



L-2018-154  
10 CFR 54.17

September 14, 2018

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, D.C. 20555-0001

Re: Florida Power & Light Company  
Turkey Point Units 3 and 4  
Docket Nos. 50-250 and 50-251  
Turkey Point Units 3 and 4 Subsequent License Renewal Application  
Safety Review Requests for Additional Information (RAI) Set 2 Responses

References:

1. FPL Letter L-2018-004 to NRC dated January 30, 2018, Turkey Point Units 3 and 4 Subsequent License Renewal Application (ADAMS Accession No. ML18037A812)
2. FPL Letter L-2018-082 to NRC dated April 10, 2018, Turkey Point Units 3 and 4 Subsequent License Renewal Application – Revision 1 (ADAMS Accession No. ML18113A134)
3. NRC RAI E-Mail to FPL dated August 20, 2018, Requests for Additional Information for the Safety Review of the Turkey Point Subsequent License Renewal Application – Set 2 (EPID No. L-2018-RNW-0002) (ADAMS Accession Nos. ML18232A514, ML18232A513, and ML18232A546)

Florida Power & Light Company (FPL) submitted a subsequent license renewal application (SLRA) for Turkey Point Units 3 and 4 to the NRC on January 30, 2018 (Reference 1) and SLRA Revision 1 on April 10, 2018 (Reference 2).

The purpose of this letter is to provide, as attachments to this letter, responses to the safety review RAIs issued by the NRC on August 20, 2018 (Reference 3). Each RAI response and its corresponding attachment are indexed on page 2 of this letter. The attachments identify changes that will be made in a future revision of the SLRA (if applicable).

If you have any questions, or need additional information, please contact me at 561-691-2294.

A084  
NRR

I declare under penalty of perjury that the foregoing is true and correct.

Executed on September 14, 2018.

Sincerely,



William Maher  
Senior Licensing Director  
Florida Power & Light Company

WDM/RFO

Attachments: 12 RAI Responses (refer to Letter Attachment Index)

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cc:

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Ms. Cindy Becker, Florida Department of Health

**NRC RAI Letter No. ML18232A514 Dated August 20, 2018**

**1. Fire Protection – Scoping and Screening**

Regulatory Basis:

The plant-specific CLB must be maintained during the subsequent renewal term in the same manner and to the same extent as during the extended and original licensing term. In implementing these two principles, the rule in 10 CFR 54.4, defines the scope of license renewal as those plants SSCs, as well as the process used to identify the SSCs that are subject to an AMR, as required by 10 CFR 54.21(a)(1), (a) that are safety-related; (b) whose failure could affect safety-related functions; and (c) that are relied on to demonstrate compliance with the NRC's regulations for fire protection, environmental qualification, pressurized thermal shock, anticipated transients without scram, and station blackout. 10 CFR 54.4(a)(3) requires all systems, structures, and components relied on in safety analyses or plant evaluations to perform a function that demonstrates compliance with Commission's regulations for fire protection, 10 CFR 50.48.

In accordance with the criteria of 10 CFR 54.29(a), the staff must evaluate whether actions have been identified and have been or will be taken with respect to the managing the effects of aging during the period of extended operation, such that there is reasonable assurance that the activities authorized by the renewed license will continue to be conducted in accordance with the CLB. In order to complete its review and enable making a finding under 10 CFR 54.29(a), the staff requires additional information in regard to the matters described below.

**RAI 2.3.3.12-1**

Background:

For Turkey Point Nuclear Generating, Units 3 and 4, the staff reviewed the SLRA, SLR boundary drawings, NUREG-1759, NFPA 805 DBDs, UFSAR Section 9.6.1, and NFPA 805 safety evaluation, which describe the fire protection program at Turkey Point Nuclear Generating, Units 3 and 4, and how it complies with the requirements of 10 CFR 50.48 and 10 CFR 50.48(c).

Issue:

The following boundary drawings show the fire protection systems/components as not within the scope of license renewal (i.e., not colored in green):

<u>LRA Drawing</u>	<u>Systems/Components</u>	<u>Location</u>
5610-M-3016, Sheet 3	Remote Filling Station	B3
5610-M-3016, Sheet 3	Piping, Valve, and Drain	C2, C7, D3, G7
5610-M-3016, Sheet 5	Test Connection	C2, C8, E4, E6
5610-M-3016, Sheet 3	Fire Department Connection	G8

Request:

Verify whether the fire protection systems/components listed above are within the scope of license renewal in accordance with 10 CFR 54.4(a) and whether they are subject to an AMR in accordance with 10 CFR 54.21(a)(1). If they are not within the scope of license renewal and are not subject to an AMR, the staff requests that the applicant provide justification for the exclusion.

**FPL Response:**

In accordance with SLRA Section 2.1.3.4.1, equipment relied on for fire protection includes SSCs credited with fire prevention, detection, and mitigation in areas containing equipment important to safe operation of the plant, as well as systems that contain plant components credited to maintain the nuclear fuel in a safe and stable condition. The components within the fire protection system boundary that are relied on to meet 10 CFR 50.48 requirements are typically marked with "Q" flags on the license renewal fire protection boundary drawings 5610-M-3016 Sheet 3 and 5610-M-3016 Sheet 5. The components on boundary drawings 5610-M-3016 Sheet 3 and 5610-M-3016 Sheet 5 that are not within the "Q" boundary do not perform a function associated with 10 CFR 50.48 per the fire protection screening document. Components not within these "Q" flags are not subject to an aging management review because they do not meet the scoping criteria of 10 CFR 54.4.

Other components that do not meet 10 CFR 54.4 criteria are components that are not part of the system pressure boundary or components that do not provide structural support for components that meet 10 CFR 54.4 criteria. The SLRA is clarified to state that components downstream of drain, vent, or test connection valves are not relied on for system pressure boundary.

For the specific locations identified in the RAI response, the following table provides the disposition for why the components do or do not require an aging management review.

Drawing / Location	Component Description	Disposition
5610-M-3016 Sheet 3 Location B3	Piping and valves upstream of remote filling station isolation valve 70-037	Not within system quality boundary
5610-M-3016 Sheet 3 Location C2	Piping downstream of valve 70-040	Downstream of drain valve
5610-M-3016 Sheet 3 Location C7	Piping downstream of valve 10-770	Downstream of drain valve
5610-M-3016 Sheet 3 Location C7	Piping downstream of valve 10-776	Downstream of vent valve
5610-M-3016 Sheet 3 Location D3	Piping downstream of valve 10-774	Downstream of drain valve

<b>Drawing / Location</b>	<b>Component Description</b>	<b>Disposition</b>
5610-M-3016 Sheet 3 Location G7	Piping downstream of valve 10-625	FPL reviewed this location and determined that valve 10-626 and the associated tubing should be subject to an aging management review.
5610-M-3016 Sheet 5 Location C2	Piping downstream of test connection isolation valve 3-10-1307	Downstream of test connection isolation valve
5610-M-3016 Sheet 5 Location C8	Piping downstream of test connection isolation valve 4-10-1307	Downstream of test connection isolation valve
5610-M-3016 Sheet 5 Location E4	Piping downstream of test connection isolation valve 10-370	Downstream of test connection isolation valve
5610-M-3016 Sheet 5 Location E6	Piping downstream of test connection isolation valve 10-361	Downstream of test connection isolation valve
5610-M-3016 Sheet 5 Location G8	Piping upstream of fire department connection valve 10-PIV-75	FPL reviewed this location and determined that the license renewal boundary should extend to the unnamed check valve and the associated piping should be subject to an aging management review.

The boundary drawings 5610-M-3016 Sheet 3 and 5610-M-3016 Sheet 5 will be updated to clarify the shading associated with this RAI response.

**References:**

None

**Associated SLRA Revisions:**

The following changes to SLRA Section 2.1.6.1 will be made in a future SLRA revision as indicated by text deletion (strikethrough) and text addition (red underlined font).

Revise SLRA Section 2.1.6.1 paragraph 2 as follows:

Mechanical system evaluation boundaries were established for each system within the scope of SLR. These boundaries were determined by mapping the pressure boundary associated with the SLR system intended functions onto the system flow diagrams. The system pressure boundary does not include components downstream of drain.

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**vent, or test connection valves.** SLR system intended functions are the functions a system must perform relative to the scoping criteria of 10 CFR 54.4(a)(1), 10 CFR 54.4(a)(2), and 10 CFR 54.4(a)(3). The flow diagram boundary drawings associated with each mechanical system within the scope of SLR are identified with the mechanical system screening results described in Section 2.3.

**Associated Enclosures:**

None

**NRC RAI Letter No. ML18232A514 Dated August 20, 2018**

**RAI 2.3.3.12-2**

Background:

For Turkey Point Nuclear Generating, Units 3 and 4, the staff reviewed the SLRA, SLR boundary drawings, NUREG-1759, NFPA 805 DBDs, UFSAR Section 9.6.1, and NFPA 805 safety evaluation which describe the fire protection program at Turkey Point Nuclear Generating, Units 3 and 4, and how it complies with the requirements of 10 CFR 50.48 and 10 CFR 50.48(c).

Issue:

Table 2.3.3-12 of the SLRA does not include the following fire protection components:

- diesel driven fire pump engine silencer
- sprinklers
- valves body
- fire hose stations, fire hose connections, hose racks
- standpipe risers
- seismic support for standpipes system piping
- floor drains for removal of fire water
- halon fire suppression system storage cylinders

Request:

Verify whether the fire protection components listed above are within the scope of license renewal in accordance with 10 CFR 54.4(a) and whether they are subject to an AMR in accordance with 10 CFR 54.21(a)(1). If they are not within the scope of license renewal and are not subject to an AMR, the staff requests that the applicant provide justification for the exclusion.

**FPL Response:**

All of the components identified in the Issue section above are within the scope of license renewal in accordance with 10 CFR 54.4(a) and are subject to an AMR in accordance with 10 CFR 54.21(a)(1) as described in the numbered items below.

- 1) The PTN Unit 3 and 4 diesel driven fire pump engine and its associated subcomponents meet the scoping requirements of 10 CFR 54.4(a) because it is part of the fire protection system relied upon to meet 10 CFR 50.48 criteria. The engine silencer is considered to be part of the diesel driven fire pump engine complex assembly and is not subject to an aging management review. A discussion of complex assemblies is included in Section 2.1.6.1 of the SLRA. SLRA section 2.3.3.12 is clarified to specify the diesel driven fire pump engine complex assembly boundaries.
- 2) Sprinklers in areas that contain equipment relied upon to meet 10 CFR 50.48 criteria meet the scoping requirements of 10 CFR 54.4(a). These sprinklers are

subject to an aging management review in accordance with 10 CFR 54.21(a). The component type "nozzle" listed in SLRA Table 2.3.3-12 and Table 3.3.2-15 with a SLR intended function of "Spray" includes all types of sprinklers and deluge nozzles subject to aging management review.

- 3) Valve bodies associated with piping that is relied upon to meet 10 CFR 50.48 criteria meet the scoping requirements of 10 CFR 54.4(a). These valve bodies are subject to an aging management review in accordance with 10 CFR 54.21(a). Revision 1 of the PTN SLRA includes the "Valve body" component type in SLRA Table 2.3.3-12 and Table 3.3.2-15.
- 4) Fire hose stations, fire hose connections, and fire hose racks in areas that contain equipment relied upon to meet 10 CFR 50.48 criteria meet the scoping requirements of 10 CFR 54.4(a). These fire hose stations, fire hose connections, and fire hose racks are subject to an aging management review in accordance with 10 CFR 54.21(a). The component type "Flexible hose" listed in SLRA Table 2.3.3-12 and Table 3.3.2-15 includes the hose stations subject to aging management review. The component type "Piping" listed in SLRA Table 2.3.3-12 and Table 3.3.2-15 includes the hose connections subject to aging management review. Hose racks are subject to an aging management review and are included in the miscellaneous steel component types listed in the SLRA section 2.4 and 3.5 tables.
- 5) Standpipe risers in areas that contain equipment relied upon to meet 10 CFR 50.48 criteria meet the scoping requirements of 10 CFR 54.4(a). These standpipe risers are subject to an aging management review in accordance with 10 CFR 54.21(a). The component type "Piping" listed in SLRA Table 2.3.3-12 and Table 3.3.2-15 includes standpipe risers subject to aging management review.
- 6) Seismic supports for standpipes system piping in areas that contain equipment relied upon to meet 10 CFR 50.48 criteria meet the scoping requirements of 10 CFR 54.4(a). These seismic supports are subject to an aging management review in accordance with 10 CFR 54.21(a). Seismic supports are included in the miscellaneous steel component types listed in the SLRA section 2.4 and 3.5 tables.
- 7) Floor drains for removal of fire water in areas that contain equipment relied upon to meet 10 CFR 50.48 criteria meet the scoping requirements of 10 CFR 54.4(a). These floor drains are subject to an aging management review in accordance with 10 CFR 54.21(a). Floor drains are associated with the waste disposal system and are included in the "Drain" component type listed in the SLRA Table 2.3.3-8 and Table 3.3.2-8. The boundary drawings 5610-M-3061 Sheet 1 and 5610-M-3061 Sheet 3 will be updated to clarify which drains are subject to an aging management review.



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- 8) Halon fire suppression system storage cylinders relied upon to meet 10 CFR 50.48 criteria meet the scoping requirements of 10 CFR 54.4(a). These halon cylinders are subject to an aging management review in accordance with 10 CFR 54.21(a). The component type "Tank" listed in SLRA Table 2.3.3-12 and Table 3.3.2-15 with an internal environment of "Gas" includes the halon cylinders subject to aging management review.

**References:**

None

**Associated SLRA Revisions:**

The following changes to SLRA Section 2.3.3.12 will be made in a future SLRA revision as indicated by text deletion (strikethrough) and text addition (red underlined font).

Revise SLRA Section 2.3.3.12 paragraph 3 as follows:

A 10-inch diameter fire loop encompasses Units 3 and 4 supplied by two fire pumps, one electric-driven and the other diesel-driven, and two jockey pumps. As the diesel-driven fire pump engine is considered a complex assembly that is bounded by the fuel oil supply and return lines, subcomponents associated with the engine are not subject to an aging management review. One jockey pump maintains normal operating fire header pressure. The fire pumps automatically supply water to the fire loop on low header pressure. Fire hydrants are strategically located throughout the site.

**Associated Enclosures:**

None

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**RAI 2.3.2.6-1**

Issue:

Sheet 1 of the Unit 3 SLRA Drawing for System 094 [P&ID 5613-M-3094] displays the 1" Stainless Steel (SS) Tubing and valve "3-11-034" to Containment penetration P-33 [Coordinate A-2] as not being subject to AMR. Similarly, Sheet 1 of the Unit 4 SLRA Drawing for System 094 [P&ID 5614-M-3094] displays the 1" Stainless Steel Tubing and valve "4-11-034" to Containment penetration P-33 [Coordinate A-2] as not being subject to AMR. During Modes 1, 2, 3 and 4 of reactor operation, these SS tubes and valves support the function of routing the sampling influent from the Normal Containment Coolers discharge ducts, to the Unit 3 and Unit 4 radiation detectors (e.g., RD-3-11 and RD-3-12).

In contrast, SLRA Section 2.3.2.6 "Containment Post-Accident Monitoring and Control" under the subheading "System Intended Functions" reads in part:

Safety-related functions (10 CFR 54.4(a)(1)):

(1) ...

(2) Provide control of radioactive releases by isolating the containment purge and instrument air bleed lines in any abnormal event that results in excessive radiation releases to the containment. Additionally, provide a signal to isolate the control room ventilation system (CRVS) and thus prevent the potential ingress of radioactivity into the control room.

The staff notes that Technical Specification 3/4.3.2 Functional Unit 3.c "Containment Ventilation Isolation" (4) of Table 3.3-2 "Engineered Safety Features Actuation System Instrumentation" list an "Applicable Modes" "1,2,3 4" and aligns with Safety-Related function (2).

Accordingly, it can be concluded that the SS tubing and valve on the subject Unit 3 and Unit 4 SLRA Drawings directly support the accomplishment of Safety-Related function (2) during Plant Modes 1, 2, 3 and 4.

Request:

Please identify where the SLRA addresses the AMR for the SS tubing and valve on the subject Unit 3 and Unit 4 SLRA Drawings associated with the Containment Post-Accident Monitoring and Control System. If not addressed elsewhere, provide a justification for not including these "Component Types" and their associated "Environments" in the aging management program.

**FPL Response:**

The subject PTN Unit 3 and 4 Containment Post Accident Monitoring and Control system 1" stainless steel tubing and valves 3-11-034 and 4-11-034, respectively, are

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required to supply air samples from the normal containment coolers to the particulate and gaseous radiation monitors which signal containment ventilation isolation during Plant Modes 1, 2, 3, and 4. Consistent with the SLR pressure boundary intended function of the tubing and valves in question, and the operability requirements outlined in the PTN Technical Specifications, these components directly support the accomplishment of Safety-Related function (2) during Plant Modes 1, 2, 3, and 4. The tubing and valve are stainless steel and are exposed to an internal and external environment of "air – indoor uncontrolled". Since PTN SLRA Table 3.2.2-6 currently addresses stainless steel tubing and valves exposed to an internal and external environment of "air-indoor uncontrolled", no SLRA changes are required.

Listed below are the PTN Unit 3 and 4 Containment Post Accident Monitoring and Control system SLR boundary drawings which will be updated to include the subject stainless steel tubing and valves within the scope of SLR and requiring aging management.

5613-M-3057 Sheet 1

5613-M-3094 Sheet 1

5614-M-3057 Sheet 1

5614-M-3094 Sheet 1

**References:**

None

**Associated SLRA Revisions:**

None

**Associated Enclosures:**

None

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**NRC RAI Letter No. ML18232A514 Dated August 20,2018**

**RAI 2.3.3.11.1-1**

Regulatory Basis:

10 CFR 54.4(a) "Scope" reads in part "... (2) All nonsafety-related systems, structures, and components whose failure could prevent satisfactory accomplishment of any of the functions identified in paragraphs (a)(1)(i), (ii), or (iii) of this section. ..."

NUREG 2192 [Published: July 2017] "Standard Review Plan for Review of Subsequent License Renewal Applications for Nuclear Power Plants" "Table 2.1-5 Typical 'Passive' Structure-Intended Functions" describes the "Intended Function" "Leakage Boundary (Spatial)" as "Nonsafety-related component that maintains mechanical and structural integrity to prevent spatial interactions that could cause failure of safety-related SSCs"

Section 3.3 "Aging Management of Auxiliary Systems" of NUREG 2192 reads in part:

This review plan section also includes structures and components in nonsafety-related systems that are not connected to safety-related systems, structures, and components (SSCs) but have a spatial relationship such that their failure could adversely impact the performance of a safety-related SSC intended function. Examples of such nonsafety-related systems may be plant drains, liquid waste processing, potable/sanitary water, water treatment, process sampling, and cooling water systems.

Issue:

SLRA Section 2.3.3.11.1 "Auxiliary Building and Electrical Equipment Room Ventilation" (page 2.3-86) indicates that there are no Non-safety-related ventilation components that could affect safety-related functions (10 CFR 54.4(a)(2)) within the Electrical Equipment Room. However, SLRA Table 2.3.3.16-3 "Component Intended Functions for 10 CFR 54.4(a)(2) Components in the Auxiliary Building Subject to Aging Management Review" and Table 2.3.3-11 "Plant Ventilation Components Subject to Aging Management Review" indicates just the opposite for the "Component Types" within the Electrical Equipment Room having an "Intended Function" of "Leakage boundary (spatial)." These non-safety related (NSR) components are displayed as being subject to AMR on Sheet 3 of System 060 SLRA Drawing for Turkey Point Nuclear Units 3 & 4 [P&ID 5610-M-3060-SH3 "Auxiliary Building Ventilation Electrical Equipment Room" (Coordinate F-4 & F-5)].

As displayed on Sheet 3 of System 060 SLRA Drawing, NSR components of the Auxiliary Building Ventilation System (i.e., bolted connections; V78 cooler housing; heat exchanger tubes; piping; & valves) are located inside the electrical equipment room alongside the safety related components.

SLRA Table 2.3.3-11 and SLRA Table 3.3.2-11 "Auxiliary Building and Electrical Equipment Room Ventilation — Summary of Aging Management Evaluation" identify an

“Intended Function” of “Leakage Boundary (Spatial)” for the following “Component Types”:

- Bolting
- Heat Exchanger (tubes)
- Piping
- Valves

The staff notes that the heat exchanger condensate drain lines from each of the three Air Handling Units V76, V77 and V78 are neither displayed nor represented as being subject to AMR on Sheet 3 of System 060 SLRA Drawing. It stands to reason that if the heat exchanger tubes of these Air Handling Units represent a leakage boundary (spatial) threat to nearby safety related, then too at least portions of, if not all, the condensate drain lines could represent a similar hazard.

Request:

The staff requests information about:

- a) Why SLRA Section 2.3.3.11.1 concludes that there are no NSR ventilation components that affect safety-related functions (10 CFR 54.4(a)(2)) within the Electrical Equipment Room when the staff’s observations above indicate the opposite?
- b) Please identify where the SLRA addresses the AMR for the condensate drain lines for each of the Air Handling Units V76, V77 and V78. If not addressed elsewhere, provide a justification for not including internal “Environment” of “Condensation (int)” for the “Component Type” of “Piping” in the aging management program documented in SLRA Table 3.3.2-11 for the Auxilliary Building and Electrical Equipment Room Ventilation System.
- c) The staff notes that RAI 2.3.3.11.4-2 for Turbine Building Ventilation System documents a similar issue relating to condensate drains lines from cooler and air handling units. In that particular case, both the LRA drawing notes and the lack of identification of the drain lines as being subject to AMR within the Turbine Building Load Center and Switchgear Rooms documents an apparent case of non-conformance to the guidance of NUREG 2192, Section 3.3. Given that the staff’s SLRA review has identified two instances of where it appears that this guidance has not been followed, please provide the staff with the details of how the Applicant applied this guidance holistically throughout the SLRA.

**PTN Response:**

- a) As noted in SLRA Sections 2.1.3.3 and 2.1.5.2, and depicted in SLRA Figure 2.1-1, there are three categories of systems, structures and components (SSCs) that are within the scope of 10 CFR 54.4(a)(2) as follows:
  - Nonsafety-related SSCs that may have the potential to prevent satisfactory accomplishment of safety functions. This includes nonsafety-related SSCs

credited as design features in the current licensing basis (CLB), and nonsafety-related SSCs required to functionally support safety-related SSCs,

- Nonsafety-related SSCs directly connected to safety-related SSCs that provide structural support for the safety-related SSCs, and
- Nonsafety-related SSCs that are not directly connected to safety-related SSCs but have the potential to affect safety-related SSCs through spatial interactions.

If there are nonsafety-related SSCs for a particular system that meet either one or both of the categories for the first 2 bullets above (i.e., they functionally support and/or provide structural support for safety related SSCs) a 10 CFR 54.4(a)(2) intended function is noted for that system. However, if there are nonsafety related SSCs for a particular system that meet the category for the third bullet above, the spatial interaction function is addressed separately in the PTN SLRA as part of the spaces approach. As noted in SLRA Section 2.1.5.2.3, for nonsafety-related SSCs that are not directly connected to safety-related SSCs, the nonsafety-related SSCs may be in-scope if their failure could prevent the performance of a system safety function. By utilizing the spaces approach, the only nonsafety-related mechanical system categories determined to have the potential for spatial interactions are auxiliary systems and steam and power conversion systems. Scoping and screening results associated with the auxiliary systems and steam and power conversion systems nonsafety-related SSCs with the potential for spatial interactions are presented in SLRA Sections 2.3.3.16 and 2.3.4.4, respectively. Thus, consistent with the PTN integrated plant assessment methodology, for the electrical equipment room portion of auxiliary building and electrical equipment room ventilation, there are no SSCs that fall into the first two bulleted categories above. Accordingly, there is no 10 CFR 54.4(a)(2) intended function listed for the system. However, because there are nonsafety-related SSCs for the electrical equipment room portion of auxiliary building and electrical equipment room ventilation that fall into the third bulleted category, scoping and screening for these nonsafety-related SSCs are appropriately addressed in Section 2.3.3.16 of the SLRA.

- b) For PTN, condensate drain lines associated with air handling units are typically not reflected on the P&IDs. Note that these lines are not pressurized, so leakage is the only potential spatial interaction. To confirm the location and configuration of the condensate drain lines, walkdowns of the specific areas where the air handling units are installed were performed. For air handling units V76, V77 and V78 of the auxiliary building and electrical equipment room ventilation system, the location and configuration of the condensate drains lines are presented in Table 1 below:

Table 1 – Condensate Drain Lines for Electrical Equipment Room Ventilation

Tag Number	Title	Boundary Drawing	Location	Condensate Drain Configuration	Potential to Affect Safety Related SSCs	In the Scope of SLR?	AMR Required?
V76	Electrical Equipment Room Air Handling Unit	5610-M-3060-SH3	Electrical equipment room floor mounted	Routed along the floor then exits through an external wall	None	No	No
V77	Electrical Equipment Room Air Handling Unit	5610-M-3060-SH3	Electrical equipment room floor mounted	Routed along the floor then exits through an external wall	None	No	No
V78	Electrical Equipment Room Air Handling Unit	5610-M-3060-SH3	Electrical equipment room mounted on elevated platform	Routed underneath platform, then to the wall and down to the floor to floor drain	None, no safety related SSCs located below the platform	No	No

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Based on the above, the condensate drain lines for air handlers V76, V77 and V78 do not perform an SLR intended function, and thus do not require an aging management review.

- c) See response to RAI 2.3.3.11.4-2 for discussion of the condensate drain lines for the air handling units associated with load center and switchgear room cooling in the turbine building. For other air handling units located in areas containing safety related SSCs, walkdowns of the specific areas where the air handling units are installed were performed to confirm the location and configuration of the condensate drain lines. Table 2 below provides the results of those walkdowns:



Table 2 – Condensate Drain Lines for Other Air Handling Units

Tag Number	Title	Boundary Drawing	Location	Condensate Drain Configuration	Potential to Affect Safety Related SSCs	In the Scope of SLR?	AMR Required?
E-16A	Control Room Air Handling Unit A	5610-M-3025-SH1	Control building mechanical equipment room floor mounted	Routed on floor to floor drain	None	No	No
E-16B	Control Room Air Handling Unit B	5610-M-3025-SH1	Control building mechanical equipment room floor mounted	Routed on floor to floor drain	None	No	No
E-16C	Control Room Air Handling Unit C	5610-M-3025-SH1	Control building mechanical equipment room floor mounted	Routed on floor to floor drain	None	No	No
S75A	Cable Spreading Room Air Handling Unit A	5610-M-3025-SH2	Control building cable spreading room mounted on S75B	Routed to connect with drain from S75B	None	No	No
S75B	Cable Spreading Room Air Handling Unit B	5610-M-3025-SH2	Control building cable spreading room floor mounted	Routed to floor then exits through external wall	None	No	No

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Tag Number	Title	Boundary Drawing	Location	Condensate Drain Configuration	Potential to Affect Safety Related SSCs	In the Scope of SLR?	AMR Required?
S77A	Computer Room Air Handling Unit A	5610-M-3025-SH2	Control building computer room mounted on elevated platform	Routed to wall and then to common drain with S77B, S78A and S78B then exits through external wall	None, no safety related SSCs installed under the elevated platforms or drain lines	No	No
S77B	Computer Room Air Handling Unit B	5610-M-3025-SH2	Control building computer room mounted on elevated platform	See S77A above	See S77A above	No	No
S78A	Computer Room Air Handling Unit A	5610-M-3025-SH2	Control building computer room mounted on elevated platform	See S77A above	See S77A above	No	No
S78B	Computer Room Air Handling Unit B	5610-M-3025-SH2	Control building computer room mounted on elevated platform	See S77A above	See S77A above	No	No
E-16D	DC Equipment Room Common Air Handling Unit	5610-M-3025-SH3	Control building DC equipment room floor mounted	Routed on floor then through the wall	None	No	No
E-16E	DC Equipment Room North Air Handling Unit	5610-M-3025-SH3	Outside control building roof mounted	Routed on roof to roof drain	None	No	No

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Tag Number	Title	Boundary Drawing	Location	Condensate Drain Configuration	Potential to Affect Safety Related SSCs	In the Scope of SLR?	AMR Required?
E-16F	DC Equipment Room South Air Handling Unit	5610-M-3025-SH3	Outside control building roof mounted	Routed on roof to roof drain	None	No	No
3S230	Switchgear Room 3D A/C Unit	5614-M-3108-SH1	Outside Unit 4 emergency diesel generator building roof mounted	Routed on roof to roof drain	None	No	No
4S230	Switchgear Room 4D A/C Unit	5614-M-3108-SH1	Outside Unit 4 emergency diesel generator building roof mounted	Routed on roof to roof drain	None	No	No
4S231A	Control Panel Room 4A A/C Unit	5614-M-3108-SH1	Outside Unit 4 emergency diesel generator building roof mounted	Routed on roof to roof drain	None	No	No
4S231B	Control Panel Room 4B A/C Unit	5614-M-3108-SH1	Outside Unit 4 emergency diesel generator building roof mounted	Routed on roof to roof drain	None	No	No

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Based on the above, the condensate drain lines for the above air handlers do not perform an SLR intended function, and thus do not require an aging management review.

With regard to the question on the holistic use of guidance, documented plant walkdowns were used to verify the potential for 10 CFR 54.4(a)(2) spatial interactions as part of the spaces approach described in the SLRA. If there was the potential for spatial interaction of nonsafety-related SSCs with safety-related SSCs, the nonsafety-related SSCs were included in the scope of SLR. The review above confirms that none of the condensate drain lines are in the scope of SLR.

**References:**

None

**Associated SLRA Revisions:**

None

**Associated Enclosures:**

None

**NRC RAI Letter No. ML18232A514 Dated August 20, 2018**

**RAI 2.3.3.11.2-1**

Regulatory Basis:

10 CFR 54.4(a) "Scope" reads in part:

- (a) Plant systems, structures, and components within the scope of this part are--
  - (1) Safety-related systems, structures, and components which are those relied upon to remain functional during and following design-basis events (as defined in 10 CFR 50.49 (b)(1)) to ensure the following functions--
    - (i) The integrity of the reactor coolant pressure boundary;
    - (ii) The capability to shut down the reactor and maintain it in a safe shutdown condition; or
    - (iii) The capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to those referred to in § 50.34(a)(1), § 50.67(b)(2), or § 100.11 of this chapter, as applicable. ...

54.21(a) "Contents of application--technical information" reads in part:

Each application must contain the following information:

- (a) An integrated plant assessment (IPA). The IPA must--
  - (1) For those systems, structures, and components within the scope of this part, as delineated in § 54.4, identify and list those structures and components subject to an aging management review. Structures and components subject to an aging management review shall encompass those structures and components--
    - (i) That perform an intended function, as described in § 54.4, without moving parts or without a change in configuration or properties. ...

Issue:

Sheet 3 of the SLRA Drawing for System 025 [P&ID 5610-M-3025] displays HVAC supply and return ducts to the roof top Air Handling Units (AHUs) of components South Unit E-16F [Coordinate B-3] and North Unit E-16E [Coordinate B-6]. This HVAC ductwork appears as being exposed to Outside Air as an external environment.

In contrast, SLRA Table 3.3.2-12 "Control Building Ventilation – Summary of Aging Management Evaluation" does not list "Air – Outdoor (ext)" as an environment.

SLRA Table 3.0-1 "Service Environments for Mechanical Aging Management Reviews" describes the "Environment" of "Air – outdoor" as "The outdoor environment consists of atmospheric air, salt-laden air, ambient temperature and humidity, and exposure to precipitation."

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Request:

Please identify where the SLRA addresses the AMR for these supply and return ducts with an external environment of "Air – Outdoor (ext)." If not addressed elsewhere, provide a justification for not including the external environment of "Air – Outdoor (ext)" for this "Component Type" in the aging management program.

**FPL Response:**

The exterior of the supply and return ducts of the PTN control building DC equipment/inverter rooms roof top air handling units (AHUs), between the roof and the connection to the AHU, are exposed to an environment of "Air – outdoor". These sections of ductwork are subject to loss of material and are managed by the External Surfaces Monitoring of Mechanical Components AMP. Table 3.3.2-12 of the SLRA is updated to reflect an environment of "Air – outdoor (ext)" for the portion of the ductwork between the control building roof and the north/south DC equipment room AHUs.

**References:**

None

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**Associated SLRA Revisions:**

The following changes to SLRA Table 3.3.2-12 will be made in a future SLRA revision as indicated by text deletion (strikethrough) and text addition (red underlined font).

Table 3.3.2-12: Control Building Ventilation – Summary of Aging Management Evaluation								
Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-2191 Item	Table 1 Item	Notes
<u>Duct</u>	<u>Pressure Boundary</u>	<u>Galvanized Steel</u>	<u>Air – outdoor (ext)</u>	<u>Loss of material</u>	<u>External Surfaces Monitoring of Mechanical Components</u>	<u>VII.I.A-77</u>	<u>3.3-1, 078</u>	<u>A</u>

**Associated Enclosures:**

None

**NRC RAI Letter No. ML18232A514 Dated August 20, 2018**

**RAI 2.3.3.11.2-2**

Regulatory Basis:

10 CFR 54.4(a) "Scope" reads in part "... (2) *All nonsafety-related systems, structures, and components whose failure could prevent satisfactory accomplishment of any of the functions identified in paragraphs (a)(1)(i), (ii), or (iii) of this section. ...*"

NUREG 2192 [Published: July 2017] "Standard Review Plan for Review of Subsequent License Renewal Applications for Nuclear Power Plants" "Table 2.1-5 Typical 'Passive' Structure-Intended Functions" describes the "Intended Function" "Leakage Boundary (Spatial)" as "*Nonsafety-related component that maintains mechanical and structural integrity to prevent spatial interactions that could cause failure of safety-related SSCs*"

Issue:

Sheet 3 of the SLRA Drawing for System 025 [P&ID 5610-M-3025] displays as not subject to AMR the exhaust ducts from Battery Room 4B [FA 102] and Battery Room 3A [FA 103]. These exhaust ducts are routed through DC Equipment Room 4A [FA 108A] and DC Equipment Room 3B [FA 108B] to the Control Building Roof. Note 6 to this SLRA Drawing reads "*All components depicted on this drawing are within the Seismic/Q boundary, except for the components located on the Control Building roof.*"

The "Description" of SLRA Section 2.3.3.11.2 reads in part:

The dc equipment and inverter rooms are located east of the control room and the cable spreading room. This area comprises what is commonly called the control building annex. These rooms house the safety-related batteries, battery chargers, inverters, and dc load centers, in addition to other quality-related and non-safety related equipment.

The "System Intended Functions" of SLRA Section 2.3.3.11.2 reads in part:

Nonsafety-related components that could affect safety-related functions (10 CFR 54.4(a)(2)):

(1) Maintain integrity of nonsafety-related components such that no interaction with safety-related components could prevent satisfactory accomplishment of a safety function.

Request:

The staff requests clarification of whether these particular sections of exhaust ductwork are subject to AMR. If not subject to AMR, please provide a justification for not including these exhaust ducts in the aging management program.

**FPL Response:**

The non-nuclear safety (NNS) exhaust ductwork connected to the control building battery room exhaust fans (V60, V61, V62, V63) is not subject to AMR. The evaluation methodology, outlined in Figure 2.1-1 of the PTN SLRA, is based on the guidance in



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NEI 95-10, Appendix F, Section 5 for addressing NNS systems structures and components (SSCs) that are not directly connected to safety related (SR) SSCs but have the potential to affect SR SSCs through spatial interactions. Consistent with NEI 95-10, Appendix F, Section 5.2.2.3, new and aged NNS piping which may fall on or otherwise physically impact SR SSCs is not considered in scope of SLR for 54.4(a)(2) as long as the associated piping supports do not fail. The control building battery room exhaust fan's NNS exhaust ductwork is treated as functionally equivalent to the NNS piping systems described in NEI 95-10, Appendix F, Section 5.2.2.3, and as such, only the ductwork supports are included in the scope of SLR. Consistent with this guidance, Table 3.5.2-4 of the PTN SLRA includes an AMR line item for HVAC and pipe supports.

**References:**

None

**Associated SLRA Revisions:**

None

**Associated Enclosures:**

None

**NRC RAI Letter No. ML18232A514 Dated August 20, 2018**

**RAI 2.3.3.11.2-3**

Regulatory Basis:

54.21(a) "Contents of application--technical information" reads in part:

Each application must contain the following information:

(a) An integrated plant assessment (IPA). The IPA must--

(1) For those systems, structures, and components within the scope of this part, as delineated in § 54.4, identify and list those structures and components subject to an aging management review. Structures and components subject to an aging management review shall encompass those structures and components--

(i) That perform an intended function, as described in § 54.4, without moving parts or without a change in configuration or properties. ...

Issue:

Sheet 1 of the SLRA Drawing for System 025 [P&ID 5610-M-3025] displays two diversely oriented (i.e., south and north) emergency air intakes [Coordinates H-1 & H-2] for the Control Room Emergency Ventilation System CREVS mode of system operation. Note 10 on this SLRA Drawing reads "A bird screen is attached to the outside of the pipe inlet."

It appears that these "bird screens" provide an important passive system function in maintaining the operability of the CREVS by keeping the air intakes free of flow restrictions (i.e., birds et cetera and foreign debris).

SLRA Section 2.3.3.11.2 does not speak to the issue of the "bird screen". The SLRA Drawing does not present enough information to draw a conclusion that the "bird screen" is subject to AMR. While SLRA Table 3.3.2-12 "Control Building Ventilation – Summary of Aging Management Evaluation" does list the component types of "Strainer body" and "Strainer element," the listed Table environments are not applicable to a "Bird Screen."

Request:

Please identify where the SLRA addresses the AMR for the two "Bird Screens" associated with the Control Room Emergency Ventilation System. If these "Bird Screens" are included within the scope of subsequent license renewal (WSSLR) and subject to AMR, please address how aging is managed. If it has been determined that the "Bird Screens" are WSSLR but not subject to AMR, provide a justification for not including these components in the aging management program.

**FPL Response:**

The air intake bird screens associated with the PTN Unit 3 and 4 control room ventilation system are within the scope of subsequent license renewal and are subject to AMR. The bird screens provide a filtering function to prevent flow blockage of the air

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intakes. The bird screens are composed of stainless steel, exposed to outdoor air, and are considered a filter component type. As such, the bird screens are subject to loss of material and cracking and are managed by the External Surfaces Monitoring of Mechanical Components AMP. SLRA Table 3.3.2-12 is revised to include these components.

**References:**

None

**Associated SLRA Revisions:**

The following changes to SLRA Table 3.3.2-12 will be made in a future SLRA revision as indicated by text deletion (strikethrough) and text addition (red underlined font).

Table 3.3.2-12: Control Building Ventilation – Summary of Aging Management Evaluation								
Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-2191 Item	Table 1 Item	Notes
<u>Filter (bird screen)</u>	<u>Filter</u>	<u>Stainless steel</u>	<u>Air – outdoor (ext)</u>	<u>Cracking</u>	<u>External Surfaces Monitoring of Mechanical Components</u>	<u>VII.F1.AP-209b</u>	<u>3.3-1, 004</u>	<u>A</u>
<u>Filter (bird screen)</u>	<u>Filter</u>	<u>Stainless steel</u>	<u>Air – outdoor (ext)</u>	<u>Loss of material</u>	<u>External Surfaces Monitoring of Mechanical Components</u>	<u>VII.F1.AP-221b</u>	<u>3.3-1, 006</u>	<u>A</u>

**Associated Enclosures:**

None

**NRC RAI Letter No. ML18232A514 Dated August 20, 2018**

**RAI 2.3.3.11.3-1**

Regulatory Basis:

10 CFR 54.4(a) "Scope" reads in part:

- (a) Plant systems, structures, and components within the scope of this part are--
- (1) Safety-related systems, structures, and components which are those relied upon to remain functional during and following design-basis events (as defined in 10 CFR 50.49 (b)(1)) to ensure the following functions—
- (i) The integrity of the reactor coolant pressure boundary;
- (ii) The capability to shut down the reactor and maintain it in a safe shutdown condition; or
- (iii) The capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to those referred to in § 50.34(a)(1), § 50.67(b)(2), or § 100.11 of this chapter, as applicable. ...

54.21(a) "Contents of application--technical information" reads in part:

Each application must contain the following information:

- (a) An integrated plant assessment (IPA). The IPA must--
- (1) For those systems, structures, and components within the scope of this part, as delineated in § 54.4, identify and list those structures and components subject to an aging management review. Structures and components subject to an aging management review shall encompass those structures and components--
- (i) That perform an intended function, as described in § 54.4, without moving parts or without a change in configuration or properties. ...

Issue:

Sheet 1 of the SLRA Drawing for System 108 [P&ID 5614-M-3108] displays as being subject to AMR, the following "Component Types" associated with Control Panel Rooms 4A & 4B and Switchgear Rooms 3D & 4D:

- "Damper Housings" (i.e. Backdraft)
- "Fan housing"
- "Intake Hoods" (i.e. Roof Top)
- "Louvers"

In contrast, neither SLRA Table 2.3.3-11 "Plant Ventilation Components Subject to Aging Management Review" nor SLRA Table 3.3.2-13 "Emergency Diesel Generator Building Ventilation – Summary of Aging Management Evaluation" list the "Component Type" of "Louvers" or "Intake Hoods." In

addition, SLRA Table 3.3.2-13 neither list the "Component Type" of "Damper housings" or "Fan housings" nor identifies an external environment of "Air-outdoor" for the "Component Types" of "Intake Hood" and "Louver."

SLRA Table 3.0-1 "Service Environments for Mechanical Aging Management Reviews" describes the "Environment" of "Air – outdoor" as "The outdoor environment consists of atmospheric air, salt-laden air, ambient temperature and humidity, and exposure to precipitation."

The staff also notes that another "Component Type" conspicuous by its absence in SLRA Table 3.3.2-13 is "Flex Connections" since these are commonly found in HVAC systems.

Request:

Please identify where the SLRA addresses the AMR for these "Component Types" and "Environment" associated with the Emergency Diesel Generator Building Ventilation System. If not addressed elsewhere, provide a justification for not including these "Component Types" and "Environment" in the aging management program.

**FPL Response:**

Table 2.3.3-11 of the SLRA lists the component types associated with four different PTN Unit 3 and 4 ventilation systems. These systems include the auxiliary building and electrical equipment room ventilation system, the control building ventilation system, the emergency diesel building ventilation system, and the turbine building ventilation system. Table 2.3.3-11 of the SLRA does list "damper housing" and "fan housing" as component types subject to an aging management review because these components types are contained in at least one plant ventilation system.

Dampers and fans associated with the PTN Unit 4 emergency diesel generator building ventilation system were considered active components, so they were not included in SLRA Table 3.3.2-13. However, after further review, FPL has determined that the housings for these components are passive and subject to aging management review. SLRA Table 3.3.2-13 is updated to reflect the aging management review for damper housings and fan housings in the PTN Unit 4 emergency diesel generator building ventilation system. These changes are shown in the Associated SLRA Revisions section below.

The intake hoods and louvers associated with the PTN Unit 4 emergency diesel building ventilation system are considered structural components. The intake hoods are included in the "Miscellaneous steel supports and steel commodities" component type and the louvers are included in the "Louvers" component type of SLRA Table 2.4.2-8 and are subject to an aging management review. As indicated in SLRA Table 3.5.2-9, the Structures Monitoring AMP will manage the aging effects for the more specific "HVAC roof hoods" component type and "Louvers" components type.

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Additionally, "Flex connections" are not included in SLRA Table 3.3.2-13 as there are no flex connections in the Unit 4 emergency diesel building ventilation system as shown on Unit 4 P&ID 5614-M-3108.

**References:**

None

**Associated SLRA Revisions:**

The following changes to SLRA Table 3.3.2-13 will be made in a future SLRA revision as indicated by text deletion (strikethrough) and text addition (red underlined font).

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Add the following line items to SLRA Table 3.3.2-13:

Table 3.3.2-13: Emergency Diesel Generator Building Ventilation — Summary of Aging Management Evaluation								
Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-2191 Item	Table 1 Item	Notes
<u>Damper Housing</u>	<u>Pressure boundary</u>	<u>Galvanized Steel</u>	<u>Air – indoor uncontrolled (ext)</u>	<u>Loss of material</u>	<u>External Surfaces Monitoring of Mechanical Components</u>	<u>VII.I.A-77</u>	<u>3.3-1, 078</u>	<u>A</u>
<u>Damper Housing</u>	<u>Pressure boundary</u>	<u>Galvanized Steel</u>	<u>Air – indoor uncontrolled (int)</u>	<u>Loss of material</u>	<u>Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components</u>	<u>V.A.E-29</u>	<u>3.2-1, 044</u>	<u>C</u>
<u>Fan Housing</u>	<u>Pressure boundary</u>	<u>Galvanized Steel</u>	<u>Air – indoor uncontrolled (ext)</u>	<u>Loss of material</u>	<u>External Surfaces Monitoring of Mechanical Components</u>	<u>VII.I.A-77</u>	<u>3.3-1, 078</u>	<u>A</u>
<u>Fan Housing</u>	<u>Pressure boundary</u>	<u>Galvanized Steel</u>	<u>Air – indoor uncontrolled (int)</u>	<u>Loss of material</u>	<u>Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components</u>	<u>V.A.E-29</u>	<u>3.2-1, 044</u>	<u>C</u>

Associated Enclosures:

None



**NRC RAI Letter No. ML18232A514 Dated August 20, 2018**

**RAI 2.3.3.11.3-2**

Regulatory Basis:

10 CFR 54.4(a) "Scope" reads in part:

(a) Plant systems, structures, and components within the scope of this part are--

(1) Safety-related systems, structures, and components which are those relied upon to remain functional during and following design-basis events (as defined in 10 CFR 50.49 (b)(1)) to ensure the following functions--

(i) The integrity of the reactor coolant pressure boundary;

(ii) The capability to shut down the reactor and maintain it in a safe shutdown condition; or

(iii) The capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to those referred to in § 50.34(a)(1), § 50.67(b)(2), or § 100.11 of this chapter, as applicable. ...

54.21(a) "Contents of application--technical information" reads in part:

Each application must contain the following information:

(a) An integrated plant assessment (IPA). The IPA must--

(1) For those systems, structures, and components within the scope of this part, as delineated in § 54.4, identify and list those structures and components subject to an aging management review. Structures and components subject to an aging management review shall encompass those structures and components--

(i) That perform an intended function, as described in § 54.4, without moving parts or without a change in configuration or properties. ...

Issue:

The subtitle "Boundary" of SLRA Section 2.3.3.11.3 "Emergency Diesel Generator Building Ventilation" reads in part "*The subsequent license renewal boundaries for the 4A and 4B EDG rooms are at the inlet and exhaust of louvers L2A and L2B*"

Sheet 1 of the SLRA Drawing for System 108 [P&ID 5614-M-3108] displays exhaust louvers rated at "*211926 CFM Diesel Running*" for both the Diesel Generator Room 4A and the Diesel Generator Room 4B. The exhaust louver "*L2A*" for Room 4A (Coordinate E-5) and the exhaust louver "*L2B*" for Room 4B (Coordinate E-8) is identified as within the scope of subsequent license renewal (WSSLR) and subject to AMR.

The building intake louvers [openings? empty P&ID rectangle – component type unknown & unnumbered] are also rated at "*211926 CFM Diesel Running*" are located within the Air Receiver Room – Room 4A (Coordinate E-3) and the Air Receiver Room –

Room 4B (Coordinate E-6). In contrast, these intake openings for Room 4A and Room 4B are neither identified as WSSLR nor subject to AMR on the SLRA Drawing.

SLRA Table 3.0-1 "Service Environments for Mechanical Aging Management Reviews" describes the "Environment" of "Air – outdoor" as "The outdoor environment consists of atmospheric air, salt-laden air, ambient temperature and humidity, and exposure to precipitation."

The staff notes that these "Louvers" [room openings] appear to be exposed to an external environment of "Outside Air." The staff also notes that exhaust "Louvers" "L2A" and "L2B" have attached "Screens" per the "Remarks" listed in the Table entitled "Louvers" as displayed on the SLRA Drawing.

In contrast, neither SLRA Table 2.3.3-11 "Plant Ventilation Components Subject to Aging Management Review" nor SLRA Table 3.3.2-13 "Emergency Diesel Generator Building Ventilation – Summary of Aging Management Evaluation" list the "Component Type" of "Louvers" or "Screens" associated with the external "Environment" of "Air – outdoor."

Request:

Please identify where the SLRA addresses the AMR for these Unit 4 EDG Building Ventilation System supply [room openings] and return louvers with screens associated with an external environment of "Air – Outdoor (ext)." If not addressed elsewhere, provide a justification for not including this external "Environment" for the "Component Type" of "Louver" with "Screen" in the aging management program.

**FPL Response:**

The air intake and air exhaust louvers for the emergency diesel generator room 4A and 4B ventilation systems are equipped with screens. These screens are connected to the building louvers and are not directly connected to the ventilation system ductwork. They prevent wildlife and personnel from entering the building; they do not filter the air used in the ventilation system and their failure does not disable the system's subsequent license renewal intended function in accordance with 10 CFR 54.4. Therefore, these screens are not subject to an aging management review.

Exhaust louvers "L2A" and "L2B" and other named and unnamed louvers associated with the emergency diesel building ventilation system are considered structural components. The louvers are contained under the "Louvers" component type and are subject to an aging management review per SLRA Table 2.4.2-8. The Structures Monitoring AMP will manage the aging effects for the "Louvers" component type as documented in SLRA Table 3.5.2-9, which includes an environment of "Air - outdoor".

**References:**

None

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**Associated SLRA Revisions:**

None

**Associated Enclosures:**

None

**NRC RAI Letter No. ML18232A514 Dated August 20, 2018**

**RAI 2.3.3.11.3-3**

Regulatory Basis:

10 CFR 54.4(a) "Scope" reads in part:

(a) Plant systems, structures, and components within the scope of this part are--

(1) Safety-related systems, structures, and components which are those relied upon to remain functional during and following design-basis events (as defined in 10 CFR 50.49 (b)(1)) to ensure the following functions--

(i) The integrity of the reactor coolant pressure boundary;

(ii) The capability to shut down the reactor and maintain it in a safe shutdown condition; or

(iii) The capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to those referred to in § 50.34(a)(1), § 50.67(b)(2), or § 100.11 of this chapter, as applicable. ...

Further Section 54.21(a) "Contents of application--technical information" reads in part:

Each application must contain the following information:

(a) An integrated plant assessment (IPA). The IPA must--

(1) For those systems, structures, and components within the scope of this part, as delineated in § 54.4, identify and list those structures and components subject to an aging management review. Structures and components subject to an aging management review shall encompass those structures and components--

(i) That perform an intended function, as described in § 54.4, without moving parts or without a change in configuration or properties. ...

Issue:

SLRA Section 2.3.3.11.3 "Emergency Diesel Generator Building Ventilation" reads in part:

Unit 3 EDG building ventilation system is a rather simple system consisting of wall-mounted, axial flow exhaust fans and short runs of discharge ductwork through the Unit 3 EDG radiator area. There is one fan for each EDG, and the fans operate to maintain cooling in the rooms when the EDGs are running to ensure room temperature is less than that specified for the EDG horsepower rating. There is no system description for the Unit 3 EDG building ventilation system in the Turkey Point UFSAR.

In addition SLRA Section 2.3.3.11.3 indicates that there is no SLRA P&ID Drawing that reflects the SLR boundaries for the Unit 3 EDG building ventilation system.

Due to the minimal information presented in the SLRA and UFSAR pertaining to the Unit 3 EDG Building Ventilation System, it appears to the staff that SLRA Table 3.3.2-13 "Emergency Diesel Generator Building Ventilation – Summary of Aging Management Evaluation" should include the "Component Type" of "Fan housing."

It appears to the staff that for consistency with component types and environments identified for the Unit 4 EDG rooms, other Unit 3 EDG Building Ventilation System "Component Types" and "Environment" should be included in SLRA Table 3.3.2-13, such as:

- "Flex Connections";
- "Louvers" (i.e., EDG Building intake and exhaust for the EDG rooms);
- "Screens"; and
- "Air – Outdoor" (i.e. associated with the Louvers)

Request:

Please identify where the SLRA addresses the AMR for these "Component Types" and "Environment" associated with the Unit 3 Emergency Diesel Generator Building Ventilation System. If not addressed elsewhere, please provide a justification for not including these "Component Types" and "Environment" in the aging management program or amend the SSLRA accordingly.

**FPL Response:**

Screening for the Unit 3 emergency diesel building ventilation system (system 023A) was performed as part of the PTN SLRA development and the component types identified did not include flexible connections, louvers, or screens. A subsequent walkdown was performed to confirm that these component types are not subject to an aging management review. Based on the walkdown results, no flex connections were identified, which confirms that "Flex connections" are not subject to an aging management review and do not need to be included in SLRA Table 3.3.2-13.

However, the walkdown confirmed the existence of louvers in the PTN Unit 3 emergency diesel generator building ventilation system. Although not currently identified in the emergency diesel building ventilation system screening report, these louvers are considered structural components and are contained under the "Louvers" component type and are subject to an aging management review per SLRA Table 2.4.2-8. The Structures Monitoring AMP will manage the aging effects for the "Louvers" component type as documented in SLRA Table 3.5.2-9, which includes an environment of "Air - outdoor".

The walkdown also confirmed that the air intake and air exhaust louvers for the PTN Unit 3 emergency diesel generator room ventilation system are equipped with screens. These screens are connected to the building louvers and are not directly connected to the ventilation system ductwork. They prevent wildlife and personnel from entering the building; they do not filter the air used in the ventilation system and their failure does not

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disable the system's subsequent license renewal intended function in accordance with 10 CFR 54.4. Therefore, these screens are not subject to an aging management review.

**References:**

None

**Associated SLRA Revisions:**

None

**Associated Enclosures:**

None

**NRC RAI Letter No. ML18232A514 Dated August 20, 2018**

**RAI 2.3.3.11.4-1**

Regulatory Basis:

10 CFR 54.4(a) "Scope" reads in part:

(a) Plant systems, structures, and components within the scope of this part are—

(1) Safety-related systems, structures, and components which are those relied upon to remain functional during and following design-basis events (as defined in 10 CFR 50.49 (b)(1)) to ensure the following functions—

(i) The integrity of the reactor coolant pressure boundary;

(ii) The capability to shut down the reactor and maintain it in a safe shutdown condition; or

(iii) The capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to those referred to in § 50.34(a)(1), § 50.67(b)(2), or § 100.11 of this chapter, as applicable. ...

54.21(a) "Contents of application--technical information" reads in part:

Each application must contain the following information:

(a) An integrated plant assessment (IPA). The IPA must--

(1) For those systems, structures, and components within the scope of this part, as delineated in § 54.4, identify and list those structures and components subject to an aging management review. Structures and components subject to an aging management review shall encompass those structures and components--

(i) That perform an intended function, as described in § 54.4, without moving parts or without a change in configuration or properties. ...

Issue:

(a) Sheets 1 & 2 of the SLRA Drawings System 070 [P&ID 5613-M-3070 & P&ID 5614-M-3070] displays as being subject to AMR, the following "Component Types" associated with the "Turbine Building Ventilation Load Center & Switch Gear Rooms Chilled Water System":

- "Tubing" -- Instrument
- "Piping\*" -- Internal environment: Condensation or Air – indoor uncontrolled"
- Wye "Strainers" – Int. Environment: Treated Water; Ext. Environment: Condensation
- "Strainer element" -- Environment: Treated Water
- \* Expansion Tank -- Vents and Overflow Lines

In contrast, neither SLRA Table 2.3.3-11 "Plant Ventilation Components Subject to Aging Management Review" nor SLRA Table 3.3.2-14 "Turbine Building Ventilation –

Summary of Aging Management Evaluation” accurately reflect these “Component Types” and the appropriate environment.

(b) The staff also notes that the Unit 3 and Unit 4 Train A & Train B Chiller Packages are shown as being subject to AMR. However, SLRA Section 2.3.3.11.4 “Turbine Building Ventilation” and its relevant SLRA Tables do not address the aging management of these chiller packages. If the chiller packages are treated as complex assemblies, SLRA Section 2.3.3.11.4 should so state.

Request:

(a) Please identify where the SLRA addresses the AMR for these “Component Types” and “Environments” associated with the Turbine Building Ventilation System. If not addressed elsewhere, provide a justification for not including this component in the aging management program.

(b) Please add clarity to the SLRA to address the aging management of the Unit 3 and Unit 4 Train A & Train B Chiller Packages.

**FPL Response:**

(a) Table 2.3.3-11 of the SLRA lists the component types associated with four different PTN Unit 3 and 4 ventilation systems. These systems include the auxiliary building and electrical equipment room ventilation system, the control building ventilation system, the emergency diesel building ventilation system, and the turbine building ventilation system. Table 2.3.3-11 of the SLRA does include “tubing”, “piping”, “strainer body”, and “strainer element” as component types.

The turbine building ventilation system boundary drawings (Sheets 1 and 2 of P&IDs 5613-M-3070 & 5614-M-3070) were reviewed and FPL determined that additional information needs to be added to SLRA Table 3.3.2-14 to ensure all component type/material/environment/aging effect combinations are identified. SLRA Table 3.3.2-14 is updated to add stainless steel tubing rows with a treated water internal environment and a condensation external environment. SLRA Table 3.3.2-14 is updated to add a stainless strainer element row with a treated water internal environment. SLRA Table 3.3.2-14 is updated to add carbon steel strainer body rows with a treated water internal environment and a condensation external environment. SLRA Table 3.3.2-14 is updated to add a carbon steel piping row with a condensation internal environment that corresponds to the piping that connects to the expansion tanks. SLRA Table 3.3.2-14 is updated to add a carbon steel tank row with a condensation internal environment that corresponds to the portions of the expansion tanks that are not filled with water.

(b) Per paragraph 5 of Section 2.1.6.1 of the SLRA, examples of complex assemblies at PTN include emergency diesel generators (EDGs), chiller units, compressors that are part of direct expansion cooling units, and air compressor skids. The chiller packages shown on boundary drawings 5613-M-3070 Sheets 1 and 2 and 5614-M-3070 Sheets 1 and 2 are considered complex assemblies and the boundaries



are at the inlet and outlet piping connections to the chiller packages. This position is consistent with the screening methodology for complex assemblies as described in Table 2.1-2 of NUREG-2192. SLRA Section 2.3.3.11.4 is updated to clarify that the chiller packages are considered complex assemblies.

**References:**

None

**Associated SLRA Revisions:**

The following changes to SLRA Section 2.3.3.11.4 and Table 3.3.2-14 will be made in a future SLRA revision as indicated by text deletion (strikethrough) and text addition (red underlined font).

Revise SLRA Section 2.3.3.11.4 paragraph 5 as follows:

The subsequent license renewal boundaries for turbine building ventilation include all piping and associated components depicted on the SLRBD, with the exception of piping/fittings/tubing downstream of vents and drains, tornado dampers 3FD-1001 and 4FD-1001 and fans 3V-15 and 4V-15. The chiller packages are considered complex assemblies and the boundaries are at the inlet and outlet piping connections to the chiller packages.

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Add the following line items to SLRA Table 3.3.2-14:

Table 3.3.2-14: Turbine Building Ventilation — Summary of Aging Management Evaluation								
Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-2191 Item	Table 1 Item	Notes
<u>Piping</u>	<u>Pressure boundary</u>	<u>Carbon steel</u>	<u>Condensation (int)</u>	<u>Loss of material</u>	<u>Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components</u>	<u>VII.H2.A-26</u>	<u>3.3-1, 055</u>	<u>A</u>
<u>Strainer element</u>	<u>Filter</u>	<u>Stainless steel</u>	<u>Treated water (int)</u>	<u>Loss of material</u>	<u>Closed Treated Water Systems</u>	<u>VII.C2.A-52</u>	<u>3.3-1, 049</u>	<u>B</u>
<u>Strainer body</u>	<u>Pressure boundary</u>	<u>Carbon steel</u>	<u>Treated water (int)</u>	<u>Loss of material</u>	<u>Closed Treated Water Systems</u>	<u>VII.F2.AP-202</u>	<u>3.3-1, 045</u>	<u>B</u>
<u>Strainer body</u>	<u>Pressure boundary</u>	<u>Carbon steel</u>	<u>Condensation (ext)</u>	<u>Loss of material</u>	<u>External Surfaces Monitoring of Mechanical Components</u>	<u>VII.I.A-77</u>	<u>3.3-1, 078</u>	<u>A</u>
<u>Tank</u>	<u>Pressure boundary</u>	<u>Carbon steel</u>	<u>Condensation (int)</u>	<u>Loss of material</u>	<u>Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components</u>	<u>VII.H2.A-26</u>	<u>3.3-1, 055</u>	<u>A</u>
<u>Tubing</u>	<u>Pressure boundary</u>	<u>Stainless steel</u>	<u>Treated water (int)</u>	<u>Loss of material</u>	<u>Closed Treated Water Systems</u>	<u>VII.C2.A-52</u>	<u>3.3-1, 049</u>	<u>B</u>

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Table 3.3.2-14: Turbine Building Ventilation — Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-2191 Item	Table 1 Item	Notes
<u>Tubing</u>	<u>Pressure boundary</u>	<u>Stainless steel</u>	<u>Condensation (ext)</u>	<u>Loss of material</u>	<u>External Surfaces Monitoring of Mechanical Components</u>	<u>VII.F1.AP-221b</u>	<u>3.3-1, 006</u>	<u>A</u>
<u>Tubing</u>	<u>Pressure boundary</u>	<u>Stainless steel</u>	<u>Condensation (ext)</u>	<u>Cracking</u>	<u>External Surfaces Monitoring of Mechanical Components</u>	<u>VII.F1.AP-209b</u>	<u>3.3-1, 004</u>	<u>A</u>

**Associated Enclosures:**

None

**NRC RAI Letter No. ML18232A514 Dated August 20, 2018**

**RAI 2.3.3.11.4-2**

Regulatory Basis:

10 CFR 54.4(a) "Scope" reads in part "... (2) All nonsafety-related systems, structures, and components whose failure could prevent satisfactory accomplishment of any of the functions identified in paragraphs (a)(1)(i), (ii), or (iii) of this section. ..."

NUREG 2192 [Published: July 2017] "Standard Review Plan for Review of Subsequent License Renewal Applications for Nuclear Power Plants" "Table 2.1-5 Typical 'Passive' Structure-Intended Functions" describes the "Intended Function" "Leakage Boundary (Spatial)" as "Nonsafety-related component that maintains mechanical and structural integrity to prevent spatial interactions that could cause failure of safety-related SSCs"

Section 3.3 "Aging Management of Auxiliary Systems" of NUREG 2192 reads in part:

This review plan section also includes structures and components in nonsafety-related systems that are not connected to safety-related systems, structures, and components (SSCs) but have a spatial relationship such that their failure could adversely impact the performance of a safety-related SSC intended function. Examples of such nonsafety-related systems may be plant drains, liquid waste processing, potable/sanitary water, water treatment, process sampling, and cooling water systems.

Issue:

SLRA Table 3.0-1 "Service Environments for Mechanical Aging Management Reviews" describes "Condensation" as "Air and condensation on surfaces of indoor systems with temperatures below dew point; condensation is considered untreated water due to potential for surface contamination."

The staff notes that for the "Component Type" of "Piping," SLRA Table 3.3.2-14 "Turbine Building Ventilation – Summary of Aging Management Evaluation" does not list an "Environment" of "Condensation (int)."

Sheet 1 of the SLRA Drawings System 070 [P&ID 5613-M-3070 & P&ID 5614-M-3070] displays [Coordinate G-4] as not being subject to AMR, the routing of "Air Handling Unit" condensate drain lines to the nearest floor drain or header. Note 6 on these SLRA drawings reads "Only Exposed Drain Piping From AHU's Over The SWGR To Drain Is Insulated."

The staff also notes that SLRA Section 2.3.4.4 "Steam and Power Conversion Systems in the Scope of 10 CFR 54.4(a)(2) for Spatial Interactions" neither addresses the subject condensate drain lines nor lists as "SLR Boundary Drawings" the subject SLRA Drawings for System 070.

From the information presented in the SLRA it is not clear how the SLRA satisfies the guidance of NUREG 2192, Section 3.3 with respect to preventing leakage from these

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AHU condensate drain lines from spatially interacting with the safety related equipment.

Request

Please identify where the SLRA addresses the AMR for the condensate drain lines for each of the Unit 3 and Unit 4 air handling units associated with the Load Center and Switchgear Rooms within the Turbine Building. If not addressed elsewhere, provide a justification for not including internal "Environment" of "Condensation (int)" for the "Component Type" of "Piping" in the aging management program for the Turbine Building Ventilation System.

**PTN Response:**

The load center and switchgear room ventilation in the turbine building consists of two air handling units in each of eight rooms; the 3A and 3B switchgear rooms, the 3A/3B and 3C/3D load center rooms, the 4A and 4B switchgear rooms, and the 4A/4B and 4C/D load center rooms. These air handling units are supplied by redundant chiller units located outside on the turbine building operating deck. As noted in the RAI, the condensate drain lines associated with the air handling units are reflected in a detail on the P&IDs. To confirm the location and configuration of the condensate drain lines, walkdowns of the specific areas where the air handling units are installed were performed. For the air handling units associated with the load center and switchgear rooms, the results of the walkdowns are presented in Table 1 below:

Table 1 – Condensate Drain Lines for Load Center and Switchgear Room Air Handlers

Tag Number	Title	Boundary Drawing	Location	Condensate Drain Configuration	Potential to Affect Safety Related SSCs	In the Scope of SLR?	AMR Required?
3E241A	3A and 3B Load Center Room Air Handling Unit A	5613-M-3070-SH1	3A and 3B load center room floor mounted	Routed on floor to floor drain	None	No	No
3E242A	3C and 3D Load Center Room Air Handling Unit A	5613-M-3070-SH1	3C and 3D load center room floor mounted	Routed on floor to floor drain	None	No	No
3E243A	Switchgear Room 3A Air Handling Unit A	5613-M-3070-SH1	3A switchgear room floor mounted	Routed on floor to sump	None	No	No
3E244A	Switchgear Room 3B Air Handling Unit A	5613-M-3070-SH1	3B switchgear room mounted on elevated platform	Routed to wall then on floor to sump	Yes	Yes	Yes
3E241B	3A and 3B Load Center Room Air Handling Unit B	5613-M-3070-SH2	3A and 3B load center room floor mounted	Routed on floor to floor drain	None	No	No
3E242B	3C and 3D Load Center Room Air Handling Unit B	5613-M-3070-SH2	3C and 3D load center room floor mounted	Routed on floor to floor drain	None	No	No

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Tag Number	Title	Boundary Drawing	Location	Condensate Drain Configuration	Potential to Affect Safety Related SSCs	In the Scope of SLR?	AMR Required?
3E243B	Switchgear Room 3A Air Handling Unit B	5613-M-3070-SH2	3A switchgear room floor mounted	Routed on floor into floor	None	No	No
3E244B	Switchgear Room 3B Air Handling Unit B	5613-M-3070-SH2	3B switchgear room mounted on elevated platform	Routed to wall then on floor then into wall	Yes	Yes	Yes
4E241A	4A and 4B Load Center Room Air Handling Unit A	5614-M-3070-SH1	4A and 4B load center room floor mounted	Routed on floor to floor drain	None	No	No
4E242A	4C and 4D Load Center Room Air Handling Unit A	5614-M-3070-SH1	4C and 4D load center room floor mounted	Routed on floor to floor drain	None	No	No
4E243A	Switchgear Room 4A Air Handling Unit A	5614-M-3070-SH1	4A switchgear room floor mounted	Routed on floor to sump	None	No	No
4E244A	Switchgear Room 4B Air Handling Unit A	5614-M-3070-SH1	4B switchgear room mounted on elevated platform	Routed to wall then on floor to sump	Yes	Yes	Yes
4E241B	4A and 4B Load Center Room Air Handling Unit B	5614-M-3070-SH2	4A and 4B load center room floor mounted	Routed on floor to floor drain	None	No	No

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Tag Number	Title	Boundary Drawing	Location	Condensate Drain Configuration	Potential to Affect Safety Related SSCs	In the Scope of SLR?	AMR Required?
4E242B	4C and 4D Load Center Room Air Handling Unit B	5614-M-3070-SH2	4C and 4D load center room floor mounted	Routed on floor to floor drain	None	No	No
4E243B	Switchgear Room 4A Air Handling Unit B	5614-M-3070-SH2	4A switchgear room floor mounted	Routed on floor then into floor	None	No	No
4E244B	Switchgear Room 4B Air Handling Unit B	5614-M-3070-SH2	4B switchgear room mounted on elevated platform	Routed to wall then on floor then to wall	Yes	Yes	Yes



Considering the potential for the condensate drain lines for 3E244A, 3E244B, 4E244A and 4E244B to affect safety related SSCs by leakage of the condensate, this piping has been included in the scope of SLR. Also, based on walkdowns performed during the NRC site audit conducted from August 27 through August 29, 2018, additional piping was identified for inclusion in the scope of SLR. This piping includes the following:

- a) Drain piping from the load center rooms in the ceiling areas of the 3A switchgear room due to potential for leakage.
- b) Drain piping from the load center rooms in the ceiling areas of the 4A switchgear room due to potential for leakage.
- c) Discharge piping associated with the switchgear room sump pumps due to potential for spray.

New line items for "piping" are added to Table 3.3.2-14 with internal environments of "Condensation (int)" and "Waste water (int)", and external environments of "Air indoor – controlled (ext)" and "Condensation (ext)".

Additionally, Section 2.3.3.16 of the SLRA is revised to include the turbine building (switchgear rooms only) as a structure that has a(2) interactions from an auxiliary system, plant ventilation.

The PTN Unit 3 and 4 load center and switchgear room SLRA boundary drawings 5613-M-3070, Sheet 1, and 5614-M-3070, Sheet 1 will be updated to reflect the condensate drain lines for 3E244A, 3E244B, 4E244A and 4E244B, the drain lines from the load center rooms, and the switchgear room sump pump discharge piping as within the scope of SLR.

**References:**

None

**Associated SLRA Revisions:**

The following changes to SLRA Section 2.3.3.16, Table 2.3.3.16-4 (new), Section 3.3.2.1.14 and Table 3.3.2-14 will be made in a future SLRA revision as indicated by text deletion (strikethrough) and text addition (red underlined font).

Revise SLRA Section 2.3.3.16 paragraph 8 as follows:

The following buildings contain nonsafety-related auxiliary system components that satisfy the spatial interaction methodology by means of physical impact, flooding, pipe whip, jet impingement, harsh environments, and/or spray or leakage that could affect the safety-related functions of adjacent safety-related systems.

- Containments
- EDG buildings

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- Control building
- Auxiliary building (includes fuel handling buildings and electrical equipment room)
- **Turbine building (switchgear rooms only)**

For SLRA Section 2.3.3.16, add a new section following auxiliary building as follows:

**Turbine Building (Switchgear Rooms Only)**

**The switchgear rooms in the turbine building are analyzed using the spaces approach as described in Section 2.1.5.2.3. Evaluation results for 10 CFR 54.4(a)(2) for spatial interactions are as follows:**

- **Pipe whip/jet impingement/physical contact – There is no nonsafety-related, high energy piping inside the switchgear rooms.**
- **Spray/leakage – The switchgear rooms contain nonsafety-related condensate drain lines for air handlers 3E244A, 3E244B, 4E244A and 4E244B, drain piping from the load center rooms, and discharge piping associated with sump pumps. Leakage from these nonsafety related components could potentially affect safety-related electrical equipment if age-related failures are assumed.**

**Results – The nonsafety-related condensate drain lines for air handlers 3E244A, 3E244B, 4E244A and 4E244B, the load center room drain lines, and the switchgear room sump pump discharge piping noted above have been included in the scope of SLR as meeting the scoping criteria of 10 CFR 54.4(a)(2).**

For SLRA Section 2.3.3.16, revise page 2.3-115 as follows:

Turkey Point Unit 3

5613-M-3020, Sheet 2  
5613-M-3033, Sheet 1  
5613-M-3036, Sheet 1  
5613-M-3047, Sheet 1  
5613-M-3047, Sheet 2  
5613-M-3061, Sheet 1  
**5613-M-3070, Sheet 1**  
**5613-M-3070, Sheet 2**

Turkey Point Unit 4

5614-M-3020, Sheet 2  
5614-M-3022, Sheet 5  
5614-M-3022, Sheet 6  
5614-M-3033, Sheet 1  
5614-M-3036, Sheet 1  
5614-M-3047, Sheet 1

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5614-M-3047, Sheet 2

5614-M-3061, Sheet 1

**5614-M-3070, Sheet 1**

**5614-M-3070, Sheet 2**

Components Subject to AMR

Table 2.3.3.16-1 lists the component types that require an AMR in the EDG buildings. This table also provides a reference to the table(s) providing the results of the AMR.

Table 2.3.3.16-2 lists the component types that require an AMR in the control building. This table also provides a reference to the table(s) providing the results of the AMR.

Table 2.3.3.16-3 lists the component types that require an AMR in the auxiliary building. This table also provides a reference to the table(s) providing the results of the AMR.

**Table 2.3.3.16-4 lists the component types that require an AMR in the switchgear rooms in the turbine building. This table also provides a reference to the table(s) providing the results of the AMR.**

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For SLRA Section 2.3.3.16, add the following new table:

**Table 2.3.3.16-4**  
**Component Intended Functions for 10 CFR 54.4(a)(2)**  
**Components in the Turbine Building (Switchgear Rooms)**  
**Subject to Aging Management Review**

<u>System</u>	<u>Component Type</u>	<u>Intended Function</u>	<u>AMR Results</u>
<u>Air handler condensate drains,</u>	<u>Bolting</u>		
<u>load center room drains,</u>	<u>Piping</u>	<u>Leakage boundary (spatial)</u>	<u>Table 3.3.2-14</u>
<u>switchgear room sump pump discharge</u>			

For SLRA Section 3.3.2.1.14, revise page 3.3-16 as follows:

**Materials**

The materials of construction for the Turbine Building Ventilation components are:

- Aluminum
- Carbon steel
- Copper alloy
- **Elastomer**
- Galvanized steel
- Glass
- Stainless steel

For SLRA Section 3.3.2.1.14, revise page 3.3-17 as follows:

### **Environments**

The Turbine Building Ventilation components are exposed to the following environments:

- Air – indoor controlled
- Air – indoor uncontrolled
- Air – outdoor
- Condensation
- Treated water
- **Waste water**

### **Aging Effect Requiring Management**

The following aging effects associated with the Turbine Building Ventilation components require management:

- Cracking
- **Hardening or loss of strength**
- Loss of material
- Loss of preload
- Reduction of heat transfer



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Revise SLRA Table 3.3.2-14 as follows:

Table 3.3.2-14: Turbine Building Ventilation — Summary of Aging Management Evaluation								
Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-2191 Item	Table 1 Item	Notes
<u>Bolting</u>	<u>Leakage boundary (spatial)</u>	<u>Carbon steel</u>	<u>Air – indoor controlled (ext)</u>	<u>Loss of preload</u>	<u>Bolting Integrity</u>	<u>VII.I.AP-124</u>	<u>3.3-1, 015</u>	<u>A</u>
<u>Piping</u>	<u>Leakage boundary (spatial)</u>	<u>Carbon steel</u>	<u>Condensation (int)</u>	<u>Loss of material</u>	<u>Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components</u>	<u>VII.F2.A-26</u>	<u>3.3-1, 055</u>	<u>A</u>
<u>Piping</u>	<u>Leakage boundary (spatial)</u>	<u>Carbon steel</u>	<u>Air – indoor controlled (ext)</u>	<u>Loss of material</u>	<u>External Surfaces Monitoring of Mechanical Components</u>	<u>VII.I.A-77</u>	<u>3.3-1, 078</u>	<u>A</u>
<u>Piping</u>	<u>Leakage boundary (spatial)</u>	<u>Carbon steel</u>	<u>Condensation (ext)</u>	<u>Loss of material</u>	<u>External Surfaces Monitoring of Mechanical Components</u>	<u>VII.I.A-77</u>	<u>3.3-1, 078</u>	<u>A</u>
<u>Piping</u>	<u>Leakage boundary (spatial)</u>	<u>Carbon steel</u>	<u>Waste water (int)</u>	<u>Loss of material</u>	<u>Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components</u>	<u>VII.E5.AP-281</u>	<u>3.3-1, 091</u>	<u>A</u>

Table 3.3.2-14: Turbine Building Ventilation — Summary of Aging Management Evaluation								
Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG-2191 Item	Table 1 Item	Notes
<u>Piping</u>	<u>Leakage boundary (spatial)</u>	<u>Elastomer</u>	<u>Air – indoor controlled (ext)</u>	<u>Hardening or loss of strength</u>	<u>External Surfaces Monitoring of Mechanical Components</u>	<u>VII.I.AP-102</u>	<u>3.3-1, 076</u>	<u>A</u>
<u>Piping</u>	<u>Leakage boundary (spatial)</u>	<u>Elastomer</u>	<u>Air – indoor controlled (ext)</u>	<u>Loss of material</u>	<u>External Surfaces Monitoring of Mechanical Components</u>	<u>VII.I.AP-113</u>	<u>3.3-1, 082</u>	<u>A</u>
<u>Piping</u>	<u>Leakage boundary (spatial)</u>	<u>Elastomer</u>	<u>Waste water (int)</u>	<u>Hardening or loss of strength</u>	<u>Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components</u>	<u>VII.E5.A-728</u>	<u>3.3-1, 085</u>	<u>A</u>
<u>Piping</u>	<u>Leakage boundary (spatial)</u>	<u>Elastomer</u>	<u>Waste water (int)</u>	<u>Loss of material</u>	<u>Inspection of Internal Surfaces in Miscellaneous Piping and Ducting Components</u>	<u>VII.E5.A-550</u>	<u>3.3-1, 096</u>	<u>A</u>

**Associated Enclosures:**

None