



**Florida
Power**
CORPORATION

October 31, 1984
3F1084-17

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
Attn: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Crystal River Unit 3
Docket No. 50-302
Operating License No. DPR-72
ASME Section XI, Relief Requests

Reference: Letter dated October 3, 1984 from G.R. Westafer, FPC, to
H.R. Denton, NRC

Dear Mr. Denton:

The referenced letter transmitted a relief request from requirements in the ASME Boiler and Pressure Vessel Code, Section XI, 1974 Edition through Summer 1975 Addenda. The letter also indicated that other relief requests would be submitted for your approval. Transmitted herewith are five additional requests for relief from Section XI. Since the results of your approval will impact the Inservice Inspection planning efforts for the 1985 refueling outage, your prompt attention to these matters is requested.

Florida Power Corporation has enclosed, per 10 CFR 170, an application fee (check #694675) of one hundred fifty dollars (\$150.00).

Sincerely,

E. C. Simpson
Director, Nuclear Operations
Engineering and Licensing

DGG:nrk

Attachments

8411060152 841031
PDR ADOCK 05000302
Q PDR

cc: Mr. J.P. O'Reilly
Regional Administrator, Region II
U.S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
101 Marietta St., N.W., Suite 2900
Atlanta, GA 30323

A047 w/ check #150 #694675

**FLORIDA POWER CORPORATION
INSERVICE INSPECTION
RELIEF REQUEST #110
CRYSTAL RIVER - UNIT 3**

REFERENCE CODE: ASME Boiler and Pressure Vessel Code, Section XI, 1974 Edition through Summer 1975 Addenda.

I. Component for which exemption is requested:

(a) Name and Identification Number:

Control Rod Drive Mechanism Housing
(FSAR Figures 3-65 and 3-66)

(b) Function:

Positions the control rod within the reactor core and indicates the location of the control rod with respect to the reactor core.

(c) ASME Section III Code Class:

Class 1

(d) Valve Category:

N/A

II. Requirement that has been determined to be impractical:

ASME Boiler and Pressure Vessel Code, Section XI, Items B1.18, Examination Category B-0, Volumetric Examination

III. Basis for Requesting Relief:

Relief is requested from the volumetric examination requirements for 10% of the peripheral (approximately 3) control rod drive mechanism (CRDM) housing welds. Some CRDMs will be removed for maintenance or cleaning. Radiation exposure can be reduced by examining the CRDMs that have been removed for maintenance or cleaning rather than examining them on the vessel head.

IV. Alternate Examination:

Volumetric examinations will be performed on any six CRDM housings which is approximately 10% of all CRDM housings. In order to reduce total occupational exposure at Crystal River Unit 3, the examinations will be performed on CRDMs that have already been scheduled for removal for maintenance or cleaning.

V. Implementation Schedule:

The six CRDM housings will be inspected at or near the end of the first ten-year interval (i.e., during the 1985 or 1987 refueling outages).

**FLORIDA POWER CORPORATION
INSERVICE INSPECTION
RELIEF REQUEST #120
CRYSTAL RIVER - UNIT 3**

REFERENCE CODE: ASME Boiler and Pressure Vessel Code, Section XI, 1974 Edition through Summer 1975 Addenda.

I. Component for which exemption is requested:

(a) Name and Identification Number:

Chilled Water System Header
(FSAR Figure 9-16 (FD-302-756))

(b) Function:

Provide cooling to the Control Complex, Switchgear Room, Penetration Area and Post Accident Sampling System.

(c) ASME Section III Code Class:

Class 3

(d) Valve Category:

N/A

II. Requirement that has been determined to be impractical:

ASME Boiler and Pressure Vessel Code, Section XI, IWD-5000

III. Basis for Requesting Relief:

Relief is requested from the requirement to perform a hydrostatic test on the Chilled Water System header. The reason for this request is that, by design, all components of the Chilled Water System are supplied through a common header. To perform the hydrostatic test on this header would require all components which rely on chilled water for cooling to be isolated from the chilled water supply for at least 4 hours. Lack of cooling could potentially have an adverse effect on these components' operability.

Additionally, the design pressure of the chilled water header is 100 psig, while the normal operating pressure is only 12 psig on the suction side of the chilled water pump. This operating pressure is two times the setpoint of the lowest relief valve in the system. ASME Section XI, 1980 Edition through Winter 1981 Addenda, Section IWD-5223, would not require pressurization of the chilled water header.

IV. Alternate Examination:

As an alternative, each component in the Chilled Water System will be hydrostatically tested independently. This can be accomplished without a complete loss of cooling.

V. Implementation Schedule:

All components in the Chilled Water System (except the header) will be hydrostatically tested at or near the end of the first ten-year interval.

**FLORIDA POWER CORPORATION
INSERVICE INSPECTION
RELIEF REQUEST #130
CRYSTAL RIVER - UNIT 3**

REFERENCE CODE: ASME Boiler and Pressure Vessel Code, Section XI, 1974 Edition through Summer 1975 Addenda.

I. Component for which exemption is requested:

(a) Name and Identification Number:

Reactor Coolant Pump.
(FSAR Figure 4-7)

(b) Function:

Circulates Reactor Coolant

(c) ASME Section III Code Class:

Class 1

(d) Valve Category:

N/A

II. Requirement that has been determined to be impractical:

ASME Boiler and Pressure Vessel Code, Section XI, Table IWB-2500, Examination Category B-L-1, Volumetric Examination

ASME Boiler and Pressure Vessel Code, Section XI, Table IWB-2500, Examination Category B-L-2, Visual Examination

III. Basis for Requesting Relief:

Relief is requested from the requirement to perform visual and volumetric examinations of the reactor coolant pump casing welds and interior surfaces.

Florida Power Corporation considers the requests for relief from these two code requirements justified for the following reasons:

1. Visual and volumetric examination of the pump internal surface will require disassembly of the pump. The pump manufacturer (Byron Jackson) does not require or recommend pump disassembly to perform normal maintenance or inspections.
2. Disassembly of the pump for inspection could result in significant damage. The pumps were designed prior to ISI requirements and ease of disassembly in the field was not part of the design basis.

3. There have been no reported failures of the casing welds in these pumps. Crystal River Unit 3 has had no operational problems with the pump that indicate potential degradation of the casing welds.
4. The reactor coolant pump casing consists of three type 316 stainless steel cast rings. This type of material is widely used in the nuclear industry and has performed extremely well.
5. It is estimated that this reactor coolant pump casing examination will result in at least 40 man-rem exposure. The radiation exposure at Crystal River Unit 3 for ISI work in the 1983 refueling outage was approximately 32.5 man-rem. The reactor coolant pump casing examination, if conducted, would more than double this figure for the 1985 refueling outage. The increased radiation exposure expected in performing this examination far exceeds any beneficial safety improvements that might be achieved.
6. The pump disassembly, inspection, and reassembly is estimated to cost approximately \$550,000. The excessive cost of performing this examination far exceeds any beneficial safety improvements that might be achieved.

IV. Alternate Examination:

The reactor coolant pump casing exterior will be visually inspected during the hydrostatic pressure tests required by IWB-5000. In addition, a surface examination will be performed on 25% of the length of each weld per inspection interval so that both welds will be completely examined within the lifetime of the component.

V. Implementation Schedule:

The alternate examinations will be performed at or near the end of the first ten-year interval. Florida Power Corporation will perform a visual inspection of the pump's interior surface and re-evaluate the need for performance of a volumetric examination if maintenance or operational problems which require disassembly of the pump internals are encountered.

**FLORIDA POWER CORPORATION
INSERVICE INSPECTION
RELIEF REQUEST #140
CRYSTAL RIVER - UNIT 3**

REFERENCE CODE: ASME Boiler and Pressure Vessel Code, Section XI, 1974 Edition through Summer 1975 Addenda.

I. Component for which exemption is requested:

(a) Name and Identification Number:

Reactor Vessel Support Skirt
(FSAR Figure 4-13)

(b) Function:

Supports the Reactor Vessel

(c) ASME Section III Code Class:

Class 1

(d) Valve Category:

N/A

II. Requirement that has been determined to be impractical:

ASME Boiler and Pressure Vessel Code, Section XI, Table IWB-2600, Item B1.12, Examination Category B-H, Volumetric Examination

III. Basis for Requesting Relief:

In a letter dated April 14, 1977, Florida Power Corporation informed the NRC that Crystal River Unit 3 (CR-3) did not have integrally welded vessel supports and was, therefore, not required to examine them. This was based on the ASME Code, Section XI, 1974 Edition through Summer 1975 Addenda. It was later determined through examination of the Winter 1976 Addenda to ASME Section XI that the reactor vessel supports at CR-3 are considered to be integrally welded by the Code. This was documented in a letter to the NRC dated July 15, 1977. Florida Power Corporation is, therefore, again requesting relief from the requirement to perform a volumetric examination of the reactor vessel support weld.

The radiation level in the area of the reactor vessel support skirt to vessel weld is estimated to be as high as 1000 R/hr. This high radiation level combined with the necessity for insulation removal and the amount of time required to obtain acceptable examination results makes it impractical to examine this weld volumetrically.

This weld is not considered part of the Section XI, Class 1 (IWB) boundary under the requirements of the 1980 Edition through Winter 1981 Addenda and, therefore, would be exempt from volumetric examination requirements.

IV. Alternate Examination:

None

V. Implementation Schedule:

As alternate methods for inservice inspection become available, they will be evaluated for possible implementation during later inspection intervals.

**FLORIDA POWER CORPORATION
INSERVICE INSPECTION
RELIEF REQUEST #159
CRYSTAL RIVER - UNIT 3**

REFERENCE CODE: ASME Boiler and Pressure Vessel Code, Section XI, 1974 Edition through Summer 1975 Addenda.

I. Component for which exemption is requested:

(a) Name and Identification Number:

Core Flood Nozzle-to-Safe End and Safe End-to-Pipe Welds
(FSAR Figure 6-2 (FD-318-702))

(b) Function:

Provides reactor vessel core flooding capability.

(c) ASME Section III Code Class:

Class 1

(d) Valve Category:

N/A

II. Requirement that has been determined to be impractical:

ASME Boiler and Pressure Vessel Code, Section XI, Items B1.6 and B4.1, Examination Category B-F, Surface Examination

III. Basis for Requesting Relief

Relief is requested from the surface examination requirements of the Core Flood Nozzle-to-Safe End and Safe End-to-Pipe welds. Approximately 40 man-hours would be required to prepare each of the two core flood nozzle safe ends for inspection. The preparation would involve removal of the refueling canal seal plate, berite filled plugs, and insulation. The radiation levels in this area are expected to be approximately 1 to 2 R/hr, for an estimated total exposure of 40 to 80 man-rem. Shielding is considered impractical in this area. Any remote inspection would require approximately the same preparation work.

IV. Alternate Examination:

As an alternative, the welds will be ultrasonically examined from the inside surface. This will provide adequate assurance of weld integrity at the outside surface. The 1980 Edition through Winter 1981 Addenda of Section XI, IWB-3514.3 states, "Where indications on the outer surface of piping, as detected by the surface examination method during an inservice examination exceed the allowable standards, the indication may be examined by the volumetric method. The acceptance of these indications shall be governed by the allowable indication standards for the volumetric examination method"

V. Implementation Schedule:

All Core Flood Nozzle-to-Safe End and Safe End-to-Pipe welds will be inspected at or near the end of the first ten-year interval using the proposed alternate examination.