

Dominion Nuclear Connecticut, Inc.  
Millstone Power Station  
Rope Ferry Road  
Waterford, CT 06385



July 26, 2004

United States Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, DC 20555-0001

Serial No.: 04-405  
LR/ELA R0  
Docket Nos.: 50-336  
50-423  
License Nos.: DPR-65  
NPF-49

Gentlemen:

**DOMINION NUCLEAR CONNECTICUT, INC. (DNC)**  
**MILLSTONE POWER STATION UNITS 2 AND 3**  
**RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION**  
**LICENSE RENEWAL APPLICATIONS**

In a letter dated June 9, 2004, the NRC requested additional information regarding the license renewal applications (LRAs) for Millstone Power Station Units 2 and 3. The response to the Request for Additional Information associated with Section 2.3 of the LRAs is being submitted as Attachment 1. Also, as a result of the recent audits of the aging management programs and aging management reviews, additional information in support of the Millstone Power Station Units 2 and 3 LRAs is being submitted as Attachment 2.

Should you have any questions regarding this letter, please contact Mr. William D. Corbin, Director, Nuclear Projects, Dominion Resources Services, Inc., 5000 Dominion Blvd., Glen Allen, VA, 23060, (804) 273-2365.

Very truly yours,

A handwritten signature in black ink, appearing to read "L. Hartz", written in a cursive style.

Leslie N. Hartz  
Vice President – Nuclear Engineering

Attachments:

1. Response to Request for Additional Information Dated June 9, 2004
2. Additional Information in Support of Applications for Renewed Operating Licenses

Commitments made in this letter:

None.

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**Attachment 1**

**Response to Request for Additional Information**

**Dated June 9, 2004**

**Millstone Power Station, Units 2 and 3**

**License Renewal Applications**

**Section 2.3**

**Millstone Power Station Units 2 & 3  
Dominion Nuclear Connecticut, Inc.**

**RAI 2.3-1:**

On March 3, 2004 the staff had a teleconference call with Dominion (applicant) to clarify whether the Millstone LRA boundary drawings highlight only those components that are subject to an AMR, or all systems that are within the scope of license renewal because they meet one or more of the 54.4(a) criteria. Dominion stated that:

“The LRA drawings are boundary drawings and show the portions of the system that perform 54.4 intended functions. Components that are not subject to AMR because they are short-lived or active have been screened out and are not highlighted on the LR drawings. However, the system boundaries were not changed in this process. Therefore, the LR drawings can be used for purposes of the scoping review ( i.e., determining whether those portions of a system that perform intended functions according to 54.4 have been included within the scope of license renewal). In other words, they are AMR drawings, but they show the boundaries of the systems that include all the components necessary to perform the intended functions. Dominion would submit under oath, a statement to confirm that the AMR drawings are also LR boundary drawings because the boundaries were not changed when the original LR drawings were converted to AMR drawings.”

Confirm that the AMR drawings are also LR boundary drawings because the boundaries were not changed when the original LR drawings were converted to AMR drawings.

**Dominion Response:**

The quote of the Dominion statements made during the referenced teleconference call is generally accurate with the following clarifications:

The license renewal drawings were produced during the scoping and screening process and only passive, in-scope components were highlighted. The highlighted components are those that are subject to aging management review (AMR), except for the components later determined to be short-lived in the AMR process, which were screened out, as stated in the license renewal application (LRA) Section 2.1.3.1. Since active components were never highlighted on the license renewal drawings, these drawings were not converted from one form to another, i.e., from original license renewal drawings to AMR drawings, as is implied in request for additional information (RAI) 2.3-1.

The license renewal drawings were produced in order to identify components that require evaluation during the AMR process. However, since the AMR evaluation boundary shown on the drawings corresponds to the scoping boundary for the system, these drawings may also serve to indicate the in-scope portion of the system.

As stated in LRA Section 2.1.3.6, non-safety-related piping out to the first equivalent seismic anchor point beyond the safety-related interface is not uniquely highlighted on the license renewal drawings.

**RAI 2.3-2:**

On March 3, 2004 the staff had a teleconference call with Dominion to clarify that the LR drawings indicate by highlighting, those nonsafety-related components that are within scope of license renewal solely because they have the potential for interactions with safety-related components due to their spatial orientation (i.e., 10 CFR 54.4(a)(2)). Further clarification was also requested about whether these components were indicated differently on the LR drawings from those meeting criteria 10 CFR 54.4(a)(1). Dominion stated that:

“Portions of systems with 10 CFR 54.4(a)(2) intended functions are highlighted on the LR drawing. These segments are always included in the AMP along with the adjoining SR piping.”

Dominion further stated that:

“There is no distinction made on the LR drawings indicating those components meeting criteria 10 CFR 54.4(a)(1) and those in-scope for solely meeting criteria 10 CFR 54.4(a)(2). They are both indicated by highlighting.”

Confirm this verbal response. Also, clarify that all components of nonsafety-related systems capable of spatial interactions with safety-related systems (i.e., located within the same room or space) have been included within the scope of license renewal and highlighted in the LR boundary drawings.

**Dominion Response:**

The quote of the Dominion statements made during the referenced teleconference call is generally accurate with the following clarifications:

Components that have been determined to be in the scope of license renewal solely because they are non-safety-related components that are spatially oriented near safety-related structures, systems and components (SSCs) are highlighted on the license renewal drawings. These components, along with passive components meeting any of the other criteria of 10CFR54.4(a), are highlighted on the license renewal drawings in the same manner. There is no highlighting distinction made among the scoping criteria.

The non-safety-related components that are spatially oriented near safety-related SSCs have been determined to be in the scope of license renewal in accordance with the methodology described in LRA Section 2.1.

**RAI 2.3.2.5-1A:**

2.3.2.5 Spent Fuel Pool Cooling System (Unit 2)

Millstone Unit 2 FSAR Section 9.5.3.3 states that in the event that a serious leak develops in the spent fuel pool (SFP) liner, makeup water is supplied to the pool from the primary makeup water (PMW) system by manual initiation from the 14'6" level of the auxiliary building, and that should the leakage exceed the 50 gpm normal makeup capability, additional makeup is available from the refueling water storage tank (RWST) via the refueling water purification system, and the fire protection system by temporary hose connections. License renewal drawing 25203-LR26023, Sheet 2, shows portions of the flow paths from the PMW and RWST systems to the SFP in scope and subject to an AMR. Provide justification to explain why all portions of the PMW and RWST makeup paths are not included within the scope of license renewal and subject to an AMR.

**Dominion Response:**

The spent fuel pool is a missile-protected, seismically-designed reinforced concrete structure with a stainless steel liner. As stated in the Millstone Unit 2 Final Safety Analysis Report (FSAR) Section 9.5.3.3, failure of the structure is not considered credible. All connections to the spent fuel pool penetrate the pool walls near the normal operating level, or are provided with anti-siphon devices, to prevent gravity draining of the pool due to system leaks. The spent fuel pool liner is within the scope of license renewal and is managed for the effects of aging, as described in LRA Section 2.4.2.2, such that significant leakage is not expected. The loss of inventory from the spent fuel pool is not analyzed as an accident for the plant. The FSAR discusses the possibility of spent fuel pool inventory loss and lists several sources of make-up water for completeness. The refueling water storage tank (RWST) has been identified with the intended function to provide spent fuel inventory control in LRA Section 2.3.2.3. Additionally, the components that comprise the make-up flow path from the RWST via the safety injection pumps and the Shutdown Cooling System, as discussed in FSAR Section 9.5.3.3, are included in the scope of license renewal. Other sources of make-up are available but are not assigned a spent fuel make-up intended function. Consequently, the spent fuel pool make-up flow paths from the Primary Makeup Water System and from the RWST via the Refueling Water Purification System are not in scope for their spent fuel pool make-up capability.

**RAI 2.3.3.2-1A:**

2.3.3.2 Screen Wash System (Unit 2)

On license renewal drawing 25203-LR26008, Sheet 4, at locations J4 and J5, screen wash pump casing drain lines (3/4"-JDD) are shown as outside the scope of license renewal and excluded from being subject to an AMR. Drain lines serve a pressure boundary intended function, and are passive and long lived. Therefore, they should be in-scope for license renewal and subject to an AMR. Clarify that these components are within the scope of license renewal and subject to an AMR, or justify their exclusion.

**Dominion Response:**

The lines (3/4"-JDD) shown on license renewal drawing 25203-LR26008, Sh. 4, at locations J-4 and J-5, are pump shaft packing leak-off lines and are normally dry and not pressurized. Upon further review, Dominion has conservatively concluded that these lines should be included in the scope of license renewal for 10 CFR 54.4(a)(2). The lines are included in the component type "Pipe" in LRA Table 2.3.3-2. The copper lines are exposed to air (external) and subject to exposure to sea water (internal). The aging effect of loss of material (external) will be managed with the General Condition Monitoring aging management program (AMP) and the aging effect of loss of material (internal) will be managed with the Work Control Process AMP.

**RAI 2.3.3.3-1A:**

2.3.3.3 Service Water System (Unit 2)

On license renewal drawing 25203-LR26008, Sheet 2, at locations B6, B9, and B12, the service water strainers overflow lines are shown as outside the scope of license renewal and excluded from being subject to an AMR. Failure of the overflow line may cause the service water to flow to the outside of the strainer and on safety related components in the intake structure. Provide justification to explain why these drain lines are excluded from being within the scope of license renewal and subject to an AMR.

**Dominion Response:**

The "Overflow Lines" at locations B-6, B-9, and B-12 on license renewal drawing 25203-LR26008, Sh. 2, are the service water strainers packing leakoff lines, which direct strainer shaft leakage to a floor drain. These lines are in a normally dry condition. However, if a packing leak does occur, moisture will be present, creating the potential to wet safety-related components. Upon further review, Dominion has conservatively concluded that these lines should be included in the scope of license renewal. The packing leakoff lines are included in the component type "Tubing" in LRA Table 2.3.3-3. The stainless steel packing leakoff lines are exposed to air (external) and subject to exposure to sea water (internal) environments. The aging effect of loss of material (external) will be managed with the General Condition Monitoring AMP and the aging effect of loss of material (internal) will be managed with the Service Water System (Open-Cycle Cooling) AMP.

**RAI 2.3.3.3-2A:**

2.3.3.3 Service Water System (Unit 2)

Table 2.3.3-3 lists “SW Pump Motor Protective Tank” as a component type within the scope of license renewal and subject to an AMR. This is a stored component that protects the service water pumps or other safety-related components from failing to perform their intended functions. Provide drawings or descriptive information that will allow the staff to determine the subcomponents, if any, of the “SW Pump Motor Protective Tank,” that should be listed in Table 2.3.3-3.

**Dominion Response:**

The pump motor is protected from flooding by shrouding the motor with an open-bottom, closed-top, fiberglass tank “can”. The service water pump motor protective tank is a stored piece of equipment that is designed to protect one service water pump motor from damage due to flooding during a postulated maximum hurricane. The fiberglass tank is equipped with a steel lifting rig to facilitate installation of the tank. The fiberglass tank provides the flood protection intended function. The lifting rig is not required to prevent flooding damage to the service water pump motor and is not in the scope of license renewal.

**RAI 2.3.3.5-1A:**

2.3.3.5 Reactor Building Closed Cooling Water System (Unit 2)

The following components are shown on the license renewal drawing 25203-LR26022 as within the scope of license renewal and subject to an AMR. However, these components are not listed in LRA Table 2.3.3-5 as a component type subject to an AMR. Clarify whether these components are included with another component type. If not, justify why they are not listed in Table 2.3.3-5, or update the corresponding table to include these components.

- a. Flexible hoses identified as P400-RB-HOSE on Sheet 4 at locations (H6, H4, F6, F4, D6, D4, C6, C4, G13, G11, F12, E12, F11, D12, and D11)
- b. Sample cooler X-192 Sheet 5 at location K7

**Dominion Response:**

- a. The flexible hoses shown on the license renewal drawing 25203-LR26022, Sh. 4, are in the scope of license renewal, but have been determined to be short lived components. As described in Section 2.1.5.1, short-lived components are shown on the license renewal drawings. However, these short lived components are not subject to aging management review and are not included in the screening results tables provided in Section 2 of the LRA.
- b. Sample cooler X-192, shown on the license renewal drawing 25203-LR26022, Sh. 5, at location K-7, is in the scope of license renewal and is included in the component type "Sample Coolers" in LRA Table 2.3.4-10. As indicated in the legend on drawing 25203-LR26022, Sh. 5, sample cooler X-192 is assigned to the Plant Heating and Condensate Recovery System.

**RAI 2.3.3.5-2A:**

2.3.3.5 Reactor Building Closed Cooling Water System (Unit 2)

License renewal drawing 25203-LR26022 Sheet 1 shows lines to the temperature indicator controllers (TIC6306, TIC6307 and TIC 6308, at locations E4, G4, and J4, respectively), which continue to TV-6306, TV-6307, and TV6308 on drawing 26008, Sheet 2, as included in the RBCCW system and within the scope of license renewal and subject to an AMR. These lines appear to be electrical lines (cables), transferring signals from the temperature controller to the control valves. They are shown on license renewal drawing 25203-LR26008 Sheet 2 at locations H8, J8 and K8 as continuing as pneumatic lines that are included within the RBCCW system and within the scope of license renewal. Clarify whether these lines that appear to be electrical and pneumatic are included within the "in scope" portion of the RBCCW system.

**Dominion Response:**

The temperature sensing lines highlighted between the RBCCW system piping and the respective temperature controllers (TIC-6306, TIC-6307, and TIC-6308) on license renewal drawing 25203-LR26022, Sh. 1, are capillary tubing. The lines highlighted downstream of the respective temperature controllers to the 4-way valves associated with the temperature control valves (TV6306, TV6307, and TV6308) on license renewal drawing 25203-LR26008, Sh. 2, are pneumatic signal tubing. The capillary tubing used for temperature sensing does not penetrate the RBCCW System pressure boundary and is therefore not in the scope of license renewal. The pneumatic signal tubing is not required to support any safety function associated with the temperature control valves since the valves are fail-safe. Therefore, the pneumatic signal tubing is not in the scope of license renewal. The capillary tubing and pneumatic signal tubing were inadvertently highlighted on license renewal drawings 25203-LR26022 Sh. 1 and 25203-LR26008 Sh. 2.

**RAI 2.3.3.6-1A:**

2.3.3.6 Chilled Water System (Unit 2)

License renewal boundary drawing 25203-LR26027, Sheet 2 shows a symbol that is not identified on the Millstone Unit 2 P&ID legend drawing 25203-26001. The unidentified components are designated as L-366A at location B8 and L-366B at location B3. Define these components and clarify whether they penetrate the chilled water system piping pressure boundary. If so, explain why they are not listed in Table 2.3.3-6 as a component type subject to an AMR.

**Dominion Response:**

The subject components designated as L-366A at location B-8, and L-366B at location B-3, on license renewal drawing 25203-LR26027, Sh. 2, are moisture filters and are part of the Chilled Water System pressure boundary. These components are in the scope of license renewal and are included in the component type "Filters/Strainers" in LRA Table 2.3.3-6.

**RAI 2.3.3.6-2A:**

2.3.3.6 Chilled Water System (Unit 2)

LRA Table 2.3.3-6 lists chilled water chillers and chilled water evaporators as component types subject to an AMR. The staff believes that the evaporators shells (X-169C at location B9 and X 169D at location B4) and chillers shells (X-169A, at location B9, and X-169B, at location B4) shown on license renewal boundary drawing 25203-LR26027, Sheet 2, perform a pressure boundary intended function and are within the scope of license renewal and subject to an AMR. Confirm that these evaporator and chiller shells are included with the components listed in Table 2.3.3-6.

**Dominion Response:**

The component type "Chilled Water Chillers" and "Chilled Water Evaporators" includes the chiller and evaporator shells in Unit 2 LRA Table 2.3.3-6. The tubing and shell of the Chilled Water Chillers and Chilled Water Evaporators are identified as individual components for aging management in LRA Table 3.3.2-6.

**RAI 2.3.3.6-3A:**

2.3.3.6 Chilled Water System (Unit 2)

License renewal boundary drawing 25203-LR26027, Sheet 2, shows that the lower half of the chilled water surge tank is divided into two equal sections by a vertical weir. The surge tank weir is shown as outside the scope of license renewal and excluded from being subject to an AMR. The vertical weir in the surge tank assures that chilled water will be available to the functional supply line for the vital portions of the system, if one of the two independent supply lines ruptures. Justify the exclusion of the surge tank vertical weir from the scope of license renewal and from being subject to an AMR.

**Dominion Response:**

The vertical weir located inside of the chilled water surge tank on license renewal drawing 25203-LR26027, Sh. 2, was inadvertently not highlighted, but is in the scope of license renewal. The vertical weir was evaluated as an integral part of the "Chilled Water Surge Tank" shown in Unit 2 LRA Table 2.3.3-6.

**RAI 2.3.3.7-1A:**

2.3.3.7 Instrument Air System (Unit 2)

LRA Section 2.3.3.7 states that the instrument air system is within the scope of license renewal because it provides containment pressure boundary integrity and backup compressed air for the operation of certain safety-related components. Millstone Unit 2 FSAR, Section 13.13 states that a listing of all safety-related pneumatically actuated valves, including those with air accumulator, is tabulated in the response to AEC Question 9.32 in Amendment 15. The staff reviewed this listing and compared it with the license renewal drawings provided. As a result, the staff has the following questions:

- With the exception of the following valves: 2-FW-51A, 2-FW-51B, 2-FW-43A, 2-FW-43B, 2-CH-192, 2-CH-196, 2-MS-64A, 2-MS-64B, 2-CH-517, 2-CH-518, 2-CH-519, 2-SI-659, 2-SI-660, 2-RB-13.1A, 2-RB-13.1B, 2-AC-12, 2-AC-15, 2-AC-20, 2-AC-47, 2-EB-88, 2-EB-89, 2-EB-91, 2-EB-92, 2-EB-99, 2-EB-1002-SW-3.2A, and 2-SW-3.2b (these are shown on license renewal drawings), which of the valves listed in Table 9.32-1 of the response to AEC Question 9.32 in Amendment 15 have accumulators?
- The accumulator and associated tubing is shown to be subject to an AMR for the following eight valves: 2-FW-51A, 2-FW-51B, 2-FW-43A, 2-FW-43B, 2-CH-192, 2-CH-196, 2-MS-64A, and 2-MS-64B. However, these valves are not listed in Table 9.32-1 of the response to AEC Question 9.32 in Amendment 15. Indicate whether these are new valves (relative to the listing from 1973), or if the valves have been renumbered since 1973.
- License renewal drawing 25203-LR26009, Sheet 5 shows the accumulators and associated tubing leading to a note that says "TO 2-MS-64A" and "TO 2-MS-64B." However, on license renewal drawing 25203-26002, Sheet 1 (locations D9 and J7), the instrument air line to these valves is not shown to be subject to an AMR. Since these valves are provided with backup air via accumulators, the instrument air lines to the valves should be in scope and subject to an AMR. Provide justification for not including the portions of the instrument air lines in question.

**Dominion Response:**

The following response is divided to correspond to the three subparts of the RAI:

- Table 9.3.2-1 of the Millstone Unit 2 response to Atomic Energy Commission (AEC) Question 9.32 provides a listing of safety related pneumatic actuated valves necessary for safe shutdown. This list of valves has been reviewed and there are no additional valves with air accumulators other than those listed in the RAI.

- With respect to the eight valves identified in the RAI with air accumulators and tubing subject to aging management review, but not listed in the response to AEC Question 9.32, these valves are not newly installed valves and have not been renumbered since 1973. This apparent discrepancy has been entered into the plant Corrective Action System.
- The pneumatic lines shown on license renewal drawing 25203-LR26002, Sh. 1, (locations D-9 and J-7) are an extension of "test lines" that originate on an instrument diagram (28202, Sh. 1) that is not a license renewal drawing. These "test lines" do not perform an intended function and are not in the scope of license renewal. The pneumatic lines from the accumulators shown on license renewal drawing 25203-LR26009, Sh. 5, (Location H-13 and G-3) are not continued on license renewal drawing 25203-LR26002, Sh. 1.

**RAI 2.3.3.28-1A:**

2.3.3.28 Process and Area Radiation Monitoring (Unit 2)

LRA Section 2.3.3.28 states that this system is within the scope of license renewal because it meets the requirements of 10 CFR 54.4(a)(1) by providing, among other things, “actuation of certain systems or components in response to detected radiation conditions.” In order to perform this function, the section of piping downstream of valves 2-AC-527 and 2-AC-529 serves as a pressure boundary. This section of piping is not shown on license renewal drawing 25203-LR26028, Sheet 2, sections J6 and G6, as being within the scope of license renewal. Clarify whether these components are within the scope of license renewal and subject to an AMR, or justify their exclusion.

**Dominion Response:**

In Dominion's letter Serial No. 04-327, dated July 7, 2004, Dominion indicated that the containment air monitoring components downstream of 2-AC-527 and 2-AC-529 on license renewal drawing 25203-LR26028, Sh. 2, were inadvertently omitted from scope. These components support the radiation monitor actuation function to secure containment purge flow in the event of a fuel handling accident within the containment and, therefore, are in the scope of license renewal. The Process and Area Radiation Monitoring System screening results and AMR results have been updated to include the additional component types and there are no aging effects requiring management.

**RAI 2.3.3.35-1A:**

2.3.3.35 Diesel Generator System (Unit 2)

On license renewal diagram 25203-LR26010, Sheet 1, at locations F8 and J8, governors are shown as not subject to an AMR. Although the governor itself is an active component, its housing serves a pressure boundary intended function. The governor housing is not listed in LRA Tables 2.3.3-34 or 3.3.2-34 as a component within the scope of license renewal. Clarify whether this component is included with another component type. If not, justify its exclusion from the scope of license renewal and from being subject to an AMR, or update the corresponding tables to include this component.

**Dominion Response:**

Consistent with NEI 95-10 Appendix B (Item 56), the emergency diesel generators are considered active and do not meet the criteria of 10CFR54.21(a)(1)(i). Also, consistent with Section 4.1.1 of NEI 95-10, the emergency diesel generator is considered a "complex assembly." The governor actuator unit shown in license renewal drawing 25203-LR26010, Sh. 1, at locations F8 and J8, is a component of the "complex assembly". Thus, the governor actuator, including the housing, is in the scope of license renewal, but does not require aging management since the governor is considered an active component.

The governor actuator for the emergency diesel generator has been treated in a manner comparable to an actuator for an air operated valve which is an active component per NEI 95-10 and does not require an aging management review.

**RAI 2.3.3.35-2A:**

2.3.3.35 Diesel Generator System (Unit 2)

License renewal drawing 25203-LR26018, Sheets 2 and 3, at locations H5 and E7 show level glasses and sight glasses as being subject to an AMR. However, these components are not listed in LRA Table 2.3.3-34. These components provide a pressure boundary intended function. Clarify whether these components are included with another component type. If not, justify their exclusion from the scope of license renewal and from being subject to an AMR or update the corresponding tables to include these components.

**Dominion Response:**

The subject level glasses and sight glasses shown at locations H-5 and E-7 on license renewal drawing 25203-LR26018, Sh. 2 and Sh. 3, are in the scope of license renewal and included in the component type "Level Indicators" in LRA Table 2.3.3-34.

**RAI 2.3.3.35-3A:**

2.3.3.35 Diesel Generator System (Unit 2)

On license renewal drawing 25203-LR26018, Sheet 5, at locations E8, E10, J8 and J10, four components (L-230, L-231, L-232, and L-233) are shown to be subject to an AMR. Describe these four components and indicate where they are listed in Table 2.3.3-34.

**Dominion Response:**

The subject components (L-230, L-231, L-232, and L-233) shown at locations E-8, E-10, J-8 and J-10 on license renewal drawing 25203-LR26018, Sh. 5, are the in-line pilot air filters in the diesel air start system. They are included in the component type "Filter/strainers" in LRA Table 2.3.3-34.

**RAI 2.3.3.36-1A:**

2.3.3.36 Diesel Generator Fuel Oil System (Unit 2)

On license renewal diagram 25203-LR26010, Sheet 1, at locations E7 and H7, flexible hose connections are shown to be within the scope of license renewal and subject to an AMR. However, flexible hose is not included as a component group in Table 2.3.3-35 of the LRA.

Clarify that this component is included with another component type that is within the scope of license renewal and subject to an AMR, or justify its exclusion.

**Dominion Response:**

The flexible hoses shown on the license renewal drawing 25203-LR26010, Sh. 1, at locations E-7 and H-7, are in the scope of license renewal, but have been determined to be short-lived components. As described in Section 2.1.5.1, short-lived components are shown on the license renewal drawings. However, these short lived components are not subject to aging management review and are not included in the screening results tables provided in Section 2 of the LRA.

**RAI 2.3.3.37-1A:**

2.3.3.37 Station Blackout Diesel Generator System (Unit 2)

On license renewal diagram 25212-LR26958, Sheet 5, location K/L2, a 28" exhaust rain cap is shown to be subject to an AMR. This rain cap appears to provide a pressure boundary. Unit 2 LRA Table 2.3.3-36 and Unit 3 LRA Table 2.3.3-41 do not list rain cap as a component type requiring an AMR. Clarify whether this component is considered to be part of the silencer and within the scope of license renewal and subject to an AMR, or justify its exclusion.

**Dominion Response:**

The subject rain cap, shown on license renewal drawing 25212-LR26958, Sh. 5, location K/L-2, is an integral part of the exhaust silencer. The exhaust silencer with the integral rain cap is in the scope of license renewal and included in the component type "Silencers" in Unit 2 LRA Table 2.3.3-36 and Unit 3 LRA Table 2.3.3-41.

**RAI 2.3.3.44-1B:**

2.3.3.44 Station Blackout Diesel Generator System (Unit 3)

On license renewal diagram 25212-LR26958, Sheet 5, location K/L2, a 28" exhaust rain cap is shown to be subject to an AMR. This rain cap appears to provide a pressure boundary. Unit 2 LRA Table 2.3.3-36 and Unit 3 LRA Table 2.3.3-41 do not list rain cap as a component type requiring an AMR. Clarify whether this component is considered to be part of the silencer and within the scope of license renewal and subject to an AMR, or justify its exclusion.

**Dominion Response:**

The subject rain cap, shown on license renewal drawing 25212-LR26958, Sh. 5, location K/L-2, is an integral part of the exhaust silencer. The exhaust silencer with the integral rain cap is in the scope of license renewal and included in the component type "Silencers" in Unit 2 LRA Table 2.3.3-36 and Unit 3 LRA Table 2.3.3-41.

**RAI 2.3.3.37-2A:**

2.3.3.37 Station Blackout Diesel Generator System (Unit 2)

Millstone Unit 3 FSAR Section 8.3.1.1.4 states that all safety-related lines or valves, which are subject to freezing, are electrically heat traced and insulated. License renewal drawing 25212-LR26958, Sheet 3 shows a line going from the fuel oil storage tank to the fuel oil day tank that is within the scope of license renewal. It appears that the line in question is insulated. Thermal insulation is not listed as within the scope of license renewal and subject to an AMR for any Unit 2 or Unit 3 systems, nor is it discussed in the Unit 2 or Unit 3 LRA. Clarify whether thermal insulation is within the scope of license renewal and subject to an AMR, or justify its exclusion.

**Dominion Response:**

The subject fuel line is heat traced and thermally insulated. This insulation does not perform an intended function since the effectiveness of the heat trace system on the fuel temperatures in the subject fuel line and fuel tank is monitored. In the event of low fuel temperatures, a heat trace trouble alarm is activated in the control room. Insulation related problems would be rapidly identified and repaired. Therefore, the thermal insulation is not in the scope of license renewal.

**RAI 2.3.3.44-2B:**

2.3.3.44 Station Blackout Diesel Generator System (Unit 3)

Millstone Unit 3 FSAR Section 8.3.1.1.4 states that all safety-related lines or valves which are subject to freezing are electrically heat traced and insulated. License renewal drawing 25212-LR26958, Sheet 3 shows a line going from the fuel oil storage tank to the fuel oil day tank that is within the scope of license renewal. It appears that the line in question is insulated. Thermal insulation is not listed as within the scope of license renewal and subject to an AMR for any Unit 2 or Unit 3 systems, nor is it discussed in the Unit 2 or Unit 3 LRA. Clarify whether thermal insulation is within the scope of license renewal and subject to an AMR, or justify its exclusion.

**Dominion Response:**

The subject fuel line is heat traced and thermally insulated. This insulation does not perform an intended function since the effectiveness of the heat trace system on the fuel temperatures in the subject fuel line and fuel tank is monitored. In the event of low fuel temperatures, a heat trace trouble alarm is activated in the control room. Insulation related problems would be rapidly identified and repaired. Therefore, the thermal insulation is not in the scope of license renewal.

**RAI 2.3.3.39-1A:**

2.3.3.39 Clean Liquid Waste Processing System (Unit 2)

License renewal drawing 25203-LR26020, Sheet 5, location G9, shows the license renewal boundary of the clean liquid waste processing system extending onto Sheet 1, which is not provided in the LRA. The piping at this location is shown to extend to the pre-degasifier filter. Degasifier components are listed in Table 2.3.3-38 of the LRA as being within the scope of license renewal and subject to an AMR. Provide drawing 25203-LR26020, Sheet 1, and identify the license renewal boundaries for the clean waste processing system.

**Dominion Response:**

The license renewal boundary of the Clean Waste Processing System does not extend to drawing 25203-LR26020, Sh. 1. The highlighted portion of the Clean Liquid Waste Processing System piping stops at a tee junction before leaving license renewal drawing 25203-LR26020, Sh. 1, location G-9 (lines 2-HSC-98 and 3-HSC-11). This is consistent with the drawing highlighting convention described in LRA Section 2.1.5.1 for identifying components for inclusion within the scope of license renewal for 10 CFR 54.4(a)(2). The "T" junction is an identifiable component on the P&ID that is known to be outside the area of concern for spatially oriented non-safety-related components near safety-related components.

**RAI 2.3.3.41-1A:**

2.3.3.41 Post Accident Sampling (Unit 2)

The following components are shown on license renewal drawings 25203-LR26074, Sheets 1 and 2, as being within the scope of license renewal and subject to an AMR.

License renewal drawing 25203-LR26074, Sheet 1: 2-S-487 (B11); 2-S-492 (C9), F-3 (B11 and C11), K4 and K3 (B11), 7, 8, 12, and 13 (E11 to E7), pH probe F-12 (D10), 2-S-561 (D10), P-159 (D9), 2-S-493 (D8), F-7 (C8), F-11 (D7), 2-S-496 (D8), K5 (D8), K6, K1, and K2 (E9), 2-GAN-261 (H4), 2-GAN-262 (H3), 2-GAN-260 (J4), N2 gas bottle (J2), N2 gas flask (J4).

License renewal drawing 25203-LR26074, Sheet 2: 2-S-501 (G5), 2-S-502 (G5), 2-GAN-249 (E5), and 2-GAN-250 (D4), N2 gas bottle (F6), N2 gas flask (E5), K3, K4, K5, K6, 1 and 2 (Module C102B), and K3, K4, K5, and 3 (Module C102A).

Describe these components and indicate where they are included in LRA Table 2.3.3-40.

**Dominion Response:**

The components listed in the table below are shown on license renewal drawing 25203-LR26074, Sheet 1. For each component, a description is provided along with the component type identified in LRA Table 2.3.3-40, unless otherwise noted.

<b>Component ID</b>	<b>Description</b>	<b>Component Type</b>
2-S-487	Multi positioning valve	Valves
2-S-492	Valve	Valves
F-3	Filter	Filters/strainers
pH probe F-12	Filter (Sensor)	Filters/strainers
2-S-561	Valve	Valves
P-159	Pump	Pumps
2-S-493	Valve	Valves
F-7	Flask	Accumulators
F-11	Flask	Accumulators
2-S-496	Valve	Valves
2-GAN-261	Valve	Valves

Component ID	Description	Component Type
2-GAN-262	Valve	Valves
2-GAN-260	Valve	Valves
N2 gas bottle	Gas Bottle	(See Note 2)
N2 gas flask	Flask	Accumulators
K4, K3, 7, 8, 12, 13, K5, K6, K1 and K2	Panel Penetration Point	(See Note 1)

The components listed in the table below are shown on license renewal drawing 25203-LR26074, Sheet 2. For each component, a description is provided along with the component group identified in Table 2.3.3-40, unless otherwise noted.

Component ID	Description	Component Type
2-S-501	Multi positioning valve	Valves
2-S-502	Valve	Valves
2-GAN-249	Valve	Valves
2-GAN-250	Valve	Valves
N2 gas bottle	Gas Bottle	(See Note 2)
N2 gas flask	Flask	Accumulators
K3, K4, K5, K6, 1 and 2 (Module C102B)	Panel Penetration Point	(See Note 1)
K3, K4, K5 and 3 (Module C102A)	Panel Penetration Point	(See Note 1)

- 1: These are penetration points where sample lines enter and leave the Reactor Coolant Sample Module (i.e., Panel). These penetration points are part of the sample panel and are in the scope of license renewal. The sample panel has been evaluated in the commodity group "Panels and Cabinets" in LRA Table 2.4.2-25.
- 2: The gas bottle has been determined to be a short-lived component, in accordance with LRA Section C2.3, "Identification of Short-Lived Components and Consumables". Short-lived components are shown on license renewal drawings, but are not subject to AMR and are not included in the screening results tables provided in Section 2 of the LRA.

**RAI 2.3.3.41-2A:**

2.3.3.41 Post Accident Sampling (Unit 2)

License renewal drawing 25023-LR26074, Sheet 1, shows temperature measuring components identified as T1 at coordinate D12, T2 at coordinate B9, and T3 at coordinate D7. Sensing device "TE" connected to these instruments denotes either a thermowell or a resistance bulb and head suitable for use with a secondary instrument, indicating that the T1, T2, and T3 instruments form part of the pressure boundary for the PASS. Justify why these components are excluded from the scope of license renewal and from being subject to an AMR.

**Dominion Response:**

The temperature measuring components T1 and T3, on license renewal drawing 25023-LR26074, Sh. 1, are surface-mounted temperature detectors that do not penetrate the system pressure boundary. Therefore, these components are not in the scope of license renewal. Component T2 is installed in a tubing tee-fitting which does provide a pressure boundary function and is in the scope of license renewal. Component T2 is included with the component type "Tubing" in LRA Table 2.3.3-40.

**RAI 2.3.4.4-1A:**

2.3.4.4 Condensate System (Unit 2)

License renewal drawing 25203-26006, Sheet 1, shows low-pressure main turbine exhaust hoods and the main condensers into which they exhaust (locations F-H, 11-12 and F-H, 9-10) as within the scope of license renewal and subject to an AMR. LRA Table 2.3.4-4 does not list exhaust hoods as a component type subject to an AMR.

Clarify whether the low-pressure main turbine exhaust hoods are included with another component type. If not, justify why these components are not listed in Table 2.3.4-4.

**Dominion Response:**

The low-pressure main turbine exhaust hoods shown on license renewal drawing 25203-LR26006, Sh. 1, are included in the component type "Condensers" in LRA Table 2.3.4-4.

**RAI 2.3.4.4-2A:**

2.3.4.4 Condensate System (Unit 2)

License renewal drawing 25203-26005, Sheet 1 (location B9), shows a component labeled AN 9787, an analysis sample nozzle, as within the scope of license renewal and subject to an AMR. However, this component is not listed in LRA Table 2.3.4-4 as a component type requiring an AMR.

Clarify whether "analysis sample nozzle" is included with another component type. If not, justify why this component is not listed in Table 2.3.4-4.

**Dominion Response:**

The subject analysis sample nozzle shown on license renewal drawing 25203-LR26005, Sh. 1, (location B-9), is considered to be part of the pipe and is included in the component type "Pipe" in LRA Table 2.3.4-4.

**RAI 2.3.4.4-3A:**

2.3.4.4 Condensate System (Unit 2)

License renewal drawing 25203-26005, Sheet 1 (location B11-12), shows a component labeled "water trough" as within the scope of license renewal. However, this component is not listed in LRA Table 2.3.4 4 as a component type requiring an AMR.

Clarify whether "water trough" is included with another component type. If not, justify why this component is not listed in Table 2.3.4-4.

**Dominion Response:**

The water trough shown on license renewal drawing 25203-LR26005, Sh. 1 (location B-11/B-12) was inadvertently highlighted and is not in the scope of license renewal. Therefore, it is not listed in LRA Table 2.3.4-4.

**RAI 2.3.4.5-1A:**

2.3.4.5 Condensate Storage and Transfer System (Unit 2)

FSAR Section 10.4.5.3 states that the condensate storage tank (CST) is equipped with a recirculation heating sub-system to prevent freezing within the tank during cold weather. The components of this sub-system located outside the tank are shown to be outside the scope of license renewal in boundary drawing 25203-26005, Sheet 3 (locations J and K, 1 through 4). The CST is within the scope of license renewal because it provides a protected water source for the auxiliary feedwater (AFW) pumps. Since the presence of ice in the CST has the potential of hampering flow to the AFW pumps, the recirculation heating sub-system should be within the scope of license renewal. Clarify that the recirculation heating sub-system components located outside the CST are within the scope of license renewal and subject to an AMR, or justify their exclusion.

**Dominion Response:**

Although the Unit 2 Condensate Storage Tank (CST) is provided with a recirculation heating sub-system, the installed low-temperature alarm and associated actions initiated in response to the alarm, together with the thermal inertia associated with such a large tank, provide assurance that freezing of the tank contents will not occur. Therefore, the CST recirculation heating sub-system is not required for the tank to perform its intended function and it is not in the scope of license renewal.

**RAI 2.3.4.5-2A:**

2.3.4.5 Condensate Storage and Transfer System (Unit 2)

FSAR Section 10.4.5.3 states that the CST discharges are protected by screens, which will prevent the blockage of flow to the AFW pumps in the event of a postulated free-falling fragment caused by a missile impacting the tank. However, examination of boundary drawing 25203-26005, Sheet 3 (H5), does not show the existence of screens at the two CST discharge locations, nor does LRA Table 2.3.4.5 include screens as a component type subject to an AMR. These screens should be within the scope of license renewal because of their role in providing unrestricted flow to the AFW pumps, and should be subject to an AMR because they are passive, long-lived components. Clarify that the aforementioned screens are within the scope of license renewal and subject to an AMR, or justify their exclusion.

**Dominion Response:**

The internal screens described in FSAR Section 10.4.5.3 are within the scope of license renewal. The screens were evaluated as an integral part of the "Condensate Storage Tank" and are not listed separately in Unit 2 LRA Table 2.3.4.5.

**RAI 2.3.4.5-3A:**

2.3.4.5 Condensate Storage and Transfer System (Unit 2)

Boundary drawing 25203-26005, Sheet 3 (H5), shows a series of 1-inch pipes located inside the CST. This piping, which is shown outside the scope of license renewal, is part of the nitrogen sparger system used to lower the oxygen concentration in the tank. A potential failure and possible fragmentation of this piping could introduce a source of flow blockage to the AFW pumps, this piping should be within the scope of license renewal and subject to an AMR. Clarify that the subject piping is within the scope of license renewal and subject to an AMR, or justify its exclusion.

**Dominion Response:**

The nitrogen sparger lines internal to the condensate storage tank are not within the scope of license renewal. As described in FSAR Section 10.4.5.3, the tank discharge lines are equipped with screens to protect the tank discharge piping leading to the auxiliary feed water (AFW) pumps. Therefore, failure of the internal nitrogen piping will not impede the operation of the auxiliary feedwater pumps.

**RAI 2.3.4.10-1A:**

2.3.4.10 Plant Heating and Condensate Recovery System (Unit 2)

Unit 2 LRA drawing 25203-LR26026 Sheet 3 of 5 does not show the refueling water storage tank (RWST) heat exchanger and attached piping as part of the evaluation boundary. A potential leak in this heat exchanger or the attached piping inside of the RWST could potentially reduce the boron concentration in the tank and thereby impact the safe shutdown boric acid requirements.

Include the RWST heat exchanger and the attached piping inside of the RWST within the scope of license renewal or provide justification to explain why these components are excluded from being within the scope of license renewal and subject to an AMR.

**Dominion Response:**

The RWST fluid temperature is maintained within requirements by the RWST heat exchanger (also shown on license renewal drawing 25203-LR26015, Sh. 2 at location C-5). RWST fluid is on the tube-side of the heat exchanger and heating is provided by plant auxiliary steam on the shell-side. The normal pressure of the shell-side of the heat exchanger is less than that of the RWST fluid on the tube-side such that any tube leakage would be expected to be from the tubes into the shell. Millstone Unit 2 operating experience with past heat exchanger tube leakage confirms that leakage has been from the tube-side to the shell-side of the heat exchanger. In the event that steam pressure were to be higher than tube-side fluid pressure, the steam environment would result in limited leakage of liquid volume into the RWST such that significant dilution of the greater than the 420,000 gallon volume of borated water in the RWST would not be expected. In addition, drainage of the RWST below the minimum required volume, due to heat exchanger tube leakage, is prevented by a siphon breaker in the supply line internal to the RWST, as described in FSAR Section 6.2.4.1. Therefore, since the failure of the RWST heat exchanger cannot have a significant effect on the boron concentration of the RWST contents or the level of the tank, the heat exchanger was not included in the scope of license renewal for boron dilution concerns. In addition, the piping internal to the RWST and the siphon breaker are included in the scope of license renewal and are subject to aging management review as indicated on license renewal drawing 25203-LR26015, Sh. 2 at location C-9.

**RAI 2.3.4.12-1A:**

2.3.4.12 Turbine Gland Sealing System (Unit 2)

On license renewal drawing 25203-LR26006, Sheet 1, at location J-11 (on the gland seal piping coming to the steam packing exhaustor), two plugs are shown as not being within the scope of license renewal. The piping to which the plugs are attached is within the scope of license renewal because it meets 10 CFR 54.4(a)(2). Failure of the plugs may have the same effect as failure of the piping, so it appears that the plugs are also within the scope of license renewal and subject to an AMR. Justify why these components are excluded from the scope of license renewal and from being subject to an AMR.

**Dominion Response:**

The subject plugs on license renewal drawing 25203-LR26006, Sh. 1, at location J-11, are considered pipe fittings and are in the scope of license renewal. The plugs are included in the component type "Pipe" in LRA Table 2.3.4-12, but were inadvertently not highlighted on the license renewal drawing.

**RAI 2.3.2.5-1B:**

2.3.2.5 Fuel Pool Cooling and Purification System (Unit 3)

Millstone Unit 3 FSAR Section 9.1.3.2 states that water from the safety-related service water system can be used as an emergency supply to the spent fuel pool. In addition, water from the fire protection system and borated water from the refueling water storage tank (RWST), a Seismic Category 1 tank, is available. License renewal drawing 25212-LR26911, Sheet 1 (B7), shows the portion of the service water system of interest as within the scope of license renewal and subject to an AMR. However, only a portion of the quench spray (from the RWST) is shown to be within the scope of license renewal and subject to an AMR (see location C5). The piping and valves that lead to the fuel pool from this location are not shown to be within the scope of license renewal and subject to an AMR. Clarify that the subject components are within the scope of license renewal and subject to an AMR, or justify their exclusion.

**Dominion Response:**

As stated in the Millstone Unit 3 FSAR Section 3.8.4.1, the spent fuel pool is a missile-protected, seismically-designed reinforced concrete structure with a stainless steel liner. Each pipe that enters the fuel pool has an anti-siphoning device or terminates at an elevation above the minimum fuel pool water level to prevent siphoning the fuel pool water and uncovering the spent fuel. The combination of these design features makes significant loss of fuel pool water extremely unlikely. In addition, the spent fuel pool liner is within the scope of license renewal and is managed for the effects of aging, as described in LRA Section 2.4.2.4, such that significant leakage is not expected. FSAR Section 9.1.3.2 discusses each of the sources of make-up water to the spent fuel pool for completeness. The safety-related Service Water System has been identified with the intended function to provide an emergency supply of fuel pool make-up in LRA Section 2.3.3.2. Other fuel pool make-up sources discussed in the FSAR are available but are not assigned a fuel pool make-up intended function. Consequently, the fuel pool make-up flow path from the RWST via quench spray is not in scope for its fuel pool make-up capability.

**RAI 2.3.3.2-1B:**

2.3.3.2 Service Water System (Unit 3)

License renewal drawing 25212-LR26933, Sheet 2, shows an in-line flow indicator (FI-162), at location N8 within the scope of license renewal and subject to an AMR. However, this component is not listed in LRA Table 2.3.3-2 as a component type subject to an AMR. In-line flow indicators serve a pressure boundary intended function.

Clarify whether the in-line flow indicator is included with some other component type that is listed in LRA Table 2.3.3-2. If not, justify its exclusion from the scope of license renewal and from being subject to an AMR, or update the corresponding tables to include this component.

**Dominion Response:**

Flow indicator (FI-162), located on license renewal drawing 25212-LR26933, Sh. 2, at location N-8, is of a unique construction that incorporates a straight piece of pipe with a pitot tube arrangement for measuring differential pressure. Since the pipe provides the pressure boundary intended function, FI-162 is included in the component type "Pipe" in LRA Table 2.3.3-2.

**RAI 2.3.3.2-2B:**

2.3.3.2 Service Water System (Unit 3)

License renewal drawing 25212-LR26933, Sheet 2, shows thermowells (TW-65A, B, C and D) at locations H6, H5, H9 and H3, excluded from being within the scope of license renewal and subject to an AMR. Thermowells normally penetrate the piping pressure boundary; therefore, they serve a pressure boundary intended function.

Clarify whether the above described thermowells are included with some other component type that is listed in LRA Table 2.3.3-2. If not, justify their exclusion from the scope of license renewal and from being subject to an AMR, or update the corresponding tables to include this component.

**Dominion Response:**

Thermowells (TW-65A, B, C and D) at locations H-6, H-5, H-9 and H-3, on license renewal drawing 25212-LR26933, Sh. 2, are in the scope of license renewal and are included in the component type "Pipe" in LRA Table 2.3.3-2.

NOTE: The "Pipe" component type also includes items such as flanges (including blind and spectacle), elbows, reducers, welds, drain lines, vent lines, end caps, threaded plugs, fill connections, funnels, and access ports such as manholes.

**RAI 2.3.3.2-3B:**

2.3.3.2 Service Water System (Unit 3)

Unit 3 license renewal drawing 25212-LR26933, Sheets 1 and 4, indicates that a portion of the system to the plant drainage, which is within the scope of license renewal and subject to an AMR, is continued on drawing 25212-26957, Sheet 1. Provide license renewal drawing 25212-26957, Sheet 1, and indicate the license renewal boundary for piping to the plant drainage.

**Dominion Response:**

Drawing 25212-26957, Sh. 1 shows only miscellaneous floor drains, none of which are in the scope of license renewal. The drainage lines shown on license renewal drawing 25212-LR26933, Sh. 1, (8 locations: B-7, B-8, D-8, D-10, E-3, E-5, H-3, & H-5) and Sh. 4 (2 locations: I-5 & I-6), are not continued on drawing 25212-26957, Sh. 1, because the drain lines are open-ended lines that discharge to, but are not connected to, the associated floor area drains. Therefore, the LR boundary terminates at the discharge of the drain line.

**RAI 2.3.3.4-1B:**

2.3.3.4 Reactor Plant Component Cooling System (Unit 3)

License renewal drawing 25212-LR26921, Sheet 3 shows line 3-CCP-500-868-4, which ends at a relief valve (RV-282) at location I-8. It appears that this relief valve is used to protect the in scope piping and components from over pressurization. Line 3-CCP-500-868-4 is shown as within the scope of license renewal. However, the license renewal boundary ends at the connection to this relief valve (RV-282 is shown as outside the scope of license renewal). Relief valves provide pipeline isolation and serve a pressure boundary function. Clarify that the subject relief valve is within the scope of license renewal and subject to an AMR, or justify its exclusion.

**Dominion Response:**

Relief valve (RV-282) at location I-8 on license renewal drawing 25212-LR26921, Sh. 3, is in the scope of license renewal. This relief valve is included in the component type "Valves" in LRA Table 2.3.3-4, but was inadvertently not highlighted on the license renewal drawing.

**RAI 2.3.3.4-2B:**

2.3.3.4 Reactor Plant Component Cooling System (Unit 3)

License renewal drawing 25212-LR26935, Sheet 3 shows auxiliary condensate heat exchangers (3CNA-SCL1 and 3CNA-SCL3) shells, at location F5 and I4 as within the scope of license renewal and subject to an AMR. However, these heat exchanger shells are not listed in LRA Table 2.3.3-4 as a component type subject to an AMR. Table 2.3.3-4 lists only RPCC heat exchangers as being within the scope of license renewal and subject to an AMR. Clarify that the auxiliary condensate heat exchangers are within the scope of license renewal and subject to an AMR, or justify their exclusion.

**Dominion Response:**

Coolers 3CNA-SCL1 and 3CNA-SCL3 shown on license renewal drawing 25212-LR26935, Sh. 3, (at locations F-5 and I-4) are in the scope of license renewal and subject to AMR. These sample coolers are part of the Auxiliary Boiler Condensate & Feedwater System and are indicated as "Sample Coolers" in LRA Table 2.3.4-7. The sample coolers were inadvertently highlighted as part of the Reactor Plant Component Cooling System (instead of the Auxiliary Boiler Condensate & Feedwater System) on license renewal drawing 25212-LR26935, Sh. 3.

**RAI 2.3.3.4-3B:**

2.3.3.4 Reactor Plant Component Cooling System (Unit 3)

LRA Section 2.1.5.1 states that “a normally-open manual valve may be used as a LR boundary in those instances where a failure down stream of the valve can be quickly detected and the valve can be easily closed by operators to establish the pressure boundary.”

LR drawing 25212-LR26921, Sheets 1 and 3 shows many normally open valves (e.g., V699 on Sheet 1 at location E2) that are used as license renewal boundaries. Discuss the steps in the procedures for identifying the locations of breaks, for closing the valves, the amount of time required to complete these steps, and the consequences on system inventory if the valves are not closed. Justify that a failure on the downstream (nonsafety-related side) of these valves could not result in a failure of a safety-related component.

**Dominion Response:**

The LR boundaries ending at normally open valves on LR drawings 25212-LR26921, Sheets 1 and 3, were not drawn using the convention from LRA Section 2.1.5.1 stated in the RAI. The components highlighted in lines associated with these normally open valves (including V699 on sheet 1 at location E-2) are in the scope of license renewal because they are non-safety-related (NS) components spatially oriented near safety-related (SR) SSCs. The drawing highlighting convention used to end the boundary at these normally open valves is described in LRA Section 2.1.5.1 as follows:

- “For NS fluid-containing components that are spatially oriented near SR SSCs, the boundary normally extends to:
- A wall or floor of the area containing SR SSCs. The wall or floor is depicted on the LR drawing.
  - A NS component that is located within the area, but whose failure will not affect SR SSCs.
  - A convenient location (preferably the first valve, tank, etc.) outside the area containing SR SSCs.”

Since the “spatial orientation” function for non-safety-related components depends on areas of the plant in its definition (i.e., spatial orientation near SR SSCs) and plant areas are not always well defined on piping & instrumentation drawings (P&IDs), other identifiable locations on the drawings were used to locate the boundary. In this case, these normally open valves outside the area containing safety-related SSCs were used to identify the LR boundary, in accordance with the third item in the convention quoted from the LRA above. As a locator on the drawing, the valve open or closed status is not relevant because breaks beyond these normally open valves do not have the potential to adversely impact safety-related SSCs.

**RAI 2.3.3.5-1B:**

2.3.3.5 Turbine Plant Component Cooling Water System (Unit 3)

LRA Section 2.3.3.5 states that the turbine plant component cooling (TPCC) water system is within the scope of license renewal because it meets 10 CFR 54.4(a)(3) by providing a cooling water flowpath for the instrument air compressor needed for fire protection.

Justify why the TPCC flow path to the instrument air compressor train "A" shown at location J9 on license renewal drawing 25212 LR26934, Sheet 2 is excluded from the scope of license renewal and from being subject to an AMR.

**Dominion Response:**

The instrument air compressor credited in the plant fire protection evaluations is compressor B shown on license renewal drawing 25212-LR26934, Sh. 2, (at location G-9). This compressor is powered from a Class 1E power source. Instrument air compressor A is not powered from a Class 1E power source and has not been credited in the plant fire protection evaluations. Therefore, instrument air compressor train A shown at location J-9 on license renewal drawing 25212-LR26934, Sh. 2, and the TPCC water to that compressor have not been included in the scope of license renewal.

**RAI 2.3.3.7-1B:**

2.3.3.7 Charging Pumps Cooling System (Unit 3)

Millstone Unit 3 FSAR, Section 9.2.2.4.2, on Page 9.2-30 states that the charging pumps cooling system surge tank is compartmented by an internal partition so that a rapid loss of water from one compartment of the surge tank affects only one charging pumps cooling pump, leaving the other charging pumps cooling pump unaffected and fully capable of service. However, license renewal boundary drawing 25212-LR26905 at location B6 shows the surge tank internal partition as outside the scope of license renewal and not subject to an AMR. Justify the exclusion of this component from the scope of license renewal and from being subject to an AMR.

**Dominion Response:**

The vertical partition located inside of the safety injection pumps cooling surge tank was inadvertently not highlighted on license renewal drawing 25212-LR26905 Sh. 1, (B-6), but is in the scope of license renewal. The vertical partition was evaluated as an integral part of the "Charging Pumps Cooling Surge Tank" in Unit 3 LRA Table 2.3.3-7.

**RAI 2.3.3.8-1B:**

2.3.3.8 Safety Injection Pumps Cooling System (Unit 3)

Millstone Unit 3 FSAR, Section 9.2.2.5.2, on Page 9.2-33 states that the safety injection pumps cooling system surge tank is compartmented by an internal partition so that a rapid loss of water from one compartment of the surge tank affects only one safety injection pumps cooling system pump, leaving the other safety injection pumps cooling pump unaffected and fully capable of service. However, license renewal boundary drawing 25212-LR26914 at location D3 shows the surge tank internal partition as outside the scope of license renewal and not subject to an AMR. Justify the exclusion of this component from the scope of license renewal and from being subject to an AMR.

**Dominion Response:**

The vertical partition located inside of the safety injection pumps cooling surge tank was inadvertently not highlighted on license renewal drawing 25212-LR26914 Sh. 1, (D-3), but is in the scope of license renewal. The vertical partition was evaluated as an integral part of the "Safety Injection Pumps Cooling Surge Tank" in Unit 3 LRA Table 2.3.3-8.

**RAI 2.3.3.14-1B:**

2.3.3.14 Service Air System (Unit 3)

LRA Section 2.3.3.14 states that the service air system can be used as a source of compressed air to the instrument air system. Millstone Unit 3 FSAR Section 9.3.1.1.2 states that during routine maintenance, the service air serves as a backup to the instrument air system. However, the only portion of service air that is shown to be within the scope of license renewal and subject to an AMR is the portion that penetrates containment and provides a boundary isolation function at the ESF building wall penetrations. Based on the information in the FSAR, it is not clear why those portions from the service air system that serve as a backup to instrument air are not within scope of license renewal. Provide justification for not including those portions of the service air system that backup the instrument air system.

**Dominion Response:**

The Service Air System capability of providing backup air to the Instrument Air (IA) System does not meet the criteria of 10CFR54.4(a)(1) or (a)(2). The non-safety-related IA System is in the scope of license renewal because it provides Containment pressure boundary integrity at the piping penetration and it supports fire protection. Providing compressed air is not a safety-related function.

Furthermore, the fire protection analysis does not credit service air as a backup, so there is no fire protection intended function. For these reasons, those portions of the Service Air System that serve as a backup to the IA system are not in the scope of license renewal.

**RAI 2.3.3.17-1B:**

2.3.3.17 Primary Grade Water (Unit 3)

The staff believes that the reactor coolant pressurizer relief tank internal spray line (supplied by primary grade water line 3-PGS-003-41-4) shown on license renewal boundary drawing 25212-LR26902, Sheet 6, at locations H8 and H9 performs a limited structural integrity intended function and is within the scope of license renewal and subject to an AMR.

Clarify that this component is within the scope of license renewal and subject to an AMR or justify its exclusion.

**Dominion Response:**

The reactor coolant pressurizer relief tank (PRT) is a non safety-related component. The subject tank is in the scope of license renewal because the tank is spatially oriented such that a failure could prevent the satisfactory accomplishment of a safety-related function. The non-safety-related PRT spray line that is internal to the tank does not meet the criterion of 10 CFR 54.4(a)(2) since it is not spatially oriented near any safety-related SSCs. Therefore, the internal spray line is not within the scope of license renewal.

**RAI 2.3.3.41-1B:**

2.3.3.41 Domestic Water System (Unit 3)

License renewal drawings 2512-LR26018, Sheet 7, at location K12, and 2512-LR26947, Sheet 2, at locations M2 and G8, indicate that backflow preventors are within the scope of license renewal and subject to an AMR. However, component type "backflow preventor" is not listed in LRA Table 2.3.3-38 as a component type with intended function(s). Clarify whether it is included with another component type. If not, justify why "backflow preventor" component type is not listed in Table 2.3.3-38.

**Dominion Response:**

The subject backflow preventors shown on license renewal drawings 25202-LR26018, Sh. 7, at location K-12, and 25212-LR26947, Sh. 2, at locations M-2 and G-8, are in the scope of license renewal and included in the component type "Valves" in LRA Table 2.3.3-38.

**RAI 2.3.3.41-2B:**

2.3.3.41 Domestic Water System (Unit 3)

License renewal drawing 2512-LR26947, Sheet 3 at locations K5, K6, K7, and K8, indicates that showers are within the scope of the license renewal and subject to an AMR. However, component type "shower" is not listed in LRA Table 2.3.3-38 as a component type with intended function(s). Clarify whether "shower" is included with another component type. If not, justify why the "shower" component type is not listed in Table 2.3.3-38.

**Dominion Response:**

The subject showers shown on license renewal drawing 25212-LR26947, Sh. 3, at locations K-5, K-6, K-7, and K-8, are in the scope of license renewal and included in the component type "Pipe" in LRA Table 2.3.3-38.

**RAI 2.3.3.43-1B:**

2.3.3.43 Diesel Generator Fuel Oil System (Unit 3)

Section 9.5.4.3 of the Millstone Unit 3 FSAR states that backflow prevention devices preclude oil backing up out of the floor drains in the event of a day tank rupture. These devices are not shown on license renewal diagram 25212-LR26917, Sheet 1, and they are not listed in LRA Table 2.3.3-40 as requiring an AMR. Indicate whether they are considered in another system, or if they are included with another component type in Table 2.3.3-40.

**Dominion Response:**

The subject backflow prevention devices (3DNF-V3 and 3DNF-V5) are located in the diesel generator room floor drains to prevent the backflow of combustible liquids to safety-related areas through the interconnected drain systems. The backflow devices are part of the Sanitary Water System. Upon further review, Dominion has concluded that the backflow prevention devices should be included in the scope of license renewal since these components support fire protection and the Sanitary Water System should include an intended function that meets the criteria of 10CFR54.4(a)(3) for fire protection. The carbon steel backflow prevention devices are included in the component type "Valves" in LRA Table 2.3.3-50 and are evaluated for the effects of aging as "Valves" in LRA Table 3.3.2-50.

**RAI 2.3.3.43-2B:**

2.3.3.43 Diesel Generator Fuel Oil System (Unit 3)

On license renewal diagram 25212-LR26917, Sheet 1, at locations C4 and C8, dewatering boxes are shown not to be subject to an AMR. Additionally, at locations C5 and C9, sump and water pumping connections are shown not to be subject to an AMR. Provide a reference to the FSAR section that describes these components, or provide a summary description of their functions including any intended functions.

**Dominion Response:**

The FSAR does not contain a description of the dewatering boxes. The dewatering boxes shown on license renewal drawing 25212-LR26917, Sh. 1, at locations C-4 and C-8, are used to remove water that accumulates inside each Fuel Oil Storage Tank. Dewatering of the tank is accomplished by removing the plug cover in the tank concrete vault roof and the pipe cap in the dewatering box, inserting a tygon tube down the tank well pipe to the tank well (sump), and then pumping out any accumulated water into a bucket for proper disposal. The tank well, tank well pipe, and tank well pipe cap were evaluated as an integral part of the "Fuel Oil Storage Tank" shown in LRA Table 2.3.3-40. These tank components were inadvertently not highlighted on the license renewal drawing.

**RAI 2.3.3.52-1B:**

2.3.3.52 Reactor Plant Gaseous Drains System (Unit 3)

License renewal drawing 25212-LR26907, Sheet 1, shows containment drains transfer tanks at locations C6 and G6 as not being included within the scope of license renewal. These tanks serve pressure boundary and limited structural support intended functions and should be included within the scope of license renewal. Clarify that these components are within the scope of license renewal and subject to an AMR, or justify their exclusion.

**Dominion Response:**

The non-safety-related Primary Drains Transfer Tank (PDTT) and the non-safety-related Containment Drains Transfer Tank (CDTT) shown in license renewal drawing 25212-LR26907, Sh. 1, at locations C-6 and G-6, are located on the lowest level of the structures that house them and neither is in the immediate vicinity of any safety-related equipment. Additionally, neither tank operates at an elevated pressure. Therefore, the PDTT and the CDTT are not in the scope of license renewal, since they do not meet the criteria for Pressure Boundary or Limited Structural integrity defined in Section 2.1.3.6 of the LRA. The lines attached to these tanks, however, are in the scope of license renewal because they traverse into areas that do contain safety-related equipment.

**RAI 2.3.3.53-1B:**

2.3.3.53 Sanitary Water System (Unit 3)

Section 9.2.4.3 of the MNPS-3 FSAR states that portions of the domestic and sanitary water systems in the control building are seismically supported, to assure that the failure of the piping will not cause a loss of positive pressure in the control building. License renewal drawing 25212-LR26957, Sheet 3, shows sanitary water system piping running from floor drains at locations M1 and M2 as not being included within the scope of license renewal. Sanitary system piping running through the control building from roof drains at location L2 is also shown as not being within the scope of license renewal. Failure of this piping could cause the sanitary water system to fail to maintain positive pressure in the control building, whether or not seismic support is required. The subject piping should be included within the scope of license renewal because it performs a pressure boundary intended function. Clarify that these components are within the scope of license renewal and subject to an AMR, or justify their exclusion.

**Dominion Response:**

The sanitary water floor drains and piping identified at locations M-1 and M-2 on license renewal drawing 25212-LR26957, Sh. 3, are in the mechanical room portion of the Control Building and have drain traps (loop seals) installed. These drain traps are located directly below the drain opening, but are not shown on the license renewal drawing. The drain traps are currently in the scope of license renewal as part of the Control Building pressure boundary and are included in the component type "Pipe " in LRA Table 2.3.3-50. The drain line pipe downstream of the drain traps is embedded in concrete and does not perform the function of maintaining a positive pressure in the control building. There is effectively no upstream piping associated with these drain traps.

The roof drains shown on license renewal drawing 25212-LR26957, Sh. 3, at location L-2, are embedded in the ceiling and walls of the Control Building and do not penetrate into the Control Building pressure boundary.

Since failure of the piping shown on license renewal drawing 25212-LR26957, Sh. 3, associated with the floor drains at locations M-1 and M-2, and of the roof drain piping at location L-2, will not cause a loss of positive pressure in the Control Building, this piping is not the subject of the discussion in FSAR Section 9.2.4.3 and is not in the scope of license renewal.

**RAI 2.3.3.53-2B:**

2.3.3.53 Sanitary Water System (Unit 3)

On license renewal drawing 25212-LR26947, Sheet 2, at location F2 there is a line shown to be within the scope of license renewal that is indicated to continue onto license renewal drawing 25212-LR26957, Sheet 2, location B-3. On license renewal drawing 25212-LR26947, Sheet 2, at location F2 it is stated that the subject line provides continuous drip for maintaining the house trap seal, which is shown on drawing 25212-LR26957, Sheet 2, location B-3 to be within the scope of license renewal. From the drawings it does not appear that the subject line connects directly to the running trap. To maintain the trap seal, the 4" and 6" lines shown on drawing 25212-LR26957, Sheet 2, location B-3, that carry the flow to the "in-scope" trap, should be included within the scope of license renewal. Clarify that the components in these lines are within the scope of license renewal and subject to an AMR, or justify their exclusion.

**Dominion Response:**

The drain line on license renewal drawing 25212-LR26947, Sh. 2, at location F-2, was inadvertently highlighted and is not in the scope of license renewal. The drain trap shown on license renewal drawing 25212-LR26957, Sheet 2, location B-3, is in the scope of license renewal since it is the only component necessary to maintain the negative pressure envelope in the main steam valve house as part of the SLCRS boundary. The in-scope drain trap is included in the component type "Pipe" in LRA Table 2.3.3-50.

**RAI 2.3.4.2-1B:**

2.3.4.2 Feedwater (Units 2 and 3)

Unit 3 license renewal drawing 25212-LR26930, Sheets 3 and 4, indicates that a portion of the feedwater system is continued on license renewal drawing 26930, Sheet 1. However, this drawing is not included in the LRA. Additionally, Unit 3 LRA Section 2.3.4.2 states that “the evaluation boundary begins at the feedwater flow elements” but does not identify the particular elements to which the LRA refers. Please provide LRA drawing 26930, Sheet 1, and identify the “flow elements” that are mentioned in LRA Section 2.3.4.2.

**Dominion Response:**

The Feedwater System license renewal boundary begins at flow elements FE-48A, FE-48B, FE-48C, and FE-48D shown on license renewal drawings 25212-LR26930, Sh. 3, locations A-4 and A-9, and 25212-LR26930, Sh. 4, locations A-4 and A-9, respectively. There are no Feedwater System components in the scope of license renewal on drawing 25212-26930, Sh. 1.

**RAI 2.3.4.3-1B:**

**2.3.4.3 Condensate Make-up and Draw-off System (Unit 3)**

FSAR Section 9.2.6.2 states that a recirculation heating sub-system is provided for the condensate storage tank (CST) to maintain a minimum water temperature of 40F and thus prevent freezing of tank inventory. The components of this sub-system are located outside of the CST in the yard and are heat traced to prevent freezing. Boundary drawing 26926, Sheet 3, shows that the components downstream of valve V984 (location D5) and upstream of valve V976 (location E2) are out-of-scope. The condensate make-up and draw-off system is within the scope of license renewal because the CST provides a backup supply of water to the AFW pumps (the demineralized water storage tank is the primary supply). Since the presence of ice in the CST has the potential of hampering backup flow to the AFW pumps, all components belonging to the recirculation heating subsystem should be within scope. Clarify that these aforementioned components are within the scope of license renewal and subject to an AMR, or justify their exclusion.

**Dominion Response:**

The Unit 3 CST is a non-safety-related tank and is in the scope of license renewal to support operation of the auxiliary feedwater pumps during an Appendix R fire event. Although the Unit 3 CST is provided with a recirculation heating sub-system, the installed low-temperature alarm and associated actions initiated in response to the alarm, together with the thermal inertia associated with such a large tank, provide assurance that freezing of the tank contents will not occur. Therefore, the CST recirculation heating sub-system is not required for the tank to perform its intended function and it is not in the scope of license renewal.

**RAI 2.3.4.4-1B:**

2.3.4.4 Steam Generator Blowdown System (Unit 3)

License renewal boundary drawing 26944, Sheet 1 shows the license renewal boundary ending at valves V46, V51, V92, and V97 (locations D2, F2, H2, J2, respectively). The staff believes that the sample lines and associated components located between valves V46, V51, V92, and V97 (locations D2, F2, H2, J2, respectively) and skid 3SSR-RE08 (location F9) are within the scope of license renewal and subject to an AMR.

Radiation monitor (RE 8) is located on skid 3SSR-RE08. Because the radiation monitor provides one of the signals that affect SGBD system isolation, and the lines and components upstream of the monitor have a pressure boundary intended function, the staff believes that these lines and components should be within the scope of license renewal.

Justify why the aforementioned sample lines and associated components are excluded from the scope of license renewal and from being subject to an AMR.

**Dominion Response:**

The isolation of steam generator blowdown flow in response to a steam generator blowdown sample monitor signal is not a license renewal intended function as defined in 10CFR54.4(a). Failure to automatically isolate the flow of steam generator blowdown effluent with increased activity levels would not prevent safe shutdown of the reactor or challenge the offsite dose limits of 10CFR100. Therefore, the steam generator blowdown sample monitor (3SSR-RE08 on license renewal drawing 25212-LR26944, Sh. 1, location F-9) and associated components are not in the scope of license renewal.

**RAI 2.3.4.7-1B:**

2.3.4.7 Auxiliary Boiler Condensate and Feedwater (Unit 3)

LRA Table 2.3.4.7 lists "Level Indicators" as a component type subject to an AMR. License renewal boundary drawing 26935, Sheet 3, at location F9, shows the level observation glass (LG28) for the auxiliary condensate tank as within the scope of license renewal. However, the level observation glass (location L5) for the auxiliary condensate flash tank (LG24) is shown out-of-scope. Since the line in which this component is installed is shown to be within scope, this results in a discontinuity of the pressure boundary. The staff therefore believes that the level glass for the auxiliary condensate flash tank should be within the scope of license renewal.

Justify why the level observation glass for the auxiliary condensate flash tank is excluded from the scope of license renewal and from being subject to an AMR.

**Dominion Response:**

The level observation glass shown at location L-5 on license renewal drawing 25212-LR26935, Sh. 3, is in the scope of license renewal. The level observation glass is included in the existing component type "Level Indicators" in LRA Table 2.3.4-7, but was inadvertently not highlighted on the license renewal drawing.

**RAI 2.3.4.8-1B:**

2.3.4.8 Hot Water Heating System (Unit 3)

LRA Section 2.3.4.8 states that the hot water heating system is in the scope of license renewal because it meets 10 CFR 54.4(a)(1) by providing isolation in the event of a high energy line break and that the evaluation boundary includes the valves that isolate this break. FSAR Table 3.6-5 identifies the valves that effect isolation as nonsafety-related valves 3-HVH-AOV135A, B and 3-HVH-AOV136A, B. License renewal drawing 26937, Sheet 2, shows these valves within scope at locations F2 and I10, respectively. It does not appear that these valves are capable of totally isolating flow into the “in scope” piping, which has multiple entry points. Closing these valves does not isolate flow from the entry point shown at location N6 on license renewal drawing 25212-26937, Sheet 3. Explain how flow from this entry point can be isolated in the event of a break in the “in scope” portion of the piping.

Also, LRA Section 2.1.3.6 states that nonsafety related components relied upon to mitigate a high-energy line break are included within the scope of license renewal in accordance with 10 CFR 54.4(a)(2). Thus, there is an apparent contradiction between LRA Sections 2.3.4.8 and 2.1.3.6. Explain this apparent discrepancy in the LRA.

**Dominion Response:**

With respect to high-energy line breaks, components are determined to be in the scope of license renewal when they are credited for isolation of pipe breaks in the Millstone 3 current licensing basis for high-energy line breaks outside of Containment. Components were not determined to be in the scope of license renewal solely to provide isolation of pipe breaks of “in scope” portions of plant systems. Breaks in piping downstream of the “entry point” at location N-6 on license renewal drawing 25212-26937, sh. 3, are not postulated in the HELB analysis. Therefore, there are no components in the scope of license renewal to isolate breaks in this piping.

Separately, as stated in the RAI, valves 3-HVH-AOV135A, B and 3-HVH-AOV136A, B are non-safety-related. The LRA inadvertently identified 10CFR54.4(a)(1) as the scoping criterion met by these components rather than 10CFR54.4(a)(2).

**RAI 2.3.4.9-1B:**

2.3.4.8 Hot Water Heating System (Unit 3)

LRA Section 2.3.4.9 states that one reason the hot water pre-heating system is within the scope of license renewal in accordance with 10 CFR 54.4(a)(2) is that it contains nonsafety-related components that are used to mitigate the effects of a high-energy line break. Provide the location of the aforementioned isolation valves on a boundary drawing and identify the high-energy line where the potential break would occur.

**Dominion Response:**

LRA Section 2.3.4.9 inadvertently identified a high-energy line break function for the Hot Water Pre-Heating System. There are no Hot Water Pre-Heating System components relied upon to mitigate a high-energy line break in this system.

**Attachment 2**

**Additional Information in Support of**  
**Applications for Renewed Operating Licenses**

**Millstone Power Station Units 2 & 3**  
**Dominion Nuclear Connecticut, Inc.**

The following additional information, in support of the Millstone Power Station, Units 2 and 3 LRAs, is provided as a result of the recent audits of the aging management programs and aging management reviews,

- **Audit Item 179**: Additional information provided by DNC letter 04-320, dated July 7, 2004 for Audit Item 20 stated page 4.1.8 for Unit 2, Section 4.3.3 and page 4.1.7 for Unit 3 Section 4.3.3. The page numbers should be 4.18 and 4.17 respectively.
- **Audit Item 181**: The “Table 1 Item” column in Unit 3 Table 3.5.2-4 (page 3-529) should indicate 3.5.1-20 for structural member “Access Covers” with an aging effect of “Loss of Material”.
- **Audit Item 182**: The “Table 1 Item” column in Unit 3 Table 3.5.2-4 (page 3-531) should indicate 3.5.1-20 for structural member “Service Water Pipe Enclosure” with an aging effect of “Loss of Material”.