Florida Power & Light Company, 9760 SW 344 St., Fla City, FL 33035

FPL

L-2001-49
10 CFR 54

MAR 2 2 2001

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

Re: Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
Response to Request for Additional Information for the Review of the Turkey Point Units 3 and 4 License Renewal Application

By letter dated February 2, 2001, the NRC requested additional information regarding the Turkey Point Units 3 and 4 License Renewal Application (LRA). Attachment 1 to this letter contains the responses to the Requests for Additional Information (RAIs) associated with Section 2.1, Scoping and Screening Methodolgy, and Subsections 2.3.1, Reactor Coolant Systems, 2.3.2.2, Containment Spray, 2.3.3.3, Spent Fuel Pool Cooling, 2.3.3.4, Chemical and Volume Control, 2.4.1, Containments, and 2.4.2.4, Cooling Water Canals of the LRA.

Should you have any further questions, please contact E. A. Thompson at (305)246-6921.

Very truly yours,

R. J. Hovey
Vice President - Turkey Point

RJH/EAT/hlo

Attachment

A084

cc: U.S. Nuclear Regulatory Commission, Washington, D.C.

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Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251

Response to Request for Additional Information for the Review of the Turkey Point Units 3 and 4, License Renewal Application

STATE OF FLORIDA )
) ss
COUNTY OF MIAMI-DADE )

R. J. Hovey being first duly sworn, deposes and says:

That he is Vice President - Turkey Point 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.

R. J. Hovey

Subscribed and sworn to before me this
22 day of March, 2001.

Ena Basden

Name of Notary Public (Type or Print)

R. J. Hovey is personally known to me.

NOTARY PUBLIC STATE OF FLORIDA
ENA BASDEN
MY COMMISSION # CC 920559
EXPIRES: Mar 20, 2004
1-800-3-NOTARY FL Notary Service & Bonding, Inc.

# ATTACHMENT 1
# RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION DATED FEBRUARY 2, 2001 FOR THE REVIEW OF THE TURKEY POINT UNITS 3 AND 4, LICENSE RENEWAL APPLICATION

## SECTION 2.1 SCOPING AND SCREENING METHODOLOGY

**RAI 2.1-1:**
In Section 2.1.1.2 of the LRA, the applicant states that the scope of systems, structures, and components include those with the capability to prevent or mitigate the consequences of accidents that could result in potential offsite exposure comparable to the guidelines in 10 CFR 100.11. In 64 FR 72002, December 23, 1999, Section 10 CFR 54.4 was amended by revising paragraph (a)(1)(iii), effective January 24, 2000, specifically to include §50.67(b)(2). The applicant should discuss any impacts in the LRA associated with this change.

**FPL RESPONSE:**
10 CFR 50.67(a) Applicability states:

> "The requirements of this section apply to all holders of operating licenses issued prior to January 10, 1997, and holders of renewed licenses under part 54 of this chapter whose initial operating license was issued prior to January 10, 1997, who seek to revise the current accident source term used in their design basis radiological analyses."

FPL has reviewed the change to 10 CFR 54.4 to include 10 CFR 50.67(b)(2). Turkey Point has not revised its accident source term, therefore 10 CFR 50.67 is not applicable. The change to 10 CFR 54.4 to include 10 CFR 50.67 does not impact the Turkey Point License Renewal Application (LRA).

**RAI 2.1-2:**
In Section 2.1.1.3 of the LRA, the applicant states that although Turkey Point Units 3 and 4 were not originally licensed for "seismic II over I" (i.e., consistent with the seismic criteria and guidance in RG 1.29, "Seismic Design Classification"), that "seismic II over I" was nonetheless "considered" for license renewal scoping.

The staff's position is that "Seismic II over I" piping systems, structures, and components whose failure could prevent safety-related systems and structures from accomplishing their intended functions are within the scope of license renewal. However, the staff recognizes that the criteria defining the term "seismic II over I" is bound by the CLB for each facility.

Therefore, the applicant is requested to submit the definition of the "seismic II over I" criteria considered by the applicant in preparing the LRA for Turkey Point Units 3 and 4, and the bases for the application of such criteria to satisfy 10 CFR 54.4(a)(2) requirements, consistent with the CLB of the facility.

In addition, clarify whether the scope of the systems discussed in Chapter 3 of the LRA includes any "Seismic II over I" piping. If so, clarify how the aging management programs for those piping systems, including their supports, have been addressed. Specifically, state whether the same aging management programs discussed in tables included in LRA Section 3 also apply to those "Seismic II over I" piping components.

**FPL RESPONSE:**
Turkey Point is committed to the 1967 proposed version of General Design Criteria (GDC) 2 that relates to earthquake natural phenomena as stated:

> "Those systems and components of reactor facilities which are essential to the prevention or to the mitigation of the consequences of nuclear accidents which would cause undue risk to the health and safety of the public shall be designed, fabricated, and erected to performance standards that will enable such systems and components to withstand, without undue risk to the health and safety of the public the forces that might reasonably be imposed by the occurrence of an extraordinary natural phenomena such as earthquake, tornado, flooding condition, high wind, or heavy ice. The design bases so established shall reflect: (a) appropriate consideration of the most severe of these natural phenomena that have been officially recorded for the site and the surrounding area and (b) an appropriate margin for withstanding forces greater than

those recorded to reflect uncertainties about the historical data and their suitability as a basis for design."

The seismic design basis and classification for systems, structures, and components for Turkey Point is addressed in UFSAR Appendix 5A. This appendix defines the current licensing basis (CLB) with regard to seismic design.

As stated in LRA Section 2.1.1.3 (page 2.1-7), Turkey Point was not licensed for "Seismic II over I", and is not committed to compliance with Paragraph C.2 of Regulatory Guide 1.29, except for the Reactor Coolant Pump (RCP) Oil Collection System (UFSAR Appendix 9.6A, Table 2.5, page 9-6A-83, and Subsection 3.10.3, page 9.6A-103). However, "seismic II over I" was conservatively considered for license renewal scoping based on FPL's interpretation of NRC Staff guidance.

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 systems and structures. 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.

As a result of this process, piping supports for non-safety related systems with the potential of "Seismic II over I" interaction with safety related components were identified as within the scope of license renewal. Piping for these non-safety related systems, however, was not identified as within the scope of license renewal for the following reasons:

1. The Turkey Point CLB does not require the assumption of collapse and/or deformation of non-safety related piping under seismic loading.

2. Non-safety related piping systems and their supports were designed, manufactured, and installed in accordance with recognized conventional practice. The applicable codes and standards were established based on conservative criteria resulting in design stresses well within the yield strength of the materials during maximum postulated loading conditions.

NUREG-1211, "Regulatory Analysis for Resolution of Unresolved Safety Issue A-46, Seismic Qualification of Equipment in Operating Plants," states that piping is found to have a high margin of safety for almost all the piping if only seismically induced inertial loads are considered. This NUREG references seismic risk studies that show that piping is not predicted to fail even at levels two to five times the Safe Shutdown Earthquake (SSE) level. The NUREG states that seismic experience data collected by the Seismic Qualification Utility Group (SQUG) and reviewed by the Senior Seismic Review and Advisory Group (SSRAP), supplemented by reviews and literature surveys of strong earthquakes, indicate that mechanical and electrical equipment of the types commonly used in nuclear power plants are unlikely to fail at earthquake levels typical of SSEs at U. S. plants east of California. The NUREG also indicates that in almost all cases where equipment damage has occurred, it resulted from failure of the anchorage or from displacement of unanchored equipment. Note that although the USI A-46 review performed for Turkey Point identified the need for modifications to resolve seismic concerns (UFSAR Appendix 5A, Subsection 5A-1.4.1, page 5A-10), none were required for non-safety related piping or pipe supports.

Based on the relatively small maximum potential earthquake ground acceleration for Turkey Point Units 3 and 4 (0.15g), the inherent conservatism used in the design, manufacturing, and installation of non-safety related piping, and the fact that the associated supports for this piping have been included within the scope of license renewal, the conclusion can be drawn that the piping will not collapse and/or deform during a seismic event.

3. Non-safety related piping systems are maintained in good, essentially leak tight, operating condition, especially in the areas where safety related components are located. System engineer walkdowns and operator rounds are performed in accordance with plant administrative, engineering, operations, and maintenance rule procedures. Current procedures require system engineers to perform walkdowns at least quarterly (and in some cases monthly) of their assigned systems. Operator rounds are performed at least daily, and are specifically designed to route operators through most areas of the plant to observe system operating conditions. Although not anticipated, significant degradation of non-safety related piping would be promptly identified and resolved through FPL's 10 CFR 50 Appendix B corrective action program.

**SECTION 16 APPENDIX A**

**RAI App. A.16-1:**
The applicant provides summary program descriptions in the FSAR Supplement (Appendix A to the LRA). The applicant should discuss why the program descriptions did not include a discussion on the 10 program attributes.

**FPL RESPONSE:**
10 CFR 54.21(d) requires that each LRA contain an FSAR supplement that includes a summary description of the programs and activities for managing the effects of aging. The NRC "Standard Review Plan for the Renewal of License Renewal Applications for Nuclear Power Plant" (SRP) (Draft - August 2000) identifies Draft Regulatory Guide DG-1104, "Standard Format and Content for Applications to Renew Nuclear Power Plant Operating Licenses (August 2000) and NEI 95-10, "Industry Guideline for Implementing the Requirements of 10 CFR Part 54 - The License Renewal Rule" Revision 2 as providing guidance on the format and content of license renewal applications. The NRC and NEI guidance documents do not impose regulatory requirements.

SRP Chapter 3, "Aging Management Review Results," is divided into six sections. Section 3.1 Reactor Coolant System, Subsection 3.1.3.5, FSAR Supplement, and Table 3.1-2, FSAR Supplement for Aging Management of Reactor Coolant System, provide guidance on information that should be included in the FSAR supplement. This information includes a summary of the aging management programs, but does not include the program attributes. Corresponding sections and tables of the SRP: Subsection 3.2.3.5 and Table 3.2-2, Engineered Safety Features; Subsection 3.3.3.5 and Table 3.3-2, Auxiliary Systems; Subsection 3.4.3.5 and Table 3.4-2, Steam and Power Conversion System; Subsection 3.5.3.5 and Table 3.5-2, Structures and Component Supports; and Subsection 3.6.3.5 and Table 3.6-2 Electrical and Instrumentation and Controls provide similar requirements. None of these sections provide that the program attributes be listed.

DG-1104 Section A, "Introduction," and Section B, "Discussion," state that the FSAR Supplement should contain a summary description of the programs and activities for managing the effects of aging. Section C, "Regulatory Position," Item 2 endorses NEI 95-10, Revision 2 (August 2000) as providing methods that are acceptable to the NRC staff for complying with the requirements of 10 CFR 54 for preparing a license renewal application.

NEI 95-10 Table 6.2-2 provides guidance in Appendix A: "Final Safety Analysis Supplement (FSAR) Supplement," and states that Appendix A should contain a summary description of the aging management programs. The Table also provides guidance on an optional Appendix B: "Aging Management Programs and Activities," for providing a list of the Aging Management Programs and states that the program attributes will be discussed as appropriate.

Consistent with the aforementioned guidance, the Turkey Point LRA Appendix A contains a summary description of the aging management programs and Appendix B contains the program summaries including the program attributes.

**SECTION 2** **APPENDIX B**

**RAI B.2-1:**
In Appendix B of the LRA, the applicant states that two aging management program attributes are covered by the Turkey Point quality assurance program, which was put into place to meet the requirements of 10 CFR Part 50, Appendix B. These two attributes are corrective actions and administrative controls. The draft Standard Review Plan for License Renewal dated August 2000, included a third attribute, a confirmation process, within the 10 CFR Part 50, Appendix B quality assurance program. For this program attribute, the applicant provides a description in the individual programs that reference the corrective action program. Provide additional information on the confirmation process and how follow-up activities are determined and evaluated. Clarify how these activities are related to the corrective action program which is part of the broader quality assurance program.

**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 will be entered into the appropriate corrective action program and actions including confirmation activities performed accordingly.

**SECTION 2.3.1** **REACTOR COOLANT SYSTEMS**

**RAI 2.3.1-1:**
The LRA stated that the Turkey Point pressurizers are bounded by the description contained in the generic report WCAP-14574, "License Renewal Evaluation: Aging Management Evaluation for Pressurizers." WCAP-14574 determined that the pressurizer manway pad gasket seating surface requires aging management. However, the staff noted that the subject component was not identified in the LRA (Table 3.2-1) as requiring aging management. The staff, therefore, requests the applicant to include the subject component at Turkey Point within scope, and to submit an aging management program (AMP). The applicant should also verify whether the component is covered under the Boric Acid Wastage Surveillance Program to assure that these pressure boundary components do not fail prematurely due to accelerated rate of corrosion.

**FPL RESPONSE:**
The pressurizer manway pad gasket seating surfaces are considered part of the pressurizer vessel upper heads, and are therefore included in LRA Table 3.2-1 (pages 3.2-63 and 3.2-65) as component/commodity group, "upper heads, lower heads". Loss of material of the pressurizer upper heads, lower heads, and upper head manway covers is managed by the Boric Acid Wastage Surveillance Program as listed in the LRA, Table 3.2-1 (pages 3.2-65 and 3.2-66).

**RAI 2.3.1-2:**
The staff noted that the LRA (Table 3.2-1) did not identify the SG primary and secondary side manway gasket seating surfaces as within the scope of license renewal. The staff requests the applicant to justify exclusion of these components, or to submit an AMP. The applicant should also verify whether the primary side manway gasket seating surface is covered under the Boric Acid Wastage Surveillance Program to assure that these pressure boundary components do not fail prematurely due to accelerated rate of corrosion.

**FPL RESPONSE:**
The primary side manway gasket seating surfaces are considered part of the steam generator channel heads and are therefore included in LRA Table 3.2-1, (page 3.2-88), as component/ commodity group "channel heads, primary manways, primary inlet and outlet nozzles". Loss of material of the channel heads and primary manways is managed by the Boric Acid Wastage Surveillance Program as listed in Table 3.2-1, (page 3.2-88).

The secondary side manway gasket seating surfaces are considered part of the steam generator shells and are therefore included in LRA Table 3.2-1 (page 3.2-88) as component/commodity group, "upper and lower shells, elliptical heads, transition cones, feedwater nozzles, steam outlet nozzles". The aging management review performed for these components, along with secondary closure covers, determined there were no aging effects requiring management as listed in Table 3.2-1, (page 3.2-88).

## SECTION 2.3.2.2 CONTAINMENT SPRAY

**RAI 2.3.2.2-1:**
In license renewal application (LRA) Table 3.3-2 for containment spray, containment spray pump seal water cyclone separators are included for internal environmental aging effects. Please indicate why these components are apparently omitted from the list for external environmental aging effects.

**FPL RESPONSE:**
The containment spray pump seal water cyclone separators were categorized as a component type "filter" for the purpose of conducting an aging management review. These devices are included in the LRA, Containment Spray, Table 3.3-2 (page 3.3-14) External Environment under the component/commodity group "Valves, Piping/fittings, Tubing/fittings, Filters". To provide consistency, Table 3.3-2 will be revised as shown below.

| Component/ Commodity Grouping | Intended Function | Material | Environment | Aging Effects Requiring Management | Program/ Activity |
|---|---|---|---|---|---|
| | | | **External Environment** | | |
| Containment spray pump seal water cyclone separators | Pressure boundary<br>Filtration | Stainless steel | Indoor - not air conditioned | None | None required |
| Valves<br>Piping/fittings<br>Tubing/fittings | Pressure boundary | Stainless steel | Indoor - not air conditioned | None | None required |

**SECTION 2.3.3.3 SPENT FUEL POOL COOLING**

**RAI 2.3.3.3-1:**
In Section B4 of drawings 3-SFP-01 and 4-SFP-01, an SFP vortex diffuser is a passive long-live component. Its intended safety-related function is to protect the pump from being cavitated by air introduction into the suction side of the SRP cooling water pump. However, it is not included within the scope of license renewal nor is it identified as part of an AMR. Provide justification for its exclusion from the scope of license renewal.

**FPL RESPONSE:**
The Spent Fuel Pool vortex diffuser was inadvertently omitted from the LRA, Table 3.4-3. The revised table is shown below.

| Component/ Commodity Grouping | Intended Function | Material | Environment | Aging Effects Requiring Management | Program/ Activity |
|---|---|---|---|---|---|
| **Internal Environment** | | | | | |
| Vortex diffuser | Vortex elimination | Stainless steel | Treated water - borated | Loss of material | Chemistry Control Program |
| **External Environment** | | | | | |
| Vortex diffuser | Vortex elimination | Stainless steel | Treated water - borated (submerged) | Loss of material | Chemistry Control Program |

**SECTION 2.3.3.4 CHEMICAL AND VOLUME CONTROL**

**RAI 2.3.3.4-1:**
In Section 4E and F of drawing O-CVCS-02, the LRA boundary of the relief and drain lines end in the middle of the piping section associated with the waste disposal system. The rest of the piping section and valves 1309C, 1310C, RV-1118A, 1125, and 1135C are not in scope of license renewal. Most function boundaries end at a valve or component and not in the middle of the pipe. Provide justification as to how the safety function is maintained when this piping section is not isolated by a valve or component at the current boundary. This configuration is similar for holdup tanks T207B and T207A piping and associated components.

**FPL RESPONSE:**

The function of the Chemical and Volume Control System (CVCS) holdup tanks is to serve as a collection site for the liquid from the reactor coolant system to allow for boration to meet the requirements of 10 CFR 50 Appendix R for safe shutdown. The boundary depicted on drawing 0-CVCS-02 illustrates the required flowpath from the Reactor Coolant System to the CVCS holdup tank. The inventory inside the tank is not required to perform or support any license renewal system intended functions and does not satisfy the 10 CFR 54.4 criteria. The relief and drain lines and valves do not perform or support any license renewal system intended functions that satisfy the criteria of 10 CFR 54.4 and therefore are not within the scope of license renewal.

**SECTION 2.4.1 CONTAINMENTS**

**RAI 2.4.1-1:**
Section 2.4.1.1.1 of the LRA states that the containment exterior walls located below grade have embedded water-stops installed to inhibit the intrusion or seepage of groundwater. The waterproofing membrane and water-stops are piece parts and are not identified as the unique components within the scope of license renewal. The staff considers that the water-stops are important in maintaining the integrity of the components to which they are connected. The groundwater in-leakage into the concrete construction joints could occur as a result of degradation of the water-stops. Provide justification for why the water-stops are not considered within the scope of license renewal.

**FPL RESPONSE:**

Concrete walls prevent groundwater in-leakage. Waterproofing membranes and waterstops are design features of below ground concrete walls. However, waterproofing membranes and waterstops are not unique structures or components; therefore, they were not uniquely reviewed for aging management. Rather the concrete walls were reviewed for aging management without taking credit for the waterproofing membranes and waterstops. As a result, concrete structures located below groundwater (a small portion of the basemat and the reactor pit walls - see UFSAR Figure 5.1-1) were evaluated in LRA Section 3.6.1.1.2 (page 3.6-4) for an aggressive groundwater environment and determined to require aging management.

The Systems and Structures Monitoring Program is credited to manage aging of concrete structures below groundwater. The program will monitor degradation of waterproofing membranes and waterstops by identifying evidence of groundwater in-leakage at accessible internal surfaces of concrete below groundwater. FPL response to RAI 3.6.1.1-1 will provide more details of how the Systems and Structures Monitoring Program will manage aging of concrete below groundwater.

**RAI 2.4.1-2:**
Section 2.4.1.1.1 of the LRA states that load-carrying capacity of the containment liner plate anchorages is required to support equipment, such as the polar crane. Verify if there are any other cranes or brackets that are supported by the containment liner. Name the components or load-carrying supports attached to the liner plate that are within the scope of license renewal.

**FPL RESPONSE:**
The polar crane is the only crane attached to the liner plate. It should be noted that polar crane support brackets penetrate through the containment liner plate and are embedded in the containment concrete wall. Other items, such as pipe supports, raceway supports, and structural steel are attached to the liner plate. However, where significant loads are transferred to the containment concrete wall, thickened plates are anchored to the concrete and welded around their perimeter to the liner plate. Regardless, all attachments to the containment liner plate are within the scope of license renewal and are included in Table 3.6-2 (page 3.6-51).

**RAI 2.4.1-3:**
Table 3.6-2 of the LRA lists containment personnel hatch, emergency escape hatch, and equipment hatch as the components within the scope of license renewal. Explain whether the hatch door interlock systems, equalizing valves, door seals, and operation mechanisms (such as gears, latches, hinges, linkages, etc.) are within the scope of license renewal. Discuss the components within these hatches that are subject to an AMR.

**FPL RESPONSE:**
Hatch door interlocks are active components and therefore do not require an aging management review. Hatch valves that perform a containment pressure boundary function are in the scope of license renewal and are evaluated in Table 3.3-3 (page 3.3-16) with components from the Containment Purge System. Hatch seals are in the scope of license renewal and are evaluated in Table 3.6-2 (page 3.6-52). Operation mechanisms (e.g., gears and linkages) that function to open and close the hatches are active components and therefore do not require an AMR. However, active mechanisms (e.g., latches and hinges) that are required to maintain the hatch in the closed position are in the scope of license renewal and are evaluated as part of the hatch in Table 3.6-2 (page 3.6-52).

**RAI 2.4.1-4:**
Section 2.4.1.2.2 of the LRA did not describe the structures of the reactor coolant system supports. Provide information on the structures of the reactor vessel support, steam generator support, pressurizer support, and coolant pump support and their boundaries in scope that are subject to an AMR.

**FPL RESPONSE:**
As stated in Section 3.6.1.5.1 (page 3.6-21) of the LRA, reactor coolant system (RCS) supports are described in Section 4.2 of the Turkey Point UFSAR. Additional descriptions and figures are provided in WCAP-14422, Revision 2-A, "License Renewal Evaluation: Aging Management for Reactor Coolant System Supports," December 2000, referenced in Section 2.4.1.2.2 of the LRA. Specifically, Table 2-2 on page 8 of WCAP-14422 provides the primary component support configuration classifications for Turkey Point Units 3 & 4.

The RCS support boundaries in scope that are subject to an aging management review include all structural support items between the RCS components and the containment concrete structure up to, but not including, integral attachments that are on RCS components. The integral attachments on the components are reviewed with the component and the concrete structure is reviewed with the containment structure.

**RAI 2.4.1-5:**
Are the control rod drive service structures (which support the control rod drive mechanism) within the scope of license renewal? If so, please provide information on the control rod drive service assemblies (such as support, platform, service structure skirt, etc.) and identify the boundaries of the structural components that are subject to an AMR.

**FPL RESPONSE:**
The control rod drive mechanism (CRDM) housings serve a pressure boundary function as described in Section 2.3.1.5 (page 2.3-9) of the LRA. The CRDMs are seismic class I components. The CRDM housings are supported by the reactor vessel closure head at the bottom, and by lateral supports at the top. The lateral supports are comprised of a platform assembly and struts. The struts span between the platform assembly and the reactor cavity wall. These supports are included in the scope of license renewal, are within the boundary of the components subject to aging management review, and are included in Table 3.6-2 (page 3.6-54) in the commodity group labeled "Safety related piping and component supports."

**SECTION 2.4.2** **OTHER STRUCTURES**

**SECTION 2.4.2.4** **COOLING WATER CANALS**

**RAI 2.4.2.4-1:**
Section 2.4.2.4 of the LRA and its references provide general information on the intake and discharge structures of the canals. Provide additional information on the layout and geometry of the structures themselves.

**FPL RESPONSE:**
The intake structure is described in detail in Section 2.4.2.11 (page 2.4-21) of the LRA. The discharge structures are described in detail in Section 2.4.2.6 (page 2.4-16) of the LRA. Additional descriptions are provided below:

The intake structure is a seismic class I structure common to Units 3 & 4. The primary structure is 111'-10" long and 64'-7" wide. The structure is conventionally designed reinforced concrete founded on engineered fill over bedrock. The bottom of the 2'-6" thick base slab is located at elevation (-)28'-0" (i.e., 28' below mean low water at elevation 0'-0"). The base slab supports ten (2'-0" thick or greater) vertical concrete walls that form the eight intake channels (bays), nine walls running east-west and one wall running north-south at the west end of the structure. Numerous concrete and steel beams span between the vertical concrete walls providing structural stability and support for equipment. The walls support the operating deck located at elevation 16'-0". The operating deck supports six safety related intake cooling water pumps located in the three northern most bays and three southern most bays, eight non-safety related circulating water pumps in each of the eight bays, and three non-safety related screen wash pumps located in the two center bays. The operating deck also supports the intake gantry crane, which serves the entire structure, and a 4' high concrete flood wall at the east end. The operating deck has numerous openings for the equipment that penetrates the deck, including the stop log guides, the trash rake guides, the coarse screen guides, the travelling screen guides, the fine screen guides, and the various pumps described above.

Adjacent to the north and south ends of the primary structure are the Unit 3 & 4 valve pits. The valve pits house safety related piping and valves associated with the intake cooling water system. The valve pits are open air pits constructed of reinforced concrete.

The discharge structures are non-safety related reinforced concrete structures. The Unit 3 discharge structure includes a seal well, a north headwall, and a south headwall. The Unit 4 discharge structure includes a seal well and a south headwall. As indicated in LRA Table 3.6-8 (page 3.6-71), only the Unit 3 north headwall and the Unit 4 south headwall perform an intended function (i.e., failure of these non-safety related headwalls could potentially affect the discharge from the safety related intake cooling water (ICW) pipe).

The Unit 3 north headwall includes a 9″ thick base slab at elevation 2′-0″, a 1′-0″ thick vertical headwall that is penetrated by the 30″ diameter safety related ICW pipe, a 30″ diameter non-safety related screen refuse pipe, and a 12″ diameter non-safety related storm drain pipe. The headwall is laterally braced at each end by 9″ thick sidewalls sloped to match the adjacent embankments.

The Unit 4 south headwall wall includes a 9″ thick base slab at elevation (-)2′-0″, a 1′-0″ vertical headwall that is penetrated by the 30″ diameter safety related ICW pipe, a 30″ diameter non-safety related intake cooling water pipe, and a 12″ diameter non-safety related storm drain pipe. The headwall is laterally braced at each end by 9″ thick sidewalls sloped to match the adjacent embankments.