



January 23, 2003

L-2003-014
10 CFR 50.4
10 CFR 50.55a

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

RE: St. Lucie Unit 2
Docket No. 50-389
Inservice Inspection Program
Second Ten-Year Interval
Relief Request 35 Early Use of ASME Code Case N-533-1

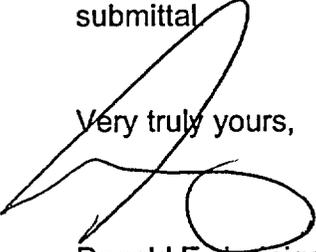
Pursuant to 10 CFR 50.55a, (Footnote 6) and 10 CFR 50.55a(a)(3), Florida Power and Light Company requests approval to incorporate Code Case N-533-1, *Alternative Requirements for VT-2 Visual Examination of Class 1, 2, and 3 Insulated Pressure-Retaining Bolted Connections, Section XI Division 1*, for use in the Second Ten-Year Inservice Inspection Program for St. Lucie Unit 2. Code Case N-533-1 was approved for use by ASME on February 26, 1999.

This code case is an alternative to the requirements of IWA-5242(a) to remove insulation from Class 1, 2, and 3 pressure-retaining bolted connections to perform a VT-2 visual examinations. A copy of the code case is attached to the relief request for your information.

Code case approval is requested to support its use during the upcoming St. Lucie Unit 2 refueling outage (SL2-14) currently scheduled to start April 21, 2003. The relief was not previously submitted because it is endorsed by DG 1091, draft revision 13 of NRC Regulatory Guide 1.147, *Inservice Inspection Code Case Acceptability-ASME Section XI Division 1*, which was scheduled to be issued by the NRC in December 2002 and is currently not expected to be issued prior to the upcoming Unit 2 refueling outage.

Please contact George Madden at 772-467-7155 if there are any questions about this submittal.

Very truly yours,



Donald E. Jerinigan
Vice President
St. Lucie Plant

Attachment

A047

Early Use of CODE CASE N-533-1

1. ASME Code Component(s) Affected

Bolted connections on Class 1, 2, and 3 systems bolated for the purpose of controlling reactivity.

2. Applicable Code Edition and Addenda

Rules for Inservice Inspection of Nuclear Power Plant Components, Section XI, 1989 Edition, No Addenda

3. Applicable Code Requirement

Article IWA-5242(a) - For systems bolated for the purpose of controlling reactivity, insulation shall be removed from pressure retaining bolted connection for visual examination VT-2.

4. Reason for Request

The requirements of Section XI, Article IWA-5242(a) pose a potential safety hazard to inspection and system restoration personnel when uninsulated components must be inspected at high temperature. The proposed alternative provides an acceptable level of quality and safety by permitting Section XI examinations to be performed while a component is at safe operating pressures and temperatures.

5. Proposed Alternative and Basis for Use

Proposed Alternative

Pursuant to 10 CFR 50.55a(a)(3)(i), FPL requests an alternative to the Code required VT-2 examination requirements for bolted connections set forth in IWA-5242(a). FPL will utilize the alternative requirements of ASME Code Case N-533-1, *Alternative Requirements for VT-2 Visual Examination of Class 1 Insulated Pressure Retaining Bolted Connections, Section XI, Division 1*.

Each refueling outage, FPL will remove the insulation from the bolted connections and perform a VT-2 visual examination in accordance with paragraph (b) of the code case on Class 1 systems. For Class 2 and 3 systems, this same examination will be performed once each period. The connections will not be pressurized during the examination. Any evidence of leakage will be evaluated in accordance with IWA-5250.

**St. Lucie Unit 2
Second Inspection Interval
Relief Request Number 35**

In addition to the requirements of paragraph (a) of the code case, the system pressure test and VT-2 examination with the insulation installed on bolted joints at normal operating pressure and temperature will include a 4-hour hold time as required.

Basis for Use

The ambient conditions during the installation of insulation after VT-2 examinations at normal operating pressure and temperature (NOP/NOT) require heat stress work restrictions. Containment entries at NOP/NOT are physically demanding on personnel due to the adverse heat environment. Stay times for personnel in many areas are less than one hour and would require multiple containment entries to complete the examination activities. Ambient temperatures range from 95 to 120 degrees F. Personnel should not be exposed to such an adverse work environment unnecessarily without a compensating increase in the level of quality and safety. Performing the VT-2 visual examination using Code Case N-533-1 will accomplish the examinations and the insulation installation while maintaining personnel safety and examination quality at an appropriate level.

Historical data indicates that personnel contaminations increase with increasing environmental temperatures due to the profuse sweating caused by the elevated temperatures. Reinstalling contaminated insulating material under adverse conditions (i.e., to piping that is at 2250 psia and greater than 500 degrees F) would negatively impact total personnel contamination and expose personnel to unnecessary safety risk. Additionally, increased dose would be accumulated due to reduced examination efficiency as a result of the necessity to wear special protective equipment (e.g., ice vests).

The removal of scaffolding from containment would be through the reactor containment building personnel hatch rather than the equipment hatch since the plant is in Mode 3 with the equipment hatch secured. This will place added physical and heat stress limitations on the personnel involved.

Code Case N-533-1 was approved for use by ASME on February 26, 1999, as an alternative to the Code requirements of IWA-5242(a). The code case was written when it was recognized that personnel safety during the conduct of the VT-2 examinations would be compromised, and that examination of bolted connections during plant shutdown would accomplish the desired results. In addition, evaluation and repairs could be performed without the need to bring the plant to a cold shutdown condition since the VT-2 examinations are normally performed at normal operating pressure and temperature during startup.

**St. Lucie Unit 2
Second Inspection Interval
Relief Request Number 35**

Use of this code case provides an acceptable level of quality and safety by requiring Section XI examinations to be performed while a component is at safe operating pressures and temperatures. The examinations performed will find evidence of leakage by having the examiners looking for boric acid residue, which accumulates around leakage sites, or any other evidence of leakage. This code case meets the intent of Section XI IWA-5240 requirements by requiring FPL to examine bolted connections for evidence of leakage and bolt degradation.

6. Duration of Proposed Alternative

FPL will implement ASME Code Case N-533-1 during the second 10-year inservice inspection interval. If this Code Case is published in a future revision of Regulatory Guide 1.147, and FPL intends to continue implementation, any limitations issued in the Regulatory Guide will be implemented.

7. Precedents

A request for relief to use Code Case N-533-1 was authorized on October 8, 2002 (TAC Nos. MB5411 and MB5412) without comment for use at Point Beach Nuclear Plant (PBNP) Units 1 and 2.

8. Attachments

1. Code Case N-533-1

**St. Lucie Unit 2
Second Inspection Interval
Relief Request Number 35 Attachment**

CASES OF ASME BOILER AND PRESSURE VESSEL CODE

Approval Date: February 26, 1999

See Numeric Index for expiration and any reaffirmation dates.

CASE N-533-1

Alternative Requirements for VT-2 Visual Examination of Class 1, 2, and 3 Insulated Pressure-Retaining Bolted Connections
Section XI, Division 1

Inquiry: What alternative requirements may be used in lieu of those of IWA-5242(a) to remove insulation from Class 1, 2, and 3 pressure-retaining bolted connections to perform a VT-2 visual examination?

Reply: It is the opinion of the Committee that, as an alternative to the requirements of IWA-5242(a) to remove insulation from Class 1, 2, and 3 pressure-retaining bolted connections to perform a VT-2 visual examination, the following requirements shall be met.

(a) A system pressure test and VT-2 visual examination shall be performed each refueling outage for Class 1 connections and each period for Class 2 and 3 connections without removal of insulation.

(b) The insulation shall be removed from the bolted connection, each refueling outage for Class 1 connections and each period for Classes 2 and 3 connections, and a VT-2 visual examination shall be performed. The connection is not required to be pressurized. Any evidence of leakage shall be evaluated in accordance with IWA-5250.