



July 19, 2018

U.S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, DC 20555

Serial No. 18-258  
NRA/WDC R0  
Docket Nos. 50-336/423  
License Nos. DPR-65  
NPF-49

**DOMINION NUCLEAR CONNECTICUT, INC.**  
**MILLSTONE POWER STATION UNITS 2 AND 3**  
**RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION FOR ALTERNATIVE**  
**REQUESTS ASSOCIATED WITH THE IN-SERVICE TESTING PROGRAM FOR**  
**PUMPS, VALVES, AND SNUBBERS FIFTH AND FOURTH 10-YEAR INTERVAL**  
**UPDATES FOR UNITS 2 AND 3**

By letter dated March 1, 2018, Dominion Energy Nuclear Connecticut, Inc. (DENC) requested Nuclear Regulatory Commission (NRC) approval of the alternative requests associated with the In-service Testing Program for Pumps, Valves, and Snubbers, Fifth and Fourth 10-Year Interval Updates for Millstone Power Station Unit 2 (MPS2) and Millstone Power Station Unit 3 (MPS3). In an email dated June 20, 2018, the NRC transmitted a request for additional information (RAI) related to the alternative requests. The RAI contained three questions. The attachment to this letter provides DENC's response to RAI questions RAI 2P-02-1 and 3P-03-1. DENC plans to submit the response to the remaining RAI question, 3P-05-1, by August 6, 2018.

If you have any questions regarding this submittal, please contact Wanda Craft at (804) 273-4687.

Sincerely,

A handwritten signature in black ink, appearing to read 'Gerald T. Bischof'.

Gerald T. Bischof  
Senior Vice President – Nuclear Operations & Fleet Performance

Attachment:

Response to Request for Additional Information for Alternative Requests Associated with the In-service Testing Program for Pumps, Valves, and Snubbers, Fifth and Fourth 10-Year Interval Updates for MPS2 and MPS3 - RAI 2P-02-1 and RAI 3P-03-1

A047  
NR

Commitments made in this letter: None

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**ATTACHMENT**

**RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION FOR ALTERNATIVE  
REQUESTS ASSOCIATED WITH THE IN-SERVICE TESTING PROGRAM FOR  
PUMPS, VALVES, AND SNUBBERS, FIFTH AND FOURTH 10-YEAR INTERVAL  
UPDATES FOR MPS2 AND MPS3 –  
RAI 2P-02-1 and RAI 3P-03-1**

**MILLSTONE POWER STATION UNITS 2 AND 3  
DOMINION ENERGY NUCLEAR CONNECTICUT, INC.**

By letter dated March 1, 2018, Dominion Energy Nuclear Connecticut, Inc. (DENC) requested Nuclear Regulatory Commission (NRC) approval of the alternative requests associated with the In-service Testing Program for Pumps, Valves, and Snubbers, Fifth and Fourth 10-Year Interval Updates for Millstone Power Station Unit 2 (MPS2) and Millstone Power Station Unit 3 (MPS3). In an email dated June 20, 2018, the NRC transmitted a request for additional information (RAI) related to the alternative requests. The RAI contained three questions. This attachment provides DENC's response to RAI questions RAI 2P-02-1 and 3P-03-1.

## **Background**

*GDC 35, "Emergency core cooling," states that a system to provide abundant emergency core cooling shall be provided. The system safety function shall be to transfer heat from the reactor core following any loss of reactor coolant at a rate such that (1) fuel and clad damage that could interfere with continued effective core cooling is prevented and (2) clad metal-water reaction is limited to negligible amounts. The GDC also requires that suitable redundancy in components and features, and suitable interconnections, leak detection, isolation, and containment capabilities shall be provided to assure that for onsite electric power system operation (assuming offsite power is not available) and for offsite electric power system operation (assuming onsite power is not available) the system safety function can be accomplished, assuming a single failure.*

*GDC 37, "Testing of emergency core cooling system," states that the emergency core cooling system shall be designed to permit appropriate periodic pressure and functional testing to assure (1) the structural and leaktight integrity of its components, (2) the operability and performance of the active components of the system, and (3) the operability of the system as a whole and, under conditions as close to design as practical, the performance of the full operational sequence that brings the system into operation, including operation of applicable portions of the protection system, the transfer between normal and emergency power sources, and the operation of the associated cooling water system.*

*NUREG-1482, "Guidelines for Inservice Testing at Nuclear Power Plants: Inservice Testing of Pumps and Valves and Inservice Examination and Testing of Dynamic Restraints (Snubbers) at Nuclear Power Plants," Revision 2, Section 2.5.3, Page 2-21, last paragraph, states that to improve the effectiveness and efficiency of the relief request process NEI developed a white paper entitled "Standard Format for Requests from The Commercial Reactor Licensees Pursuant to 10 CFR 50.55a, Revision 1," dated June 7, 2004 (ML070100400) for the guidance for the industry. This NEI guideline states that each affected components is to be listed in relief request. Template 1 of the NEI document states:*

*1. ASME Code Component(s) Affected*

*[Provide a description of, the class type, and the quantity of ASME Code components affected. Ensure that each affected component, weld, etc. is*

*listed, not just referenced generically. For example, include the component number, the weld identification numbers, etc.]*

*NUREG-1482, Revision 2, Section 5.12 states that "the NRC has authorized alternative vibration acceptance criteria for smooth-running pumps on a case-by-case basis in accordance with 10 CFR 50.55a(a)(3). Alternative requests for smooth-running pumps should specify a minimum vibration reference value (= 0.05 inch per second), and these smooth-running pumps must be included in a predictive maintenance (PdM) program." NRC is unable to authorize relief requests for all pumps without knowing their IDs and actual vibration values, which are = 0.05 inch per second.*

**RAI – 2P-02-1**

*Background: In Unit 2 alternative request P-02, the licensee requested an alternative to the requirements in ASME OM Code paragraphs ISTB-3300, ISTB-5100, ISTB-5200, and ISTB-5300 for pumps whose vibration reference value is less than 0.05 inches per second (ips). The licensee refers to these pumps as "smooth running" pumps.*

*Issue: The licensee did not identify the specific pumps with vibration reference values less than 0.05 ips.*

*Request: Identify the specific pumps affected by the alternative request.*

**DNC Response**

The following MPS2 pumps currently have at least one vibration reference value less than 0.05 ips:

<b>Pump ID</b>	<b>Pump Name</b>	<b>Class</b>	<b>Pump Group</b>
P-13A	'A' Spent Fuel Pool Cooling Pump	3	A
P-13B	'B' Spent Fuel Pool Cooling Pump	3	A
P-19B	'B' Boric Acid Pump	2	A
P-41A	'A' High Pressure Safety Injection Pump	2	B
P-41B	'B' High Pressure Safety Injection Pump	2	B
P-41C	'C' High Pressure Safety Injection Pump	2	B
P-42A	'A' Low Pressure Safety Injection Pump	2	A
P-42B	'B' Low Pressure Safety Injection Pump	2	A

**RAI – 3P-03-1**

*Background: In Unit 3 alternative request P-03, the licensee requested an alternative to the requirements in ASME OM Code paragraphs ISTB-3300, ISTB-5100, ISTB-5200, and ISTB-5300 for pumps whose vibration reference value is less than 0.05 inches per second (ips). The licensee refers to these pumps as “smooth running” pumps.*

*Issue: The licensee did not identify the specific pumps with vibration reference values less than 0.05 ips.*

*Request: Identify the specific pumps affected by the alternative request.*

**DNC Response**

The following MPS3 pumps currently have at least one vibration reference value less than 0.05 ips:

Pump ID	Pump Name	Class	Pump Group
3CCE*P1A	Charging Pump Seal Cooling Pump, P1A	3	A
3CCE*P1B	Charging Pump Seal Cooling Pump, P1B	3	A
3CCI*P1A	Safety Injection Cooling Pump, P1A	3	B
3CCI*P1B	Safety Injection Cooling Pump, P1B	3	B
3CCP*P1A	Reactor Plant Component Cooling Pump, P1A	3	A
3CCP*P1B	Reactor Plant Component Cooling Pump, P1B	3	A
3CCP*P1C	Reactor Plant Component Cooling Pump, P1C	3	A
3CHS*P2A	Boric Acid Transfer Pump, P2A	3	A
3CHS*P2B	Boric Acid Transfer Pump, P2B	3	A
3CHS*P3A	Chemical Volume Control Charging Pump, P3A	2	A
3CHS*P3B	Chemical Volume Control Charging Pump, P3B	2	A
3CHS*P3C	Chemical Volume Control Charging Pump, P3C	2	A
3EGF*P1A	'A' Emergency Gen Fuel Oil Transfer Pump, P1A	3	B
3EGF*P1B	'B' Emergency Gen Fuel Oil Transfer Pump, P1B	3	B
3EGF*P1C	'A' Emergency Gen Fuel Oil Transfer Pump, P1C	3	B
3EGF*P1D	'B' Emergency Gen Fuel Oil Transfer Pump, P1D	3	B
3FWA*P1A	Motor Driven Steam Generator Aux Feedwater Pump, P1A	3	B
3FWA*P1B	Motor Driven Steam Generator Aux Feedwater Pump, P1B	3	B
3FWA*P2	Turbine Aux Feedwater Pump, P2	3	B
3HVK*P1A	Control Building Chill Water Pump, P1A	3	A
3HVK*P1B	Control Building Chill Water Pump, P1B	3	A
3QSS*P3A	Quench Spray Pump, P1A	2	B
3QSS*P3B	Quench Spray Pump, P1B	2	B
3RHS*P1A	Residual Heat Removal Pump, P1A	2	A
3RHS*P1B	Residual Heat Removal Pump, P1B	2	A
3SFC*P1A	Fuel Pool Cooling Pump, P1A	3	A

<b>Pump ID</b>	<b>Pump Name</b>	<b>Class</b>	<b>Pump Group</b>
3SIH*P1A	Safety Injection Pump, P1A	2	B
3SIH*P1B	Safety Injection Pump, P1B	2	B
3SWP*P1A	Service Water Pump, P1A	3	A
3SWP*P2A	Control Building Air Cond Booster Pump, P2A	3	A
3SWP*P2B	Control Building Air Cond Booster Pump, P2B	3	A
3SWP*P3A	MCC and Rod Control Area Air Cond Booster Pump, P3A	3	B
3SWP*P3B	MCC and Rod Control Area Air Cond Booster Pump, P3B	3	B