Progress Energy

Crystal River Nuclear Plant
Docket No. 50-302
Operating License No. DPR-72

Ref: 10 CFR 54

May 11, 2009
3F0509-01

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

Subject: Crystal River Unit 3 – Response to Request for Additional Information for the Review of the Crystal River Unit 3 Nuclear Generating Plant License Renewal Application (TAC NO. ME0274)

References:
1. CR-3 to NRC letter 3F1208-01, dated December 16, 2008, "Crystal River Unit 3 – Application for Renewal of Operating License"
2. NRC to CR-3 letter dated April 20, 2009, "Request for Additional Information for the Review of the Crystal River Unit 3 Nuclear Generating Plant License Renewal Application (TAC NO. ME0274)"

Dear Sir:

On December 16, 2008, Florida Power Corporation (FPC), doing business as Progress Energy Florida, Inc., requested renewal of the operating license for the Crystal River Unit 3 Nuclear Generating Plant (CR-3) to extend the term of its operating license an additional 20 years beyond the current expiration date (Reference 1). Subsequently, the Nuclear Regulatory Commission (NRC), by letter dated April 20, 2009, provided a request for additional information (RAI) concerning the CR-3 License Renewal Application (Reference 2). The Attachment to this letter provides the response to the RAI.

No regulatory commitments are contained in this submittal.

Please refer any questions regarding this submittal to Mr. Mike Heath, Supervisor - License Renewal, at (910) 457-3487, e-mail at mike.heath@pgnmail.com.

Sincerely,

Jon. A. Franke
Vice President
Crystal River Unit 3

JAF/dwh

Attachment: Response to NRC Request for Additional Information

xc: NRC CR-3 Project Manager
NRC License Renewal Project Manager
NRC Regional Administrator, Region II
Senior Resident Inspector

A035
NRR

Progress Energy Florida, Inc.
Crystal River Nuclear Plant
15760 W. Power Line Street
Crystal River, FL 34428

STATE OF FLORIDA

COUNTY OF CITRUS

Jon A. Franke states that he is the Vice President, Crystal River Nuclear Plant for Florida Power Corporation, doing business as Progress Energy Florida, Inc.; that he is authorized on the part of said company to sign and file with the Nuclear Regulatory Commission the information attached hereto; and that all such statements made and matters set forth therein are true and correct to the best of his knowledge, information, and belief.

Jon A. Franke
Vice President
Crystal River Nuclear Plant

The foregoing document was acknowledged before me this 11 day of May, 2009, by Jon A. Franke.

Tara Barten

Signature of Notary Public
State of Florida

TARA BARTEN
Notary Public - State of Florida
My Comm. Expires Jan 29, 2013
Commission # DD 856189

(Print, type, or stamp Commissioned Name of Notary Public)

Personally Known ✓ -OR- Produced Identification _____

PROGRESS ENERGY FLORIDA, INC.

CRYSTAL RIVER UNIT 3

DOCKET NUMBER 50 - 302 / LICENSE NUMBER DPR - 72

ATTACHMENT

Response to NRC Request for Additional Information

Response to NRC Request for Additional Information

Background

On December 16, 2008, Florida Power Corporation (FPC), doing business as Progress Energy Florida, Inc., requested renewal of the operating license for the Crystal River Unit 3 Nuclear Generating Plant (CR-3) to extend the term of its operating license an additional 20 years beyond the current expiration date.

The Nuclear Regulatory Commission (NRC) provided a request for additional information (RAI) concerning the CR-3 License Renewal Application in a letter dated April 20, 2009. This Attachment provides the response to the NRC RAI.

NRC RAI 2.3-1

Section 2.0 of the license renewal application (LRA) indicates that the Crystal River Unit 3 Nuclear Generating Plant (CR-3) integrated plant assessment methodology follows the approach recommended in NEI-95-10, "Industry Guideline for Implementing the Requirements of 10 CFR Part 54 – The License Renewal Rule." Table 6.2.2 of NEI-95-10 provides guidance on the information required in the application in order for the NRC staff to perform their review. The NEI guidance specifies the LRA include the following for each system: system description, intended functions, interface boundaries, etc. The CR-3 LRA only provides a brief description of the system, and does not identify the specific intended safety functions performed by each of the systems discussed in the plant level scoping results section of the LRA.

For LRA Sections 2.3.3 and 2.3.4, provide the intended functions performed by systems included in the scope of license renewal in accordance with Title 10 of the *Code of Federal Regulations* Part 54 (a)(1) (10 CFR 54.4 (a)(1)). For those systems in scope, in accordance with 10 CFR 54.4(a)(2), identify the specific intended function.

Response to RAI 2.3-1

Plant systems, structures and components (SSCs) within the scope of 10 CFR 54.4(a)(1) are safety related SSCs which are those relied upon to remain functional during and following design basis events. Plant SSCs within the scope of 10 CFR 54.4(a)(2) are all non-safety related SSCs whose failure could prevent satisfactory accomplishment of any of the functions identified in 10 CFR 54.4(a)(1)(i), (ii) or (iii).

The 10 CFR 54.4(a)(1) and (a)(2) intended functions performed by the in-scope systems in LRA Subsections 2.3.3, Auxiliary Systems, and 2.3.4, Steam and Power Conversion Systems, are described below on a system-by-system basis corresponding to LRA Subsections 2.3.3.1 through 2.3.3.61 and 2.3.4.1 through 2.3.4.20.

2.3.3.1: Air Handling Ventilation and Cooling System

<u>10 CFR54.4(a)(1) Functions</u>

The system includes many safety related equipment types located in various buildings. System components include air reservoirs for damper operation, an expansion joint in the Emergency Feedwater Pump (EFP) diesel exhaust pipe, the EFP diesel exhaust

silencer, and the EFP diesel intake filter. The system supports safety related functions in the operation of the Emergency Feedwater System diesel engine.

The system includes components that form part of the reactor Containment pressure boundary. Components supporting this function include piping and test connection valves.

The system contains electrical/instrumentation components that provide a post-accident monitoring function.

10 CFR54.4(a)(2) Function

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.2: Reactor Building Recirculation System

10 CFR54.4(a)(1) Functions

The system maintains Reactor Building integrity by reducing the temperature and consequently the pressure inside Containment to the required design values following an accident.

The system includes components that form part of the reactor Containment pressure boundary. These components include cooling coils located inside the Reactor Building.

The system contains electrical/instrumentation components that provide a post-accident monitoring function.

10 CFR54.4(a)(2) Function

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.3: Reactor Building Miscellaneous Ventilation System

10 CFR54.4(a)(1) Function

The system performs no safety related functions.

10 CFR54.4(a)(2) Function

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.4: Reactor Building Purge System

10 CFR54.4(a)(1) Functions

The system provides a post-accident hydrogen purge discharge path from the Reactor Building.

The system is capable of automatic isolation on Reactor Building Purge high radiation signal if required to mitigate the consequences of a fuel handling accident involving movement of recently irradiated fuel.

The system contains electrical/instrumentation components that provide a post-accident monitoring function.

The system includes components that form part of the reactor Containment pressure boundary. Components include piping and Containment purge valves.

10 CFR54.4(a)(2) Functions

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

The system contains duct screens credited with preventing debris from affecting duct system operation.

2.3.3.5: Auxiliary Building Supply System

10 CFR54.4(a)(1) Function

The system performs no safety related functions.

10 CFR54.4(a)(2) Function

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.6: Fuel Handling Area Supply System

10 CFR54.4(a)(1) Function

The system performs no safety related functions.

10 CFR54.4(a)(2) Function

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.7: Decay Heat Closed Cycle Pump Cooling System

10 CFR54.4(a)(1) Function

The system cools and recirculates air in the room containing the Decay Heat Closed Cycle Cooling Pumps to cool the pump motors.

10 CFR54.4(a)(2) Functions

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

The system is credited with functioning in support of safe shutdown in Unresolved Safety Issue (USI) A-46, Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors, evaluations.

2.3.3.8: Spent Fuel Coolant Pump Cooling System

10 CFR54.4(a)(1) Function

The system cools and recirculates air in the room containing the Spent Fuel Coolant Pumps to cool the pump motors.

10 CFR54.4(a)(2) Functions

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

The system is credited with functioning in support of safe shutdown in USI A-46, Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors, evaluations.

2.3.3.9: Spent Fuel Pit Supply System

10 CFR54.4(a)(1) Function

The system performs no safety related functions.

10 CFR54.4(a)(2) Function

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.10: Auxiliary Building Exhaust System

10 CFR54.4(a)(1) Function

The system contains electrical/instrumentation and tubing components that provide a post-accident monitoring function.

10 CFR54.4(a)(2) Function

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.11: Control Complex Ventilation System

10 CFR54.4(a)(1) Functions

The system cools and maintains the vital area temperatures to within the design values.

The system provides protection for the Control Room operators during emergency conditions of a high radiation signal and an Engineered Safeguards Reactor Building isolation signal.

The system provides ventilation to prevent buildup of hydrogen in the Battery Rooms and Control Complex.

The system contains electrical/instrumentation components that provide a post-accident monitoring function.

10 CFR54.4(a)(2) Functions

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

The system is credited with functioning in support of safe shutdown in USI A-46, Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors, evaluations.

2.3.3.12: Emergency Diesel Generator Air Handling System

10 CFR54.4(a)(1) Function

The system provides continuous ventilation and dissipates internal heat gains in each Diesel Generator Room when the Diesel is operating.

10 CFR54.4(a)(2) Function

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.13: Miscellaneous Area Heating, Ventilation and Air Conditioning (HVAC) System

10 CFR54.4(a)(1) Function

The system performs no safety related functions.

10 CFR54.4(a)(2) Function

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.14: Turbine Building Ventilation System

10 CFR54.4(a)(1) Function

The system performs no safety related functions.

10 CFR54.4(a)(2) Function

The system performs no 10 CFR 54.4(a)(2) functions.

2.3.3.15: Penetration Cooling System

10 CFR54.4(a)(1) Function

The system performs no safety related functions.

10 CFR54.4(a)(2) Functions

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

The system is credited with functioning in support of safe shutdown in USI A-46, Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors, evaluations.

2.3.3.16: Emergency Feedwater Initiation and Control Room HVAC System

10 CFR54.4(a)(1) Function

The system provides cooling and maintains the design temperature in all four cubicles of the Emergency Feedwater Initiation and Control (EFIC) Room during all modes of plant operations.

10 CFR54.4(a)(2) Function

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.17: Appendix R Control Complex Dedicated Cooling Supply System

10 CFR54.4(a)(1) Function

The system performs no safety related functions.

10 CFR54.4(a)(2) Function

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.18: Emergency Feedwater Pump Building Ventilation System

10 CFR54.4(a)(1) Functions

The system maintains the Pump Room temperature below maximum design limits when the engine is in standby, when the engine is running, and when significant residual heat is being dissipated following engine operation.

The system maintains the Battery Room atmosphere below explosive limits (i.e., preventing explosive accumulations of hydrogen gas generated by the battery charging operations).

The system provides a flowpath for diesel engine exhaust out of the building, meeting engine maximum backpressure requirements.

10 CFR54.4(a)(2) Function

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.19: Chemical Addition System

10 CFR54.4(a)(1) Functions

The system contains components that form part of the reactor Containment pressure boundary. These components are valves and rupture disks that protect Containment isolation components from overpressure.

The system contains electrical/instrumentation components that provide a post-accident monitoring function.

10 CFR54.4(a)(2) Functions

The system is credited with functioning in support of safe shutdown in USI A-46, Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors, evaluations.

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.20: Liquid Sampling System

10 CFR54.4(a)(1) Function

The system contains components that form part of the reactor Containment pressure boundary. These components include piping and Containment isolation valves.

10 CFR54.4(a)(2) Functions

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

The system includes thermal insulation credited with supporting the performance and reliability of safety related SSCs.

The system is credited with functioning in support of safe shutdown in USI A-46, Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors, evaluations.

2.3.3.21: Post-Accident Liquid Sampling System

10 CFR54.4(a)(1) Functions

The system includes components that form part of the reactor Containment pressure boundary. These components include piping, flanges, and rupture disks.

The system contains electrical/instrumentation components that provide a post-accident monitoring function.

10 CFR54.4(a)(2) Function

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.22: Control Complex Chilled Water System

10 CFR54.4(a)(1) Functions

The system provides cooling for essential Control Room ventilation equipment.

The system provides cooling for the EFIC Room HVAC System during all plant modes of operation excluding certain fires.

10 CFR54.4(a)(2) Functions

The system is credited with functioning in support of safe shutdown in USI A-46, Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors, evaluations.

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

The system includes thermal insulation credited with supporting the performance and reliability of safety related SSCs.

2.3.3.23: Appendix R Chilled Water System

10 CFR54.4(a)(1) Function

The system performs no safety related functions.

10 CFR54.4(a)(2) Functions

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

The system includes thermal insulation credited with supporting the performance and reliability of safety related SSCs.

2.3.3.24: Industrial Cooling System

10 CFR54.4(a)(1) Functions

The system contains components that form part of the reactor Containment pressure boundary. The system includes piping, piping components, and valves associated with Reactor Building cooling that provide this function.

The system contains electrical/instrumentation components that provide a post-accident monitoring function.

10 CFR54.4(a)(2) Functions

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

The system includes thermal insulation credited with supporting the performance and reliability of safety related SSCs.

2.3.3.25: Circulating Water System

10 CFR54.4(a)(1) Function

The system performs no safety related functions.

10 CFR54.4(a)(2) Functions

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

The system is credited with functioning in support of mitigation of a Steam Generator Tube Rupture accident.

The system is credited with mitigation of flooding that might impact safety related components. The system contains piping expansion joints fitted with encapsulation sleeves designed to limit turbine building flooding within design considerations to protect SSCs in adjacent safety related structures.

2.3.3.26: Emergency Feedwater Pump (EFP)-3 Diesel Air Starting System

10 CFR54.4(a)(1) Function

The system provides compressed air to start the EFP-3 diesel to permit the pump to perform its emergency feedwater function.

10 CFR54.4(a)(2) Function

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.27: Decay Heat Closed Cycle Cooling System

10 CFR54.4(a)(1) Functions

The system removes decay heat released by the reactor core during cooldown following a shutdown and during refueling.

The system provides cooling for safety related component heat loads in the Decay Heat Removal, Reactor Building Spray, Nuclear Service and Decay Heat Sea Water, and Make Up & Purification Systems.

The system serves as an intermediate barrier against releasing radioactive fluid to the environment.

The system contains electrical/instrumentation components that provide a post-accident monitoring function.

10 CFR54.4(a)(2) Functions

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

The system includes thermal insulation credited with supporting the performance and reliability of safety related SSCs.

2.3.3.28: Fuel Oil System

10 CFR54.4(a)(1) Functions

The system stores, maintains, and supplies fuel oil for all modes of Emergency Diesel Generator operation.

The system stores, maintains, and supplies fuel oil for the EFP-3 diesel to permit the pump to perform its emergency feedwater function.

10 CFR54.4(a)(2) Functions

The system is credited with functioning in support of safe shutdown in USI A-46, Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors, evaluations.

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.29: Jacket Coolant System

10 CFR54.4(a)(1) Functions

The system removes heat from the diesel engine, lube oil coolers, and turbocharger discharge line in support of all modes of Emergency Diesel Generator operation.

The system includes the Air Cooler Coolant System, a self-contained cooling system with air cooled radiators that removes heat from the Emergency Diesel Generator combustion air coolers.

The system removes heat from the diesel engine and lube oil for the EFP-3 diesel to permit the pump to perform its emergency feedwater function.

10 CFR54.4(a)(2) Function

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.30: Diesel Generator Lube Oil System

10 CFR54.4(a)(1) Functions

The system provides lubrication when the Emergency Diesel Generators are in operation and maintains lubrication under standby conditions.

The system provides lubricating oil to the EFP-3 diesel engine and associated components to permit the pump to perform its emergency feedwater function.

10 CFR54.4(a)(2) Function

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.31: Domestic Water System

10 CFR54.4(a)(1) Function

The system provides an assured flowpath for bearing flush water to the Nuclear Services and Decay Heat Sea Water pumps.

10 CFR54.4(a)(2) Functions

The system is credited with functioning in support of mitigation of a Steam Generator Tube Rupture accident.

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.32: Demineralized Water System

10 CFR54.4(a)(1) Functions

The system includes components that form part of the reactor Containment pressure boundary. The system includes piping, flanges and valves that perform this function.

The system contains electrical/instrumentation components that provide a post-accident monitoring function.

10 CFR54.4(a)(2) Function

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.33: Emergency Diesel Generator System

10 CFR54.4(a)(1) Function

The system automatically provides alternating current (AC) electrical power to the 4160 volt Engineered Safeguards buses in order to provide motive and control power to equipment required for safe shutdown of the plant and the mitigation and control of postulated accidents following a Loss of Offsite Power (LOOP) or degraded grid voltage condition.

10 CFR54.4(a)(2) Functions

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

The system includes thermal insulation credited with supporting the performance and reliability of safety related SSCs.

2.3.3.34: Floor Drains System

10 CFR54.4(a)(1) Function

The system performs no safety related functions.

10 CFR54.4(a)(2) Function

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.35: Fuel Handling System

10 CFR54.4(a)(1) Function

The system includes components that form part of the reactor Containment pressure boundary. These components include the fuel transfer tubes.

10 CFR54.4(a)(2) Function

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.36: Fire Protection System

10 CFR54.4(a)(1) Function

The system includes components that form part of the reactor Containment pressure boundary. The fire water supply piping to the reactor building has piping, piping components and valves that perform this function.

10 CFR54.4(a)(2) Functions

The system is credited with functioning in support of safe shutdown in USI A-46, Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors, evaluations.

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.37: Hydrogen Supply System

10 CFR54.4(a)(1) Function

The system performs no safety related functions.

10 CFR54.4(a)(2) Function

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.38: Instrument Air System

10 CFR54.4(a)(1) Functions

The system includes components that form part of the reactor Containment pressure boundary. These components include piping, test valves, and Containment isolation valves.

The system contains components associated with air reservoirs that provide an assured source of air to various safety related components.

10 CFR54.4(a)(2) Functions

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

The system is credited with functioning in support of safe shutdown in USI A-46, Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors, evaluations.

2.3.3.39: Reactor Coolant Pump Lube Oil Collection System

10 CFR54.4(a)(1) Function

The system performs no safety related function.

10 CFR54.4(a)(2) Function

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.40: Leak Rate Test System

10 CFR54.4(a)(1) Functions

The system includes components that form part of the reactor Containment pressure boundary. These components include piping, flanges, test valves, and Containment isolation valves.

The system provides post-accident hydrogen control capability for the Reactor Building.

The system contains electrical/instrumentation components that provide a post-accident monitoring function.

10 CFR54.4(a)(2) Function

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.41: Miscellaneous Drains System

10 CFR54.4(a)(1) Function

The system performs no safety related functions.

10 CFR54.4(a)(2) Function

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.42: Make Up & Purification System

10 CFR54.4(a)(1) Functions

The system contains piping components that are part of the Reactor Coolant System Pressure Boundary.

The system provides the high pressure injection (HPI) function of the emergency core cooling to prevent uncovering the core for small Reactor Coolant System (RCS) break sizes.

The system provides boron addition in the HPI function credited in the mitigation of the Steam Line Break Accident Analysis.

The system provides HPI/Power Operated Relief Valve Cooling (i.e., feed-and bleed cooling) as an additional method of core cooling should Steam Generator (SG) heat transfer be inadequate.

The system contains electrical/instrumentation components that provide a post-accident monitoring function.

The system includes components that form part of the reactor Containment pressure boundary. The system contains piping, piping components, and valves that perform this function on lines penetrating the Containment.

10 CFR54.4(a)(2) Functions

The system is credited with functioning in support of safe shutdown in USI A-46, Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors, evaluations.

The system is credited with functioning in support of RCS leak detection. The system contains make up level instrumentation that provides a means for monitoring RCS leakage.

The system includes thermal insulation credited with supporting the performance and reliability of safety related SSCs.

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.43: Miscellaneous Mechanical & Structures System

10 CFR54.4(a)(1) Function

The Plant Vent is attached to the outside of the Reactor Building and is relied upon to remain functional during and following design basis events.

10 CFR54.4(a)(2) Function

The system components that perform a 10 CFR 54.4(a)(2) function are civil components such as duct banks, shields, penetration sleeves, and access cover plates included in the review for civil structures.

2.3.3.44: Nitrogen Supply System

10 CFR54.4(a)(1) Functions

The system includes components that form part of the reactor Containment pressure boundary. These components include piping, test valves, and Containment isolation valves.

The system provides pressurized nitrogen to the Core Flood Tanks.

The system contains piping components which support operation of the safety related Emergency Feedwater Tank (EFT-2).

10 CFR54.4(a)(2) Function

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.45: Penetration Cooling Auxiliary System

10 CFR54.4(a)(1) Function

The system performs no safety related functions.

10 CFR54.4(a)(2) Function

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.46: Reactor Building Airlock System

10 CFR54.4(a)(1) Function

The system includes components that form part of the reactor Containment pressure boundary. These mechanical components include valves and test connections and supporting piping components on the airlocks.

10 CFR54.4(a)(2) Function

The system performs no 10 CFR 54.4(a)(2) functions.

2.3.3.47: Roof Drains System

10 CFR54.4(a)(1) Function

The system performs no safety related functions.

10 CFR54.4(a)(2) Function

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.48: Radiation Monitoring System

10 CFR54.4(a)(1) Function

The system contains electrical/instrumentation components that provide a post-accident monitoring function.

10 CFR54.4(a)(2) Functions

The system is credited with functioning in support of RCS leak detection.

The system is credited in support of mitigation of a Steam Generator Tube Rupture accident.

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.49: Nuclear Service and Decay Heat Sea Water System

10 CFR54.4(a)(1) Functions

The system provides cooling water to the Nuclear Service Closed Cycle Cooling System for heat removal following a design basis accident.

The system provides cooling water to the Decay Heat Closed Cycle Cooling System for heat removal following a design basis accident.

The system contains electrical/instrumentation components that provide a post-accident monitoring function.

10 CFR54.4(a)(2) Functions

The system is credited with functioning in support of safe shutdown in USI A-46, Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors, evaluations.

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.50: Station Air System

10 CFR54.4(a)(1) Function

The system includes components that form part of the reactor Containment pressure boundary. These components include piping, test valves, and Containment isolation valves.

10 CFR54.4(a)(2) Functions

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

The system is credited with functioning in support of safe shutdown in USI A-46, Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors, evaluations.

2.3.3.51: Secondary Services Closed Cycle Cooling Water System

10 CFR54.4(a)(1) Function

The system performs no safety related functions.

10 CFR54.4(a)(2) Functions

The system is credited with functioning in support of safe shutdown in USI A-46, Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors, evaluations.

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

The system is credited with functioning in support of mitigation of a Steam Generator Tube Rupture accident.

2.3.3.52: Station Drains System

10 CFR54.4(a)(1) Function

The system performs no safety related functions.

10 CFR54.4(a)(2) Functions

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

The system is credited with mitigation of flooding that might impact safety related components. The system contains drain piping and instrumentation and controls that are credited that provide protection from internal flooding in safety related structures.

2.3.3.53: Spent Fuel Cooling System

10 CFR54.4(a)(1) Functions

The system is required to maintain a sufficient spent fuel pool water level above an assumed failed fuel assembly lying on top of the spent fuel racks to afford iodine and particulate removal during a Fuel Handling Accident.

The system assures irradiated fuel assemblies in the spent fuel pools do not achieve a critical state.

The system includes components that form part of the reactor Containment pressure boundary. The system includes piping, valves, and flanges associated with the fuel transfer tubes that perform this function.

10 CFR54.4(a)(2) Functions

The system is credited with functioning in support of safe shutdown in USI A-46, Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors, evaluations.

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

The system includes thermal insulation credited with supporting the performance and reliability of safety related SSCs.

2.3.3.54: Nuclear Services Closed Cycle Cooling System

10 CFR54.4(a)(1) Functions

The system functions to provide cooling for safety related component heat loads in systems including Reactor Building Recirculation, Emergency Feedwater, Nuclear Service and Decay Heat Sea Water, Make Up & Purification, and the Nuclear Services Closed Cycle Cooling Systems.

The system prevents the release of radioactivity to the sea by acting as an intermediate barrier.

The system includes components that form part of the reactor Containment pressure boundary. The system contains piping, piping components, and valves that perform this function on lines penetrating the Containment.

The system contains electrical/instrumentation components that provide a post-accident monitoring function.

10 CFR54.4(a)(2) Functions

The system is credited with functioning in support of safe shutdown in USI A-46, Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors, evaluations.

The system includes thermal insulation credited with supporting the performance and reliability of safety related SSCs.

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.55: Waste Disposal System

10 CFR54.4(a)(1) Functions

The system includes components that form part of the reactor Containment pressure boundary. The system contains piping, piping components, and valves that perform this function on lines penetrating the Containment.

The system contains electrical/instrumentation components that provide a post-accident monitoring function.

The system contains piping components that are part of the pressure boundary of safety related systems.

10 CFR54.4(a)(2) Functions

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

The system is credited with functioning in support of RCS leak detection.

2.3.3.56: Radioactive Gas Waste Disposal System

10 CFR54.4(a)(1) Functions

The system includes components that form part of the reactor Containment pressure boundary. The system contains piping, piping components, and valves that perform this function on lines penetrating the Containment.

The system contains electrical/instrumentation components that provide a post-accident monitoring function.

10 CFR54.4(a)(2) Functions

The system is credited with functioning in support of safe shutdown in USI A-46, Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors, evaluations.

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.57: Radioactive Liquid Waste Disposal System

10 CFR54.4(a)(1) Functions

The system includes components that form part of the reactor Containment pressure boundary. The system contains piping, piping components, and valves that perform this function on lines penetrating the Containment.

The system contains electrical/instrumentation components that provide a post-accident monitoring function.

The system contains piping components that are part of the pressure boundary of safety related systems.

10 CFR54.4(a)(2) Functions

The system is credited with functioning in support of safe shutdown in USI A-46, Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors, evaluations.

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

The system includes thermal insulation credited with supporting the performance and reliability of safety related SSCs.

The system is credited with functioning to provide flood mitigation inside Class I structures. The system includes piping and instrumentation and controls credited with transferring liquid from safety related structures to the Miscellaneous Radwaste Storage Tank for mitigation of internal flooding.

2.3.3.58: Reactor Coolant and Miscellaneous Waste Evaporator System

10 CFR54.4(a)(1) Function

The system performs no safety related functions.

10 CFR54.4(a)(2) Function

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.59: Waste Gas Sampling System

10 CFR54.4(a)(1) Function

The system contains safety related mechanical pressure boundary components relied upon to remain functional during and following design basis events. These components include piping, isolation valves, and solenoid valves associated with the Waste Gas Decay Tanks.

10 CFR54.4(a)(2) Function

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.60: Waste Sampling System

10 CFR54.4(a)(1) Functions

The system includes components that form part of the reactor Containment pressure boundary. These components include piping, flanges, and removable spool pieces.

The system contains electrical/instrumentation components that provide a post-accident monitoring function.

10 CFR54.4(a)(2) Function

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.3.61: Post Accident Containment Atmospheric Sampling

10 CFR54.4(a)(1) Functions

The system includes components that form part of the reactor Containment pressure boundary. These components include piping and isolation valves.

The system contains electrical/instrumentation components that provide a post-accident monitoring function. The system provides long-term information to determine the types and quantities of gases and fission products released to the Reactor Building atmosphere.

10 CFR54.4(a)(2) Function

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.4.1: Condenser Air Removal System

10 CFR54.4(a)(1) Function

The system performs no safety related functions.

10 CFR54.4(a)(2) Functions

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

The system is credited with functioning in support of mitigation of a Steam Generator Tube Rupture accident.

The system is credited with functioning in support of safe shutdown in USI A-46, Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors, evaluations.

2.3.4.2: Auxiliary Steam System

10 CFR54.4(a)(1) Function

The Auxiliary Steam System provides a pathway for steam between the Main Steam System and the Turbine-Driven Emergency Feedwater Pump for emergency operation of the Emergency Feedwater Pump.

10 CFR54.4(a)(2) Functions

The system is credited with functioning in support of mitigation of a Steam Generator Tube Rupture accident.

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

The system includes thermal insulation credited with supporting the performance and reliability of safety related SSCs.

The system is credited with functioning in support of safe shutdown in USI A-46, Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors, evaluations.

2.3.4.3: Condensate Chemical Treatment System

10 CFR54.4(a)(1) Function

The system performs no safety related functions.

10 CFR54.4(a)(2) Function

This system contains pressure boundary seals that support the Control Complex habitability envelope. Seals are considered to be civil components.

2.3.4.4: Condensate System

10 CFR54.4(a)(1) Function

The system contains piping components which support operation of the safety related Emergency Feedwater Tank (EFT-2).

10 CFR54.4(a)(2) Functions

The system is credited with functioning in support of mitigation of a Steam Generator Tube Rupture accident.

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

The system is credited with supplying a backup source of water for the Emergency Feedwater System.

The system is credited with functioning in support of safe shutdown in USI A-46, Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors, evaluations.

2.3.4.5: Once-Through Steam Generator (OTSG) Chemical Cleaning System

10 CFR54.4(a)(1) Function

The system includes components that form part of the reactor Containment pressure boundary. These components include piping, valves, and flanges.

10 CFR54.4(a)(2) Function

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.4.6: Condensate and Feedwater (CD & FW) Chemical Cleaning System

10 CFR54.4(a)(1) Function

The system performs no safety related functions.

10 CFR54.4(a)(2) Functions

The system is credited with functioning in support of mitigation of a Steam Generator Tube Rupture accident.

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.4.7: Condensate Demineralizer System

10 CFR54.4(a)(1) Function

The system performs no safety related functions.

10 CFR54.4(a)(2) Functions

The system is credited with functioning in support of mitigation of a Steam Generator Tube Rupture accident.

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.4.8: Emergency Feedwater Initiation & Control (EFIC) System

10 CFR54.4(a)(1) Functions

The EFIC System automatically activates the Emergency Feedwater System components upon: Loss of Main Feedwater (LMFW), LMFW with loss of onsite and

offsite AC power, Main Feedwater Line Break, Main Steam Line Break, or Small Break Loss of Coolant Accident.

The system contains electrical/instrumentation components that provide a post-accident monitoring function.

10 CFR54.4(a)(2) Functions

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

The system includes thermal insulation credited with supporting the performance and reliability of safety related SSCs.

The system is credited with functioning in support of safe shutdown in USI A-46, Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors, evaluations.

2.3.4.9: Electro-Hydraulic Control System

10 CFR54.4(a)(1) Function

The system performs no safety related functions.

10 CFR54.4(a)(2) Functions

The system contains in-scope valves which provide a turbine trip signal to prevent turbine overspeed.

The system is credited with functioning in support of mitigation of a Steam Generator Tube Rupture accident.

2.3.4.10: Main Feedwater System

10 CFR54.4(a)(1) Functions

The system provides isolation capability for the feedwater side of the OTSGs during a steam line failure accident.

The system includes components that form part of the reactor Containment pressure boundary. These components include piping, test valves, and Containment isolation valves.

The system provides Main Feedwater Pump Turbine trip signals to the Reactor Protection System when required.

10 CFR54.4(a)(2) Functions

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

The system includes thermal insulation credited with supporting the performance and reliability of safety related SSCs.

The system is credited with functioning in support of mitigation of a Steam Generator Tube Rupture accident.

The system provides a flow path for Auxiliary Feedwater from the Condensate Storage Tank to the Once-Through Steam Generators.

The system is credited with functioning in support of safe shutdown in USI A-46, Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors, evaluations.

2.3.4.11: Gland Steam System

10 CFR54.4(a)(1) Function

The system performs no safety related functions.

10 CFR54.4(a)(2) Function

The system is credited with functioning in support of mitigation of a Steam Generator Tube Rupture accident.

2.3.4.12: Gland Seal Water System

10 CFR54.4(a)(1) Function

The system performs no safety related functions.

10 CFR54.4(a)(2) Functions

The system is credited with functioning in support of mitigation of a Steam Generator Tube Rupture accident.

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.4.13: Heater Drains System

10 CFR54.4(a)(1) Function

The system performs no safety related functions.

10 CFR54.4(a)(2) Function

The only in-scope system components include instrumentation providing an automatic trip of the turbine to protect against turbine water induction. This function acts to reduce the potential for turbine missile generation.

2.3.4.14: Heater Vents System

10 CFR54.4(a)(1) Function

The system contains safety related fuses that provide an electrical isolation function between Class 1E and non-Class 1E circuits.

10 CFR54.4(a)(2) Function

The system performs no 10 CFR 54.4(a)(2) functions.

2.3.4.15: Main Feedwater Turbine Lube Oil System

10 CFR54.4(a)(1) Function

The system performs no safety related functions.

10 CFR54.4(a)(2) Function

The system is credited with functioning in support of mitigation of a Steam Generator Tube Rupture accident.

2.3.4.16: Main Steam System

10 CFR54.4(a)(1) Functions

The system provides automatic isolation of the Steam Generators for a steam line failure.

The system provides adequate relief capacity to protect the Steam Generators from overpressurization for a loss of electric power.

The system controls Steam Generator pressure and thereby provides a mechanism for controlled decay heat removal for a loss of electric power, steam line failure, Loss of Coolant Accident, feedwater line break, and Steam Generator tube failure.

The system provides steam to the Emergency Feedwater System turbine driven pump for various plant event scenarios.

The system provides the capability for RCS cooldown and effluent release control for a Steam Generator tube failure.

The system includes components that form part of the reactor Containment pressure boundary. These components include piping, Containment isolation valves, safety valves, test connection valves, and atmospheric dump valves.

The system contains electrical/instrumentation components that provide a post-accident monitoring function.

10 CFR54.4(a)(2) Functions

The system contains non-safety related components credited with functioning in support of mitigation of a Steam Generator Tube Rupture accident.

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

The system includes thermal insulation credited with supporting the performance and reliability of safety related SSCs.

The system is credited with functioning in support of safe shutdown in USI A-46, Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors, evaluations.

2.3.4.17: Relief Valve Vent System

10 CFR54.4(a)(1) Function

The system performs no safety related functions.

10 CFR54.4(a)(2) Function

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.4.18: Secondary Plant System

10 CFR54.4(a)(1) Functions

The system instrumentation functions to measure temperatures, pressures, flows, and levels in the steam system, and auxiliary systems. The system monitors plant parameters in order to provide reliable inputs to control systems.

The system contains electrical/instrumentation components that provide a post-accident monitoring function. The system functions to provide electrical inputs to various safety related instruments.

The system includes mechanical flow elements associated with the function of Feedwater System flow measurement to the Steam Generators.

10 CFR54.4(a)(2) Function

The system contains non-safety related pressure boundary components in Seismic Class I structures having the potential for spatial interactions with safety related SSCs and/or are relied on for seismic continuity.

2.3.4.19: Cycle Startup System

10 CFR54.4(a)(1) Function

The system performs no safety related functions.

10 CFR54.4(a)(2) Functions

The system includes non-safety related valves credited in the current seismic stress analyses.

The system is credited with functioning in support of mitigation of a Steam Generator Tube Rupture accident.

2.3.4.20: Turbine Generator System

10 CFR54.4(a)(1) Function

The system performs no safety related functions.

10 CFR54.4(a)(2) Function

The system is credited with functioning in support of mitigation of a Steam Generator Tube Rupture accident.