



September 24, 2014

L-2014-298
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 Plan
RAI Response - Third Ten-Year Interval Unit 2 Relief Request No. 16

References:

1. FPL Letter L-2014-207 dated June 30, 2014, "Third Ten-Year Interval Unit 2 Relief Request No. 16," Accession No. ML14203A007
2. NRC Request for Additional Information, "Request for additional information regarding St. Lucie Unit 2 Relief Request 16 for 3rd Interval (MF4340)," Accession No. ML14234A275

In Reference 1, in accordance with 10 CFR50.55a(g)(5)(iii), inservice inspection impracticality, Florida Power & Light (FPL) requested relief from the examination coverage requirements of the ASME Code, Section XI, 1998 Edition with Addenda through 2000, as clarified by Code Case N-460, for the subject ASME Code Category C-F-1 welds.

In Reference 2, the NRC forwarded a request for additional information. This letter provides FPL's response in the attachment.

Please contact Ken Frehafer at (772) 467-7748 if there are any questions about this submittal.

Sincerely,

A handwritten signature in black ink that reads "Eric S. Katzman".

Eric S. Katzman
Licensing Manager
St. Lucie Plant

Attachment

ESK/KWF

cc: USNRC Regional Administrator, Region II
USNRC Senior Resident Inspector, St. Lucie Units 1 and 2

A047
NRR

RAI 1

For each weld in Relief Request 16: (a) provide the corresponding piping system (e.g., reactor coolant system and chemical volume and control system); and (b) discuss whether the licensee identified any indication(s) during preoperational inspection (i.e., radiographic testing or surface examination(s), or both) on the volume not covered by UT of the affected welds.

FPL Response;

- (a) All welds included in this relief request are in the safety injection system.
- (b) All welds had surface examinations (liquid penetrant) and radiographic (RT) performed and were acceptable for service in accordance with the requirements of ASME Section III, 1971 Edition through Summer 1973 Addenda.

RAI 2

On page 3 of the relief request, in the Section, "Basis," the licensee stated, "While the coverage is not included in the Table, the techniques employed for the single sided examinations provided for a best effort examination." Although the licensee noted that its best effort examinations (i.e., examining the far side of the weld in a single-sided examination by the refracted longitudinal waves) were not included in the Table in the attachment to the relief request and were not credited, please discuss whether the licensee's best effort examinations covered the weld root and the heat affected zone of the base material near the inside diameter surface of the joint typically susceptible to higher stress and degradation.

FPL Response;

As illustrated in the sketches included within the relief request, the weld root area and far side base material immediately adjacent to the welds near the inside diameter surface of the joint was interrogated with the theoretical beam path in the areas that were accessible.

RAI 3

Discuss whether there has been any plant-specific, fleet, or industry operating experience regarding potential degradation of the subject welds caused by known degradation mechanisms (e.g., fatigue and/or stress corrosion cracking) that would lead to leakage. If yes, discuss whether any compensatory measures have been taken.

FPL Response;

There is no plant-specific, Nextera fleet, or industry operating experience regarding potential degradation specific to the subject welds included in this relief request. However, isolated occurrences of stress corrosion cracking have occurred in stainless steel materials in the industry. To address the concerns of these isolated cases, periodic walkdowns by plant personnel discussed in the response to RAI 4 provide assurance that any isolated degradation would be identified at the onset before a safety concern could develop.

RAI 4

Discuss leakage detection capabilities at the plant, or any measures taken, to monitor and identify leakage during operation in an unlikely event of a through-wall leak in the welds under

consideration.

FPL Response;

The Class 2 welds identified in the table are located both within either the reactor containment building or reactor auxiliary building. Regular walkdowns by operations personnel and system engineers are performed on systems in the reactor auxiliary building to check for leakage, piping configuration, and/or damage.

During outages, system engineers perform boric acid walkdowns of all systems inside containment. This walkdown is performed to look for borated system leakage as well as system anomalies that could affect plant performance.

Leakage monitoring inside containment at St. Lucie Unit 2 is provided by the reactor cavity (containment) sump inlet flow monitoring system. This system has high level and alert status alarms in the control room. This system has Tech Spec required monitoring (TS 3/4.4.6.2.1 b) at least once every 12 hours.

RAI 5

The licensee stated that weld SI-409-FW-2003 was installed in 2011. If this weld was replaced as a result of degradation, discuss in detail the root cause of the degradation and extent-of-condition.

FPL Response;

SI-409-FW-2003 was installed as a result of the replacement of valve V3615. Weld or base material degradation was not the reason for the replacement.