UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

September 13, 2012

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

SUBJECT: MILLSTONE POWER STATION, UNITS 2 AND 3- REQUEST FOR ADDITIONAL INFORMATION REGARDING RELIEF REQUESTS RR-04-09 AND IR-3-15 USE OF ALTERNATIVE FOR PRESSURE TESTING OF SERVICE WATER SYSTEM (TAC NOS. ME9013 AND ME9014)

Dear Mr. Heacock:

By letter dated July 5, 2012, Dominion Nuclear Connecticut, Inc. (the licensee), requested relief for Millstone Power Station, Units 2 and 3 from certain examination and testing requirements of Section XI of the 2004 edition of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code). Specifically, the licensee requested approval of alternative methods for performing the system leakage testing as required by the ASME Code, Section XI, Table IWD-2500-1 and IWD-5200 for the piping segments of the service water system located in the confined space of the intake structure bays. The submittal included Relief Request RR-04-09 for Unit 2 and Relief Request IR-3-15 for Unit 3.

The U.S. Nuclear Regulatory Commission staff has reviewed the information provided by the licensee and has determined that the enclosed request for additional information (RAI) is needed in order to complete the review. A response to this RAI is requested to be provided by November 9, 2012.

If you have any questions regarding this matter, please contact me at 301-415-4125.

Sincerely,

James Kim

James Kim, Project Manager
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-336 and 50-423

Enclosure:
As stated

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REQUEST FOR ADDITIONAL INFORMATION

REGARDING MILLSTONE PWOER STATION UNITS 2 AND 3

RELIEF REQUESTS RR-04-09 AND IR-3-15

USE OF ALTERNATIVE FOR PRESSURE TESTING OF SERVICE WATER SYSTEM

DOCKET NOS: 50-336 AND 50-423

Unit 2--Relief Request RR-04-09

U2-1. Section 1 of the relief request specifies the affected component as pipe segments inside the intake structure bays. Piping and Instrumentation Diagram (P&ID) 25203-26008 Sheet 2 and piping isometric drawings 25203-20150 sheets 679 and 1010 identify the affected piping segments. (1) Confirm that the three service water pumps discharge to the header, 24"-JGD-1, which is divided into two 24"-KE-1 pipe segments which are labeled as Train A and Train B, (2) Are there any bolted joints or valves in the affected pipe segments? (3) Section 4 discusses the upgrade of the affected pipe segments. Discuss whether the upgrade was implemented as a result of degradation or preemptive mitigation measures. Discuss any degradation since the upgrade, (4) Provide the pipe wall thickness and operating temperature and pressure, and (5) Confirm that other than the pipe segments covered under the relief request, the required visual examination will be performed on the remaining portion of 24"-JGD-1 and 24"-KE-1 when conducting the system leakage test in accordance with the ASME Code, Section XI, IWD-5000.

U2-2. Section 4 (last paragraph on page 2) of the relief request states that in order to perform visual examination of the affected piping during the system leakage testing, each intake bay needs to be taken out of service along with the associated service water system pump, circulating water pumps, screen wash pumps and traveling debris screens. (1) Explain why the intake structure bays and subject pumps and traveling screens have to be taken out of service and what effect removal of the pump from service has on plant safety, (2) Discuss how performing the visual examination on the affected piping per the ASME Code, IWD-5000 would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety, and (3) Explain why the use of a system leakage test would not provide a compensating increase in the level of safety over the use of an unimpaired flow test.

U2-3. Section 5.1 of the relief request states that as an alternative to the requirements of the ASME Code, Section XI, IWD-5220, the licensee will perform periodic flow testing in accordance with Inservice Test (IST) Program surveillance procedures. These surveillance procedures require flow to be measured, recorded and compared to established acceptance criteria to provide the assurance that flow is not impaired during operation. (1) Confirm that the periodic flow testing is quarterly, (2) Discuss in detail how the flow testing is performed (e.g., where are the measurement instruments located, when is the measurement taken during the test evolution, parameters to be measured, the minimum leak rate that can be detected, how the leakage location is identified, whether the flow rate of 10,300 gpm is the minimum acceptable flow rate, and the accuracy of the instruments), and (3) Discuss whether the fluid flow rate will be

maintained constant during the flow test. Discuss whether the service water system pumps are centrifugal (with variable speed) or positive displacement (with constant speed). If a leak occurs in the piping system and the centrifugal pumps would increase the flow rate to compensate for the flow loss in order to achieve 10,300 gpm, discuss how the leakage would be detected by the instrumentation.

U2-4. The system leakage testing requires coolant flowing through the entire length of service water piping system. However, the relief request applies only to the pipe segments inside the intake bays. (1) If a leakage occurs during a flow test, discuss how the location and amount of leakage is determined without a visual examination of the affected pipe segments. A leakage occurred in the pipe segments not covered by the relief request does not imply that the pipe segment covered by the relief request does not have a leak because a large leak in the pipe segments that is not covered by the relief request may mask the small leak in the affected pipe segment that is covered by the relief request, (2) A flow reduction could be caused by factors other than pipe cracks (e.g., a pump or valve malfunction, valve opening, leaking bolt joints or valves, or foreign object obstruction). Discuss how to determine whether the decreased flow rate is caused by a crack in the affected pipe segments or by other means if the affected pipe segments cannot be examined, and (3) Discuss how the subject piping system is monitored for potential leakage during normal operation (e.g., alarms in the control room panel? If the flow rate is reduced, what is the set point that will actuate the alarm?).

U2-5. Section 5.2 (4th paragraph on page 3) of the relief request states that during IST surveillances, if the minimum flows are not achieved, the pump(s) would be declared inoperable and a condition report initiated in accordance with the Millstone Power Station Corrective Action Program, with further corrective actions, as required, to restore the pump(s) and/or system to an operable status. Section 5.2 further states that the flow rate is specified as 10,300 gallons per minute (gpm). (1) Confirm that when the flow rate is less than 10,300 gpm, the pump will be considered inoperable and taken out of service, and the service water piping including affected pipe segment will be inspected for leakage.

U2-6. Section 5.2 (5th paragraph on page 3) of the relief request states that internal visual inspection is performed on the subject pipe segments periodically during plant refueling outages. (1) Discuss whether the inside surface of the entire length of the Train A and Train B pipe (24"-JGD-1 and 24"-KE-1) is visually inspected during each plant refueling outage, including the pipe segments covered by the relief request, (2) Discuss how the internal visual inspection is conducted, including the method and acceptance criteria, and (3) Based on discussion in Section 5.2, it appears that Train A and Train B were inspected every other refueling outages (approximate every 3 years), not every refueling outage. Discuss whether this inspection frequency is adequate to ensure the structural integrity of the subject pipe segments.

Unit 3-Relief Request (RR) IR-3-15

U3-1. Section 1 of the relief request specifies the affected components as "B" Train 30-inch service water system supply piping located in the intake structure bays. However, Section 4 of the relief request describes a pipe segment that runs vertically through the floor of the "B" service water system pump cubicle, travels horizontally through five intake bays, passes through the accessible area of the intake structure chlorine room, and continues underground to the auxiliary building. (1) Clarify why the pipe segment inside the intake structure chlorine room is

covered in the relief request if the pipe is accessible for inspection, (2) Discuss the configuration of the pipe segments (e.g., whether the inside surface of the subject piping contains lining and coating on outside surface of the pipe as discussed in Relief Request RR-04-09). Are there any bolted joints or valves in the subject pipe segments? (3) Discuss the condition of the subject pipe segments (i.e., any current and previous degradations, upgrades and repairs), (4) Provide the pipe wall thickness and operating temperature and pressure, and (5) Confirm that other than the pipe segments covered under the relief request, the required visual examination will be performed on the remaining portion of line 3-SWP-030-3-3 when conducting the system leakage test in accordance with the ASME Code, Section XI, IWD-5000.

U3-2. Section 4 (4th paragraph on page 2) of the relief request states that in order to perform visual examination of the subject piping during the system leakage testing, each intake bay needs to be taken out of service along with associated service water system pump, circulating water pumps, screen wash pumps and traveling debris screens. (1) Explain why the intake bays and subject pumps and traveling screens have to be taken out of service and what effect of these removal on the plant safety, (2) Discuss how performing the visual examination of the subject piping per the ASME Code, IWD-5000 would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety, and (3) Explain why the use of a system leakage test would not provide a compensating increase in the level of safety over the use of an unimpaired flow test.

U3-3. Section 5.1 (last paragraph on page 2) of the relief request states that periodic flow testing will be performed in accordance with inservice test program surveillance procedures. (1) Confirm that the periodic flow testing is quarterly, and (2) Discuss in detail how the flow testing is performed (e.g., where are the measurement instruments located, when is the measurement taken during the test evolution, parameters measured, the minimum leak rate that can be detected, how the leakage location is identified, whether 8820 gpm is the minimum acceptable flow rate, and the accuracy of the instruments).

U3-4. The system leakage testing requires coolant flowing through the entire length of service water piping system. However, the relief request applies only to the pipe segments inside the intake bays. (1) If a leakage occurs during a flow test, discuss how the location and amount of leakage is determined without a visual examination of the affected pipe segments. A leakage occurred in the pipe segments not covered by the relief request does not imply that the pipe segment covered by the relief request does not have a leak because a large leak in the pipe segments that is not covered by the relief request may mask the small leak in the affected pipe segment that is covered by the relief request, (2) A flow reduction could be caused by factors other than pipe cracks (e.g., a pump or valve malfunction, leaking bolt joints or valves, or foreign object obstruction). Discuss how to determine whether the decreased flow rate is caused by a crack in the affected pipe segments or by other means if the affected pipe segments cannot be examined, and (3) Discuss how the subject piping system is monitored for potential leakage during normal operation (e.g., alarms in the control room panel? If the flow rate is reduced, what is the set point that will actuate the alarm?).

U3-5. Section 5.2 of the relief request states that during IST surveillances, if the minimum flows are not achieved, the pump(s) would be declared inoperable and a condition report initiated in accordance with the Millstone Power Station Corrective Action Program, with further corrective actions, as required, to restore the pump(s) and/or system to an operable status. Section 5.2

further states that the flow rate is specified as 8,820 gallons per minute (gpm). Confirm that when the flow rate is less than 8,820 gpm, the pump will be considered inoperable and taken out of service, and the service water piping including affected pipe segment will be inspected for leakage.

U3-6. Section 5.2 (3rd paragraph on page 3) of the relief request states that internal visual inspection is periodically performed on the subject pipe segments during plant refueling outages. (1) Discuss whether the inside surface of the entire length of line 3-SWP-030-3-3 is visually inspected, including the pipe segments covered by this relief request, (2) Discuss how the internal visual inspection is conducted, including the method and acceptance criteria, and (3) Discuss how often the internal visual inspection is performed for the affected pipe segments and whether the inspection frequency is adequate to ensure the structural integrity of the affected pipe segments.

September 13, 2012

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Sincerely,
/ra/
James Kim, Project Manager
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-336 and 50-423

Enclosure:
As stated

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ADAMS Accession No.: ML12256B053 *via memo dated September 4, 2012

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