



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

June 21, 2012

Mr. David A. Heacock  
President and Chief Nuclear Officer  
Dominion Nuclear Connecticut, Inc.  
Innsbrook Technical Center  
5000 Dominion Boulevard  
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**SUBJECT: MILLSTONE POWER STATION, UNITS 2 AND 3 - CLOSEOUT OF BULLETIN 2011-01, "MITIGATING STRATEGIES" (TAC NOS. ME6450 AND ME6451)**

On May 11, 2011, the U.S. Nuclear Regulatory Commission (NRC) issued Bulletin 2011-01, "Mitigating Strategies" (Agencywide Documents Access and Management System (ADAMS) Accession No. ML111250360), to all holders of operating licenses for nuclear power reactors, except those that have permanently ceased operation and have certified that fuel has been removed from the reactor vessel. The purpose of the bulletin was to obtain a comprehensive verification that licensees' mitigating strategies to maintain or restore core cooling, spent fuel cooling, and containment following a large explosion or fire were compliant with Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.54(hh)(2).

The bulletin required two sets of responses pursuant to the provisions of 10 CFR 50.54(f). Millstone Power Station, Units 2 and 3, provided its responses to the bulletin by letters dated June 9 and July 8, 2011 (ADAMS Accession Nos. ML11172A189 and ML11193A266). By letter dated December 8, 2011 (ADAMS Accession No. ML113340035), the NRC sent the licensee a request for additional information (RAI) on its July 8, 2011, response. The licensee responded to the RAI by letter dated January 9, 2012 (ADAMS Accession No. ML12012A103).

The NRC staff has performed the enclosed review of the information submitted by the licensee and concludes that the licensee has provided the information requested in the bulletin. The licensee has responded to each of the questions in the bulletin as requested.

Based on its review, the NRC staff concludes that the licensee has completed all of the requirements of the bulletin and no further information or actions under the bulletin are needed.

Activities for TAC Nos. ME6450 and ME6451 are complete, and the TACs have been closed.

D. Heacock

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Please contact me at (301) 415-4125 if you have any questions on this issue.

Sincerely,

A handwritten signature in black ink that reads "James Kim". The signature is written in a cursive style with a prominent "J" and "K".

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: Staff Evaluation

cc w/encl: Distribution via Listserv



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STAFF REVIEW BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO BULLETIN 2011-01

RENEWED FACILITY OPERATING LICENSE NOS. DPR-65 AND NPF-49

DOMINION NUCLEAR CONNECTICUT, INC

MILLSTONE POWER STATION UNITS 2 AND 3

DOCKET NOS. 50-336 AND 50-423

1.0 INTRODUCTION

On May 11, 2011, the U.S. Nuclear Regulatory Commission (NRC) issued Bulletin 2011-01, "Mitigating Strategies," (Agencywide Documents Access and Management System (ADAMS) Accession No. ML11250360) to all holders of operating licenses for nuclear power reactors, except those that have permanently ceased operation and have certified that fuel has been removed from the reactor vessel. The bulletin required two sets of responses pursuant to the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.54(f). The first responses were due 30 days after issuance of the bulletin. By letter dated June 9, 2011 (ADAMS Accession No. ML11172A189), Millstone Power Station (MPS), Units 2 and 3, provided its response to this first set of questions (first response). The second responses were due 60 days after issuance of the bulletin. By letter dated July 8, 2011 (ADAMS Accession No. ML11193A266), MPS provided its response to this second set of questions (second response). By letter dated December 8, 2011 (ADAMS Accession No. ML113340035), the NRC sent a request for additional information (RAI) on the second response. MPS responded to the RAI by letter dated January 9, 2012 (ADAMS Accession No. ML12012A103). As summarized below, the NRC staff has verified that MPS provided the information requested in the bulletin.

2.0 BACKGROUND

On February 25, 2002, the NRC issued EA-02-026, "Order for Interim Safeguards and Security Compensatory Measures" (ICM Order). Section B.5.b of the ICM Order required licensees to develop specific guidance and strategies to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities using readily available resources (equipment and personnel) that can be effectively implemented under the circumstances associated with the loss of large areas of the plant due to explosions or fire.

By letter dated July 18, 2007 (ADAMS Accession No. ML071970005), the NRC staff issued its Safety Evaluation (SE) to document the final disposition of information submitted by MPS regarding Section B.5.b of the ICM Order. Along with the SE, the staff issued a conforming license condition to incorporate the B.5.b mitigating strategies into the licensing basis.

On March 27, 2009, the NRC issued 10 CFR 50.54(hh)(2) as a new rule, in order to capture the B.5.b mitigating strategies and related license conditions as regulatory requirements for both current and future licensees. At that time, licensee compliance with the conforming license conditions was sufficient to demonstrate compliance with 10 CFR 50.54(hh)(2) (74 FR 13926) so no further actions were required on the part of current licensees.

### 3.0 30-DAY RESPONSE

In order to confirm continued compliance with 10 CFR 50.54(hh)(2), the bulletin requested that licensees address the following two questions within 30 days of issuing the bulletin:

- Question 1 Is the equipment necessary to execute the mitigating strategies, as described in your submittals to the NRC, available and capable of performing its intended function?
- Question 2 Are the guidance and strategies implemented capable of being executed considering the current configuration of your facility and current staffing and skill levels of the staff?

The NRC staff reviewed MPS's first response to determine if it had adequately addressed these questions.

#### Question 1: Availability and Capability of Equipment

In its first response, MPS confirmed that equipment it needs to execute the 10 CFR 50.54(hh)(2) mitigating strategies is available and capable of performing its intended function. The NRC staff verified that this confirmation covered equipment needed for each of the three phases of B.5.b mitigation strategies. Therefore, the NRC staff finds that MPS has adequately responded to Question 1.

#### Question 2: Guidance and Strategies Can Be Executed

In its first response, MPS confirmed that the guidance and strategies it has implemented for 10 CFR 50.54(hh)(2) are capable of being executed considering the current facility configuration, staffing levels, and staff skills. Since MPS has considered its current facility configuration, staffing levels, and staff skills, and confirmed that it can execute its implemented guidance and strategies, the NRC staff finds that MPS has adequately responded to Question 2.

### 4.0 60-DAY RESPONSE

The bulletin required a response to the following five questions within 60 days of issuing the bulletin:

- Question 1 Describe in detail the maintenance of equipment procured to support the strategies and guidance required by 10 CFR 50.54(hh)(2) in order to ensure that it is functional when needed.
- Question 2 Describe in detail the testing of equipment procured to support the strategies and guidance required by 10 CFR 50.54(hh)(2) in order to ensure that it will function when needed.
- Question 3 Describe in detail the controls for ensuring that the equipment is available when needed.
- Question 4 Describe in detail how configuration and guidance management is ensured so that strategies remain feasible.
- Question 5 Describe in detail how you ensure availability of offsite support.

The NRC staff reviewed MPS's submittals to determine if it had adequately addressed these questions. This was accomplished by verifying that the submittals listed equipment, training, and offsite resources which were relied upon to make conclusions in the July 18, 2007, SE or are commonly needed to implement the mitigating strategies.

#### Questions 1 and 2: Maintenance and Testing of Equipment

Questions 1 and 2 of the 60-day request required licensees to describe in detail the maintenance and testing of equipment procured to support the strategies and guidance required by 10 CFR 50.54(hh)(2) in order to ensure that it is functional when needed. In its second response, MPS listed the equipment used to support the 10 CFR 50.54(hh)(2) mitigating strategies which receives maintenance or testing. For each item, MPS described the maintenance and testing performed, including the frequency and basis for the maintenance or testing activity.

The NRC staff verified that MPS listed equipment that typically requires maintenance or testing which was relied upon to make conclusions in the SE or commonly needed to implement the mitigating strategies. In its second response, MPS stated that the portable pump, hoses, nozzles, and communications equipment receive maintenance or testing. In its RAI response, MPS described how it ensures sufficient fuel for the portable pump. MPS also identified other items that support the mitigating strategies that receive maintenance or testing.

The NRC staff verified that MPS described the process used for corrective actions and listed the testing performed to ensure that the strategies were initially feasible. MPS stated in its second response that its 10 CFR Part 50, Appendix B, corrective action program is used to document equipment failure, establish priorities, and perform trending. In the RAI, the NRC asked MPS to clarify how it initially verified the feasibility of using portable sprays to mitigate a release coming from a damaged or failed containment. In its RAI response, MPS stated that it had made an error in the second response and described its strategy for using portable sprays to mitigate releases and how this strategy was verified.

Based upon the information above, the NRC staff finds that MPS has provided the information requested by Questions 1 and 2.

### Question 3: Controls on Equipment

Question 3 of the 60-day request required licensees to describe in detail the controls on equipment, such as inventory requirements, to ensure that the equipment is available when needed. A list of inventory deficiencies and associated corrective actions to prevent loss was also requested.

The NRC staff verified that MPS described its process for ensuring that B.5.b equipment will be available when needed. In its second response, MPS identified equipment included in its inventory, the inventory frequency, storage requirements, and items verified. Items verified include proper quantity, location, and accessibility of equipment; calibrations; equipment shelf lives; and controls on storage locations. MPS states that at the time of its second response there were no outstanding inventory deficiencies that would render the strategies not viable.

The NRC staff verified that MPS inventoried equipment which was relied upon to make conclusions in the SE or commonly needed to implement the mitigating strategies. In its second response, MPS stated that procured non-permanently installed B.5.b equipment is inventoried in accordance with station procedures. The NRC staff noted that all items specifically listed were inventoried at least quarterly. The second response specifically states that the following items are included in the inventory: portable pump; tow vehicle; hoses; communications equipment; nozzles; connectors; tools; and firefighter turnout gear. MPS also identified other items that support the mitigating strategies that are inventoried.

Based upon the information above, the NRC staff finds that MPS has provided the information requested by Question 3.

### Question 4: Configuration and Guidance Management

Question 4 of the 60-day request required licensees to describe in detail how configuration and guidance management is assured so that the strategies remain feasible.

The NRC staff verified that MPS described its measures to evaluate plant configuration changes for their effects on the mitigating strategies and to ensure its procedures are current. In its second response, MPS stated that plant configuration changes are procedurally evaluated against the licensing basis, which includes the B.5.b mitigating strategies. MPS states that the design change process requires a review of affected procedures and that procedure changes are validated to ensure that the B.5.b mitigating strategies remain viable.

The NRC staff verified that MPS described measures it has taken to validate the procedures or guidelines developed to support the mitigating strategies. In its second response, MPS identified testing in response to Question 2 that demonstrated the ability to execute some strategies. MPS also states that "initially, mitigating strategies were validated by walk-downs, engineering evaluations and table top reviews" and they were similarly revalidated in 2011.

The NRC staff verified that MPS described the training program implemented in support of the mitigating strategies and how its effectiveness is evaluated. In its second response, MPS identified the training provided to its operations personnel, emergency response organization key decision makers, security personnel, fire brigade, and other personnel. MPS also identified

the frequency with which each type of training is provided and the methods for evaluating the training.

Based upon the information above, the NRC staff finds that MPS has provided the information requested by Question 4.

#### Question 5: Offsite Support

Question 5 of the 60-day request required licensees to describe in detail how offsite support availability is assured.

The NRC staff verified that MPS listed the offsite organizations it relies upon for emergency response, including a description of agreements and related training. The NRC staff compared the list of offsite organizations that MPS provided in its second response with the information relied upon to make conclusions in the SE. MPS stated that it maintains memorandum of understanding or other types of agreements with these offsite organizations, which are reviewed annually, and that these agreements were current at the time of its second response. MPS also described the training and site familiarization it provides to these offsite organizations. MPS stated that it reviewed its corrective action program back to 2008 and found no issues involving lapsed agreements related to offsite support for B.5.b events.

Based upon the information above, the NRC staff finds that MPS has provided the information requested by Question 5.

#### 5.0 CONCLUSION

As described above, the NRC staff has verified that MPS has provided the information requested in Bulletin 2011-01. Specifically, MPS responded to each of the questions in the bulletin as requested. The NRC staff concludes that MPS has completed all of the requirements of the bulletin and no further information or actions under the bulletin are needed.

Principal Contributor: B. Purnell

Date: June 21, 2012

D. Heacock

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Please contact me at (301) 415-4125 if you have any questions on this issue.

Sincerely,

/RA/

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

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Enclosure: Staff Evaluation

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