FLORIDA POWER CORPORATION

CRYSTAL RIVER UNIT 3

DOCKET NUMBER 50-302/LICENSE NUMBER DPR-72

ATTACHMENT B

LICENSE AMENDMENT REQUEST #235, REVISION 1

ONCE THROUGH STEAM GENERATOR TUBE SURVEILLANCE PROGRAM, TUBE REPAIR ROLL PROCESS

Proposed Technical Specification Change Pages

(Strikeout/Shaded)

5.6 Procedures, Programs and Manuals

5.6.2.10 OTSG Tube Surveillance Program (continued)

4. Acceptance criteria:

a. Vocabulary as used in this Specification:

1. Tubing or Tube means that portion of the tube or sleeve which forms the primary system to secondary system pressure boundary.

2. 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.

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

4. Degraded Tube means a tube containing ~~imperfections~~ degradation ≥ 20% ~~of the nominal wall thickness caused by degradation except where all such degradation has been spanned by the installation of a sleeve~~ through-wall but < 40% through-wall in the pressure boundary.

5. % Degradation/% Through-wall means the percentage of the tube (pressure boundary) wall thickness affected or removed by degradation.

6. Defective Tube means ~~an imperfection of such severity that it exceeds the plugging/sleeving limit except where the imperfection has been spanned by the installation of a sleeve. A~~ a tube containing ~~a defect in its~~ degradation ≥ 40% through-wall in the pressure boundary ~~is defective~~. Any tube which does not permit the passage of the eddy-current inspection probe shall be deemed a defective tube.

7. Pit-like Intergranular Attack (IGA) indication means a bobbin coil indication confirmed by Motorized Rotating Pancake Coil (MRPC) or other qualified inspection techniques to have a volumetric, pit-like morphology characteristic of IGA.

(continued)

5.6 Procedures, Programs and Manuals

5.6.2.10 OTSG Tube Surveillance Program (continued)

8. Plugging/~~Sleeving~~ Repair Limit means the extent of pressure boundary degradation beyond which the tube shall either be ~~restored to serviceability by the installation of a sleeve or~~ removed from service ~~because it may become unserviceable prior to the next inspection and is equal to 40% of the nominal tube or sleeve wall thickness~~ by installation of plugs or the area of degradation shall be removed from service (a new pressure boundary established) using an Approved Repair Technique. The plugging/repair limit is 40% through-wall for all pressure boundary degradation. ~~No more than five thousand sleeves may be installed in each OTSG.~~

9. 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 main steam line or feedwater line break, as specified in 5.6.2.10.3.c, above.

10. Tube Inspection means an inspection of the ~~entire~~ OTSG tube ~~as far as possible~~ pressure boundary.

11. Approved Repair Technique means a technique, other than plugging, that has been accepted by the NRC as a methodology to remove or repair degraded or defective portions of the pressure boundary and to establish a new pressure boundary. Following are Approved Repair Techniques:

    a) Sleeve installation in accordance with the B&W process (or method) described in report BAW-2120P. No more than five thousand sleeves may be installed in each OTSG.

    b) Installation of repair rolls in the upper tubesheet in accordance with the Framatome Technologies Incorporated processes (or methods) described in reports BAW-2303P and BAW-2342P. The repair process (either single roll or double roll) may be performed once per tube. The repair roll area will be examined using eddy-current methods following installation. The repair roll must be free of imperfections and degradation for the repair to be considered acceptable.

(continued)

5.6 Procedures, Programs and Manuals

5.6.2.10 OTSG Tube Surveillance Program (continued)

The repair roll in each tube will be inspected during each subsequent inservice inspection while the tube with a repair roll is in service. The repair roll will be considered a specific limited area and will be excluded from the random sampling. No credit will be taken for meeting the minimum sample size.

If primary-to-secondary leakage results in a shutdown of the plant and the cause is determined to be degradation in a repair roll, 100% of the repair rolls in that OTSG shall be examined. If that inspection results in entering Category C-2 or C-3 for specific limited area inspection, as detailed in Table 5.6.2-3, 100% of the repair rolls shall be examined in the other OTSG.

b. The OTSG shall be determined OPERABLE after completing the corresponding actions (plug or ~~sleeve~~ repair all tubes exceeding the plugging/~~sleeving~~ repair limit ~~and all tubes containing through-wall cracks~~) required by Table 5.6.2-2 (and Table 5.6.2-3 if the provisions of Specification 5.6.2.10.2.d are utilized). ~~Defective tubes may be repaired in accordance with the B&W process (or method) equivalent to the method described in report BAW-2120P.~~

There are a number of OTSG tubes that have the potential to exceed the tube plugging/~~sleeving~~ repair limit as a result of tube end anomalies. Defective tubes will be repaired or plugged during the next outage of sufficient duration. An evaluation has been performed which confirms that operability of the CR-3 OTSGs will not be impacted with those tubes in service.

5.6.2.11 Secondary Water Chemistry Program

This program provides controls for monitoring secondary water chemistry to inhibit steam generator tube degradation and low pressure turbine disc stress corrosion cracking. The program shall include:

a. Identification of a sampling schedule for the critical variables and control pints for these variables;

b. Identification of the procedures used to measure the values of the critical variables;

(continued)

TABLE 5.6.2-2 (page 1 of 1)
OTSG TUBE INSPECTION

1st Sample Inspection			2nd Sample Inspection		3rd Sample Inspection	
Sample Size	Result	Action Required	Result	Action Required	Result	Action Required
A minimum of S tubes per OTSG	C-1	None	N/A	N/A	N/A	N/A
	C-2	Plug or ~~sleeve~~ repair defective tubes and inspect an additional 2S tubes in this OTSG.	C-1	None	N/A	N/A
			C-2	Plug or ~~sleeve~~ repair defective tubes and inspect additional 4S tubes in this OTSG.	C-1	None
					C-2	Plug or ~~sleeve~~ repair defective tubes.
					C-3	Perform action for C-3 result of first sample.
			C-3	Perform action for C-3 result of first sample.	N/A	N/A
	C-3	Inspect all tubes in this OTSG, plug or ~~sleeve~~ repair defective tubes, inspect 2S tubes in each other OTSG, and notify NRC per 10CFR50.72	All other OTSGs are C-1	None	N/A	N/A
			Some OTSGs C-2 but no additional OTSGs are C-3	Perform action for C-2 result of second sample.	N/A	N/A
			Additional OTSG is C-3	Inspect all tubes in each OTSG, plug or ~~sleeve~~ repair defective tubes, and notify NRC per 10CFR50.72.	N/A	N/A

$S = 3\ N/n\ \%$ Where N is the number of OTSGs in the unit and n is the number of OTSGs inspected during inspection period.

TABLE 5.6.2-3 (page 1 of 1)
SPECIFIC LIMITED AREA INSPECTION

1st Sample Inspection of a "Specific Limited Area"			2nd Sample Inspection of a "Specific Limited Area"	
Sample Size	Result	Action Required	Result	Action Required
100% of area in both OTSGs	C-1	None	N/A	N/A
	C-2	Plug or ~~sleeve~~ repair defective tubes.	N/A	N/A
	C-3	Plug or ~~sleeve~~ repair defective tubes.	N/A	N/A
100% of area in one OTSG	C-1	None	N/A	N/A
	C-2	Plug or ~~sleeve~~ repair defective tubes and inspect 100% of corresponding area in other OTSG	C-1	None
			C-2	Plug or ~~sleeve~~ repair defective tubes.
			C-3	Plug or ~~sleeve~~ repair defective tubes.
	C-3	Plug or ~~sleeve~~ repair defective tubes and inspect 100% of corresponding area in other OTSG.	C-1	None
			C-2	Plug or ~~sleeve~~ repair defective tubes.
			C-3	Plug or ~~sleeve~~ repair defective tubes.

5.7 Reporting Requirements

5.7.2 Special Reports (continued)

The following Special Reports shall be submitted:

a. When a Special Report is required by Condition B or F of LCO 3.3.17, "Post Accident Monitoring (PAM) Instrumentation," a report shall be submitted within the following 14 days. The report shall outline the preplanned alternate method of monitoring, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channels of the Function to OPERABLE status.

b. Any abnormal degradation of the containment structure detected during the tests required by the Containment Tendon Surveillance Program shall be reported to the NRC within 30 days. The report shall include a description of the tendon condition, the condition of the concrete (especially at tendon anchorages), the inspection procedures, the tolerances on cracking, and the corrective action taken.

c. Following each inservice inspection of steam generator (OTSG) tubes, the NRC shall be notified of the following prior to ascension into MODE 4:

1. Number of tubes plugged and ~~sleeved~~ repaired,

2. Crack-like indications and assessment of growth for indications in the first span,

3. ~~An assessment of growth in the first span indications, and~~

~~4.~~ Results of in-situ pressure testing, if performed.

d. Results of OTSG tube inspections that fall into Category C-3 shall be reported to the NRC in accordance with 10CFR50.72.

e. The complete results of the OTSG tube inservice inspection shall be submitted to the NRC within 90 days following the completion of the inspection. The report shall include:

1. Number and extent of tubes inspected,

2. Location and percent of wall-thickness penetration for each indication of an imperfection,

3. Location, bobbin coil amplitude, and axial and circumferential extent (if determined) for each first span IGA indication, and

4. Identification of tubes plugged ~~and tubes sleeved~~ or repaired and specification of the repair methodology implemented for each tube.

(continued)

5.7 Reporting Requirements

~~5.7.2 Special Reports (continued)~~

~~Results of OTSG tube inspections that fall into Category C-3 shall be reported to the NRC prior to resumption of plant operation. This report shall provide a description of investigations conducted to determine cause of the tube degradation and corrective measures taken to prevent recurrence.~~

FLORIDA POWER CORPORATION

CRYSTAL RIVER UNIT 3

DOCKET NUMBER 50-302/LICENSE NUMBER DPR-72

ATTACHMENT C

LICENSE AMENDMENT REQUEST #235, REVISION 1

ONCE THROUGH STEAM GENERATOR TUBE SURVEILLANCE PROGRAM, TUBE REPAIR ROLL PROCESS

Proposed Technical Specification Change Pages

(Revision Bars)

5.6 Procedures, Programs and Manuals

5.6.2.10 OTSG Tube Surveillance Program (continued)

4. Acceptance criteria:

a. Vocabulary as used in this Specification:

1. Tubing or Tube means that portion of the tube or sleeve which forms the primary system to secondary system pressure boundary.

2. 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.

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

4. Degraded Tube means a tube containing degradation $\geq$ 20% through-wall but < 40% through-wall in the pressure boundary.

5. % Degradation/% Through-wall means the percentage of the tube (pressure boundary) wall thickness affected or removed by degradation.

6. Defective Tube means a tube containing degradation $\geq$ 40% through-wall in the pressure boundary. Any tube which does not permit the passage of the eddy-current inspection probe shall be deemed a defective tube.

7. Pit-like Intergranular Attack (IGA) indication means a bobbin coil indication confirmed by Motorized Rotating Pancake Coil (MRPC) or other qualified inspection techniques to have a volumetric, pit-like morphology characteristic of IGA.

(continued)

5.6 Procedures, Programs and Manuals

5.6.2.10 OTSG Tube Surveillance Program (continued)

8. Plugging/Repair Limit means the extent of pressure boundary degradation beyond which the tube shall either be removed from service by installation of plugs or the area of degradation shall be removed from service (a new pressure boundary established) using an Approved Repair Technique. The plugging/repair limit is 40% through-wall for all pressure boundary degradation.

9. 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 main steam line or feedwater line break, as specified in 5.6.2.10.3.c, above.

10. Tube Inspection means an inspection of the OTSG tube pressure boundary.

11. Approved Repair Technique means a technique, other than plugging, that has been accepted by the NRC as a methodology to remove or repair degraded or defective portions of the pressure boundary and to establish a new pressure boundary. Following are Approved Repair Techniques:

    a) Sleeve installation in accordance with the B&W process (or method) described in report BAW-2120P. No more than five thousand sleeves may be installed in each OTSG.

    b) Installation of repair rolls in the upper tubesheet in accordance with the Framatome Technologies Incorporated processes (or methods) described in reports BAW-2303P and BAW-2342P. The repair process (either single roll or double roll) may be performed once per tube. The repair roll area will be examined using eddy-current methods following installation. The repair roll must be free of imperfections and degradation for the repair to be considered acceptable.

(continued)

5.6 Procedures, Programs and Manuals

5.6.2.10 OTSG Tube Surveillance Program (continued)

The repair roll in each tube will be inspected during each subsequent inservice inspection while the tube with a repair roll is in service. The repair roll will be considered a specific limited area and will be excluded from the random sampling. No credit will be taken for meeting the minimum sample size.

If primary-to-secondary leakage results in a shutdown of the plant and the cause is determined to be degradation in a repair roll, 100% of the repair rolls in that OTSG shall be examined. If that inspection results in entering Category C-2 or C-3 for specific limited area inspection, as detailed in Table 5.6.2-3, 100% of the repair rolls shall be examined in the other OTSG.

b. The OTSG shall be determined OPERABLE after completing the corresponding actions (plug or repair all tubes exceeding the plugging/repair limit) required by Table 5.6.2-2 (and Table 5.6.2-3 if the provisions of Specification 5.6.2.10.2.d are utilized).

There are a number of OTSG tubes that have the potential to exceed the tube plugging/repair limit as a result of tube end anomalies. Defective tubes will be repaired or plugged during the next outage of sufficient duration. An evaluation has been performed which confirms that operability of the CR-3 OTSGs will not be impacted with those tubes in service.

5.6.2.11 Secondary Water Chemistry Program

This program provides controls for monitoring secondary water chemistry to inhibit steam generator tube degradation and low pressure turbine disc stress corrosion cracking. The program shall include:

a. Identification of a sampling schedule for the critical variables and control pints for these variables;

b. Identification of the procedures used to measure the values of the critical variables;

(continued)

TABLE 5.6.2-2 (page 1 of 1)
OTSG TUBE INSPECTION

1st Sample Inspection			2nd Sample Inspection		3rd Sample Inspection	
Sample Size	Result	Action Required	Result	Action Required	Result	Action Required
A minimum of S tubes per OTSG	C-1	None	N/A	N/A	N/A	N/A
	C-2	Plug or repair defective tubes and inspect an additional 2S tubes in this OTSG.	C-1	None	N/A	N/A
			C-2	Plug or repair defective tubes and inspect additional 4S tubes in this OTSG.	C-1	None
					C-2	Plug or repair defective tubes.
					C-3	Perform action for C-3 result of first sample.
			C-3	Perform action for C-3 result of first sample.	N/A	N/A
	C-3	Inspect all tubes in this OTSG, plug or repair defective tubes, inspect 2S tubes in each other OTSG, and notify NRC per 10CFR50.72	All other OTSGs are C-1	None	N/A	N/A
			Some OTSGs C-2 but no additional OTSGs are C-3	Perform action for C-2 result of second sample.	N/A	N/A
			Additional OTSG is C-3	Inspect all tubes in each OTSG, plug or repair defective tubes, and notify NRC per 10CFR50.72.	N/A	N/A

S = 3 N/n % Where N is the number of OTSGs in the unit and n is the number of OTSGs inspected during inspection period.

TABLE 5.6.2-3 (page 1 of 1)
SPECIFIC LIMITED AREA INSPECTION

1st Sample Inspection of a "Specific Limited Area"			2nd Sample Inspection of a "Specific Limited Area"	
Sample Size	Result	Action Required	Result	Action Required
100% of area in both OTSGs	C-1	None	N/A	N/A
	C-2	Plug or repair defective tubes.	N/A	N/A
	C-3	Plug or repair defective tubes.	N/A	N/A
100% of area in one OTSG	C-1	None	N/A	N/A
	C-2	Plug or repair defective tubes and inspect 100% of corresponding area in other OTSG	C-1	None
			C-2	Plug or repair defective tubes.
			C-3	Plug or repair defective tubes.
	C-3	Plug or repair defective tubes and inspect 100% of corresponding area in other OTSG.	C-1	None
			C-2	Plug or repair defective tubes.
			C-3	Plug or repair defective tubes.

5.7 Reporting Requirements

5.7.2 Special Reports (continued)

The following Special Reports shall be submitted:

a. When a Special Report is required by Condition B or F of LCO 3.3.17, "Post Accident Monitoring (PAM) Instrumentation," a report shall be submitted within the following 14 days. The report shall outline the preplanned alternate method of monitoring, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channels of the Function to OPERABLE status.

b. Any abnormal degradation of the containment structure detected during the tests required by the Containment Tendon Surveillance Program shall be reported to the NRC within 30 days. The report shall include a description of the tendon condition, the condition of the concrete (especially at tendon anchorages), the inspection procedures, the tolerances on cracking, and the corrective action taken.

c. Following each inservice inspection of steam generator (OTSG) tubes, the NRC shall be notified of the following prior to ascension into MODE 4:

1. Number of tubes plugged and repaired,

2. Crack-like indications and assessment of growth for indications in the first span,

3. Results of in-situ pressure testing, if performed.

d. Results of OTSG tube inspections that fall into Category C-3 shall be reported to the NRC in accordance with 10CFR50.72.

e. The complete results of the OTSG tube inservice inspection shall be submitted to the NRC within 90 days following the completion of the inspection. The report shall include:

1. Number and extent of tubes inspected,

2. Location and percent of wall-thickness penetration for each indication of an imperfection,

3. Location, bobbin coil amplitude, and axial and circumferential extent (if determined) for each first span IGA indication, and

4. Identification of tubes plugged or repaired and specification of the repair metnodology implemented for each tube.

(continued)

FLORIDA POWER CORPORATION

CRYSTAL RIVER UNIT 3

DOCKET NUMBER 50-302/LICENSE NUMBER DPR-72

ATTACHMENT D

LICENSE AMENDMENT REQUEST #235, REVISION 1

ONCE THROUGH STEAM GENERATOR TUBE SURVEILLANCE PROGRAM, TUBE REPAIR ROLL PROCESS

FTI Proprietary Version, BAW-2342P, Revision 0

"OTSG Repair Roll Qualification Report, Addendum A"

AFFIDAVIT OF JOSEPH J. KELLY

A. My name is Joseph J. Kelly. I am Manager of B&W Owners Group Services for Framatome Technologies, Inc. (FTI), and as such, I am authorized to execute this Affidavit.

B. I am familiar with the criteria applied by FTI to determine whether certain information of FTI is proprietary and I am familiar with the procedures established within FTI to ensure the proper application of these criteria.

C. In determining whether an FTI document is to be classified as proprietary information, an initial determination is made by the Unit Manager, who is responsible for originating the document, as to whether it falls within the criteria set forth in Paragraph D hereof. If the information falls within any one of these criteria, it is classified as proprietary by the originating Unit Manager. This initial determination is reviewed by the cognizant Section Manager. If the document is designated as proprietary, it is reviewed again by me to assure that the regulatory requirements of 10 CFR Section 2.790 are met.

D. The following information is provided to demonstrate that the provisions of 10 CFR Section 2.790 of the Commission's regulations have been considered:

(i) The information has been held in confidence by FTI. Copies of the document are clearly identified as proprietary. In addition, whenever FTI transmits the information to a customer, customer's agent, potential customer or regulatory agency, the transmittal requests the recipient to hold the information as proprietary. Also, in order to strictly limit any potential or actual customer's use of proprietary information, the substance of the following provision is included in all agreements entered into by FTI, and an equivalent version of the proprietary provision is included in all of FTI's proposals:

"Any proprietary information concerning Company's or its Supplier's products or manufacturing processes which is so designated by Company or its Suppliers and disclosed to Purchaser incident to the performance of such contract shall remain the property of Company or its Suppliers and is disclosed in confidence, and Purchaser shall not publish or otherwise disclose it to others without the written approval of Company, and no rights, implied or otherwise, are granted to produce or have produced any products or to practice or cause to be practiced any manufacturing processes covered thereby.

Notwithstanding the above, Purchaser may provide the NRC or any other regulatory agency with any such proprietary information as the NRC or such other agency may require; provided, however, that Purchaser shall first give Company written notice of such proposed disclosure and Company shall have the right to amend such proprietary information so as to make it non-proprietary. In the event that Company cannot amend such proprietary information, Purchaser shall prior to disclosing such information, use its best efforts to obtain a commitment from NRC or such other agency to have such information withheld from public inspection.

Company shall be given the right to participate in pursuit of such confidential treatment."

(ii) The following criteria are customarily applied by FTI in a rational decision process to determine whether the information should be classified as proprietary. Information may be classified as proprietary if one or more of the following criteria are met:

a. Information reveals cost or price information, commercial strategies, production capabilities, or budget levels of FTI, its customers or suppliers.

b. The information reveals data or material concerning FTI research or development plans or programs of present or potential competitive advantage to FTI.

c. The use of the information by a competitor would decrease his expenditures, in time or resources, in designing, producing or marketing a similar product.

d. The information consists of test data or other similar data concerning a process, method or component, the application of which results in a competitive advantage to FTI.

e. The information reveals special aspects of a process, method, component or the like, the exclusive use of which results in a competitive advantage to FTI.

f. The information contains ideas for which patent protection may be sought.

The document(s) listed on Exhibit "A", which is attached hereto and made a part hereof, has been evaluated in accordance with normal FTI procedures with respect to classification and has been found to contain information which falls within one or more of the criteria enumerated above. Exhibit "B", which is attached hereto and made a part hereof, specifically identifies the criteria applicable to the document(s) listed in Exhibit "A".

(iii) The document(s) listed in Exhibit "A", which has been made available to the United States Nuclear Regulatory Commission was made available in confidence with a request that the document(s) and the information contained therein be withheld from public disclosure.

(iv) The information is not available in the open literature and to the best of our knowledge is not known by Combustion Engineering, EXXON, General Electric, Westinghouse or other current or potential domestic or foreign competitors of FTI.

(v) Specific information with regard to whether public disclosure of the information is likely to cause harm to the competitive position of FTI, taking into account the value of the information to FTI; the amount of effort or money expended by FTI developing the information; and the ease or difficulty with which the information could be properly duplicated by others is given in Exhibit "B".

E. I have personally reviewed the document(s) listed on Exhibit "A" and have found that it is considered proprietary by FTI because it contains information which falls within one or more of the criteria enumerated in Paragraph D, and it is information which is customarily held in confidence and protected as proprietary information by FTI. This report comprises

AFFIDAVIT OF JOSEPH J. KELLY (Cont'd.)

Information utilized by FTI in its business which afford FTI an opportunity to obtain a competitive advantage over those who may wish to know or use the information contained in the document(s).

JOSEPH J. KELLY

State of Virginia)
) SS. Lynchburg
City of Lynchburg)

Joseph J. Kelly, being duly sworn, on his oath deposes and says that he is the person who subscribed his name to the foregoing statement, and that the matters and facts set forth in the statement are true.

JOSEPH J. KELLY

Subscribed and sworn before me
this 17th day of March 1999.

Brenda C. Cordoza
Notary Public in and for the City
of Lynchburg, State of Virginia.

My Commission Expires July 31, 1999

EXHIBITS A & B

EXHIBIT A

FTI's Topical Report BAW-2342P, Revision 1, "OTSG Repair Roll Qualification Report, Addendum A," dated March 1999.

EXHIBIT B

The above listed document contains information which is considered Proprietary in accordance with Criteria b, c, and d of the attached affidavit.

FLORIDA POWER CORPORATION

CRYSTAL RIVER UNIT 3

DOCKET NUMBER 50-302/LICENSE NUMBER DPR-72

ATTACHMENT E

LICENSE AMENDMENT REQUEST #235, REVISION 1

ONCE THROUGH STEAM GENERATOR TUBE SURVEILLANCE PROGRAM, TUBE REPAIR ROLL PROCESS

FTI Non-Proprietary Version, BAW-2342, Revision 0

"OTSG Repair Roll Qualification Report, Addendum A"