DRAFT

Received 7/19/02

L-2002-139
10 CFR 54

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
Response to NRC Request for Additional Information for Review of the St. Lucie Units 1 and 2 License Renewal Application

By letter dated July 1, 2002, the NRC requested additional information regarding the St. Lucie Units 1 and 2 License Renewal Application (LRA) Sections 2.0, 3.0, 4.0 and Appendix B. Attachment 1 to this letter contains FPL's response to the requests for additional information (RAIs) associated with the Scoping and Screening Methodology, Section 2.1 of the LRA.

Should you have any further questions, please contact S. T. Hale at (772) 467-7430.

Very truly yours,

D. E. Jernigan
Vice President
St. Lucie Plant

DEJ/STH/hlo
Attachment (1)

Enclosure 4

St. Lucie Units 1 and 2
Docket Nos. 50-335 and 50-389

Response to NRC Request for Additional Information Regarding the License Renewal Application, Section 2.1 – Scoping and Screening Methodology.

STATE OF FLORIDA)
) ss
COUNTY OF ST. LUCIE)

D. E. Jernigan being first duly sworn, deposes and says:

That he is Vice President – St. Lucie of Florida Power and Light Company, the Licensee herein;

That he has executed the foregoing document; that the statements made in this document are true and correct to the best of his knowledge, information and belief, and that he is authorized to execute the document on behalf of said Licensee.

_____
D. E. Jernigan

Subscribed and sworn to before me this

_____ day of _____, 2002.

_____

_____
Name of Notary Public (Type or Print)

D. E. Jernigan is personally known to me.

cc: U.S. Nuclear Regulatory Commission, Washington, D.C.
Chief, License Renewal and Standardization Branch
Project Manager – St. Lucie License Renewal
Project Manager - St. Lucie

U.S. Nuclear Regulatory Commission, Region II
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ATTACHMENT 1
RESPONSE TO NRC REQUEST FOR ADDITIONAL INFORMATION DATED JULY 1 FOR REVIEW OF THE ST. LUCIE UNITS 1 AND 2 LICENSE RENEWAL APPLICATION

2.1 Scoping And Screening Methodology

RAI 2.1 - 1

By letters dated December 3, 2001, and March 15, 2002, the staff issued interim staff guidance to the Nuclear Energy Institute (NEI). The described areas to be considered and options the staff expects licensees to use to determine what systems, structures, or components (SSCs) meet the criterion defined in Title 10, Section 54.4(a)(2), of the *Code of Federal Regulations* 10 (CFR 54.4(a)(2)) (i.e., all non-safety-related SSCs of which failure could prevent satisfactory accomplishment of any safety-related functions identified in paragraphs (a)(1)(i), (ii), or (iii) of that section.)

The staff's letter dated December 3, 2001, provided specific examples of operating experience that identified pipe failure events (summarized in Information Notice 2001-09, Main Feedwater System Degradation in Safety-Related ASME Code Class 2 Piping Inside the Containment of a Pressurized-Water Reactor") and the approaches that the staff considers acceptable to determine which piping systems should be included within the scope of license renewal based on the criterion defined in 10 CFR 54.4(a)(2).

The staff's letter dated March 15, 2002, further described the staff's expectations regarding the evaluation of non-piping SSCs to determine which additional non-safety-related SSCs are within the scope of license renewal. The staff position states that applicants should not consider hypothetical failures, but should base their evaluations on each plant's current licensing basis, engineering judgement and analyses, and relevant operating experience. The letter further describes operating experience as all documented plant-specific and industry-wide experience that can be used to determine the plausibility of a failure. Documentation would include the NRC's generic communications and event reports, plant-specific condition reports, industry reports such as significant operating experience reports (SOER's) and engineering evaluations.

Consistent with the staff position described in the aforementioned letters, please describe the scoping methodology that you have implemented for the evaluation of the criterion defined in 10 CFR 54.4(a)(2). As part of your response, please indicate the option(s) credited, list the SSCs included within scope as a result of your efforts, list those structures and components for which aging management reviews were conducted, and describe (as applicable for each structure or component) the aging management programs that will be credited for managing the identified aging effects.

FPL Response

As noted in the St. Lucie LRA, the following components and structural components have been included in the scope of license renewal to protect safety related SSCs from a failure of non-safety related piping systems and other SSCs (scoping criteria 10 CFR 54.4(a)(2)):

1. Non-safety related piping segments and supports at safety related/non-safety related functional boundaries which extend beyond the system pressure boundary component to ensure the integrity of the safety related/non-safety related functional system pressure boundary (LRA Tables 3.5-1 through 3.5-16).

2. Piping/component supports for non-safety related mechanical systems with the potential of “seismic II over I” interaction with safety related components (LRA Tables 3.5-1 through 3.5-16).

3. Non-safety related conduit, cable trays, supports, and other structural components with the potential of “seismic II over I” interaction with safety related components (LRA Tables 3.5-1 through 3.5-16).

4. Design features required to accommodate the effects of flooding, such as curbing, platforms, sumps, sump pumps, and drains (LRA Tables 3.5-1 through 3.5-16, Table 3.3-13, and Table 3.3-16).

5. Design features required to accommodate the effects of spray, jet impingement, and pipe whip, such as pipe whip restraints and internal barriers (LRA Tables 3.5-1 through 3.5-16).

The FPL approach for scoping of "seismic II over I" is described in LRA Section 2.1.1.3 (page 2.1-5). Because the seismic interaction design feature is dependent upon the location of non-safety related systems or structures relative to the safety related systems and structures, an area based approach for scoping of “seismic II over I” was chosen. This approach identified the major structures of the plant containing both safety related and non-safety related components and structural components which are as follows:

- Containments
- Component Cooling Water Areas
- Condensate Storage Tank Enclosures
- Diesel Oil Equipment Enclosures
- Emergency Diesel Generator Buildings
- Fuel Handling Buildings
- Intake Structures
- Reactor Auxiliary Buildings
- Steam Trestle Areas
- Turbine Building (Unit 1 only)
- Ultimate Heat Sink Dam
- Yard Structures

The component and structural component level scoping performed as part of the screening process then established the specific non-safety related seismic interaction component or structural component types located within the structure for inclusion in the license renewal scope. Note that the review for seismic, leakage, pipe rupture and other interactions of non-safety related components and structural components (SCs) that could potentially affect safety related SCs included non-safety related piping systems that are connected to safety related

piping systems as well as non-safety related piping systems that are not connected to safety related piping systems. This review considered the current licensing basis (CLB) for St. Lucie Units 1 and 2 in establishing seismic, leakage, pipe rupture and other interactions. Those items determined to have an interaction were included in the scope of license renewal, and aging management reviews (AMRs) were performed and summarized in the LRA.

As stated, the above approach was based on the existing St. Lucie Units 1 and 2 CLB pipe break assumptions regarding leakage, spray, jet impingement, etc. The NRC concern is that aging of non-safety related piping could change pipe break assumptions, and as a result, create additional interactions of non-safety related piping with safety related SCs that were not considered in FPL's license renewal scoping for St. Lucie Units 1 and 2. The NRC is concerned that if these additional interactions could affect safety related functions, additional non-safety related piping may have to be included within the scope of license renewal. To address these concerns and the guidance provided in NRC letter dated March 15, 2002 regarding 10 CFR 54.4(a)(2) scoping, FPL has performed the following evaluation to establish which additional non-safety related piping should be included in the scope of license renewal.

1. A review of industry and plant-specific operating history of non-safety related piping and components containing air/gas was performed to determine whether these components required further consideration with regard to interactions with safety related components.

2. For each of the major structures of the plant containing both safety related and non-safety related components and structural components, non-safety related piping systems containing fluid and/or steam were identified. This includes high energy and other piping.

3. If the identified non-safety related piping was in the scope of license renewal to address the other scoping criteria of 10 CFR 54.4(a), no additional evaluation of this piping was required since an AMR has already been performed and appropriate aging management programs (AMPs) identified to ensure intended functions are maintained. These AMRs and AMPs are included in the LRA.

4. All remaining non-safety related piping from the completion of Steps 1, 2, and 3 above was then assumed to fail anywhere along its length.

5. Based on the assumed failures from Step 4, and a review of design drawings and plant walk downs, the effects of pipe whip, jet impingement, physical contact (piping falling such that it physically contacts safety related equipment), leakage, and/or spray were evaluated to determine if these interactions could potentially impact safety related functions. Specifically, the effects of pipe whip, jet impingement, and physical contact were considered for all non-safety related high energy piping, and the effects of spray and leakage were considered for all other non-safety related piping. High energy, as used in this evaluation, includes high energy and moderate energy systems defined by the St. Lucie Units 1 and 2 CLB's, which includes systems operating at conditions of >200^{o}F or >275 psig. If the effects of these interactions were determined to impact safety related functions, the non-safety related piping and its associated components were identified as within the scope of license renewal. If there was no impact on safety related functions as a result of the effects of these assumed failures, the piping was determined not to meet the scoping criteria of 10 CFR 54.4(a)(2), and thus not within the scope of license renewal.

6. If the piping and associated components were determined to be within the scope of license renewal, an AMR evaluation was performed on these components based on AMRs performed on components of the same material exposed to the same internal and external environments.

The results of the above evaluation are presented below.

The review of industry and St. Lucie plant specific operating experience related to non-safety related systems containing air/gas (i.e., HVAC, hydrogen, nitrogen, instrument air, etc.) did not reveal any instances of collapse or significant failures of these systems due to aging. The supports for the components and piping/ductwork associated with these systems have already been included in the scope of license renewal in the areas with the potential for interaction with safety related components. Thus, no further evaluation is required.

For systems containing fluid and/or steam, each major structure of the plant containing both safety related and non-safety related components and structural components is evaluated below.

Containments

Pipe Whip/Jet Impingement/Physical Contact – There is no non-safety related high energy piping inside the Containments. All high energy piping is safety related and thus within the scope of license renewal.

Leakage/Spray – Safety related components inside the Containments are designed to accommodate the effects of leakage and spray, without loss of function, regardless of the source.

Results – No additional non-safety related piping is required to be included within the scope of license renewal.

Component Cooling Water Areas

Pipe Whip/Jet Impingement/Physical Contact – There is no high energy piping in the Component Cooling Water Areas.

Leakage/Spray – For St. Lucie Unit 1, this is an outdoor area. All safety related components are designed for outdoor service and as a result would not be impacted by leakage or spray. For St. Lucie Unit 2, although this area is an indoor area, safety related components are designed for outdoor service and as a result would not be impacted from leakage or spray.

Results – No additional non-safety related piping is required to be included within the scope of license renewal.

Condensate Storage Tank Enclosures

Pipe Whip/Jet Impingement/Physical Contact – There is no high energy piping in the Condensate Storage Tank Enclosures.

Leakage/Spray – For St. Lucie Unit 1, this is an outdoor area. All safety related components are designed for outdoor service and as a result would not be impacted from leakage or spray. For St. Lucie Unit 2, although this area is an indoor area, safety related components are designed for outdoor service and as a result would not be impacted from leakage or spray.

Results – No additional non-safety related piping is required to be included within the scope of license renewal.

Diesel Oil Equipment Enclosures

Pipe Whip/Jet Impingement/Physical Contact – There is no high energy piping in the Diesel Oil Equipment Enclosures.

Leakage/Spray – For St. Lucie Unit 1, this is an outdoor area. All safety related components are designed for outdoor service and as a result would not be impacted from leakage or spray. For St. Lucie Unit 2, although this area is an indoor area, safety related components are designed for outdoor service and as a result would not be impacted from leakage or spray. Additionally, the non-safety related piping in this area is normally isolated.

Results – No additional non-safety related piping is required to be included within the scope of license renewal.

Emergency Diesel Generator Buildings

Pipe Whip/Jet Impingement/Physical Contact – There is no high energy piping in the Emergency Diesel Generator Buildings.

Leakage/Spray – The Emergency Diesel Generator Buildings contain small bore, stainless steel, non-safety related Demineralized Water piping and associated components that could potentially affect safety related electrical components if failures are assumed.

Results – The Unit 1 Demineralized Water piping and associated components above have been included in the scope of license renewal as meeting the scoping criteria of 10 CFR 54.4(a)(2). (Note that the Unit 2 Demineralized Water piping and associated components were already included in the scope of license renewal because these components were designed to seismic Category I requirements to address the potential for interaction with safety related components, and thus were determined to meet the scoping criteria of 10 CFR 54.4(a)(2). See LRA Subsection 2.3.3.3, Section 3.3, and Table 3.3-3.) An AMR evaluation of the Unit 1 Demineralized Water piping and associated components based on AMRs performed on stainless steel components exposed to the same internal and external environments yields the results presented below.

TABLE 2.1-1
COMPONENTS MEETING 10 CFR 54.4(a)(2)
IN THE EMERGENCY DIESEL GENERATOR BUILDINGS

Component/ Commodity Grouping	Intended Function	Material	Environment	Aging Effects Requiring Management	Program/ Activity
Internal Environment					
Piping/fittings Valves (Unit 1 Demineralized Water)	Pressure boundary	Stainless steel	Treated water – other	Loss of material	Chemistry Control Program
External Environment					
Piping/fittings Valves (Unit 1 Demineralized Water)	Pressure boundary	Stainless steel	Indoor – not air conditioned	None	None required

Fuel Handling Buildings

Pipe Whip/Jet Impingement/Physical Contact – There is no in-service high energy piping in the Fuel Handling Buildings.

Leakage/Spray – There is no in-service non-safety related piping containing fluid and/or steam in rooms where leakage or spray could effect safety related electrical components.

Results – No additional non-safety related piping is required to be included within the scope of license renewal.

Intake Structures

Pipe Whip/Jet Impingement/Physical Contact – There is no high energy piping in the Intake Structures.

Leakage/Spray – These are outdoor areas. All safety related components are designed for outdoor service and as a result would not be impacted from leakage or spray.

Results – No additional non-safety related piping is required to be included within the scope of license renewal.

Reactor Auxiliary Buildings

Pipe Whip/Jet Impingement/Physical Contact – All non-safety related high energy piping inside the Reactor Auxiliary Buildings is already within the scope of license renewal. Note that Auxiliary Steam to the Reactor Auxiliary Buildings is normally isolated by valves located in the Turbine Buildings.

Leakage/Spray – The Reactor Auxiliary Buildings contain non-safety related piping and associated components that could potentially affect safety related electrical components if arbitrary failures are assumed. The specific piping is as follows:

- Small bore, stainless steel, Chemical and Volume Control piping and associated components in the AB switchgear rooms (Units 1 and 2).
- Carbon steel, Component Cooling Water piping and associated components in the mechanical penetration rooms (Units 1 and 2) and AB switchgear room (Unit 1 only).
- Small bore, stainless steel, Demineralized Water piping and associated components in the AB switchgear rooms (Units 1 and 2).
- Small bore, stainless steel, Primary Makeup Water piping and associated components in the mechanical penetration room (Unit 1 only). (Note that the non-safety related Primary Makeup Water piping and associated components in the Unit 2 mechanical penetration room were already included in the scope of license renewal because these components are relied on during postulated fires, and thus were determined to meet the scoping criteria of 10 CFR 54.4(a)(3). See LRA Subsection 2.3.3.11, Section 3.3, and Table 3.3-11.)
- Small bore, stainless steel, Sampling piping and associated components in the mechanical penetration rooms (Units 1 and 2).
- Small bore, galvanized carbon steel, Service Water piping and associated components in the ventilation equipment rooms (Units 1 and 2) and a small portion of the -0.5 foot elevation hallway (Unit 2 only). (Note that the stainless steel Service Water piping and associated components in the Units 1 and 2 battery rooms were already included in the scope of license renewal because these components were designed to seismic Category I requirements for the potential of interaction, and thus were determined to meet the scoping criteria of 10 CFR 54.4(a)(2). See LRA Subsection 2.3.3.13, Section 3.3, and Table 3.3-13)
- Small bore, stainless steel, Waste Management piping and associated components in the mechanical penetration rooms (Units 1 and 2).

Results – The piping and associated components noted above have been included in the scope of license renewal as meeting the scoping criteria of 10 CFR 54.4(a)(2). An AMR evaluation of these components based on AMRs of components of the same materials exposed to the same internal and external environments yields the results presented below.

TABLE 2.1-2
COMPONENTS MEETING 10 CFR 54.4(a)(2)
IN THE REACTOR AUXILIARY BUILDINGS

Component/Commodity Grouping	Intended Function	Material	Environment	Aging Effects Requiring Management	Program/ Activity
Internal Environment					
Piping/fittings Valves (Chemical and Volume Control - AB switchgear rooms)	Pressure boundary	Stainless steel	Treated water – borated	Loss of material	Chemistry Control Program
Piping/fittings Valves (Component Cooling Water - mechanical penetration rooms and Unit 1 AB switchgear room)	Pressure boundary	Carbon steel	Treated water – other	Loss of material	Chemistry Control Program
Piping/fittings Valves (Demineralized Water - AB switchgear rooms)	Pressure boundary	Stainless steel	Treated water – other	Loss of material	Chemistry Control Program
Piping/fittings Valves (Primary Makeup Water - Unit 1 mechanical penetration room)	Pressure boundary	Stainless steel	Treated water – other	Loss of material	Chemistry Control Program
Piping/fittings Valves (Sampling - mechanical penetration rooms)	Pressure boundary	Stainless steel	Treated water - borated	Loss of material Cracking[1]	Chemistry Control Program
Piping/fittings Valves (Service Water - ventilation equipment rooms and a small portion of the Unit 2 -0.5 ft. elevation hallway)	Pressure boundary	Galvanized carbon steel	Raw water – city water	Loss of material	Systems and Structures Monitoring Program
Piping/fittings Valves (Waste Management - mechanical penetration rooms)	Pressure boundary	Stainless steel	Raw water – drains	None	None required

NOTES:

1. Portions of the system >140^{o}F are potentially susceptible to SCC (see LRA Appendix C).

TABLE 2.1-2 (continued)
COMPONENTS MEETING 10 CFR 54.4(a)(2)
IN THE REACTOR AUXILIARY BUILDINGS

Component/Commodity Grouping	Intended Function	Material	Environment	Aging Effects Requiring Management	Program/ Activity
External Environment					
Piping/fittings Valves (Chemical and Volume Control - AB switchgear rooms)	Pressure boundary	Stainless steel	Indoor – not air conditioned	None	None required
Piping/fittings Valves (Component Cooling Water – mechanical penetration rooms and Unit 1 AB switchgear room)	Pressure boundary	Carbon steel	Indoor – not air conditioned	Loss of material	Systems and Structures Monitoring Program
			Borated water leaks	Loss of material	Boric Acid Wastage Surveillance Program
Piping/fittings Valves (Demineralized Water - AB switchgear rooms)	Pressure boundary	Stainless steel	Indoor – not air conditioned	None	None required
Piping/fittings Valves (Primary Makeup Water - Unit 1 mechanical penetration room)	Pressure boundary	Stainless steel	Indoor – not air conditioned	None	None required
Piping/fittings Valves (Sampling - mechanical penetration rooms)	Pressure boundary	Stainless steel	Indoor – not air conditioned	None	None required
Piping/fittings Valves (Service Water - ventilation equipment rooms and a small portion of the Unit 2 -0.5 ft. elevation hallway)	Pressure boundary	Galvanized carbon steel	Indoor – not air conditioned	None (Note: no borated water sources in the area)	None required
Piping/fittings Valves (Waste Management - mechanical penetration rooms)	Pressure boundary	Stainless steel	Indoor – not air conditioned	None	None required
Bolting (mechanical closures)	Pressure boundary	Carbon steel	Borated water leaks	Loss of material	Boric Acid Wastage Surveillance Program

Steam Trestle Areas

Pipe Whip/Jet Impingement/Physical Contact – All high energy piping within the Steam Trestle Areas is located outdoors. Additionally, non-safety related high energy piping in these areas is within the scope of license renewal because it meets other scoping criteria of 10 CFR 54.4(a).

Leakage/Spray – These are outdoor areas. All safety related components are designed for outdoor service and as a result would not be impacted from leakage or spray.

Results – No additional non-safety related piping is required to be included within the scope of license renewal.

Turbine Building (Unit 1 only)

Pipe Whip/Jet Impingement/Physical Contact – All high energy piping within the Unit 1 Turbine Building is located outdoors. Additionally, significant portions of the non-safety related Main Steam and Turbine piping and associated components are within the scope of license renewal because they meet other scoping criteria of 10 CFR 54.4(a). (See License Renewal Boundary Drawings 1-MS-01, 1-MS-02, and 1-MS-03.) Other non-safety related high energy piping in the Unit 1 Turbine Building includes portions of the Main Feedwater, Auxiliary Steam, Condensate, Condensate Polishing, Extraction Steam, and Heater Drains and Vents systems. Review of these systems concluded that only piping segments of the Main Feedwater, Condensate, and Heater Drains and Vents systems could potentially affect the safety related motor operated feedwater isolation valves and associated cable and conduit if failures are assumed.

Leakage/Spray – This is essentially an outdoor area. All safety related components in this area are designed for outdoor service and as a result would not be impacted from leakage or spray.

Results – The segments of the Main Feedwater, Condensate, and Heater Drains and Vents system piping and associated components noted above have been included in the scope of license renewal as meeting the scoping criteria of 10 CFR 54.4(a)(2). An AMR evaluation of these components based on AMRs performed on carbon steel components exposed to the same internal and external environments yields the results presented below.

TABLE 2.1-3
COMPONENTS MEETING 10 CFR 54.4(a)(2)
IN THE TURBINE BUILDING (UNIT 1 ONLY)

Component/Commodity Grouping	Intended Function	Material	Environment	Aging Effects Requiring Management	Program/ Activity
Internal Environment					
Piping/fittings Valves (Main Feedwater in the area of the feedwater isolation valves and associated cable and conduit)	Pressure Boundary	Carbon Steel	Treated water – Secondary	Loss of material	Chemistry Control Program Flow Accelerated Corrosion Program
Piping/fittings Valves (Condensate in the area of the feedwater isolation valves and associated cable and conduit)	Pressure Boundary	Carbon Steel	Treated water – Secondary	Loss of material	Chemistry Control Program Flow Accelerated Corrosion Program[2]
Piping/fittings Valves (Heater Drains and Vents in the area of the feedwater isolation valves and associated cable and conduit)	Pressure Boundary	Carbon Steel	Treated water – Secondary	Loss of material	Chemistry Control Program Flow Accelerated Corrosion Program
External Environment					
Piping/fittings Valves (Main Feedwater in the area of the feedwater isolation valves and associated cable and conduit)	Pressure Boundary	Carbon Steel	Outdoor	None[1]	None required
Piping/fittings Valves (Condensate in the area of the feedwater isolation valves and associated cable and conduit)	Pressure Boundary	Carbon Steel	Outdoor	None[1]	None required
				Loss of material[3]	Systems and Structures Monitoring Program
Piping/fittings Valves (Heater Drains and Vents in the area of the feedwater isolation valves and associated cable and conduit)	Pressure Boundary	Carbon Steel	Outdoor	None[1]	None required

NOTES:

1. Carbon steel components that normally operate at high temperatures are not susceptible to loss of material (see LRA Appendix C).
2. Condensate System components exposed to temperatures greater than 200°F only.

3. Condensate System components that operate at temperatures less than 212^{o}F only.

Ultimate Heat Sink Dam

Pipe Whip/Jet Impingement/Physical Contact – There is no high energy piping at the Ultimate Heat Sink Dam.

Leakage/Spray – There is no non-safety related piping containing fluid or steam in this area. Additionally, all safety related components are designed for outdoor service and as a result would not be impacted from leakage or spray.

Results – No additional non-safety related piping is required to be included within the scope of license renewal.

Yard Structures

Pipe Whip/Jet Impingement/Physical Contact – The high energy piping within Yard Structures is located outdoors between the Steam Trestle Areas and the Turbine Buildings (Main Steam and Main Feedwater), and on the west side of the Turbine Buildings (Condensate Polishing and portions of Unit 1 Condensate). Assumed failures of piping associated with Unit 2 Main Steam, Unit 2 Main Feedwater, and Unit 1 Condensate and Condensate Polishing will not impact safety related components based on their location. Additionally, the Unit 1 non-safety related Main Steam piping and associated components in this area are within the scope of license renewal because they meet other scoping criteria of 10 CFR 54.4(a). (See License Renewal Boundary Drawings 1-MS-01, 1-MS-02, and 1-MS-03.) However, piping segments of Unit 1 Main Feedwater could potentially affect safety related cable and conduit if failures are assumed.

Spray/Leakage – This is an outdoor area. All safety related components are designed for outdoor service and as a result would not be impacted from leakage or spray.

Results – The segments of Unit 1 Main Feedwater system piping and associated components noted above have been included in the scope of license renewal as meeting the scoping criteria of 10 CFR 54.4(a)(2). An AMR evaluation of these components based on AMRs performed on carbon steel components exposed to the same internal and external environments yields the results presented below.

TABLE 2.1-4
COMPONENTS MEETING 10 CFR 54.4(a)(2)
IN YARD STRUCTURES

Component/ Commodity Grouping	Intended Function	Material	Environment	Aging Effects Requiring Management	Program/ Activity
Internal Environment					
Piping/fittings (Unit 1 Main Feedwater between the Steam Trestle and the Turbine Building)	Pressure boundary	Carbon steel	Treated water – secondary	Loss of material	Chemistry Control Program Flow Accelerated Corrosion Program
External Environment					
Piping/fittings (Unit 1 Main Feedwater between the Steam Trestle and the Turbine Building)	Pressure boundary	Carbon steel	Outdoor	None[1]	None required

NOTE

1. Carbon steel components that normally operate at high temperatures are not susceptible to loss of material (see LRA Appendix C).

Conclusion

Based on the above evaluation performed consistent with the guidance of the March 15, 2002 NRC letter regarding 10 CFR 54.4(a)(2) scoping, the Boric Acid Wastage Surveillance Program, the Chemistry Control Program, the Flow Accelerated Corrosion Program, and the Systems and Structures Monitoring Program have been revised to include the components as noted in Tables 2.1-1, 2.1-2, 2.1-3, and 2.1-4 above.

RAI 2.1 - 2

By a letter dated April 1, 2002, the NRC issued a staff position to the NEI, which clarified the use of alternate ac power sources within the context of the Station Blackout (SBO) Rule and described that the offsite power system, which is used to connect the plant to the offsite power source, should be included within the scope of license renewal. The implementation of this staff position will begin with license renewal applications that are currently under review, such as St. Lucie, Units 1 and 2.

Consistent with the staff position described in the aforementioned letter, please describe the process used to evaluate the SBO portion of the criterion defined in 10 CFR 54.4(a)(3). As part of your response, please list those additional SSCs included within scope as a result of your efforts, list those structures and components for which aging management reviews were conducted, and describe (as applicable for each structure or component) the aging management programs that will be credited for managing the identified aging effects.

FPL Response

Specific references regarding the Station Blackout (SBO) Current Licensing Basis (CLB) for St Lucie include Unit 1 UFSAR Section 15.2.13 and Unit 2 UFSAR Section 15.10, and references 2.1-21, 2.1-22, 2.1-23, 2.1-24, and 2.1-25 listed in Subsection 2.1.5 (page 2.1-18) of the St. Lucie License Renewal Application (LRA). Based on these references, SBO scoping for the St. Lucie LRA did not identify restoration of offsite power to be relied on or required under the SBO CLB for St. Lucie. Systems relied on for restoration of onsite power, however, were included in the scope of license renewal. In addition to the Emergency Diesel Generators, electrical systems identified as within the scope of license renewal for SBO included 480 V Electrical, 120/208 V Electrical, 120V Vital AC, 125 V DC, 4.16 kV Electrical, Communications, Reactor Protection, Containment Electrical Penetrations, Safeguards Panels, and the Data Acquisition Remote Terminal Unit.

FPL contends that restoration of offsite power is not relied on to meet the requirements of the SBO Rule for St. Lucie. However, based on the NRC guidance provided in the April 1, 2002 letter and RAI 2.1-2, FPL has performed an evaluation to determine the additional electrical and structural components that are in the scope of license renewal for restoration of offsite power at St. Lucie. For those electrical and structural components determined to be within the scope of license renewal and requiring an aging management review (AMR), an AMR evaluation was performed. The results of this evaluation are presented below.

Electrical Components

Consistent with the NRC position, the additional electrical components included in the scope of license renewal as meeting the scoping criteria of 10 CFR 54.4(a)(3) for restoration of offsite power are as follows:

1. Circuit breakers and switches to connect the Startup Transformer circuits to the grid
2. Batteries and DC controls associated with the Startup Transformer circuit breakers
3. Startup Transformers
4. Non-safety related 4.16 kV switchgear

5. DC control and power (lead sheath) cables
6. All Aluminum Alloy Conductor (Type AAAC) transmission conductors between the Startup Transformers and circuit breakers
7. High voltage insulators associated with the transmission conductors
8. Switchyard bus and connections between the Startup Transformers and circuit breakers
9. Nonsegregated-phase bus between the Startup Transformers and the non-safety related 4.16 kV switchgear

Based on the guidance in NEI 95-10, the circuit breakers, switches, batteries, DC controls, Startup Transformers, and the non-safety related 4.16 kV switchgear do not require an aging management review because they are considered active components. The DC control cable and power cable (lead sheath) insulation types were previously evaluated in the AMRs summarized in Section 3.6 of the LRA. An AMR evaluation of the remaining electrical components is presented below.

Type AAAC Transmission Conductors

The Type AAAC transmission conductors at St. Lucie are constructed of an aluminum core and strand.

The aging effects for transmission conductors requiring evaluation are loss of conductor strength and those associated with vibration. The most prevalent mechanism contributing to loss of conductor strength of transmission conductor is corrosion. Corrosion is not an aging mechanism of concern for Type AAAC transmission conductors, because they are constructed entirely of aluminum which is resistant to corrosion.

Further, the National Electrical Safety Code (NESC) requires that tension on installed conductors be a maximum of 60% of the ultimate conductor strength. The NESC also sets the maximum tension a conductor must be designed to withstand under heavy load requirements, which includes consideration of ice, wind, and temperature. The St. Lucie Units 1 and 2 conductors are 1081 MCM Type AAAC and they are designed and installed in accordance with NESC.

Tests performed by Ontario Hydroelectric showed a 30% loss of composite conductor strength of an 80-year-old transmission conductor. Assuming a 30% loss of strength, there would still be significant margin between what is required by the NESC and actual conductor strength.

Based on the above, loss of conductor strength of the St. Lucie Units 1 and 2 Type AAAC transmission conductors is not an aging effect requiring management for the period of extended operation. This is further supported by the fact that FPL has been installing and maintaining transmission conductors on its transmission system for more than 60 years and has not had to replace any conductors due to aging problems.

Transmission conductor vibration would be caused by wind loading. Wind loading that can cause a transmission line and insulators to vibrate is considered in the design and

installation. Thus, loss of material (wear) and fatigue that could be caused by transmission conductor vibration or sway are not aging effects requiring management for the period of extended operation for St. Lucie Units 1 and 2.

In order to validate aging effects and to assure no additional aging effects exist beyond those discussed above, a review of industry experience was performed. This review included NRC generic communications and industry operating experience related to transmission conductors.

St. Lucie Units 1 and 2 operating experience was also reviewed to validate aging effects for transmission conductors. This review included non-conformance reports, license event reports, and condition reports for any documented instances of transmission conductor aging, in addition to interviews with responsible transmission engineering personnel. No unique aging effects were identified from this review beyond those discussed above.

High Voltage Insulators

High voltage insulators are constructed of the following materials:

- porcelain
- cement
- aluminum

Aging effects for high voltage insulators requiring evaluation are surface contamination and loss of material.

Various airborne materials such as dust, salt and industrial effluents can contaminate insulator surfaces. The buildup of surface contamination is gradual and in most areas such contamination is washed away by rain. The glazed insulator surface aids this contamination removal. This has been confirmed by St. Lucie operating experience.

Therefore, surface contamination of the St. Lucie Units 1 and 2 high voltage insulators is not an aging effect requiring management for the period of extended operation.

Loss of material due to mechanical wear is an aging effect for strain and suspension insulators if they are subject to significant movement. Movement of the insulators can be caused by wind blowing the supported transmission conductor, causing it to swing from side to side. If this swinging is frequent enough, it could cause wear in the metal contact points of the insulator string and between an insulator and the supporting hardware. Although this mechanism is possible, industry experience has shown that transmission conductors do not normally swing and that when they do, due to a substantial wind, do not continue to swing for very long once the wind has subsided. Wear has not been identified during routine inspections of the St. Lucie Units 1 and 2 high voltage insulators. Therefore, loss of material due to wear of the St. Lucie Units 1 and 2 high voltage insulators is not an aging effect requiring management for the period of extended operation.

In order to validate aging effects and to assure no additional aging effects exist beyond those discussed above, a review of industry experience was performed. This review included NRC generic communications and industry operating experience related to transmission insulators.

The following document related to insulators was identified in this review:

- IN 93-95, Storm-Related Loss of Offsite Power Events Due to Salt Buildup on Switchyard Insulators

High voltage insulators at St. Lucie are washed and coated with silicon to prevent salt buildup. As a result of this, no unique aging effects were identified in the above documents beyond those discussed in this section.

St. Lucie Units 1 and 2 operating experience was also reviewed to validate aging effects for transmission insulators. This review included non-conformance reports, license event reports, and condition reports for any documented instances of transmission insulator aging, in addition to interviews with responsible transmission engineering personnel. No unique aging effects were identified from this review beyond those identified above.

Switchyard Buses and Connections

The switchyard buses and connections are constructed of the following materials:

- aluminum
- bronze
- copper

Aging effects for the switchyard buses and connections requiring evaluation are those associated with vibration.

The switchyard buses are connected to flexible conductors that do not normally vibrate and are supported by insulators and ultimately by static, structural components such as cement footings and structural steel. With no connections to moving or vibrating equipment, vibration is not an applicable stressor for the switchyard buses and connections and aging effects due to vibration are not applicable. This has been confirmed by St. Lucie operating experience. Therefore, aging effects due to vibration of the St. Lucie Units 1 and 2 switchyard buses and connections do not require management for the period of extended operation.

In order to validate aging effects and to assure no additional aging effects exist beyond those discussed above, a review of industry experience was performed. This review included NRC generic communications and industry operating experience related to switchyard buses and connections. No documents involving switchyard buses and connections were identified.

St. Lucie Units 1 and 2 operating experience was also reviewed to validate aging effects for switchyard buses and connections. This review included non-conformance reports,

license event reports, and condition reports for any documented instances of switchyard bus and connection aging, in addition to interviews with responsible transmission engineering personnel. No unique aging effects were identified from this review beyond those discussed above.

Nonsegregated-Phase Bus

The nonsegregated-phase buses are constructed of the following materials:

- silicone caulk
- aluminum
- bronze
- copper
- galvanized metals
- stainless steel
- porcelain

Aging effects for the nonsegregated-phase buses requiring evaluation are those associated with temperature, precipitation, and vibration.

The only material above requiring evaluation with regard to aging effects associated with temperature is silicone caulk. The silicone caulk used in the nonsegregated-phase buses is Dow Corning Silastic 311, which is a white, room temperature vulcanizing (RTV), silicone rubber encapsulant. It is rated as having a useful upper temperature of 200°C (392°F). Dow Corning cannot provide Arrhenius data for this specific RTV; however, it is silicone rubber and its use temperature is consistent with other silicone rubbers which would imply the following thermal life data:

- 273°F (133.9°C) service temperature = 60-year life maximum temperature
- 176.0°F (80.0°C) continuous design service temperature (ambient 104°F plus self heating) of the nonsegregated-phase buses = life much greater than 60 years

The 60-year life maximum temperature is much greater than the design service temperature of the silicone caulk. Therefore, there are no aging effects requiring management for silicone caulk for the extended period of operation.

The only materials above requiring evaluation with regard to aging effects associated precipitation are galvanized metals. Galvanized metals (bolts, washers, nuts and clamp screws) exposed to outside weather and precipitation are factory coated to inhibit corrosion. After more than 26 years in its service environment, loss of material due to corrosion has not been observed. Therefore, loss of material for galvanized metals associated with the nonsegregated-phase buses is not an aging effect requiring management.

The nonsegregated-phase buses are connected to static equipment that does not normally vibrate such as switchgear, transformers and disconnect switches. The

nonsegregated-phase buses are supported by static structural components such as cement footings and building steel. Vibration is not an applicable stressor for these connections to non-moving and non-vibrating equipment and supports. Therefore, aging effects due to vibration do not require management.

In order to validate aging effects considered and to assure no additional aging effects exist beyond those discussed above, a review of industry experience was performed. This review included NRC generic communications and industry operating experience related to nonsegregated-phase buses. The following documents related to nonsegregated-phase buses were identified in this review:

- Bulletin 79-27, Loss of Non-Class 1E Instrumentation and Control Power System Bus During Operation
- Generic Letter 91-11, Resolution of Generic Issues 48, “LCOs for Class 1E Vital Instrument Buses,” and 49, “Interlocks and LCOs for Class 1E Tie Breakers”
- IN 86-87, Loss of Offsite Power Upon an Automatic Bus Transfer
- IN 86-100, Loss of Offsite Power to Vital Buses at Salem 2
- IN 88-55, Potential Problems Caused by Single Failure of an Engineered Safety Feature Swing Bus
- IN 89-64, Electrical Bus Bar Failures
- IN 91-57, Operational Experience on Bus Transfers
- IN 92-09, Overloading and Subsequent Lockout of Electrical Buses During Accident Conditions
- IN 92-40, Inadequate Testing of Emergency Bus Undervoltage Logic Circuitry
- IN 93-28, Failure to Consider Loss of DC Bus in Emergency Core Cooling System Evaluation May Lead to Nonconservative Analysis

No unique aging effects were identified in the above documents beyond those discussed in this section.

St Lucie operating experience was also reviewed to validate aging effects for the nonsegregated-phase buses. This review included non-conformance reports, license event reports, and condition reports for any documented instances of nonsegregated-phase bus aging, in addition to interviews with responsible engineering personnel. No unique aging effects were identified from this review beyond those discussed above.

Based on the discussions above, the AMR results for electrical components required for restoration of offsite power are as follows:

TABLE 2.1-5
ADDITIONAL ELECTRICAL COMPONENTS REQUIRED
FOR RESTORATION OF OFFSITE POWER FOR SBO

Component	Intended Function	Material	Environment	Aging Effects Requiring Management	Program/ Activity
Transmission conductors	To electrically connect specified sections of an electrical circuit to deliver voltage, current, or signal	All Aluminum Alloy Conductor (Type AAAC)	Outdoor	None	None required
Nonsegregated-phase buses Switchyard buses and connections	To electrically connect specified sections of an electrical circuit to deliver voltage, current, or signal	Aluminum Bronze Copper Galvanized metals Stainless steel Silicone caulk Porcelain	Outdoor	None	None required
High voltage insulators	To electrically isolate and provide structural support to transmission conductors	Aluminum Cement Porcelain	Outdoor	None	None required

Based upon the AMR results, and a review of industry information, NRC generic communications, and St. Lucie operating experience, there are no aging effects requiring management for transmission conductors, nonsegregated-phase buses, switchyard buses, connections, and high voltage insulators for the extended period of operation.

Structural Components

Consistent with the NRC position, the additional structural components included in the scope of license renewal as meeting the scoping criteria of 10 CFR 54.4(a)(3) for restoration of offsite power are as follows:

1. Switchyard
    - Startup Transformer circuit breaker foundations
    - Covered cable trenches
    - Electrical component supports
    - Switchyard control building
    - DC electrical enclosures
    - Cable trays
    - Startup Transformer circuit breaker electrical enclosures
    - Transmission towers
    - Transmission tower foundations
2. Turbine Building
    - Switchgear rooms
    - Switchgear enclosures
    - Switchgear supports
    - Nonsegregated-phase bus supports
3. Yard Structures
    - Transmission towers
    - Nonsegregated-phase bus supports
    - Nonsegregated-phase bus foundations
    - Startup Transformer foundations
    - 4.16 kV Switchgear foundations
    - Transmission tower foundations
    - Electrical duct banks and manholes already included in LRA Table 3.5-16 (page 3.5-93)

An AMR evaluation of these components based on AMRs of St. Lucie structural components of the same materials exposed to the same environments yields the results presented below in three tables (one for each structure).

TABLE 2.1-6
SWITCHYARD ADDITIONAL STRUCTURAL COMPONENTS
REQUIRED FOR RESTORATION OF OFFSITE POWER FOR SBO

Component	Intended Function[2]	Material	Environment	Aging Effects Requiring Management	Program/Activity
Startup Transformer circuit breaker foundations	10	Concrete	Outdoor	Concrete degradation[1]	Systems and Structures Monitoring Program
Covered cable trenches	10	Concrete	Outdoor	Concrete degradation[1]	Systems and Structures Monitoring Program
Electrical component supports	10	Carbon steel	Indoor – air conditioned	None	None required
			Outdoor	Loss of material	Systems and Structures Monitoring Program
Switchyard control building	10	Concrete	Outdoor	Concrete degradation[1]	Systems and Structures Monitoring Program
		Masonry (unreinforced)	Outdoor	Cracking	Systems and Structures Monitoring Program
		Weatherproofing	Outdoor	Loss of seal	Systems and Structures Monitoring Program
DC electrical enclosures	10	Carbon steel	Indoor – air conditioned	None	None required
Cable trays	10	Aluminum	Indoor – air conditioned	None	None required
Startup Transformer circuit breaker electrical enclosures	10	Carbon steel	Outdoor	Loss of material	Systems and Structures Monitoring Program
Transmission towers	10	Galvanized carbon steel	Outdoor	None	None required
Transmission tower foundations	10	Concrete	Outdoor	Concrete degradation[1]	Systems and Structures Monitoring Program

NOTE

1. The aging management reviews performed by FPL on above groundwater reinforced concrete did not identify any aging effects requiring management, however based on the NRC Staff position, FPL will inspect accessible surfaces of above groundwater reinforced concrete structures and structural components for concrete degradation.
2. Intended Function 10 is defined in LRA Table 3.5-1 (page 3.5-34) as follows, “Provide structural support and/or shelter to components required for FP, ATWS, and/or SBO events. (NOTE: Although not credited in the analyses for these events, these components have been conservatively included in the scope of license renewal.)”

TABLE 2.1-7
TURBINE BUILDING ADDITIONAL STRUCTURAL COMPONENTS
REQUIRED FOR RESTORATION OF OFFSITE POWER FOR SBO

Component	Intended Function[2]	Material	Environment	Aging Effects Requiring Management	Program/Activity
Switchgear rooms	10	Concrete	Outdoor	Concrete degradation[1]	Systems and Structures Monitoring Program
		Masonry (unreinforced)	Outdoor	Cracking	Systems and Structures Monitoring Program
		Weatherproofing	Outdoor	Loss of seal	Systems and Structures Monitoring Program
Switchgear enclosures	10	Carbon steel	Indoor – not air conditioned	Loss of material	Systems and Structures Monitoring Program
Switchgear supports	10	Carbon steel	Indoor – not air conditioned	Loss of material	Systems and Structures Monitoring Program
Nonsegregated phase bus supports	10	Carbon steel	Indoor – not air conditioned	Loss of material	Systems and Structures Monitoring Program

NOTE

1. The aging management reviews performed by FPL on above groundwater reinforced concrete did not identify any aging effects requiring management, however based on the NRC Staff position, FPL will inspect accessible surfaces of above groundwater reinforced concrete structures and structural components for concrete degradation.
2. Intended Function 10 is defined in LRA Table 3.5-1 (page 3.5-34) as follows, “Provide structural support and/or shelter to components required for FP, ATWS, and/or SBO events. (NOTE: Although not credited in the analyses for these events, these components have been conservatively included in the scope of license renewal.)”

TABLE 2.1-8
YARD STRUCTURES ADDITIONAL STRUCTURAL COMPONENTS
REQUIRED FOR RESTORATION OF OFFSITE POWER FOR SBO

Component	Intended Function[2]	Material	Environment	Aging Effects Requiring Management	Program/Activity
Transmission towers	10	Galvanized carbon steel	Outdoor	None	None required
Nonsegregated phase bus supports	10	Carbon steel	Outdoor	Loss of material	Systems and Structures Monitoring Program
Nonsegregated phase bus foundations	10	Concrete	Outdoor	Concrete degradation[1]	Systems and Structures Monitoring Program
Startup Transformer foundations	10	Concrete	Outdoor	Concrete degradation[1]	Systems and Structures Monitoring Program
4.16 kV switchgear foundations	10	Concrete	Outdoor	Concrete degradation[1]	Systems and Structures Monitoring Program
Transmission tower foundations	10	Concrete	Outdoor	Concrete degradation[1]	Systems and Structures Monitoring Program

NOTE

1. The aging management reviews performed by FPL on above groundwater reinforced concrete did not identify any aging effects requiring management, however based on the NRC Staff position, FPL will inspect accessible surfaces of above groundwater reinforced concrete structures and structural components for concrete degradation.

2. Intended Function 10 is defined in LRA Table 3.5-1 (page 3.5-34) as follows, “Provide structural support and/or shelter to components required for FP, ATWS, and/or SBO events. (NOTE: Although not credited in the analyses for these events, these components have been conservatively included in the scope of license renewal.)”

Conclusion

Based on the above evaluation performed consistent with the guidance of the NRC letter of April 1, 2002 regarding scoping for SBO for license renewal, the Systems and Structures Monitoring Program has been revised to include the components as noted in Tables 2.1-6, 2.1-7 and 2.1-8 above.

RAI 2.1 - 3

During the audit of the St Lucie scoping and screening methodology, the staff reviewed the applicant's programs described in Appendix A, "Updated FSAR Supplement," and Appendix B, "Aging Management Programs." The purpose of this review was to ensure that the applicant's aging management activities are consistent with the staff's guidance described in Section A.2, "Quality Assurance for Aging Management Programs (Branch Technical Position IQMB-1)," of NUREG-1800, "Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants."

Based on the staff's evaluation, the description and applicability of the aging management programs and their associated attributes to all safety-related and non-safety-related structures and components provided in Appendix B of the license renewal application (LRA) are consistent with the staff's position regarding quality assurance for aging management. However, the applicant has not sufficiently described the use of the quality assurance program and its associated attributes in the updated Final Safety Analysis Report (UFSAR) supplement discussion provided in Appendix A to the LRA. The staff requests that the applicant revise the description in the updated FSAR supplement, Chapter 18.0, "Aging Management Programs and Time-Limited Aging Analyses Activities," to include aspects of the quality assurance program consistent with the description provided in Appendix B to the LRA.

FPL Response

The "Standard Review Plan for the Review of License Renewal Applications for Nuclear Power Plants" includes Branch Technical Position RLSB-1 Aging Management Review – Generic. RLSB-1 Section A.1.2.3 Aging Management Program Elements Subsection A.1.2.3.8 Confirmation Process states, "The confirmation process should be described. The confirmation process should ensure that preventive actions are adequate and that appropriate corrective actions have been completed and are effective."

The FPL corrective action program is an existing and effective program for identifying, evaluating, and correcting deficiencies and is implemented in accordance with FPL's 10 CFR 50 Appendix B Quality Assurance Program. Under the guidance of the FPL Quality Assurance Program, Quality Instructions and Administrative Procedures for corrective actions require that any deficiency documented by an individual shall be evaluated, dispositioned, and either corrected or declared acceptable in accordance with the deficiency disposition. These procedures and instructions provide guidance on documentation, evaluation, completion, and confirmation actions including follow-up of corrective actions. Accordingly, the confirmation process is part of the corrective action program and the FPL Quality Assurance Program.

Therefore, deficiencies identified during the performance of inspections or activities associated with any of the aging management programs or time-limited aging analyses will be entered into the appropriate corrective action program and actions including confirmation activities performed accordingly.

The St. Lucie Unit 1 and 2 UFSAR Supplements (LRA Appendices A1 and A2) will be revised as indicated on the following page. (Note: This change is consistent with the same change accepted by the NRC for inclusion into the Turkey Point Units 3 and 4 UFSAR for license renewal programs.)

18.0 AGING MANAGEMENT PROGRAMS AND TIME-LIMITED AGING ANALYSES ACTIVITIES

The integrated plant assessment for license renewal identified existing and new aging management programs necessary to provide reasonable assurance that components within the scope of license renewal will continue to perform their intended functions consistent with the current licensing basis (CLB) for the period of extended operation. This chapter describes these programs and their planned implementation.

FPL has established and implemented a Quality Assurance Program to provide assurance that the design, procurement, modification and operation of nuclear power plants conform to applicable regulatory requirements. The FPL Quality Assurance Program, described in the FPL Topical Quality Assurance Report, is in compliance with the requirements of 10 CFR 50, Appendix B. The FPL Quality Assurance Program meets the requirements provided by regulatory guidance and industry standards as listed in Appendix C of the FPL Topical Quality Assurance Report. Corrective Actions, Confirmatory Actions, and Administrative Controls apply to all aging management programs credited for license renewal and performed, or in the case of new programs, to be performed, in accordance with the FPL Quality Assurance Program.

This chapter also discusses the evaluation results for each of the plant-specific time-limited aging analyses performed for license renewal. The evaluations have demonstrated that: the analyses remain valid for the period of extended operation; the analyses have been projected to the end of the period of extended operation; or the effects of aging on the intended function(s) will be adequately managed for the period of extended operation.

No 10 CFR 50.12 exemptions involving a time-limited aging analysis as defined in 10 CFR 54.3 were identified for St. Lucie Unit 1.