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Document Control Branch (Document Control Desk)

SUBJECT: Requests approval of Relief Request 19/20 for Units 1 & 2, respectively.

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P R I O R I T Y 1 D O C U M E N T

P.O. Box 128, Ft. Pierce, FL 34954-0128

FPL

November 7, 1995

L-95-296
10 CFR 50.4
10 CFR 50.55a

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

RE: St. Lucie Units 1 and 2
Docket Nos. 50-335 and 50-389
In-Service-Inspection Plan
Second Ten-Year Interval
Request for Use of Code Case N-416-1
Relief Request 19/20

Pursuant to 10 CFR 50.55a(a)(3), Florida Power and Light Company requests approval of Relief Requests 19/20 for St. Lucie Units 1 and 2 respectively. These relief requests incorporate ASME Section XI Code Case N-416-1, *Alternative Pressure Test Requirement for welded Repairs or Installation of Replacement Items by Welding, Class 1,2, and 3, Section XI, Division 1,* for use in the St. Lucie Unit 1 and 2 Second Ten Year In-Service-Inspection Programs. A copy of the Code Case is included for your information.

This Code Case was approved by the Code Committee on February 15, 1994, as an alternative to the hydrostatic test requirements of IWA-4000. Use of this Code Case provides an acceptable level of quality and safety by the use of a system pressure test and the additional nondestructive examinations identified in the relief requests.

Use of this Code Case is requested to begin with the Fall 1995, Unit 2 refueling outage and end when this code Case is incorporated into Regulatory Guide 1.147 or the end of the interval.

Please contact us if there are any questions about this submittal.

Very truly yours,

D.A. Sager

D. A. Sager
Vice President
St. Lucie Plant

DAS/GRM 140CC5

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

A047

A. COMPONENT IDENTIFICATION:

ASME Class 1, 2, and 3 Piping Systems

B. EXAMINATION REQUIREMENTS:

The 1989 Edition, Section XI, IWA-4700(a) requires a system hydrostatic test be performed in accordance with IWA-5000 after repairs by welding on the pressure retaining boundary.

C. RELIEF REQUESTED:

Relief is requested from performing system hydrostatic tests following welded repairs or installation of replacements by welding.

D. BASIS FOR RELIEF:

Code hydrostatic tests subject the piping system to a small increase in pressure over the nominal operating pressure and is not intended to present a significant challenge to pressure boundary integrity. It is used primarily as a means to enhance leakage detection during the examination of components under pressure, rather than as a measure to determine the structural integrity of components.

Industry experience has demonstrated that leaks are not being discovered as a result of hydrostatic test pressures propagating a pre-existing flaw through wall. Most leaks are being found when the system is at normal operating pressure. Hydrostatic tests are time consuming, require extensive operator support, and usually mean radiation exposure to personnel. Often additional equipment must be brought in to test a localized repair/replacement, which may involve additional exposure and expense. In many cases, a system hydrostatic test must be conducted over large parts of the system.

Hydrostatic tests place a burden on the systems, increase radiation exposure and costs, require significant setup time, and add marginal value (if any) to the repair or replacement quality. These tests result in hardships without a compensating increase in the level of quality and safety. Performing the tests in accordance with the proposed alternative will provide reasonable assurance that flaws will be discovered.

E. ALTERNATIVE EXAMINATIONS OR TESTS:

In lieu of the Code required hydrostatic testing for repairs or installation of replacement items by welding in Class 1, 2, and 3 piping systems, FPL proposes to apply ASME Code Case N-416-1 as alternative rules. Code Case N-416-1 requires that (a) NDE be performed in accordance with the methods and acceptance criteria of the 1992 Edition of Section III, (b) Visual examinations (VT-2) will be performed in conjunction with a system

leakage test using the 1992 Edition of Section XI, in accordance with IWA-5000, at nominal operating pressure, (c) the use of the Code Case will be documented on the Owner's Data Report Form NIS-2 or equivalent.

FPL will implement the requirements of the Code Case, with the following two proposed exceptions:

1. FPL will perform VT-2 visual examination (in conjunction with a system leakage test) using the requirements of the 1989 Edition of Section XI, instead of the 1992 Edition specified by Code Case N-416-1. The VT-2 requirements specified in the 1989 Edition are the latest approved by the USNRC and has proven effective in maintaining leak tight integrity of the pressure boundary. Maintaining a separate VT-2 program using the 1992 Edition is not cost effective.

2. FPL proposes to perform additional surface examinations on the root pass layer of butt and socket welds on the pressure-retaining boundary of Class 3 components exceeding 2.0" nominal pipe size only when those pressure retaining welds are required to have a surface examination in accordance with the 1992 Edition of Section III. For those Class 3 welds receiving radiography in lieu of a surface examination in accordance with Section III, no additional surface examination of the root layer will be performed.

F. IMPLEMENTATION SCHEDULE:

Implement the Code Case during the Second Inservice Inspection Interval (August 8, 1993 through August 8, 2003), or until such time as this Code Case is published in Regulatory Guide 1.147. At that time FPL will incorporate any limitations issued in Regulatory Guide 1.147 in order to continue use.

G. ATTACHMENTS TO THE RELIEF:

ASME Code Case N-416-1

H. STATUS:

Approval Date: February 15, 1994

See Numeric Index for expiration and any reaffirmation dates.

Case N-416-1
Alternative Pressure Test Requirement for Welded Repairs or Installation of Replacement Items by Welding, Class 1, 2 and 3
Section XI, Division 1

Inquiry: What alternative pressure test may be performed in lieu of the hydrostatic pressure test required by para. IWA-4000 for welded repairs or installation of replacement items by welding?

Reply: It is the opinion of the Committee that in lieu of performing the hydrostatic pressure test required by para. IWA-4000 for welded repairs or installation of replacement items by welding, a system leakage test may be used provided the following requirements are met.

(a) NDE shall be performed in accordance with the methods and acceptance criteria of the applicable Subsection of the 1992 Edition of Section III.

(b) Prior to or immediately upon return to service, a visual examination (VT-2) shall be performed in conjunction with a system leakage test, using the 1992 Edition of Section XI, in accordance with para. IWA-5000, at nominal operating pressure and temperature.

(c) Use of this Case shall be documented on an NIS-2 Form.

If the previous version of this case were used to defer a Class 2 hydrostatic test, the deferred test may be eliminated when the requirements of this revision are met.

A. COMPONENT IDENTIFICATION:

ASME Class 1, 2, and 3 Piping Systems

B. EXAMINATION REQUIREMENTS:

The 1983 Edition through the Summer 1983 Addenda, Section XI, IWA-4700(a) requires a system hydrostatic test be performed in accordance with IWA-5000 after repairs by welding on the pressure retaining boundary.

C. RELIEF REQUESTED:

Relief is requested from performing system hydrostatic tests following welded repairs or installation of replacements by welding.

D. BASIS FOR RELIEF:

Code hydrostatic tests subject the piping system to a small increase in pressure over the nominal operating pressure and is not intended to present a significant challenge to pressure boundary integrity. It is used primarily as a means to enhance leakage detection during the examination of components under pressure, rather than as a measure to determine the structural integrity of components.

Industry experience has demonstrated that leaks are not being discovered as a result of hydrostatic test pressures propagating a pre-existing flaw through wall. Most leaks are being found when the system is at normal operating pressure. Hydrostatic tests are time consuming, require extensive operator support, and usually mean radiation exposure to personnel. Often additional equipment must be brought in to test a localized repair/replacement, which may involve additional exposure and expense. In many cases, a system hydrostatic test must be conducted over large parts of the system.

Hydrostatic tests place a burden on the systems, increase radiation exposure and costs, require significant setup time, and add marginal value (if any) to the repair or replacement quality. These tests result in hardships without a compensating increase in the level of quality and safety. Performing the tests in accordance with the proposed alternative will provide reasonable assurance that flaws will be discovered.

E. ALTERNATIVE EXAMINATIONS OR TESTS:

In lieu of the Code required hydrostatic testing for repairs or installation of replacement items by welding in Class 1, 2, and 3 piping systems, FPL proposes to apply ASME Code Case N-416-1 as alternative rules. Code Case N-416-1 requires that (a) NDE be performed in accordance with the methods and acceptance criteria of the 1992 Edition of Section III, (b) Visual examinations (VT-2) will be performed in conjunction with a system leakage test using the 1992 Edition of Section XI, in accordance with IWA-5000, at nominal operating pressure, (c) the use of the Code Case will be documented on the Owner's Data Report Form NIS-2 or equivalent.

FPL will implement the requirements of the Code Case, with the following two proposed exceptions:

1. FPL will perform VT-2 visual examination (in conjunction with a system leakage test) using the requirements of the 1983 Edition through the Summer 1983 Addenda of Section XI, instead of the 1992 Edition specified by Code Case N-416-1. The VT-2 requirements specified in the 1983S83 Edition/Addenda have proven effective in maintaining leak tight integrity of the pressure boundary. Maintaining a separate VT-2 program using the 1989 or 1992 Edition is not cost effective.

2. FPL proposes to perform additional surface examinations on the root pass layer of butt and socket welds on the pressure-retaining boundary of Class 3 components exceeding 2.0" nominal pipe size only when those pressure retaining welds are required to have a surface examination in accordance with the 1992 Edition of Section III. For those Class 3 welds receiving radiography in lieu of a surface examination in accordance with Section III, no additional surface examination of the root layer will be performed.

F. IMPLEMENTATION SCHEDULE:

Implement the Code Case during the Second Inservice Inspection Interval (February 11, 1988 through February 11, 1998), or until such time as this Code Case is published in Regulatory Guide 1.147. At that time FPL will incorporate any limitations issued in Regulatory Guide 1.147 in order to continue use.

G. ATTACHMENTS TO THE RELIEF:

ASME Code Case N-416-1

H. STATUS: