

# CATEGORY 1

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SUBJECT: Requests approval to incorporate Code Case N-533,  
 "Alternative Requirements for VT-2 Visual Exam of Class 1  
 Insulated Pressure-Retaining Bolted Connections, Section XI,  
 Div 1," for use in Unit 2 10-Yr ISI program.

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November 19, 1996



L-96-304  
10 CFR 50.4  
10 CFR 50.55a

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

RE: St. Lucie Unit 2  
Docket No. 50-389  
In-Service-Inspection (ISI) Plan  
Second Ten-Year Interval  
ASME Code Case N-533 - Request for Use

Pursuant to 10 CFR 50.55a, (Footnote 6) and 10 CFR 50.55a(a)(3), Florida Power and Light Company (FPL) requests approval to incorporate Code Case N-533, *Alternative Requirements for VT-2 Visual Examination of Class 1 Insulated Pressure-Retaining Bolted Connections, Section XI, Division 1*, for use in the St. Lucie Unit 2 Ten Year In Service Inspection Program. Code Case N-533 was approved for use by ASME on March 14, 1995.

Code Case N-533 is an alternative to the requirements of IWA-5242(a) of the 1989 Edition of the ASME Code which requires insulation removal from Class 1 pressure-retaining bolted connections to perform VT-2 visual examinations. IWA-5242(a) requires insulation to be removed from pressure-retaining bolted connections for visual examination VT-2 in systems borted for the purpose of controlling reactivity. FPL requested interim relief in ISI Relief Request 19 which was submitted by letter (L-95-104) dated April 3, 1995 and granted by NRC letter dated June 21, 1995. In part, the basis for Interim Relief 19 was to provide time to reduce the burden of the required examinations through the ASME Code process. ASME Code Committee endorsement of this Code Case accomplishes part of this burden reduction for Class 1 bolted connections.

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 stress environment. Stay times for personnel in many areas are less than one (1) hour and would require multiple containment entries to complete the examination activities. Ambient temperatures range from 95 to 110 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 will accomplish the inspections and the insulation installation while maintaining personnel safety and inspection quality at an appropriate level.

Historical data indicate that personnel contaminations increase with increasing environmental temperatures due to the profuse sweating caused by adverse environmental conditions. Reinstalling contaminated insulating materials under these adverse conditions (i.e., to piping that

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is at 2250 psia and greater than 500 degrees F) would negatively impact total personnel contaminations 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 vest).

Furthermore, the removal of scaffolding used for this examination from containment would be through the reactor containment building personnel hatch rather than the equipment hatch since the plant is in Mode 4 with the equipment hatch secured. This will place added physical and heat stress limitations on the personnel involved.

A system pressure test with insulation installed on bolted joints at NOP/NOT with a 4 hour hold time will be completed prior to returning the unit to service. This test and examination philosophy is consistent with the Inservice Inspection (ISI) Plan which was in place during the first ISI interval. These examinations, in conjunction with routine monitoring of reactor coolant system (RCS) leakage, will provide adequate assurance of RCS integrity. The personnel hazard imposed by the examination of hot, uninsulated components and subsequent insulation re-installation is not commensurate with the marginal contribution to safety. A copy of the Code Case is attached for your information.

Code Case approval is requested to support its use in the upcoming St. Lucie Unit 2 refueling outage (SL2-10) scheduled to begin April 15, 1997. Please contact us if there are any questions about this submittal.

Very truly yours,



J. A. Stall  
Vice President  
St. Lucie Plant

JAS/GRM  
Attachment

cc: Stewart D. Ebnetter, Regional Administrator, Region II, USNRC  
Senior Resident Inspector, USNRC, St. Lucie Plant

CASES OF ASME BOILER AND PRESSURE VESSEL CODE

Approval Date: March 14, 1993

See Numerical Index for expiration  
and any reaffirmation dates.

**Case N-533**

**Alternative Requirements for VT-2 Visual  
Examination of Class 1 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 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 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 without removal of insulation.

(b) Each refueling outage the insulation shall be removed from the bolted connection, 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.