Generator Tubes) and RG 1.83 (Inservice Inspection of Pressurized Water Reactor Steam Generator Tubes), and the requirements of General Design Criteria 14, 15, 31 and 32 of 10 CFR 50. Therefore, the proposed modifications do not involve a significant reduction in a margin of safety.

Based on the above, we have determined that the proposed amendment 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 previously evaluated, or (3) involve a significant reduction in a margin of safety; and therefore does not involve a significant hazards consideration.

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 off-site, and no significant increase in individual or cumulative occupational radiation exposure. FPL has concluded that the proposed amendment involves no significant hazards 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.

# ATTACHMENT 3

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

**Enclosure 1 contains 2.390(a)(4) Proprietary Information**

**REACTOR COOLANT SYSTEM**

**SURVEILLANCE REQUIREMENTS (Continued)**

4.4.5.4 Acceptance Criteria

a. As used in this Specification

1. Imperfection means an exception to the dimensions, finish or contour of a tube from that required by fabrication drawings or specifications. Eddy-current testing indications below 20% of the nominal tube wall thickness, if detectable, may be considered as imperfections.

2. Degradation means a service-induced cracking, wastage, wear or general corrosion occurring on either inside or outside of a tube.

3. Degraded Tube means a tube containing imperfections greater than or equal to 20% of the nominal wall thickness caused by degradation.

4. % Degradation means the percentage of the tube wall thickness affected or removed by degradation.

5. Defect means an imperfection of such severity that it exceeds the plugging limit. A tube containing a defect is defective.

6. Plugging Limit means the imperfection depth at or beyond which the tube shall be removed from service and is equal to 40% of the nominal tube wall thickness. INSERT A

7. Unserviceable describes the condition of a tube if it leaks or contains a defect large enough to affect its structural integrity in the event of an Operating Basis Earthquake, a loss-of-coolant accident, or a steam line or feedwater line break as specified in 4.4.5.3c., above.

8. Tube Inspection means an inspection of the steam generator tube from ~~the point of entry (hot leg side) completely around the U-bend to the top support of the cold leg.~~ INSERT B

9. Preservice Inspection means an inspection of the full length of each tube in each steam generator performed by eddy current techniques prior to service to establish a baseline



**Enclosure 1 contains 2.390(a)(4) Proprietary Information**

**Insert A for PSL Unit 2 TS Page 3/4 4-14**

This Plugging Limit is not applicable in the portion of the tube that is greater than 10.1 inches below the bottom of the hot leg expansion transition or top of the tubesheet, whichever is lower, to the tube end. Degradation detected between 10.1 inches below the bottom of the hot leg expansion transition or top of the tubesheet, whichever is lower, and the bottom of the hot leg expansion transition or top of the tubesheet, whichever is higher, shall be plugged on detection.

**Insert B for PSL Unit 2 TS Page 3/4 4-14**

10.1 inches below the bottom of the hot leg expansion transition or top of the tubesheet, whichever is lower, completely around the U-bend to the top support of the cold leg.

## ATTACHMENT 4

## ST. LUCIE UNIT 2 RETYPED TECHNICAL SPECIFICATION PAGES

The attached retype reflects the currently issued version of the Technical Specifications. Pending Technical Specification changes or Technical Specification changes issued subsequent to this submittal are not reflected in the enclosed retype. The enclosed retype should be checked for continuity with Technical Specifications prior to issuance.

**Enclosure 1 contains 2.390(a)(4) Proprietary Information**

**REACTOR COOLANT SYSTEM**

**SURVEILLANCE REQUIREMENTS (Continued)**

4.4.5.4 Acceptance Criteria

a. As used in this Specification

1. Imperfection means an exception to the dimensions, finish or contour of a tube from that required by fabrication drawings or specifications. Eddy-current testing indications below 20% of the nominal tube wall thickness, if detectable, may be considered as imperfections.

2. Degradation means a service-induced cracking, wastage, wear or general corrosion occurring on either inside or outside of a tube.

3. Degraded Tube means a tube containing imperfections greater than or equal to 20% of the nominal wall thickness caused by degradation.

4. % Degradation means the percentage of the tube wall thickness affected or removed by degradation.

5. Defect means an imperfection of such severity that it exceeds the plugging limit. A tube containing a defect is defective.

6. Plugging Limit means the imperfection depth at or beyond which the tube shall be removed from service and is equal to 40% of the nominal tube wall thickness. This Plugging Limit is not applicable in the portion of the tube that is greater than 10.1 inches below the bottom of the hot leg expansion transition or top of the tubesheet, whichever is lower, to the tube end. Degradation detected between 10.1 inches below the bottom of the hot leg expansion transition or top of the tubesheet, which is lower, and the bottom of the hot leg expansion transition or top of the tubesheet, whichever is higher, shall be plugged on detection.

7. Unserviceable describes the condition of a tube if it leaks or contains a defect large enough to affect its structural integrity in the event of an Operating Basis Earthquake, a loss-of-coolant accident, or a steam line or feedwater line break as specified in 4.4.5.3c., above.

8. Tube Inspection means an inspection of the steam generator tube from 10.1 inches below the bottom of the hot leg expansion transition or top of the tubesheet, whichever if lower, completely around the U-bend to the top support of the cold leg.

9. Preservice Inspection means an inspection of the full length of each tube in each steam generator performed by eddy current techniques prior to service to establish a baseline



**Enclosure 1 contains 2.390(a)(4) Proprietary Information**

Attachment 5

The Westinghouse reasons for the classification of this information as proprietary and the signed affidavit.

Westinghouse Electric Company, LLC, has determined that the information contained in Enclosure 1, WCAP-16208-P is proprietary in nature.

Therefore, it is requested that Enclosure 1 be withheld from public disclosure in accordance with the provisions of 10 CFR 2.390(a)(4).

(7 Pages)

St. Lucie Unit 2
Docket No. 50-389
L-2004-245 Attachment 5

Westinghouse

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Nuclear Services
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USA

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Our ref: CAW-04-1915
October 25, 2004

**APPLICATION FOR WITHHOLDING PROPRIETARY INFORMATION FROM PUBLIC DISCLOSURE**

Reference: Westinghouse Report WCAP-16208-P Revision 0, "NDE Inspection Length for CE Steam Generator Tubesheet Region Explosive Expansions," October 2004.

Westinghouse, via FPL Group, transmits the above-referenced proprietary document for which withholding is requested. Affidavit CAW-04-1915, which accompanies this letter and is signed by the owner of the proprietary information, Westinghouse Electric Company LLC, sets forth the basis on which this information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in 10 CFR Section 2.390(b)(4) of the Commission's regulations. This letter also authorizes use of the accompanying affidavit by FPL Group.

In conformance with the requirements of 10 CFR 2.390, Westinghouse confirms that the information contained within the referenced document is proprietary. The justification for claiming this document as proprietary is identified in Sections (4)(ii)(a) through (4)(ii)(f) of the enclosed affidavit.

Communication with respect to the proprietary aspects of the application for withholding or the Westinghouse affidavit should reference this letter, CAW-04-1915, and be addressed to the undersigned.

Very truly yours,

James A. Gresham
Manager
Regulatory Compliance and Plant Licensing

Enclosure:

A BNFL Group Company

**Enclosure 1 contains 2.390(a)(4) Proprietary Information**

AFFIDAVIT

STATE OF CONNECTICUT )
) ss: WINDSOR, CT
COUNTY OF HARTFORD )

Before me, the undersigned authority, personally appeared Norton L. Shapiro, who, being by me duly sworn according to law, deposes and says that he is authorized to execute this Affidavit on behalf of Westinghouse Electric Company LLC ("Westinghouse"), and that the averments of fact set forth in this Affidavit are true and correct to the best of his knowledge, information, and belief:

Norton L. Shapiro, Consulting Engineer
Systems and Safety Analysis, Nuclear Services
Westinghouse Electric Company, LLC

Sworn to and subscribed before me
this 25th day of October 2004.

Notary Public

My commission expires May 31, 2008.

(1) I, Norton L. Shapiro, depose and say that I am the Consulting Engineer, Systems and Safety Analysis, in Nuclear Services, Westinghouse Electric Company LLC ("Westinghouse"), and as such I have been specifically delegated the function of reviewing the proprietary information sought to be withheld from public disclosure in connection with nuclear power plant licensing and rule making proceedings, and am authorized to apply for its withholding on behalf of the Westinghouse Electric Company LLC.

(2) I am making this Affidavit in conformance with the provisions of 10 CFR Section 2.390 of the Commission's regulations and in conjunction with the Westinghouse application for withholding accompanying this Affidavit.

(3) I have personal knowledge of the criteria and procedures utilized by the Westinghouse Electric Company LLC in designating information as a trade secret, privileged or as confidential commercial or financial information.

(4) Pursuant to the provisions of paragraph (b)(4) of 10 CFR Section 2.390 of the Commission's regulations, the following is furnished for consideration by the Commission in determining whether the information sought to be withheld from public disclosure should be withheld.

(i) The information sought to be withheld from public disclosure is owned and has been held in confidence by Westinghouse.

(ii) The information is of a type customarily held in confidence by Westinghouse and not customarily disclosed to the public. Westinghouse has a rational basis for determining the types of information customarily held in confidence by it and, in that connection, utilizes a system to determine when and whether to hold certain types of information in confidence. The application of that system and the substance of that system constitute Westinghouse policy and provide the rational basis required.

Under that system, information is held in confidence if it falls in one or more of several types, the release of which might result in the loss of an existing or potential competitive advantage, as follows:

(a) The information reveals the distinguishing aspects of a process (or component, structure, tool, method, etc.) where prevention of its use by any of Westinghouse's competitors without license from Westinghouse constitutes a competitive economic advantage over other companies.

(b) It consists of supporting data, including test data, relative to a process (or component, structure, tool, method, etc.), the application of which data secures a competitive economic advantage, e.g., by optimization or improved marketability.

(c) Its use by a competitor would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing a similar product.

(d) It reveals cost or price information, production capacities, budget levels, or commercial strategies of Westinghouse, its customers or suppliers.

(e) It reveals aspects of past, present, or future Westinghouse or customer funded development plans and programs of potential commercial value to Westinghouse.

(f) It contains patentable ideas, for which patent protection may be desirable.

(iii) There are sound policy reasons behind the Westinghouse system for classification of proprietary information, which include the following:

(a) The use of such information by Westinghouse gives Westinghouse a competitive advantage over its competitors. It is, therefore, withheld from disclosure to protect the Westinghouse competitive position.

(b) It is information that is marketable in many ways. The extent to which such information is available to competitors diminishes the Westinghouse ability to sell products and services involving the use of the information.

(c) Use of this information by our competitors would put Westinghouse at a competitive disadvantage by reducing their expenditure of resources at our expense.

(d) Each component of proprietary information pertinent to a particular competitive advantage is potentially as valuable as the total competitive advantage. If competitors acquire components of proprietary information, any one component may be the key to the entire puzzle, thereby depriving Westinghouse of a competitive advantage.

(e) Unrestricted disclosure of this information would jeopardize the position of prominence of Westinghouse in the world market, and thereby give a market advantage to the competition of those countries.

(f) The Westinghouse capacity to invest corporate assets in research and development depends upon the success in obtaining and maintaining a competitive advantage.

(iv) The information is being transmitted to the Commission in confidence and, under the provisions of 10 CFR Section 2.390; it is to be received in confidence by the Commission.

(v) The information sought to be protected is not available in public sources or available information has not been previously employed in the same original manner or method to the best of our knowledge and belief.

(vi) The proprietary information sought to be withheld in this submittal is that which is contained in Westinghouse Report WCAP-16208-P Revision 0, "NDE Inspection Length for CE Steam Generator Tubesheet Region Explosive Expansions," October 2004.

The information is part of a model that will enable Westinghouse to support utilities with CE NSSS plants in the identification and application of a steam generator tubesheet inspection model, and in particular to the application of the model to determining the tubesheet inspection length appropriate to the St. Lucie-2 steam generators, including:

(a) The identification of important factors relevant to the determination of the recommended steam generator tubesheet inspection length, and

(b) Development of a generic methodology for the applicability of the inspection length model to utilities with CE NSSS plants.

(vii) Further this information has substantial commercial value as follows:

(a) Westinghouse plans to sell the use of similar information to its customers for purposes of meeting NRC requirements for licensing documentation.

(b) Westinghouse can sell the application and defense of the fatigue crack growth evaluation model.

(c) The information requested to be withheld reveals the distinguishing aspects of a methodology that was developed by Westinghouse.

Public disclosure of this proprietary information is likely to cause substantial harm to the competitive position of Westinghouse because it would enhance the ability of competitors to provide similar advanced nuclear power plant designs and to provide licensing defense services for commercial power reactors without commensurate expenses. Also, public disclosure of the information would enable others to use the information to meet NRC requirements for licensing documentation without purchasing the right to use the information.

The development of the technology described in part by the information is the result of applying the results of many years of experience in an intensive Westinghouse effort and the expenditure of a considerable sum of money.

In order for competitors of Westinghouse to duplicate this information, similar technical programs would have to be performed and a significant manpower effort, having the requisite talent and experience, would have to be expended.

Further the deponent sayeth not.

## PROPRIETARY INFORMATION NOTICE

In order to conform to the requirements of 10 CFR 2.390 of the Commission's regulations concerning the protection of proprietary information so submitted to the NRC, Westinghouse confirms that the information in Westinghouse Report WCAP-16208-P Revision 0, "NDE Inspection Length for CE Steam Generator Tubesheet Region Explosive Expansions," October 2004 is proprietary. The justification for claiming this information as proprietary is indicated in Sections (4)(ii)(a) through (4)(ii)(f) of affidavit CAW-04-1915 accompanying this transmittal.

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