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St. Lucie Units 1 and 2
Docket Nos. 50-335 and 50-389
License Renewal Commitments
Reactor Vessel Internals Aging Management Plan
Clarification of Responses to RAI 1 and RAI 6

References:

1. NUREG 1779, Safety Evaluation Report Related to License Renewal of St. Lucie Nuclear Plant, Units 1 and 2, September 2003.
2. Safety Evaluation by the Office of Nuclear Reactor Regulation related to Amendment No. 213 to Facility Operating License No. DPR-67, Florida Power and Light Company, St. Lucie Plant Unit No. 1, Docket No. 50-335.
3. Safety Evaluation by the Office of Nuclear Reactor Regulation related to Amendment No. 163 to Facility Operating License No. NPF-16, Florida Power and Light Company, St. Lucie Plant Unit No. 2, Docket No. 50-389.
4. Electric Power Research Institute (EPRI) Materials Reliability Program Report 1022863 (MRP-227-A), "Pressurized Water Reactor Internals Inspection and Evaluation Guidelines," ADAMS Accession Nos. ML12017A194, ML12017A196, ML12017A197, ML12017A191, ML12017A192, ML12017A195, and ML12017A199.
5. FPL Letter from Joseph Jensen to U.S. Nuclear Regulatory Commission (L-2014-192) "St. Lucie Units 1 and 2 Docket Nos. 50-335 and 50-389, Reactor Vessel Internals Inspection Program Plans and Inspection Dates," June 25, 2014.
6. FPL Letter from Christopher Costanzo to U.S. Nuclear Regulatory Commission (L-2015-229) "St. Lucie Units 1 and 2 Docket Nos. 50-335 and 50-389, License Renewal Commitments - Reactor Vessel Internals Aging Management Plan," Dated September 28, 2015.
7. NRC e-Mail from Perry Buckberg to Ken Frehafer, Request for Additional Information, St. Lucie Plant Units 1 and 2, Reactor Vessel Internals Aging Management Plan, Docket Nos. 50-335 and 50-389, TAC Nos. MF6777 and MF6778. ADAMS Accession No. ML16013A215.
8. FPL Letter from Christopher Costanzo to U.S. Nuclear Regulatory Commission (L-2016-040) "St. Lucie Units 1 and 2 Docket Nos. 50-335 and 50-389, License Renewal Commitments - Reactor Vessel Internals Aging Management Plan," Dated February 26, 2016.

9. FPL Letter from Daniel DeBoer to U.S. Nuclear Regulatory Commission (L-2017-015) "St. Lucie Units 1 and 2 Docket Nos. 50-335 and 50-389, License Renewal Commitments - Reactor Vessel Internals Aging Management Plan Response to Request for Additional Information," Dated March 7, 2017.
10. NRC E-mail, 11-28-2017, Perry Buckberg to Ken Frehafer, "LR Commitments - Reactor Vessel Internals (RVI) Aging Management Plan (MF6777 & MF6778)", Clarification of RAI Responses RAI-MF6777/MF6778-EVIB-01 and RAI-MF6777/MF6778-EVIB-06. ADAMS Accession No. ML 17335A103.

By letter to the U.S. Nuclear Regulatory Commission (NRC) dated September 28, 2015 (Reference 6), Florida Power & Light Company (FPL) submitted its License Renewal Reactor Internals Program MRP-227-A (Reference 4) at St. Lucie Nuclear Plants Units 1 and 2 for NRC staff review.

The NRC staff reviewed the information provided by FPL in its submittal and requested additional information to complete their review (Reference 7). The responses to RAI-1 through RAI-4 and RAI-7 through RAI-10 were previously submitted to the NRC on February 26, 2016 (Reference 8). The responses to RAI-5 and RAI-6 were previously submitted to the NRC on February 7, 2017 (Reference 9).

The NRC staff reviewed the information provided by FPL in the responses to RAI-1 through 10 and asked for clarifications to the responses to RAI-1 and RAI-6 (Reference 10).

The clarifications to RAI 1 & 6 are included in Attachment 1. The revised pages of the Reactor Vessel Internals Aging Management Plan with changes incorporated from the clarifications to RAI-1 and RAI-6 are contained in Attachment No. 2.

Should you have any questions, please contact Mr. Michael Snyder, Licensing Manager, at 772-467-7036.

Very truly yours,



Daniel DeBoer
Site Director
St. Lucie Plant

Attachments:

- 1) St. Lucie Units 1 and 2, Clarifications to RAI-1 and RAI-6
- 2) St. Lucie Units 1 and 2, Reactor Vessel Internals Aging Management Plan, changes pages

cc: NRC Region II Administrator
NRC Project Manager, St. Lucie Nuclear Plant
NRC Senior Resident Inspector, St. Lucie Nuclear Plant

Attachment 1

St. Lucie Units 1 and 2
Clarifications to RAI-1 and RAI-6

The staff is requesting clarification on two RAI responses related to the subject review. Questions are below:

RAI-MF6777/MF6778-EVIB-01 (2/26/16 FPL Response - ML16063A006) - The information in the response related to the components for which inspections are waived due to having a fatigue time-limited aging analysis (TLAA) is inconsistent with the License Renewal Application (LRA). The only RVI component with a fatigue TLAA is the core barrel cylinder in LRA Section 4.6.3. However, the RAI response includes that a fatigue evaluation was performed for other RVI components which were not in the LRA. Was the analysis performed at a later time and not a part of the LRA Licensing Basis (at the time), or it did not meet the criteria for a TLAA?

FPL Response:

Fatigue evaluations of reactor vessel internal components were performed and were documented in the Extended Power Uprate (EPU) LAR submittal sent in FPL Letters: L-2010-259 and L-2011-021, Ref. 1 and 2 defined below. Attachment 5 “Licensing Report” of each letter documented that the following reactor vessel internals components were evaluated for PSL Units 1 and 2:

- Core Support Barrel (CSB)
- Core Support Plate (CSP)
- Lower Support Structure (LSS) Beams and Columns
- Core Shroud
- Upper Guide Structure (UGS)
- Fuel Alignment Plate (FAP)
- Control Element Assembly (CEA) Shrouds
- Instrument Tube Supports
- Reactor Vessel Level Monitoring System Support Tube
- Thimble Support Plate (TSP)

The results of these evaluations demonstrated that the above listed components were structurally adequate for the EPU conditions and the fatigue usage factors were less than 1.0. In Section 2.2.2.1.3 of Attachment 5 of each letter, it confirmed the fatigue analyses performed remain valid for the period of extended operation. This response updates FPL’s response to RAI #1 in FPL Letter No. L-2016-040 with the fatigue evaluation references for the PSL Unit 1 and 2 reactor vessel internals.

RAI-MF6777/MF6778-EVIB-06 (3/6/17 FPL Response - ML17075A194) – In the response, FPL proposed plant-specific modifications to MRP-227-A for components at St. Lucie which experience higher fluence than what was analyzed in MRP-227-A. The core barrel cylinder is an expansion component that FPL determined to be susceptible to irradiation assisted stress corrosion cracking (IASCC). Expansion components are linked to other primary components which are examined to ensure that degradation due to certain mechanisms are non-existent. The primary component that the core barrel cylinder is linked to does not have IASCC as a mechanism, which means that it will never be examined for IASCC. Shouldn't the primary link be something for which IASCC is a possible degradation mechanism?

FPL Response:

The Expansion Component Core Support Barrel (CSB) upper cylinder exceeded the fluence criteria for IASCC. IASCC was added as a Degradation Mechanism in the Expansion Components Table in the St. Lucie Units 1 & 2 RVI AMP. The Primary Component core support barrel (CSB) upper flange weld did not require a change, because IASCC did not screen in as applicable. The Primary Component Core Shroud Plate-Former Plate Weld experiences higher fluence than the CSB upper cylinder, and it is susceptible to IASCC. FPL has added the CSB upper cylinder as an Expansion Link to the Core Shroud Plate-Former Plate Weld in the Primary Components Table. Degradation meeting Expansion Criteria of the Core Shroud Plate-Former Plate will trigger an Expansion Component inspection of the CSB upper cylinder.

References:

1. FPL Letter, L-2010-259, R. L. Anderson (FPL) to U.S. Nuclear Regulatory Commission (L-2010-259), "St. Lucie Plan Unit 1 License Amendment Request for Extended Power Uprate," November 22, 2010, ADAMS Accession No. ML103560419.
2. FPL Letter, L-2011-021, R. L. Anderson (FPL) to U.S. Nuclear Regulatory Commission (L-2011-021), "St. Lucie Plant Unit 2 License Amendment Request for Extended Power Uprate," February 25, 2011, ADAMS Accession No. ML110730116.

Attachment 2

St. Lucie Units 1 and 2
Reactor Vessel Internals Aging Management Plan Changes

CE Plants Primary Components
St. Lucie Units 1 and 2

Item	Applicability	Effect (Mechanism)	Expansion Link (Note 1)	Examination Method/Frequency (Note 1)	Examination Coverage
Core Shroud Assembly (Bolted) Core shroud bolts	Bolted plant designs NA for PSL	Cracking (IASCC), Fatigue Aging Management (IE and ISR) (Note 2)	Core support column bolts, Barrel-shroud bolts	Baseline volumetric (UT) examination between 25 and 35 EFY, with subsequent examination on a ten-year interval.	100% of accessible bolts (see Note 3). Heads are accessible from the core side. UT accessibility may be affected by complexity of head and locking device designs. See Figure 4-24, MRP-227-A.
Core Shroud Assembly (Welded) Core shroud plate-former plate weld	Plant designs with core shrouds assembled in two vertical sections Applicable for PSL	Cracking (IASCC) Aging Management (IE) (Note 2)	Remaining axial welds <u>Core support barrel assembly upper cylinder</u>	Enhanced visual (EVT-1) examination no later than 2 refueling outages from the beginning of the license renewal period and subsequent examination on a ten-year interval.	Axial and horizontal weld seams at the core shroud re-entrant corners as visible from the core side of the shroud, within six inches of central flange and horizontal stiffeners. See Figures 4-12 and 4-14, MRP-227-A.
Core Shroud Assembly (Welded) Shroud plates	Plant designs with core shrouds assembled with full-height shroud plates NA for PSL	Cracking (IASCC) Aging Management (IE) (Note 2)	Remaining axial welds, ribs and rings	Enhanced visual (EVT-1) examination no later than 2 refueling outages from the beginning of the license renewal period and subsequent examination on a ten-year interval.	Axial weld seams at the core shroud re-entrant corners, at the core mid-plane (\pm three feet in height) as visible from the core side of the shroud. See Figure 4-13, MRP-227-A.

CE Plants Primary Components
St. Lucie Units 1 and 2

Item	Applicability	Effect (Mechanism)	Expansion Link (Note 1)	Examination Method/Frequency (Note 1)	Examination Coverage
Core Shroud Assembly (Bolted) Assembly	Bolted plant designs NA for PSL	Distortion (Void Swelling), including: Abnormal interaction with fuel assemblies Gaps along high fluence shroud plate joints Vertical displacement of shroud plates near high fluence joint Aging Management (IE)	None	Visual (VT-3) examination no later than 2 refueling outages from the beginning of the license renewal period. Subsequent examinations on a ten-year interval.	Core side surfaces as indicated. See Figures 4-25 and 4-26, MRP-227-A.
Core Shroud Assembly (Welded) Assembly	Plant designs with core shrouds assembled in two vertical sections Applicable for PSL	Distortion (Void Swelling), as evidenced by separation between the upper and lower core shroud segments Aging Management (IE)	None	Visual (VT-1) examination no later than 2 refueling outages from the beginning of the license renewal period. Subsequent examinations on a ten-year interval.	If a gap exists, make three to five measurements of gap opening from the core side at the core shroud re-entrant corners. Then, evaluate the swelling on a plant-specific basis to determine frequency and method for additional examinations. See Figures 4-12 and 4-14, MRP-227-A.
Core Support Barrel Assembly Upper (core support barrel) flange weld	All plants Applicable for PSL	Cracking (SCC)	Lower core support beams. Core support barrel assembly upper cylinder Upper core barrel flange	Enhanced visual (EVT-1) examination no later than 2 refueling outages from the beginning of the license renewal period. Subsequent examinations on a ten-year interval.	100% of the accessible surfaces of the upper flange weld. See Figure 4-15, MRP-227-A.

CE Plants Primary Components
St. Lucie Units 1 and 2

Item	Applicability	Effect (Mechanism)	Expansion Link (Note 1)	Examination Method/Frequency (Note 1)	Examination Coverage
Core Support Barrel Assembly Lower cylinder girth welds	All plants Applicable for PSL	Cracking (SCC, IASCC) Aging Management (IE)	Lower Cylinder Axial Welds	Enhanced visual (EVT-1) examination no later than 2 refueling outages from the beginning of the license renewal period. Subsequent examinations on a ten-year interval.	100% of the accessible surfaces of the lower cylinder welds. (Note 4) See Figure 4-15, MRP-227-A.
Lower Support Structure Core support column welds)	All plants Applicable for PSL	Cracking (SCC, IASCC) Aging Management (IE)	None	Visual (VT-3) examination no later than 2 refueling outages from the beginning of the license renewal period. Subsequent examinations on a ten-year interval.	100% of the accessible surfaces of the core support column welds. (Note 5) See Figure 4-16 and 4-31, MRP-227-A.
Core Support Barrel Assembly Lower flange weld	All plants No inspections required for PSL Units 1 and 2 as TLAA exists. (10.19)	Cracking (Fatigue)	None	If fatigue life cannot be demonstrated by time-limited aging analysis (TLAA), enhanced visual (EVT-1) examination, no later than 2 refueling outages from the beginning of the license renewal period. Subsequent examination on a ten-year interval.	Examination coverage to be defined by plant-specific fatigue analysis. See Figure 4-15 and 4-16, MRP-227-A.
Core Support Barrel Assembly Expandable plugs and patches	PSL Unit 1 Only	Cracking (IASCC, SCC, Fatigue)	None	Enhanced visual (EVT-1) examination no later than 2 refueling outages from the beginning of the license renewal period. Subsequent examinations on a ten-year interval	Repair region of core support barrel
Lower Support Structure Core support plate	All plants with a core support plate No inspections required for PSL Units 1 and 2 as TLAA exists. (10.19)	Cracking (Fatigue) Aging Management (IE)	None	If fatigue life cannot be demonstrated by time-limited aging analysis (TLAA), enhanced visual (EVT-1) examination, no later than 2 refueling outages from the beginning of the license renewal period. Subsequent examination on a ten-year interval.	Examination coverage to be defined by evaluation to determine the potential location and extent of fatigue cracking. See Figure 4-16, MRP-227-A.

CE Plants Primary Components
St. Lucie Units 1 and 2

Item	Applicability	Effect (Mechanism)	Expansion Link (Note 1)	Examination Method/Frequency (Note 1)	Examination Coverage
Upper Internals Assembly Fuel alignment plate	All plants with core shrouds assembled with full-height shroud plates NA for PSL	Cracking (Fatigue)	None	If fatigue life cannot be demonstrated by time-limited aging analysis (TLAA), enhanced visual (EVT-1) examination, no later than 2 refueling outages from the beginning of the license renewal period. Subsequent examination on a ten-year interval.	Examination coverage to be defined by plant-specific fatigue analysis. See Figure 4-17, MRP-227-A.
Control Element Assembly Instrument guide tubes	All plants with instrument guide tubes in the CEA shroud assembly Applicable for PSL	Cracking (SCC, Fatigue) that results in missing supports or separation at the welded joint between the tubes and supports Aging Management (IE)	Remaining instrument guide tubes within the CEA shroud assemblies	Visual (VT-3) examination, no later than 2 refueling outages from the beginning of the license renewal period. Subsequent examination on a ten-year interval. Plant-specific component integrity assessments may be required if degradation is detected and remedial action is needed.	100% of tubes in peripheral CEA shroud assemblies (i.e., those adjacent to the perimeter of the fuel alignment plate). See Figure 4-18, MRP-227-A.
Lower Support Structure Deep beams	All plants with core shrouds assembled with full-height shroud plates NA for PSL	Cracking (Fatigue) that results in a detectable surface-breaking indication in the welds or beams Aging Management (IE)	None	Enhanced visual (EVT-1) examination, no later than 2 refueling outages from the beginning of the license renewal period. Subsequent examination on a ten-year interval, if adequacy of remaining fatigue life cannot be demonstrated.	Examine beam-to-beam welds, in the axial elevation from the beam top surface to four inches below. See Figure 4-19, MRP-227-A.

NOTE:

- 1) Examination acceptance criteria and expansion criteria are in the CE Plants Examination Acceptance and Expansion Criteria Table.
- 2) Void swelling effects on this component is managed through management of void swelling on the entire core shroud assembly.
- 3) A minimum of 75% of the total population (examined + unexamined), including coverage consistent with the Expansion criteria in Attachment 4, must be examined for inspection credit.
- 4) A minimum of 75% of the total weld length (examined + unexamined), including coverage consistent with the Expansion criteria in Attachment 4, must be examined from either the inner or outer diameter for inspection credit.
- 5) A minimum of 75% of the total population of core support column welds

CE Plants Expansion Components
St. Lucie Units 1 and 2

Item	Applicability	Effect (Mechanism)	Primary Link (Note 1)	Examination Method (Note 1)	Examination Coverage
Core Shroud Assembly (Bolted) Barrel-shroud bolts	Bolted plant designs NA for PSL	Cracking (IASCC, Fatigue) Aging Management (IE and ISR)	Core shroud bolts	Volumetric (UT) examination. Re-inspection every 10 years following initial inspection.	100% (or as supported by plant-specific justification; Note 2) of barrel-shroud and guide lug insert bolts with neutron fluence exposures > 3 displacements per atom (dpa). See Figure 4-23, MRP-227-A.
Core Support Barrel Assembly Lower core barrel flange	All plants Applicable for PSL	Cracking (SCC, Fatigue)	Upper (core support barrel) flange weld	Enhanced visual (EVT-1) examination Re-inspection every 10 years following the initial inspection. .	100% of accessible welds and adjacent base metal (Note 2). See Figure 4-15, MRP-227-A.
Core Support Barrel Assembly Upper cylinder (including welds)	All plants Applicable for PSL	Cracking (SCC, IASCC) Aging Management (IE)	Upper (core support barrel) flange weld <u>Core shroud plate-former plate weld</u>	Enhanced visual (EVT-1) examination. Re-inspection every 10 years following initial inspection.	100% of accessible surfaces of the welds and base metal (Note 2). See Figure 4-15, MRP-227-A.
Core Support Barrel Assembly Upper core barrel flange	All plants Applicable for PSL	Cracking (SCC)	Upper (core support barrel) flange weld	Enhanced visual (EVT-1) examination. Re-inspection every 10 years following initial inspection.	100% of accessible bottom surface of the flange (Note 2). See Figure 4-15, MRP-227-A.
Core Support Barrel Assembly Core barrel assembly axial welds	All plants Applicable for PSL	Cracking (SCC)	Core barrel assembly girth welds	Enhanced visual (EVT-1) examination, with initial and subsequent examinations dependent on the results of core barrel assembly girth weld examinations. .	100% of one side of the accessible weld and adjacent base metal surfaces for the weld with the highest calculated operating stress. See Figure 4-15, MRP-227-A.
Lower Support Structure Lower support column beams	All plants except those with core shrouds assembled with full-height shroud plates. Applicable for PSL	Cracking (SCC, fatigue) including damaged or fractured material. Aging Management (IE)	Upper (core support barrel) flange weld	Enhanced visual (EVT-1) examination. Re-inspection every 10 years following initial inspection.	100% of accessible surfaces (Note 2). See Figure 4-16 and 4-31, MRP-227-A.

CE Plants Expansion Components
St. Lucie Units 1 and 2

Item	Applicability	Effect (Mechanism)	Primary Link (Note 1)	Examination Method (Note 1)	Examination Coverage
Core Shroud Assembly (Bolted) Core support column bolts	Bolted plant designs NA for PSL	Cracking (IASCC, Fatigue) Aging Management (IE)	Core shroud bolts	Ultrasonic (UT) examination. Re-inspection every 10 years following initial inspection.	100% (or as supported by plant-specific analysis) of core support column bolts with neutron fluence exposures > 3 dpa. (Note 2) See Figures 4-16 and 4-33, MRP-227-A.
Core Shroud Assembly (Welded) Remaining axial welds	Plant designs with core shrouds assembled in two vertical sections Applicable for PSL	Cracking (IASCC)	Core shroud plate-former plate weld	Enhanced visual (EVT-1) examination. Re-inspection every 10 years following initial inspection.	Axial weld seams other than the core shroud re-entrant corner welds at the core mid-plane. See Figure 4-12, MRP-227-A.
Core Shroud Assembly (Welded) Remaining axial welds, Ribs and rings	Plant designs with core shrouds assembled with full-height shroud plates NA for PSL	Cracking (IASCC)	Shroud plates of welded core shroud assemblies	Enhanced visual (EVT-1) examination, with initial and subsequent examination frequencies dependent on the results of the core shroud weld examinations.	Axial weld seams other than the core shroud re-entrant corner welds at the core mid-plane, plus ribs and rings. See Figure 4-13, MRP-227-A.
Control Element Assembly Remaining instrument guide tubes	All plants with instrument guide tubes in the CEA shroud assembly Applicable for PSL	Cracking (SCC, Fatigue) that results in missing supports or separation at the welded joint between the tubes and supports. Aging Management (IE)	Peripheral instrument guide tubes within the CEA shroud assemblies	Visual (VT-3) examination, with initial and subsequent examinations dependent on the results of the instrument guide tubes examinations.	100% of tubes in CEA shroud assemblies. See Figure 4-18, MRP-227-A.

NOTE:

- 1) Examination acceptance criteria and expansion criteria are in the CE Plants Examination Acceptance and Expansion Criteria Table.
- 2) A minimum of 75% coverage of the entire examination area or volume, or a minimum sample size of 75% of the total population of like components of the examination is required (including both the accessible and inaccessible portions)

CE Plants Examination Acceptance and Expansion Criteria
St. Lucie Units 1 and 2

Item	Applicability	Examination Acceptance Criteria (Note 1)	Expansion Link(s)	Expansion Criteria	Additional Examination Acceptance Criteria
Core Shroud Assembly (Bolted) Core shroud bolts	Bolted plant designs NA for PSL	Volumetric (UT) examination. The examination acceptance criteria for the UT of the core shroud bolts shall be established as part of the examination technical justification.	a. Core support column bolts b. Barrel-shroud bolts	a. Confirmation that >5% of the core shroud bolts in the four plates at the largest distance from the core contain unacceptable indications shall require UT examination of the lower support column bolts barrel within the next 3 refueling cycles. b. Confirmation that >5% of the core support column bolts contain unacceptable indications shall require UT examination of the barrel-shroud bolts within the next 3 refueling cycles.	a and b. The examination acceptance criteria for the UT of the core support column bolts and barrel-shroud bolts shall be established as part of the examination technical justification.
Core Shroud Assembly (Welded) Core shroud plate-former plate weld	Plant designs with core shrouds assembled in two vertical sections Applicable for PSL	Visual (EVT-1) examination. The specific relevant condition is a detectable crack-like surface indication.	Remaining axial welds <u>Core support barrel assembly upper cylinder</u>	Confirmation that a surface-breaking indication > 2 inches in length has been detected and sized in the core shroud plate-former plate weld at the core shroud re-entrant corners (as visible from the core side of the shroud), within 6 inches of the central flange and horizontal stiffeners, shall require EVT-1 examination of all remaining axial welds by the completion of the next refueling outage.	The specific relevant condition is a detectable crack-like surface indication.
Core Shroud Assembly (Welded) Shroud plates	Plant designs with core shrouds assembled with full-height shroud plates NA for PSL	Visual (EVT-1) examination. The specific relevant condition is a detectable crack-like surface indication.	a. Remaining axial welds b. Ribs and rings	a. Confirmation that a surface-breaking indication > 2 inches in length has been detected and sized in the axial weld seams at the core shroud re-entrant corners at the core mid-plane shall require EVT-1 or UT examination of all remaining axial welds by the completion of the next refueling outage. b. If extensive cracking is detected in the remaining axial welds, an EVT-1 examination shall be required of all accessible rib and ring welds by the completion of the next refueling outage.	The specific relevant condition is a detectable crack-like surface indication.

CE Plants Examination Acceptance and Expansion Criteria
St. Lucie Units 1 and 2

Item	Applicability	Examination Acceptance Criteria (Note 1)	Expansion Link(s)	Expansion Criteria	Additional Examination Acceptance Criteria
Core Shroud Assembly (Bolted) Assembly	Bolted plant designs NA for PSL	Visual (VT-3) examination. The specific relevant conditions are evidence of abnormal interaction with fuel assemblies, gaps along high fluence shroud plate joints, and vertical displacement of shroud plates near high fluence joints.	None	N/A	N/A
Core Shroud Assembly (Welded) Assembly	Plant designs with core shrouds assembled in two vertical sections Applicable for PSL	Visual (VT-1) examination. The specific relevant condition is evidence of physical separation between the upper and lower core shroud sections.	None	N/A	N/A
Core Support Barrel Assembly Upper (core support barrel) flange weld	All plants Applicable to PSL	Visual (EVT-1) examination. The specific relevant condition is a detectable crack-like surface indication.	Lower core support beams Upper core barrel cylinder (including welds) Upper core barrel flange (cast)	Confirmation that a surface-breaking indication >2 inches in length has been detected and sized in the upper flange weld shall require that an EVT-1 examination of the lower core support beams, upper core barrel cylinder and upper core barrel flange be performed by the completion of the next refueling outage.	The specific relevant condition is a detectable crack-like surface indication.
Core Support Barrel Assembly Lower cylinder girth welds	All plants Applicable to PSL	Visual (EVT-1) examination. The specific relevant condition is a detectable crack-like surface indication.	Lower cylinder axial welds	a. Confirmation that a surface-breaking indication >2 inches in length has been detected and sized in the lower cylinder girth weld shall require an EVT-1 examination of all accessible lower cylinder axial welds by completion of the next refueling outage.	The specific relevant condition for the expansion lower cylinder axial welds is a detectable crack-like surface indication.

CE Plants Examination Acceptance and Expansion Criteria
St. Lucie Units 1 and 2

Item	Applicability	Examination Acceptance Criteria (Note 1)	Expansion Link(s)	Expansion Criteria	Additional Examination Acceptance Criteria
Lower Support Structure Core support column welds	All plants Applicable to PSL	Visual (VT-3) examination. The specific relevant condition is missing or separated welds.	None	None	
Core Support Barrel Assembly Lower flange weld	All plants Applicable to PSL	Visual (EVT-1) examination. The specific relevant condition is a detectable crack-like indication.	None	N/A	N/A
Core Support Barrel Assembly Expandable plugs and patches	PSL Unit 1 Only	Visual (EVT-1) examination. The specific relevant condition is a detectable crack-like surface indication.	None	N/A	
Lower Support Structure Core support plate	All plants with a core support plate Applicable to PSL	Visual (EVT-1) examination. The specific relevant condition is a detectable crack-like surface indication.	None	N/A	N/A
Upper Internals Assembly Fuel alignment plate	All plants with core shrouds assembled with full-height shroud plates NA for PSL	Visual (EVT-1) examination. The specific relevant condition is a detectable crack-like surface indication.	None	N/A	N/A
Control Element Assembly Instrument guide tubes	All plants with instruments tubes in the CEA shroud assembly Applicable to PSL	Visual (VT-3) examination. The specific relevant conditions are missing supports and separation at the welded joint between the tubes and the supports.	Remaining instrument tubes within the CEA shroud assemblies	Confirmed evidence of missing supports or separation at the welded joint between the tubes and supports shall require the visual (VT-3) examination to be expanded to the remaining instrument tubes within the CEA shroud assemblies by completion of the next refueling outage.	The specific relevant conditions are missing supports and separation at the welded joint between the tubes and the supports.

CE Plants Examination Acceptance and Expansion Criteria
St. Lucie Units 1 and 2

Item	Applicability	Examination Acceptance Criteria (Note 1)	Expansion Link(s)	Expansion Criteria	Additional Examination Acceptance Criteria
Lower Support Structure Deep beams	All plants with core shrouds assembled with full-height shroud plates NA for PSL	Visual (EVT-1) examination. The specific relevant condition is a detectable crack-like indication.	None	N/A	N/A

NOTE

1. The examination acceptance criterion for visual examination is the absence of the specified relevant condition(s).