

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



March 23, 2005

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

Serial No. 05-178  
MPS Lic/MAE R0  
Docket No. 50-423  
License No. NPF-49

**DOMINION NUCLEAR CONNECTICUT, INC.**  
**MILLSTONE POWER STATION UNIT 3**  
**RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION**  
**EMERGENCY GENERATOR LOAD SEQUENCER ALLOWED OUTAGE TIME**

In a letter dated February 10, 2005, Dominion Nuclear Connecticut, Inc. (DNC) requested an amendment in the form of changes to the technical specifications to Facility Operating License Number NPF-49 for Millstone Power Station Unit 3. The proposed change increases the allowed time to restore an inoperable emergency generator load sequencer (EGLS) to operable status from 6 to 12 hours.

In a conference call on March 16, 2005, the Nuclear Regulatory Commission (NRC) requested response to four questions. Attachment 1 of this letter provides the response to these questions.

The additional information provided in this letter does not affect the conclusions of the safety summary and significant hazards considerations discussion in the DNC letter dated February 10, 2005.

If you have any questions or require additional information, please contact Mr. David W. Dodson at (860) 447-1791, extension 2346.

Very truly yours,

William R. Matthews  
Senior Vice President – Nuclear Operations

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Attachments:

1. Response to Request for Additional Information

Commitments made in this letter: None.

cc: U.S. Nuclear Regulatory Commission  
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NRC Senior Resident Inspector  
Millstone Power Station

COMMONWEALTH OF VIRGINIA    )  
                                                  )  
COUNTY OF HENRICO            )

The foregoing document was acknowledged before me, in and for the County and Commonwealth aforesaid, today by William R. Matthews, who is Senior Vice President - Nuclear Operations, of Dominion Nuclear Connecticut, Inc. He has affirmed before me that he is duly authorized to execute and file the foregoing document in behalf of that Company, and that the statements in the document are true to the best of his knowledge and belief.

Acknowledged before me this 23<sup>rd</sup> day of March, 2005.

My Commission Expires: August 31, 2008.

Margaret B. Bennett  
Notary Public

(SEAL)

**ATTACHMENT 1**

**RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION,  
EMERGENCY GENERATOR LOAD SEQUENCER**

**MILLSTONE POWER STATION UNIT 3  
DOMINION NUCLEAR CONNECTICUT, INC.**

**RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION,  
EMERGENCY GENERATOR LOAD SEQUENCER**

The Nuclear Regulatory Commission (NRC) provided 4 questions related to the allowed outage time extension proposed for the Millstone Unit 3 (MPS3) emergency generator load sequencer (EGLS). These questions were discussed in a conference call between Dominion Nuclear Connecticut, Inc. (DNC) and the NRC on March 16, 2005 wherein the NRC requested that a formal response be provided. To that end, the following is the DNC response to the NRC's questions.

**NRC Question No. 1:**

Identify the cause of the most recent EGLS failure and address any common mode failure implications.

**DNC Response:**

The cause of the 'A' EGLS failure is believed to be age related degradation of an integrated circuit. This equipment has been in service since original construction and has operated with a high degree of reliability. The cause of failure was determined based on experience with other similar control elements utilized elsewhere in the plant. Specifically, when degraded, a MHTL logic gate may actuate (sets to logic high, 15 VDC) but does not reset (return to logic low, 0 VDC). Rather the gate returns to an indeterminate logic state between 6 to 8 VDC. The failure to reset allowed the actuation signal to remain and the output relay to energize. Had the signal reset at the accelerated clock frequency of the auto-tester, the relay would not have had sufficient time to actuate. The failure mechanism will be verified upon completion of repairs to the unit. Based on the historical reliability of these machines, there is no indication that they have reached the end of their useful life. Accordingly, this failure is considered random and not common mode.

**NRC Question No. 2:**

Please clarify the discussion in your submittal concerning "a potential reliability challenge" associated with operation of the sequencer.

**DNC Response:**

As stated in our conference call, the 'A' EGLS is considered degraded but operable. If current surveillance practices were to continue to be utilized with the EGLS in its degraded state, power would need to be cycled in order to reset the actuation logic for the affected engineered safeguards ventilation train. DNC is concerned that repeated

cycling of power would result in further deterioration of the degraded actuation logic and force a repair activity to be undertaken prior to completion of the standard NRC license amendment review cycle. The MPS3 EGLS have never been subjected to repeated cycling of power in order to reset degraded logic circuitry. Thus no specific reliability data is available to assess the impact repeated power cycling might pose for this condition.

**NRC Question No. 3:**

The mean time to repair based on a review of Licensee Event Report data is on the order of 5 hours. Does DNC plan to conduct any maintenance activity that is otherwise unrelated to the repair of the EGLS?

**DNC Response:**

The estimated time to perform the repair is approximately 2 hours, with another 3 hours needed for retesting the repaired system. No other activities beyond the repair needed to restore the system to a fully operable condition are planned.

**NRC Question No. 4:**

In Amendment No. 194 for Facility License No. NPF-49 for MPS3 the staff concluded that the performance of the 24-hour EDG functional test during power operation is acceptable due to the provision that the EDG is equipped with a design feature that allows the EDG to automatically switch from the test mode to the standby mode on the receipt of an accident signal. Please discuss what provisions will be taken to ensure that only one EDG would be affected during the 24-hour EDG functional test given an EGLS extended outage period.

**DNC Response:**

Millstone Unit 3 is a two train (A Train / B Train) redundant design where online work/surveillances are performed in alternating two week periods. During one two week period, A Train would be the "unprotected" train while B Train would be the "protected" train. In the subsequent two weeks, B Train would be "unprotected" while A Train would be "protected". The "unprotected" train does not imply that work may be performed on unprotected train components in some casual fashion. Rather, all work on the unprotected train is based on the online work risk assessment that is part of the work planning process. By definition, work is not considered or scheduled for protected train components. Online work to a protected train component would only be considered if an emergent failure were to occur in the protected train. A new online work risk assessment would also be performed to address the unexpected plant configuration. If a 24 hour functional test were to be performed of A Train EDG, it would only be scheduled during the A Train "unprotected" two week period. The B Train EDG, as well

as other B train equipment inclusive of the B EGLS, would be "protected" from the potential of any work or surveillances being performed coincident with the 24 hour A EDG functional test.