June 9, 2004

Mr. David A. Christian
Senior Vice President and Chief Nuclear Officer
Dominion Nuclear Connecticut, Inc.
Innsbrook Technical Center
5000 Dominion Boulevard
Glen Allen, VA 23060-6711

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE MILLSTONE POWER STATION, UNITS 2 AND 3, LICENSE RENEWAL APPLICATION

Dear Mr. Christian:

By letter dated January 20, 2004, Dominion Nuclear Connecticut, submitted applications pursuant to 10 CFR Part 54, to renew the operating licenses for the Millstone Power Station (MPS), Units 2 and 3, for review by the U.S. Nuclear Regulatory Commission (NRC). The NRC staff is reviewing the information contained in the license renewal applications (LRA) and has identified, in the enclosure, areas where additional information is needed to complete the review. Specifically, the enclosed request for additional information (RAI) is from MPS LRA Sections 2.3 (Enclosure).

These RAIs were discussed with your staff, Bill Watson, and a mutually agreeable date for your response is within 45 days of the date of this letter. If you have any questions regarding this letter or if circumstances result in your need to revise the response date, please contact me at (301) 415-1471 or by e-mail at JHE@nrc.gov

Sincerely,

/RA/

Johnny H. Eads, Project Manager
License Renewal Section A
License Renewal and Environmental Impacts Program
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Docket Nos.: 50-336 and 50-423

Enclosure: As stated

cc w/encl: See next page

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OFFICE	PM:RLEP	LA:RLEP	SC:SPLB	SC:RLEP
NAME	JEads	YEdmonds	JYerokun*	SLee
DATE	6/4/04	6/9/04	6/ 3 /04	6/9/04

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RidsNrrDe
G. Bagchi
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W. Bateman
J. Calvo
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P. Shemanski
J. Fair
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R. Weisman
M. Mayfield
A. Murphy
S. Smith (srs3)
S. Duraiswamy
Y. L. (Renee) Li
RLEP Staff

V. Nerses
C. Marco
D. Screnci, RI

MILLSTONE POWER STATION, UNITS 2 AND 3
LICENSE RENEWAL APPLICATION
REQUEST FOR ADDITIONAL INFORMATION (RAI)

2.3 SCOPING AND SCREENING RESULTS — MECHANICAL SYSTEMS

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.

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.

2.3.2.5 Spent Fuel Pool Cooling System (Unit 2)

RAI 2.3.2.5-1A

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.

2.3.3.2 Screen Wash System (Unit 2)

RAI 2.3.3.2-1A

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.

2.3.3.3 Service Water System (Unit 2)

RAI 2.3.3.3-1A

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.

RAI 2.3.3.3-2A

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.

2.3.3.5 Reactor Building Closed Cooling Water System (Unit 2)

RAI 2.3.3.5-1A

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

RAI 2.3.3.5-2A

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.

2.3.3.6 Chilled Water System (Unit 2)

RAI 2.3.3.6-1A

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.

RAI 2.3.3.6-2A

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.

RAI 2.3.3.6-3A

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.

2.3.3.7 Instrument Air System (Unit 2)

RAI 2.3.3.7-1A

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.

2.3.3.28 Process and Area Radiation Monitoring (Unit 2)

RAI 2.3.3.28-1A

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.

2.3.3.35 Diesel Generator System (Unit 2)

RAI 2.3.3.35-1A

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.

RAI 2.3.3.35-2A

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.

RAI 2.3.3.35-3A

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

2.3.3.36 Diesel Generator Fuel Oil System (Unit 2)

RAI 2.3.3.36-1A

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.

2.3.3.37 Station Blackout Diesel Generator System (Unit 2)
2.3.3.44 Station Blackout Diesel Generator System (Unit 3)

This is a shared system; therefore, the following RAIs apply to both units.

RAI 2.3.3.37-1A and RAI 2.3.3.44-1B

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.

RAI 2.3.3.37-2A and RAI 2.3.3.44-2B

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.

2.3.3.39 Clean Liquid Waste Processing System (Unit 2)

RAI 2.3.3.39-1A

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.

2.3.3.41 Post Accident Sampling (Unit 2)

RAI 2.3.3.41-1A

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), N_2 gas bottle (J2), N_2 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), N_2 gas bottle (F6), N_2 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.

RAI 2.3.3.41-2A

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.

2.3.4.4 Condensate System (Unit 2)

RAI 2.3.4.4-1A

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.

RAI 2.3.4.4-2A

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.

RAI 2.3.4.4-3A

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.

2.3.4.5 Condensate Storage and Transfer System (Unit 2)

RAI 2.3.4.5-1A

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.

RAI 2.3.4.5-2A

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.

RAI 2.3.4.5-3A

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.

2.3.4.10 Plant Heating and Condensate Recovery System (Unit 2)

RAI 2.3.4.10-1A

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.

2.3.4.12 Turbine Gland Sealing System (Unit 2)

RAI 2.3.4.12-1A

On license renewal drawing 25203-LR26006, Sheet 1, at location J-11 (on the gland seal piping coming to the steam packing exhauster), 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.

2.3.2.5 Fuel Pool Cooling and Purification System (Unit 3)

RAI 2.3.2.5-1B

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.

2.3.3.2 Service Water System (Unit 3)

RAI 2.3.3.2-1B

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.

RAI 2.3.3.2-2B

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.

RAI 2.3.3.2-3B

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.

2.3.3.4 Reactor Plant Component Cooling System (Unit 3)

RAI 2.3.3.4-1B

License renewal drawing 25212-LR26921, Sheet 3 shows line 3-CCP-500-868-4, which ends at a relief valve (RV-282) at location I8. 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.

RAI 2.3.3.4-2B

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.

RAI 2.3.3.4-3B

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.

2.3.3.5 Turbine Plant Component Cooling Water System (Unit 3)

RAI 2.3.3.5-1B

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.

2.3.3.7 Charging Pumps Cooling System (Unit 3)

RAI 2.3.3.7-1B

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.

2.3.3.8 Safety Injection Pumps Cooling System (Unit 3)

RAI 2.3.3.8-1B

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.

2.3.3.14 Service Air System (Unit 3)

RAI 2.3.3.14-1B

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.

2.3.3.17 Primary Grade Water (Unit 3)

RAI 2.3.3.17-1B

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.

2.3.3.41 Domestic Water System (Unit 3)

RAI 2.3.3.41-1B

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.

RAI 2.3.3.41-2B

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.

2.3.3.43 Diesel Generator Fuel Oil System (Unit 3)

RAI 2.3.3.43-1B

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.

RAI 2.3.3.43-2B

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.

2.3.3.52 Reactor Plant Gaseous Drains System (Unit 3)

RAI 2.3.3.52-1B

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.

2.3.3.53 Sanitary Water System (Unit 3)

RAI 2.3.3.53-1B

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.

RAI 2.3.3.53-2B

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.

2.3.4.2 Feedwater (Units 2 and 3)

RAI 2.3.4.2-1B

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.

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

RAI 2.3.4.3-1B

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 40^{o}F 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.

2.3.4.4 Steam Generator Blowdown System (Unit 3)

RAI 2.3.4.4-1B

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 affects 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.

2.3.4.7 Auxiliary Boiler Condensate and Feedwater (Unit 3)

RAI 2.3.4.7-1B

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.

2.3.4.8 Hot Water Heating System (Unit 3)

RAI 2.3.4.8-1B

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.

2.3.4.9 Hot Water Pre-Heating System (Unit 3)

RAI 2.3.4.9-1B

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.

cc:
Lillian M. Cuoco, Esquire
Senior Counsel
Dominion Resources Services, Inc.
Rope Ferry Road
Waterford, CT 06385

Edward L. Wilds, Jr., Ph.D.
Director, Division of Radiation
Department of Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Paul Eccard
First Selectman
Town of Waterford
15 Rope Ferry Road
Waterford, CT 06385

Mr. P. J. Parulis
Manager - Nuclear Oversight
Dominion Nuclear Connecticut, Inc.
Rope Ferry Road
Waterford, CT 06385

Mr. W. R. Matthews
Senior Vice President - Nuclear Operations
Dominion Nuclear Connecticut, Inc.
Rope Ferry Road
Waterford, CT 06385

Mr. John Markowicz
Co-Chair
Nuclear Energy Advisory Council
9 Susan Terrace
Waterford, CT 06385

Mr. Evan W. Woollacott
Co-Chair
Nuclear Energy Advisory Council
128 Terry's Plain Road
Simsbury, CT 06070

Senior Resident Inspector
Millstone Power Station
c/o U.S. Nuclear Regulatory Commission
P. O. Box 513
Niantic, CT 06357

Mr. G. D. Hicks
Director - Nuclear Station Safety
and Licensing
Dominion Nuclear Connecticut, Inc.
Rope Ferry Road
Waterford, CT 06385

Ms. Nancy Burton
147 Cross Highway
Redding Ridge, CT 00870

Mr. William D. Meinert
Nuclear Engineer
Massachusetts Municipal Wholesale
Electric Company
Moody Street
P.O. Box 426
Ludlow, MA 01056

Mr. J. Alan Price
Site Vice President
Dominion Nuclear Connecticut, Inc.
Rope Ferry Road
Waterford, CT 06385

Mr. Chris L. Funderburk
Director, Nuclear Licensing and
Operations Support
Dominion Resources Services, Inc.
Innsbrook Technical Center
5000 Dominion Boulevard
Glen Allen, VA 23060-6711

Mr. David W. Dodson
Licensing Supervisor
Dominion Nuclear Connecticut, Inc.
Rope Ferry Road
Waterford, CT 06385

cc:

David R. Lewis
Shaw Pittman, LLC
2300 N. Street N.W.
Washington, DC 20037

Mr. S. E. Scace
Assistant to the Site Vice President
Dominion Nucler Connecticut, Inc.
Rope Ferry Road
Waterford, CT 06385

Mr. M. J. Wilson
Manager - Nuclear Training
Dominion Nuclear Connecticut, Inc.
Rope Ferry Road
Waterford, CT 06385

Mr. A. J. Jordan, Jr.
Director - Nuclear Engineering
Dominion Nuclear Connecticut, Inc.
Rope Ferry Road
Waterford, CT 06385

Mr. S. P. Sarver
Director - Nuclear Station Operations
and Maintenance
Dominion Nuclear Connecticut, Inc.
Rope Ferry Road
Waterford, CT 06385

Mr. Charles Brinkman, Director
Washington Operations Nuclear Services
Westinghouse Electric Company
12300 Twinbrook Pkwy, Suite 330
Rockville, MD 20852

Mr. William D. Corbin
Director - Nuclear Projects Department
Innsbrook Technical Center
5000 Dominion Boulevard
Glen Allen, VA 23060-6711

Mr. William R. Watson, Jr.
Supervisor - License Renewal Project
Building 475/5
Millstone Power Station
Rope Ferry Road
Waterford, CT 06385

Judy Liskov, Assistant Director
Waterford Public Library
49 Rope Ferry Road
Waterford, CT 06385-2806

Mildred Hodge, Director
Three Rivers Community College
Thames River Campus
574 New London Turnpike
Norwich, CT 06360

Ralph Bunge
NRC Proceedings Representative for
Waterford, CT
510 Carr Ave
Rockville, MD 20850

Thomas V. Wagner, AICP
Planning Director
Town of Waterford
15 Rope Ferry Road
Waterford, CT 06385

Robert A. Avena
Town Attorney for Waterford, CT
Kepple, Morgan & Avena, P.C.
Box 3A Anguilla Park
20 South Anguilla Road
Pawcatuck, CT 06379

Mr. Fred Emerson
Nuclear Energy Institute
1776 I Street NW, Suite 400
Washington, DC 20006-3708