



Crystal River Nuclear Plant  
Docket No. 50-302  
Operating License No. DPR-72

Ref: 10CFR50.55a(a)(3)(i)

February 15, 2001  
3F0201-07

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555-0001

Subject: Third Ten Year Interval  
Inservice Inspection Program  
Relief Request 01-001-II

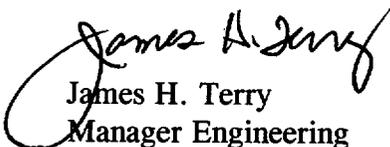
Dear Sir:

Pursuant to 10 CFR 50.55a(a)(3)(i), Florida Power Corporation (FPC) is requesting relief from the requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, Subarticle IWB-2500, 1989 Edition with no Addenda, for Crystal River Unit 3 (CR-3). In the attached Relief Request 01-001-II, FPC is requesting authorization to implement Code Case N-623, "Deferral of Inspections of Shell-to-Flange and Head-to-Flange Welds of a Reactor Vessel, Section XI, Division 1."

FPC intends to implement Code Case N-623 prior to Refueling Outage 12, scheduled to begin in fall 2001. Authorization to implement the code case is requested by June 20, 2001, to support planning and scheduling for the outage.

There are no new regulatory commitments made in this submittal. If you have any questions regarding this submittal, please contact Mr. Sid Powell, Supervisor, Licensing & Regulatory Programs at (352) 563-4883.

Sincerely,

  
James H. Terry  
Manager Engineering

JHT/lvc

Attachment

xc: Regional Administrator, Region II  
Senior Resident Inspector  
NRR Project Manager

AD47

**FLORIDA POWER CORPORATION**

**CRYSTAL RIVER UNIT 3**

**DOCKET NUMBER 50-302/LICENSE NUMBER DPR-72**

**ATTACHMENT**

**THIRD TEN YEAR INTERVAL**

**INSERVICE INSPECTION PROGRAM**

**RELIEF REQUEST 01-001-II**

**THIRD TEN YEAR INTERVAL  
RELIEF REQUEST 01-001-II**

**I. REFERENCE CODE:**

American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, 1989 Edition with no Addenda.

**II. COMPONENTS FOR WHICH RELIEF IS REQUESTED:**

Class 1 Reactor Vessel Shell-to-Flange weld (Category B-A).

**III. CURRENT CODE REQUIREMENTS AND REQUEST FOR RELIEF:**

The ASME Code Section XI, 1989 Edition with no Addenda, Table IWB-2500-1, Examination Category B-A, requires inspection of Reactor Vessel Shell-to-Flange weld. Partial deferral of the volumetric examination is permitted. Per Notes 3 and 4 in Table IWB-2500-1, Category B-A, "If partial examinations are conducted from flange face, the remaining volumetric examinations required to be conducted from vessel wall may be performed at or near the end of each inspection interval. The examination of shell-to-flange welds may be performed during the first and third inspection periods in conjunction with the nozzle examinations of Exam. Cat. B-D (Program B). At least 50% of shell-to-flange welds shall be examined by the end of the first inspection period, and the remainder by the end of the third inspection period."

Pursuant to 10 CFR 50.55a(a)(3)(i), Florida Power Corporation (FPC) requests authorization to implement Code Case N-623, "Deferral of Inspections of Shell-to-Flange and Head-to-Flange Welds of a Reactor Vessel, Section XI, Division 1," for examination of only the shell-to-flange weld. Approval of this request will allow 100% deferral of the shell-to-flange examination at Crystal River Unit 3 (CR-3) to the end of the interval.

**IV. ALTERNATE EXAMINATION:**

Code Case N-623 is to be applied as alternative rules to Reactor Vessel Flange welds. The required examinations of the shell-to-flange weld will be performed at the end of the interval along with the other Reactor Vessel welds.

**V. BASIS FOR REQUESTING RELIEF:**

If the shell-to-flange weld examination is conducted in the first period it would be performed using manual techniques. When this weld is examined at the end of the interval, the examination can be performed using the same automated equipment that is used to examine the remaining reactor vessel welds. Use of this automated equipment achieves a significant reduction in personnel radiation exposure.

The Section XI Code Committee approved Code Case N-623 on February 26, 1999. The committee indicated in the code case that it may be applied if the following conditions have been met:

- (a) No welded repair/replacement activities have ever been performed on the shell-to-flange or head-to-flange weld.
- (b) Neither the shell-to-flange weld nor head-to-flange weld contains identified flaws or relevant conditions that currently require successive inspections in accordance with IWB-2420(b).
- (c) The vessel is not in the first inspection interval.

The CR-3 reactor vessel satisfies these conditions.

The proposed alternative examination provides an acceptable level of quality and safety since the shell-to-flange weld will receive the same high quality examinations that have been required by ASME Code Section XI since the reactor was placed in commercial service. The only change is that the shell-to-flange weld would now be examined at the end of the interval, at the same time as the remainder of the reactor vessel welds, rather than at the beginning of the interval. This includes examination in conjunction with the nozzle examinations of Exam. Cat. B-D (allowed to be deferred by Code Case N-521, "Alternative Rules for Deferral of Inspections of Nozzle-to-Vessel Welds, Inside Radius Sections, and Nozzle-to-Safe End Welds of a Pressurized Water Reactor Vessel, Section XI, Division 1," published in Regulatory Guide 1.147, Revision 12, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1"). No changes are being made to either the volumes or areas of material that are examined, to nondestructive examination (NDE) personnel qualifications, nor to NDE methods or acceptance criteria.

CR-3 is currently in the first period of the third interval. The entire shell-to-flange weld was examined from the vessel wall using enhanced automated ultrasonic techniques at the end of the second interval. The examination was performed in conjunction with the ten year Reactor Vessel examination. The head-to-flange weld was examined at the end of the second interval using manual techniques. No unacceptable indications were identified.

By performing the examination of the shell-to-flange weld at the end of the third interval, at the same time as examination of the remainder of the reactor vessel welds, the examination schedule for this weld is not expected to exceed the length of one inspection interval.

## **VI. IMPLEMENTATION SCHEDULE:**

CR-3 is in the first period of the Third Ten Year Inservice Inspection (ISI) Interval. FPC intends to implement this relief request during this interval.

**VII. PRECEDENTS:**

**A. Florida Power & Light Company (FP&L), St. Lucie Unit 1**

FP&L requested approval to apply Code Case N-623 to St. Lucie by letter to the NRC dated March 1, 2000. Authorization to apply this code case was documented in NRC letter to FP&L dated August 2, 2000.

**B. Carolina Power & Light Company (CP&L), Shearon Harris Nuclear Power Plant**

CP&L requested approval to apply Code Case N-623 to Shearon Harris by letter to the NRC dated December 20, 1999. Authorization to apply this code case was documented in NRC letter to CP&L dated March 16, 2000.