March 23, 2004

Mr. L. M. Stinson
Vice President
Southern Nuclear Operating Company
Post Office Box 1295
Birmingham, Alabama 35201

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE JOSEPH M. FARLEY NUCLEAR PLANT, UNITS 1 AND 2, LICENSE RENEWAL APPLICATION

Dear Mr. Stinson:

By letter dated September 12, 2003, Southern Nuclear Operating Company, Inc. (SNC or the applicant) submitted an application pursuant to 10 CFR Part 54, to renew the operating licenses for Joseph M. Farley Nuclear Plant (FNP), Units 1 and 2, for review by the U.S. Nuclear Regulatory Commission (NRC). The NRC staff is reviewing the information contained in the license renewal application (LRA) and has identified, in the enclosure, areas where additional information is needed to complete the review. Specifically, the enclosed requests for additional information (RAIs) are from Section 2.0, Structures and Components Subject to Aging Management Review [for Clarification and Confirmatory RAIs]; Section 2.2, Plant Level Scoping Results; Section 2.3.3, Auxiliary Systems; and Section 2.3.4, Steam and Power Conversion System.

These RAIs, in a draft format, have been provided to Mr. Jan Fridrichsen of your staff on December 17, 2003, and February 28, 2004. The NRC staff has discussed draft versions of these RAIs, via a conference call, to provide clarifications to the SNC staff on February 18, 2004, and March 17, 2004. Your responses to these RAIs are requested within 30 days from the date of this letter. Mr. Fridrichsen has agreed to this request. If needed, the NRC staff is willing to meet or discuss with SNC again prior to the submittal of the applicant's responses to provide clarifications to the staff's RAIs.

If you have any questions, please contact me at 301-415-1315 or e-mail tyl1@nrc.gov.

Sincerely,

/***RA***/

Tilda Liu, Project Manager
License Renewal Section A
License Renewal and Environmental Impacts Program
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Docket Nos. 50-348 and 50-364

Enclosure: As stated
cc w/encl: See next page

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Enclosure: As stated
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JOSEPH M. FARLEY NUCLEAR PLANT, UNITS 1 AND 2
LICENSE RENEWAL APPLICATION
REQUEST FOR ADDITIONAL INFORMATION (RAI)

Section 2.0: Structures and Components Subject to Aging Management Review

RAI 2.0-2

The following questions are CONFIRMATORY and CLARIFICATION (C/C) in nature. The corresponding draft RAI number associated with each question is indicated in parenthesis.

A. (D-RAI 2.3.3.3-1)

License renewal boundary drawings D-175043L (Unit 1) and D-205043L (Unit 2) do not appear to show any source of makeup water to the spent fuel pit (spent fuel pool) as being within the scope of license renewal. Section 9.1.3.3.2 of the FNP UFSAR states that the FNP spent fuel pool was designed in accordance with Regulatory Guide 1.13, which requires a diversity of makeup water sources to the spent fuel pool. Section 9.1.3.3.2 of the FNP UFSAR also credits the demineralized water system and the reactor makeup water system as being available to supply makeup water to the spent fuel pool, and Section 2.3.3.23 of the LRA states, "The license renewal intended function of the Reactor Makeup Water Storage System is to provide an assured seismic category I make-up source to ... the spent fuel pool."

Justify the exclusion of the piping and components connecting the demineralized water system and the reactor makeup water system to the spent fuel pool from the scope of license renewal and being subject to an AMR in accordance with the requirements of 10 CFR 54.4(a) and 10 CFR 54.21(a)(1), respectively.

B. (D-RAI 2.3.3.19-1)

Note 5 of License renewal boundary drawing D - 506447L states that the LW&D system contains running traps and drain plugs that are non-safety-related but required to ensure that the penetration room filtration system will draw sufficient vacuum in response to a fuel handling accident and during recovery from certain DBAs. LRA Section 2.1.3.2 states that the running traps and floor drain plugs have been evaluated for aging effects. The LRA section lists floor drain plugs in Table 2.3.3.19. However, running traps are not included in Table 2.3.3.19. Justify the exclusion of running traps from being subject to an AMR in accordance with the requirements of 10 CFR 54.21(a)(1).

C. (D-RAI 2.3.3.19-2)

a. LRA Section 2.3.3.19 states that the containment cooler condensate level monitoring subsystem is conservatively included in the scope of license renewal and is credited in the FNP CLB as a means to detect reactor coolant pressure boundary leakage as part of the LBB analyses. Section 5.2.7.1.1 of the UFSAR states that the condensate measuring system permits measurements of liquid runoff from the drain pans under each containment cooler fan unit. It consists of a vertical standpipe, valves, and standpipe level instrumentation installed in the drain piping of the reactor containment

fan cooler unit. The staff is unable to find the vertical standpipes on license renewal boundary drawings D-175004L (Unit1) and D-205004L (Unit 2). Confirm that these standpipes are within the scope of license renewal and subject to an AMR in accordance with the requirements of 10 CFR 54.4(a) and 10 CFR 54.21(a)(1), respectively.

b. License renewal boundary drawing D-205004L (Unit 2) shows two atmospheric vents at locations E11 and F8. The vent shown at location F8 is within the scope of license renewal. However, the vent shown at location E11 is not in scope of license renewal. Clarify the intended function of these vents and justify the exclusion of the latter vent from the scope of license renewal in accordance with the requirements of 10 CFR 54.4(a).

c. Containment cooler condensate drains are shown on license renewal boundary drawings D-175004L (Unit 1) and D-205004L (Unit 2) at location E8, E9, E10 and E11. However, containment cooler condensate drains are not listed in LRA Table 2.3.3.19. Clarify if these drains are considered to be part of the component type, "piping," or some other component type listed in Table 3.3.2-19. If not, justify the exclusion of this component from being subject to an AMR in accordance with the requirements of 10 CFR 54.21(a)(1). Also, clarify if containment cooler condensate drains are supplied with traps or screens to prevent blockage in the standpipe. If so, justify the exclusion of containment cooler condensate drains from Table 2.3.3.19 as being subject to an AMR in accordance with the requirements of 10 CFR 54.21(a)(1).

d. A 3-inch atmospheric vent is shown on license renewal boundary drawing D-175004L (Unit 1) at location E8. Two 2-inch atmospheric vents are shown on license renewal boundary drawings D-175005L (Unit 1) and 205005L (Unit 2) at locations A11 and D11. Vents are passive long-lived components and are not listed in LRA Table 2.3.3.19. Clarify if vents are considered to be part of the component type, "piping," in Table 3.3.2-19. If not, justify the exclusion of this component from being subject to an AMR in accordance with the requirements of 10 CFR 54.21(a)(1).

D. (RAI 2.3.3.19-3)

The reactor coolant pump oil drip pan is shown on license renewal boundary drawing D-175005L (Unit 1) and D-205005L (Unit 2) at location C12 as within the scope of license renewal. The reactor coolant pump oil drip pan is a passive long-lived component. However, the reactor coolant pump oil drip pan is not listed in Table 2.3.3.19. Justify the exclusion of this component from LRA Table 2.3.3.19 as being subject to an AMR in accordance with the requirements of 10 CFR 54.21(a)(1).

E. (D-RAI 2.3.3.19-5)

Section 2.3.3.19 of the LRA states that the compartment/room pressure sensors (assigned to the FNP liquid waste and drains system) that isolate the CVCS letdown line in the event of a CVCS letdown line rupture are addressed as part of the high-energy-line-break (HELB) detection system boundary. In addition, LRA Section 2.3.3.17 states that the HELB detection system includes compartment/room pressure and level sensors for the FNP liquid waste and drains system. However, the license renewal boundary drawings cited for the HELB detection system do not refer to the liquid waste and drains systems. Clarify why the liquid waste and

drains systems are not listed on the license renewal boundary drawings for the HELB detection system.

F. (D-RAI 2.3.4.4-2)

License renewal boundary drawing D-175016L, sheet 1, identified a symbol at location B10 as "Start-up Strainer Temporary." This symbol appears on license renewal boundary drawings D-175007L and D-205007L, sheet 1, at locations B4, E4, H4 for both drawings, and is shown as within the scope of license renewal. However, this component is not listed in LRA Table 2.3.4.4, which lists those components subject to an AMR. This component is passive and long-lived and should be subject to an AMR, in accordance with the requirements of 10 CFR 54.21. Justify the exclusion of these components from Table 2.3.4.4.

G. (RAI 2.3.4.5-2)

For the staff to complete its review, please clarify whether the "auxiliary steam supply system" and the "auxiliary steam and condensate recovery system" are the same systems and, if not, describe how these two systems differ. Section 1.2.2 of the FNP UFSAR states that the "Auxiliary Steam Supply System is shared by Units 1 and 2". If these systems are the same, provide license renewal boundary drawings showing which portions of the system are shared between the two units and are within the scope of license renewal in accordance with the requirements of 10 CFR 54.4(a).

H. (D-RAI 3.3.2.1.13-1)

LRA Table 3.3.2-13 identifies spray shields as a component type, as does LRA Section 2.3.3.13. Neither the section text nor the license renewal boundary drawings identify where or how these components are used. Describe these components and identify the locations where these components are used at FNP.

I. (D-RAI 2.3.3.6-3)

License renewal boundary drawings D-175002L and D-205002 have notations that are not explained in the standard P&ID symbol legend or license renewal drawing legend. For example, barriers shown on Sheet 3 of license renewal boundary drawings D-175002L and D-205002L (at locations B-6 and B-8, C6 and C8, and D6 and D8) are not defined in the CCW system drawings or the legend drawings. Define these notations and explain the significance of including these barriers in the license renewal boundary drawings.

Section 2.2: Plant Level Scoping Results

RAI 2.2-5

Clarify how the components listed below are addressed in the Farley LRA. These components are shown as being within the scope of license renewal on the license renewal boundary drawings. However, they are not listed in the LRA tables (e.g., Table 2.3.3.5 for open-cycle cooling water system components subject to an AMR). These components are passive and long-lived, and serve a pressure boundary intended function. Justify the exclusion of these components from being subject to an AMR in accordance with the requirements of 10 CFR 54.21(a)(1).

a. Flexible hoses/connections and flexible joints shown at multiple locations in the open-cycle cooling water, closed-cycle cooling water, and emergency diesel generator systems.

b. Nitrogen cylinders and air tanks shown within the scope of license renewal on several license renewal boundary drawings. However, these components are not listed in the LRA tables for components subject to an AMR. If they are excluded because they are subject to replacement as defined in 10 CFR 54.21(a)(1)(ii), describe the schedule for periodic replacement or the monitoring program and the criteria for replacement if they are replaced on condition.

Section 2.3.3: Auxiliary Systems

2.3.3.4 Overhead Heavy and Refueling Load Handling System

RAI 2.3.3.4-1

In Section 2.3.3.4, the applicant provides a brief description of the overhead heavy and refueling load handling system. This section of the LRA identifies the containment polar crane, the reactor cavity manipulator crane, the spent fuel pool bridge crane, the spent fuel cask crane, and the special tools and adapters used for lifting and handling refueling loads as being part of the overhead heavy and refueling load handling system. However, the LRA does not identify which of these cranes have components subject to an AMR, nor does LRA table 2.3.3.4 identify any of the special tools and adapters used for lifting and handling of refueling loads as being subject to an AMR. Identify the specific cranes that contain components subject to an AMR in accordance with the requirements of 10 CFR 54.21(a)(1), and justify the exclusion of the special tools and adapters used for lifting and handling refueling loads from an AMR.

RAI 2.3.3.4-2

Several structures typically contain cranes or hoists located above or near safety related equipment (for example, the intake structure and the diesel generator building). Describe how areas containing cranes or hoists near safety-related equipment were evaluated to identify cranes or hoists subject to an AMR in accordance with the requirements of 10 CFR 54.21(a)(1), and identify where those components are identified in the LRA.

2.3.3.5 Open-Cycle Cooling Water System

RAI 2.3.3.5-1

a. On license renewal boundary drawing A-200475L, Sheet 47, the compressed air filter N2P16F560 is shown as being within the scope of the license renewal, however, it is not listed in Table 2.3.3.5 as being subject to an AMR. Air filters are passive and long-lived components, and serve a pressure boundary intended function. Justify the exclusion of the filter housing from being subject to an AMR in accordance with the requirements of 10 CFR 54.21(a)(1).

b. On license renewal boundary drawings A-170059L, Sheet 146 and A-200475L, Sheet 47, there are two components with symbols, which appear to be a roto-flow meter and a

pressure regulator, that are not identified in the license renewal boundary drawings for P&ID legend and symbols. These components are shown as being within the scope of license renewal. Provide additional information to identify these components and clarify whether they are included in LRA Table 2.3.3.5. If not, justify their exclusion from being subject to an AMR in accordance with the requirements of 10 CFR 54.21(a)(1).

2.3.3.6 Closed-Cycle Cooling Water System

RAI 2.3.3.6-1

For the Units 1 and 2 reactor coolant drain tank heat exchangers (Q1G21H001 and Q2G21H001):

a. LRA Table 2.3.3.6 lists the heat exchanger tubesheet as being within the scope of license renewal and subject to an AMR. However, the heat exchanger channel is shown as outside the scope of license renewal on Sheet 2, at location G-4, of license renewal boundary drawings D-175002L and D-205002L. Heat exchanger channels serve a pressure boundary intended function, and are passive and long-lived components. Justify the exclusion of the reactor coolant drain tank heat exchanger channel from the scope of license renewal and being subject to an AMR in accordance with the requirements of 10 CFR 54.4(a) and 10 CFR 54.21(a)(1), respectively.

b. Table 2.1-3 of NUREG-1800 lists the intended functions of the heat exchanger as heat transfer and pressure boundary. Clarify why the heat transfer intended function is not listed in LRA Table 2.3.3.6 as an intended function for the reactor coolant drain tank heat exchangers.

RAI 2.3.3.6-2

The Units 1 and 2 post accident sample coolers (Q1P15H001A/B and Q2P15H001A/B) on license renewal boundary drawings D-175002L and D-205002L, Sheet 3, at locations E-10 and E-11, are depicted as outside the scope of license renewal. However, these coolers are shown as being within the scope of license renewal on the Units 1 and 2 sampling system boundary drawings (Sheet 1 of license renewal boundary drawing D-175009L at location E-7 and Sheet 1 of license renewal boundary drawing D-205009L at locations D-7 and A-6).

a. Explain why the post accident sample coolers are considered outside the scope of license renewal as shown on license renewal boundary drawings D-175002L and D-205002L, Sheet 3.

b. Explain whether the closed-cycle cooling water (CCW) system pipe segments and valves (e.g., globe valve NV181A) associated with these coolers should be within the scope of the license renewal and subject to an AMR. If not, justify the exclusion of these components from being within the scope of license renewal and subject to an AMR in accordance with the requirements of 10 CFR 54.4(a) and 10 CFR 54.21(a)(1), respectively.

2.3.3.7 Compressed Air System

RAI 2.3.3.7-1

License renewal boundary drawings D-170131L, Sheet 2, at location B13 and D-200019L, Sheet 1, at location B11 show compressed air lines, which are outside the scope of license renewal, continuing to "Air to Essential Instruments" on drawings D-170473, Sheet 1 and D-200020, Sheet 1. However, drawings D-170473, Sheet 1 and D-200020, Sheet 1 are not included in the license renewal boundary drawings provided for review. Identify the "essential instruments" and whether intended functions are performed that rely on the compressed air supplied from these air lines, or provide drawings D-170473 and D-200020, Sheet 1. This will allow the staff to determine whether the instrumentation air components on the lines to the "essential instruments" should be considered as being within the scope of license renewal and subject to an AMR in accordance with the requirements of 10 CFR 54.4(a) and 10 CFR 54.21(a)(1), respectively.

RAI 2.3.3.7-2

The staff is seeking clarification and explanation as to why certain components and their associated pipe segments and valves are considered outside the scope of license renewal and not subject to an AMR, while components in parallel trains are considered to be within the scope of license renewal and subject to an AMR.

a. License renewal boundary drawings D-170131L, and 200019L (for Units 1 and 2, respectively), Sheet 1 depict that trains "A" and "B" of the air compressors (C001A/B), air receivers (T001A, T001B1, and T001B2) and their associated piping to the check valve downstream of the receivers are excluded from the scope of license renewal. However, license renewal boundary drawings D-170131L, Sheet 5 and D-200019L, Sheet 2 show that the train "C" air compressor, air receiver and their associated piping are within the scope of the license renewal. For both units, describe how the above-mentioned components for trains "A" and "B" differ from the components for train "C." Explain how these differences were considered in the scoping and screening process for trains "A" and "B."

b. For trains "A" and "B," explain why piping and valves downstream of the check valves (shown on license renewal boundary drawings D-170131L and D-200019L, Sheet 1, at locations B6, E6 and G6) are considered to be within the scope of license renewal, if the air compressors and receivers are considered not within scope.

RAI 2.3.3.7-3

Clarify whether the components of the dryer and/or compressor assemblies are scoped and screened as complex assemblies. Regarding complex assemblies, Table 2.1-2 of NUREG-1800 states that "some structures and components, when combined, are considered a complex assembly. . . . An applicant should establish the boundaries for each assembly by identifying each structure and component that makes up the complex assembly and determining whether or not each structure and component is subject to an AMR." If the dryer and compressor assemblies are treated as complex assemblies, identify the boundaries of the dryer and air compressor assemblies so that the staff may determine whether the

subcomponents are within the scope of license renewal and subject to an AMR in accordance with the requirements of 10 CFR 54.4(a) and 10 CFR 54.21(a)(1), respectively.

RAI 2.3.3.7-4

License renewal boundary drawing D-170131L, Sheet 5, at location G8 shows a Y-strainer, which is noted as "strainer by field," as being within the scope of license renewal. Strainers are passive and long-lived components, and serve debris protection and pressure boundary intended functions. Justify why the Y-strainer is excluded from being subject to an AMR in accordance with the requirements of 10 CFR 54.21(a)(1).

2.3.3.13 Fire Protection

RAI 2.3.3.13-1

The license renewal boundary drawings in LRA Section 2.3.3.13 identify those portions of fire protection systems within the scope of license renewal in accordance with the requirements of 10 CFR 54.4(a). The following questions relate to these drawings:

a. License renewal boundary drawing D-170384L, sheet 2, identifies low pressure carbon dioxide systems on the 155'0" level of the Unit 1 turbine building as not being within the scope of license renewal. The system located between E-9 and G-9 on the drawing is not identified. License renewal boundary drawing D-200152L, sheet 1, identifies low pressure carbon dioxide systems in the Unit 2 turbine building and excluded the load centers and 4160 V switchgear from scope. Identify the unlabeled system in Unit 1 and justify the exclusion of these systems in Unit 1 and 2 from the scope of license renewal.

b. License renewal boundary drawing D-170385L, Sheet 1, identifies Unit 1 high pressure carbon dioxide systems in the river water switchgear as not within the scope of license renewal. Justify the exclusion of these systems from the scope of license renewal.

c. License renewal boundary drawing D-170386L, sheet 1, identifies the Unit 1 halon fire protection systems, and D-205021L, sheet 1, identifies the Unit 2 halon fire protection systems. Both drawings include the fire protection system in the communications room and excluded the systems in the computer room and control system cabinet room. Justify the exclusion of the fire protection systems in the computer room and control system cabinet room from the scope of license renewal.

d. License renewal boundary drawing D-508526L, Sheet 1, identifies the fuel oil systems for the diesel engine fire pumps. The drawing shows the license renewal boundary at the flexible supply and return line connection. Excluded from scope are the flexible fuel lines, housings for the fuel filters, and fuel pumps. Justify the exclusion of these components from the scope of license renewal.

RAI 2.3.3.13-2

The FNP UFSAR identifies the cable fire barrier, such as Kaowool, needed to meet the requirements of 10 CFR 50.48, Appendix R. No reference to these fire barriers is made in LRA Section 2.3.3.13 or Section 2.4. Identify where these barriers are addressed in the scoping and

screening process. Confirm that they are subject to an AMR, or justify their exclusion from the scope of license renewal and from being subject to an AMR in accordance with the requirements of 10 CFR 54.4(a)(3) and 10 CFR 54.21(a)(1), respectively.

RAI 2.3.3.13-3

According to the FNP UFSAR, in certain area of the plant, such as the cable spreading room, structural steel members are provided with sprayed-on fire resistive materials. These materials are not discussed in either the scoping and screening or the aging management sections of the LRA. Confirm that the fire resistive coatings for structural steel members are in scope and subject to an AMR in accordance with the requirements of 10 CFR 54.4(a) and 10 CFR 54.21(a)(1), respectively, or justify their exclusion.

2.3.3.14 Diesel Fuel Oil System

RAI 2.3.3.14-1

License renewal boundary drawing D-170060L shows the storage tanks and day tanks as within scope of license renewal. These tanks are also listed in Tables 2.3.3.14 as being subject to an AMR. However, the details of the day tanks shown on drawings B-170058, Sheets 24 through 28, and the storage tanks shown on Sheets 32 through 36, are not included in the license renewal boundary drawings provided for review. Confirm that all internal and external subcomponents of the day tanks and storage tanks (for example, manholes and manhole covers) are within the scope of license renewal and subject to an AMR in accordance with the requirements of 10 CFR 54.4(a) and 10 CFR 54.21(a)(1), respectively, or provide the tank drawings B-170058, Sheets 24 through 28 and the storage tanks shown on Sheets 32 through 36 for review.

RAI 2.3.3.14-2

LRA Table 2.3.3.14 lists pipe guards as components that are subject to an AMR. Also, license renewal boundary drawings D-170808L, Sheets 1 and 2, and D-200213L show pipe guards from the fuel day tanks vent line to the diesel bay wall as being within scope of license renewal. However, pipe guards on 1 ½" HBC-224 pipe lines from the valve boxes to the day tank containment bay are shown on the license renewal boundary drawing D-170060L as excluded from the scope of license renewal. These pipe guards provide shelter protection for the fuel oil transfer lines, and are passive and long-lived components. Justify the exclusion of these pipe guards from being within the scope of license renewal and subject to an AMR in accordance with the requirements of 10 CFR 54.4(a) and 10 CFR 54.21(a)(1), respectively.

RAI 2.3.3.14-3

License renewal boundary drawing D-170060L shows that portions of the 3" HBD-443 line, at locations G3, G5, G8, G10 and G12 are within the scope of license renewal. However, the isolation valves (NSY52-V514, V513, V512, V511 and V510; at locations H3, H5, H8, H10 and H13, respectively) and the portions of the line HBD-443 downstream of the valves are shown as outside the scope of license renewal. It appears that these valves provide a pressure boundary isolation for the portions of the pipe that are within the scope of license renewal. The isolation valve bodies are passive and long-lived. Explain why these isolation valves are excluded from the scope of license renewal and subject to an AMR in accordance with the requirements of

10 CFR 54.4(a) and 10 CFR 54.21(a)(1), respectively.

RAI 2.3.3.14-4

License renewal drawings D-170808L, Sheets 1 and 2; D-170809L, Sheets 1 and 2; and D-200213L show an instrumentation symbol that is not identified on the "Standard P&ID Legend" on drawing D-175016L. Instrumentations designated as NSR43MA506 on D-170808L, Sheet 1 at location H7; N1R43MA507 on D-170808, Sheet 2 at location H6; NSR43MA508 on D-170809L, Sheet 1 at location F7; N1R43MA510 on D-170809, Sheet 2 at location F7; and N2R43MA509 on D-200213L, at location H7 are not defined in the Farley LRA, nor are they described in the UFSAR. Define these instrumentation components and clarify whether they penetrate the fuel oil supply tank pressure boundary. If so, explain why they are excluded from being subject to an AMR in accordance with the requirements of 10 CFR 54.21(a)(1).

2.3.3.15 Emergency Diesel Generator System

RAI 2.3.3.15-1

The non-safety-related air dryers/after coolers in the air start systems for the emergency diesel generators (EDG) are shown as excluded from scope of license renewal on the license renewal boundary drawings. The staff is concerned that the safety-related air reservoir tank could not perform its intended function should the air dryer/after cooler fail. Since the air dryer/after cooler removes moisture and cools down air entering the reservoir, it prevents the EDG starting air system from clogging due excessive moisture. Explain why these dryers/after coolers are excluded from the scope of license renewal and from being subject to an AMR in accordance with the requirements of 10 CFR 54.4(a) and 10 CFR 54.21(a)(1), respectively.

RAI 2.3.3.15-2

The staff is unable to determine how sight glasses, air distributors and vacuum manometers shown at many locations on the EDG boundary drawings (D-170800L, D-170801L, D-170804L, D-170805L, D-170806L, D-170807L, D-200209L, D-200211L, D-200212L) are addressed in the LRA. These components are shown as being within the scope of license renewal on the license renewal boundary drawings, however, they are not listed in LRA Table 2.3.3.7 for EDG components subject to an AMR. These components are passive and long-lived, and serve a pressure boundary function. Clarify whether the aforementioned components are included in the component types listed in LRA Table 2.3.3.7. If not, justify the exclusion of these components from being subject to an AMR in accordance with the requirements of 10 CFR 54.21(a)(1).

RAI 2.3.3.15-3

License renewal diagram D-506446L shows the following components as within the scope of license renewal. However, these components are not listed in Table 2.3.3-15 as a component type subject to an AMR. These components are passive and long-lived components. Clarify whether these components are included with another component type. If not, explain why they are not included in Table 2.3.3-15 in accordance with the requirements of 10 CFR 54.21(a)(1), or update the corresponding tables to include these components.

a. Intake silencers QSR43F503A-A, QSR43F503C-A, QSR43F503E-B, QSR43F503B-B, and QSR43F503D-B at locations G10, G9, G7, and G3, respectively

b. Large and small mufflers (silencers) QSR43F502A-A, QSR43F502E-B, QSR43F502B-B, QSR43F503C-A, and QSR43F503D-B at locations C10, C6, C4, E9, and E4, respectively

c. Expansion joints at locations E10, E9, E7, E5, and E3

RAI 2.3.3.15-4

Clarify whether the components of the EDGs are scoped and screened in the LRA as complex assemblies. Regarding complex assemblies, Table 2.1-2 of NUREG-1800 states that "some structures and components, when combined, are considered a complex assembly. . . . An applicant should establish the boundaries for each assembly by identifying each structure and component that makes up the complex assembly and determining whether or not each structure and component is subject to an AMR." If the EDGs are treated as complex assemblies, identify the boundaries of the EDGs so that the staff may determine whether the subcomponents (turbo chargers, turbo charger after coolers, governors, etc.) are within the scope of license renewal and subject to an AMR in accordance with the requirements of 10 CFR 54.4(a) and 10 CFR 54.21(a)(1), respectively.

RAI 2.3.3.15-5

UFSAR Section 9.5.7.2.1 states that, "The built-in lubricating oil sump is driven from the engine drive gear and draws oil from the oil sump through a mesh screen intake screen." Similarly, Section 9.5.7.2.2 states that, "The built-in lubricating oil pump is driven by the engine through a flexible drive coupling and draws oil from the oil sump through a mesh intake screen." However, these mesh intake screens are not shown on the license renewal boundary drawings for the EDG system, and nor are they are listed in LRA Tables 2.3.3.15 and 3.3.2-15. The mesh screens provide the debris protection intended function for the pipelines, and are passive and long-lived components. Identify these mesh intake screens and justify the exclusion of these components from being within the scope of license renewal and subject to an AMR in accordance with the requirements of 10 CFR 54.4 (a) and 10 CFR 54.21(a)(1), respectively.

RAI 2.3.3.15-6

a. The first paragraph of FNP UFSAR Section 9.5.7.3, which describes the internal oil system for the diesel engine 1C and 2C, states that "Oil flows through the lower header toward the blower end where a vertical header will not readily drain." However, the 1C/2C EDG internal blower is not shown on the license renewal boundary drawings for the EDG system, nor is it listed in LRA Tables 2.3.3.15. Although a blower is an active component, the blower housing can be considered as being subject to an AMR. Explain how this blower housing is addressed in the LRA; if required, justify its exclusion from the scope of license renewal and being subject to an AMR in accordance with the requirements of 10 CFR 54.4(a) and 10 CFR 54.21(a)(1), respectively.

b. The second paragraph of UFSAR Section 9.5.7.3 adds that, "The cooling oil from each lower piston is discharged through a hole in the insert . . . .This oil then drains either toward the blower or the control end and down to the oil pan or subbase." However, the

1C/2C EDG oil pan is not shown on the license renewal boundary drawings for the EDG system, nor is it listed in LRA Tables 2.3.3.15. The intended function of the oil pan/subbase is not specifically stated; typically, the oil collection pan intended function is to ensure that leaking oil will not lead to a fire that could damage safety-related equipment. Justify the exclusion of this component from the scope of license renewal and being subject to an AMR in accordance with the requirements of 10 CFR 54.4(a)(2) and 10 CFR 54.21(a)(1), respectively.

RAI 2.3.3.15-7

a. License renewal boundary drawings D-170806L, Sheets 1 and 2, show that lube oil engine driven pumps of the EDGs "1-2A" and "1B," at location C4, and their associated piping to the shuttle valve "V810" are excluded from the scope of license renewal. However, license renewal boundary drawing D-200212L, Sheet 1, shows that the lube oil engine driven pumps of the EDGs "2B," at location D5, and its associated piping are within the scope of the license renewal. Describe how the aforementioned components for the EDGs "1-2A" and "1B" differ from the components for EDG "2B." Explain how these differences were considered in the scoping and screening process for EDGs " 1-2A" and "1B."

b. License renewal boundary drawing D-170803L, Sheets 1 and 2, show air coolers for the EDGs "1C" and "2C," at location D4-5, as being within the scope of license renewal. However, these air coolers are not listed in LRA Table 2.3.3.15 as components subject to an AMR. Air coolers are passive and long-lived components. Justify the exclusion of the air coolers from being subject to an AMR in accordance with the requirements of 10 CFR 54.21(a)(1).

2.3.3.17 High Energy Line Break Detection System

RAI 2.3.3.17-1

LRA Table 2.3.3.17 list piping and valve bodies as component types subject to an AMR. However, license renewal boundary drawings D-175022L, D-175033L, D-175039L, D-175071L, D-175073L, D-205022L, D-205033L, D-205039L, D-205071L and D-205073L, which show the high energy line break (HELB) detection instruments, do not show the piping or valves associated with these instruments. Appendix 3K of the Farley UFSAR does not provide any description of the piping and valves associated with the HELB pressure and level sensors. Provide descriptive information or drawings to allow the staff to confirm that the identification of components in the HELB system, within the scope of license renewal and subject to an AMR, meet the requirements of 10 CFR 54.4(a) and 10 CFR 54.21(a)(1), respectively.

2.3.3.21 Potable and Sanitary Water System

RAI 2.3.3.21-1

The potable and sanitary water system is non-safety-related, but is in the scope of license renewal due to the potential for spatial interaction with safety-related components according to 10 CFR 54.4(a)(2). LRA Table 2.3.3.21 provides a list of the components that are subject to an AMR. LRA Section 2.3.3.21 does not provide or reference any license renewal boundary

drawings associated with the potable and sanitary water system. Section 9.2.4.2 of the UFSAR states that the P&ID for the potable and sanitary water system is shown in drawing D-170127. However, this drawing has not been provided to the staff for review.

For the staff to complete its review, provide a description or boundary drawing which identifies the components of the potable and sanitary water system considered to be within the scope of license renewal and subject to an AMR in accordance with the requirements of 10 CFR 54.4(a) and 10 CFR 54.21(a)(1), respectively.

2.3.3.22 Radiation Monitoring System

RAI 2.3.3.22-1

Section 2.3.3.22 of the LRA states that "the process and effluent radiological monitoring portion of the radiation monitoring system is used to monitor process and effluent streams during normal operations and postulated accidents to provide indication and record releases of radioactive materials generated and to initiate automatic system responses. The in-scope portions are addressed as part of the LRA system that includes the process or effluent being monitored." The in-process radiation monitoring elements (RE-0020A/B and RE-0017A/B) shown on the license renewal boundary drawings for the CCW and OCCW systems are installed in-line and therefore serve a pressure boundary intended function. However, these components are not listed in the LRA tables as being subject to an AMR. LRA Section 2.3.3.22 does not provide a list of the systems that contain the process or effluent being monitored , nor reference any boundary drawings associated with the radiation monitoring system. Therefore, the staff cannot confirm that the SSCs meeting the requirements of 10 CFR 54.4(a) are included within the scope of license renewal. Provide a list of the LRA systems which include process or effluent being monitored by components of the radiation monitoring system.

2.3.3.23 Reactor Makeup Water Storage System

RAI 2.3.3.23-1

UFSAR Section 9.2.7.2.1 states that the reactor makeup water storage tank contains a diaphragm membrane and the Unit 1 tank contains a 150-gal/min recirculating vacuum degasifier to exclude oxygen from the makeup water. License renewal boundary drawings D-175036L, Sheet 1; D-205036L, Sheet 1; D-170118L, Sheet 1 and D-200012L, Sheet 1 depict the diaphragm as used in the reactor water makeup and condensate storage tanks. The diaphragm is shown as being within the scope of license renewal on license renewal boundary drawing D-205036L, at location B3. However, the diaphragm is not shown as being within the scope of license renewal on license renewal boundary drawings D-175036L, at location B3; D-170118L, at locations B8 and B4 and D-200012L, at locations D6 and D10. In addition, these diaphragms are not listed in LRA Table 2.3.3.23 as being subject to an AMR. These diaphragm membranes provide a pressure boundary intended function for the reactor makeup water storage tanks, and are passive and long-lived components. Justify the exclusion of the reactor makeup water storage tank diaphragms for Unit 1 and 2 (with the exception of the one shown on license renewal boundary drawing D-205036L, Sheet 1) from being within the scope of license renewal in accordance with the requirements of 10 CFR 54.4(a). Explain why these components are not listed in LRA Table 2.3.3.23 as being subject to an AMR in accordance with the requirements of 10 CFR 54.21(a)(1).

RAI 2.3.3.23-2

a. License renewal boundary drawings D-170118L, Sheet 1 and D-200012L, Sheet 1 show a 3-inch vent line (HCD-262) at locations C8 and D7 and a 3-inch nitrogen purge line (HCD-263) at locations B7 and D6 as being outside the scope of license renewal. These lines serve a pressure boundary intended function. Justify the exclusion of these lines from the scope of license renewal and being subject to an AMR in accordance with the requirements of 10 CFR 54.4(a) and 10 CFR 54.21(a)(1), respectively.

b. License renewal boundary drawings D-170118L, Sheet 1 and D-200012L, Sheet 1 show a 1-inch pipeline connected to a level controller (MK274 and MK774) at locations B9 and C6, respectively. These lines serve a pressure boundary intended function. Justify the exclusion of these lines from the scope of license renewal and from being subject to an AMR in accordance with the requirements of 10 CFR 54.4(a) and 10 CFR 54.21(a)(1), respectively.

RAI 2.3.3.23-3

On license renewal boundary drawings D-175036L, Sheet 1 and D-205036L, Sheet 1, the license renewal boundary for this system is shown to end at valves Q1G22V063A and Q1G22V063B, at location F11 and Q2G22V063A and Q2G22V063B at location G3. These valves appear to be normally open and a piping class change occurs at this valve. Normally open manual valves can be used as a license renewal pressure boundary if failure of the downstream piping has no short-term effects, can be quickly detected, and will be closed by the operators prior to any adverse consequences. Explain why it is acceptable to terminate the license renewal boundary at these normally open valves.

2.3.3.24 Sampling System

RAI 2.3.3.24-1

Gross failed fuel detectors are shown on license renewal boundary drawing D-175009L, Sheet 1, at location F6 and license renewal boundary drawing D-205009L, Sheet 1, at location E5. These detectors are considered as being within the scope of license renewal. However, gross failed fuel detectors are not listed in LRA Table 2.3.3.24. The gross failed fuel detector housing serves a pressure boundary function and is shown as being within the scope of license renewal. Clarify if the pressure boundary retaining components of the gross failed fuel detectors are subject to an AMR. If not, justify the exclusion of these components from being subject to an AMR in accordance with the requirements of 10 CFR 54.21(a)(1).

Section 2.3.4: Steam and Power Conversion System

2.3.4.1 Main Steam System

RAI 2.3.4.1-1

Air reservoirs are shown as being within the scope of license renewal on license renewal boundary drawings D-175033 and D-205033, Sheet 1, at locations F7 and F8 and Sheet 2, at locations E8, D8, on both drawings. However, air reservoirs are not listed as a component type

subject to an AMR in LRA Table 2.3.4.1. Air reservoirs serve a pressure boundary intended function, and are passive and long-lived components. Justify the exclusion of these air reservoirs from being subject to an AMR in accordance with the requirements of 10 CFR 54.21(a)(1).

RAI 2.3.4.1-2

LRA Table 2.3.4.1 lists steam/fluid traps as being subject to an AMR. A review of the license renewal boundary drawings for the main steam system showed that the symbol for steam trap appears only on boundary drawings D–175033L and D-205033L (Sheet 1, at locations A6, C6, E6, B10, G10, on both drawings). However, these components are shown to be outside the scope of license renewal on these boundary drawings. Identify the within-scope steam traps referred to in Table 2.3.4.1. If the license renewal boundary drawings that show these components have not been provided to the staff, provide them for review.

RAI 2.3.4.1-3

The component represented by a dashed line symbol (e.g., license renewal boundary drawings D-170114L and D-200007L, at locations E12 - G12) is not defined on the drawing legend. Symbols used for various lines appearing on license renewal boundary drawings are shown on drawing D-175016, Sheet 3 (Units 1 and 2 Standard P&ID Legend), at locations A2 through H2. However, this type of dashed line symbol does not appear on the legend. Identify the components represented by these dashed lines and explain how they were considered in the scoping and screening process.

2.3.4.3 Steam Generator Blowdown System

RAI 2.3.4.3-1

License renewal boundary drawing D-175071, Sheet 1 shows the boundary of the in-scope portion of the steam generator blowdown (SGBD) system at the containment isolation valves. Pipe segments and components downstream of the containment isolation valves are considered out-of-scope.

The SGBD blowdown valves, located downstream of the containment isolation valves, perform the intended function of isolating the SGBD system in the event of high radiation detected in the blowdown system or a pipe break downstream of these valves and therefore should be within the scope of license renewal. The exact location of the SGBD system blowdown isolation valves is not identified on the above license renewal boundary drawing. Provide additional information such as a text description or a revised license renewal boundary drawing which identifies the location of the blowdown isolation valves.

Also, the piping and components located between the containment isolation valves and the blowdown isolation valves perform a pressure boundary intended function. Therefore, these components should be within the scope of license renewal and subject to an AMR. Justify the exclusion of the piping and components up to and including the SGBD blowdown isolation valves from the scope of license renewal and being subject to an AMR in accordance with the requirements of 10 CFR 54.4(a) and l0 CFR 54.21(a)(1), respectively.

2.3.4.4 Auxiliary Feedwater (AFW) System

RAI 2.3.4.4-1

UFSAR Section 6.5.2.2.2 states that "Turbine bearings are lubricated by a forced feed lube oil system driven from the turbine shaft. Lube oil cooling water is supplied from the first stage of the auxiliary feedwater pump discharge and returned to the pump via the pump balancing line. This arrangement ensures a supply of cooled lube oil whenever the turbine is operating." Since the AFW pump turbine drive must be operable for the AFW system to perform its intended function, the staff considers the turbine lube oil subsystem to be within the scope of license renewal.

LRA Table 2.3.4.4 lists the components of the AFW system that are subject to an AMR. Some items included are: Filters (casing), Oil Cooler (shell), Oil Cooler (channel head), Oil Cooler (tube sheet), Oil Cooler (tubes). These components comprise part of the turbine lube oil subsystem. The AFW pump and its turbine drive are shown on license renewal boundary drawings D-175007 and D-205007L (location H5 on both drawings) and also on D-175033L and D-205033L (Sheet 2, location E3 on both drawings). However, the turbine lube oil subsystem and its components are not shown on these drawings.

Identify which cooling water system is used to cool the lube oil in the heat exchanger. Confirm that all components of the turbine lube oil subsystem (AFW system) are within the scope of license renewal and subject to an AMR in accordance with the requirements of 10 CFR 54.4(a) and 54.21(a)(1),respectively; or provide drawings which show the turbine lube oil subsystem and all of its components, and identify those components considered to be within the scope of license renewal and subject to an AMR.

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