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U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555-0001

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MPS Lic/TFO R0
Docket No. 50-336
License No. DPR-65

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNITS 2
NOTIFICATION OF ACTION COMPLETION FOR CONFIRMATORY ORDER EA-13-188

On August 26, 2015, the Nuclear Regulatory Commission (NRC) issued Confirmatory Order EA-13-188 to Dominion Nuclear Connecticut, Inc. (DNC) modifying the Millstone Power Station Unit 2 (MPS2) license. Per Section III of the Confirmatory Order, by no later than thirty (30) days after the completion of the commitments in Section IV, DNC is required to notify the NRC in writing and summarize its actions. DNC completed the commitments on April 10, 2017. A summary of the actions taken for each of the commitments in Section IV of Confirmatory Order EA-13-188 is provided as an attachment to this letter.

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

Sincerely,

Daniel G. Stoddard
Senior Vice President and Chief Nuclear Officer
Dominion Nuclear

Attachment:

1. Summary of Completed Actions for Confirmatory Order EA-13-188

Commitments made in this letter: None

ADD
NRR

cc: U.S. Nuclear Regulatory Commission
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ATTACHMENT 1

SUMMARY OF COMPLETED ACTIONS
FOR CONFIRMATORY ORDER EA-13-188

**MILLSTONE POWER STATION UNIT 2
DOMINION NUCLEAR CONNECTICUT, INC.**

On August 26, 2015, the Nuclear Regulatory Commission (NRC) issued Confirmatory Order EA-13-188 to Dominion Nuclear Connecticut, Inc. (DNC) modifying the Millstone Power Station Unit 2 (MPS2) license. Per Section III of the Confirmatory Order, DNC is required to provide to the NRC a written summary of the completed actions within 30 days of completion of the commitments in Section IV. DNC completed the commitments on April 10, 2017. Each commitment and a summary of the actions taken for the commitment is provided below:

Commitment

1. *Within sixty (60) calendar days of the date of this Confirmatory Order, DNC will:*
 - a. *Revise, as necessary, Standing Order 14-016 dated May 11, 2014, to incorporate applicable Millstone Unit 2 Technical Specifications (TSs); limiting conditions of operations (LCOs); actions; and surveillances that reflect the safety analysis of the inadvertent opening of the PORVs prior to implementation of Amendment No. 283. This revision of the standing order will be made available for NRC review prior to implementation.*
 - b. *Complete an operability evaluation for the use of charging pumps in accordance with Standing Order 14-016, as revised by paragraph 1.a., associated with the inadvertent opening of PORVs and make the operability evaluation available to NRC for review; and*
 - c. *Evaluate the effect of three pump charging pump operation (i.e., three charging pumps auto start and provide flow) with the current plant configuration. If the evaluation concludes no adverse effect, revised Standing Order 14-016 will be changed to require that three charging pumps auto start and provide flow. This evaluation will be made available for NRC review.*

Summary of Actions Taken:

- a. Standing Order 14-016, Revision 1 was presented to the Facility Safety Review Committee (FSRC) on October 6, 2015, was approved on October 12, 2015, and was formally issued on October 20, 2015. This revision incorporated applicable MPS2 Technical Specifications (TSs); limiting conditions of operations (LCOs); actions; and surveillances that reflected the safety analysis of the inadvertent opening of the power-operated relief valves (PORVs) prior to implementation of License Amendment (LA) 283. Standing Order 14-016, Revision 1 was made available to the NRC for review.

- b. In conjunction with the development of Standing Order 14-016, Revision 1, an operability evaluation for use of charging pumps in accordance with Standing Order 14-016, as revised by paragraph 1.a. of the Confirmatory Order, was developed and approved by FSRC on October 7, 2015. The operability evaluation was made available to the NRC for review.
- c. The effect of three pump charging pump operation (i.e., three charging pumps auto start and provide flow) with the current plant configuration was evaluated in revision 1 of an engineering evaluation. The revision was approved on October 6, 2015. The revised engineering evaluation concluded that one charging pump should be placed in pull-to-lock and not be capable of automatically starting on a safety injection signal when charging header pressure is above 2100 psia. A revision to Standing Order 14-016, Revision 1 was not required. The engineering evaluation was made available to the NRC for review.

Commitment

2. *By no later than February 15, 2016, DNC will submit a license amendment request to the NRC addressing the use of charging pumps in the analysis of the inadvertent opening of PORVs. If DNC does not submit a license amendment request by February 15, 2016, the Millstone Unit 2 design and licensing basis for the operation of charging pumps to mitigate the inadvertent opening of PORVs that was in place prior to Amendment No. 283 (dated September 9, 2004) will be reinstated by this Confirmatory Order, and DNC will take all actions necessary to conform Millstone Unit 2 to the reinstated design and licensing basis.*

Summary of Actions Taken:

On January 25, 2016, a license amendment request (LAR) was submitted to the NRC (Reference 1.1) to revise MPS2 TS 3.5.2, "Emergency Core Cooling Systems, ECCS Subsystems - Tavg \geq 300°F," to remove the charging system and eliminate TS Surveillance Requirement 4.5.2.e. Additionally, the LAR proposed revisions to the MPS2 Final Safety Analysis Report (FSAR) Chapter 14 relative to the long-term analysis in Section 14.6.1, "Inadvertent Opening of a Pressurized Water Reactor Pressurizer Pressure Relief Valve," and to clarify the existing discussion regarding application of the single failure criteria. The LAR was approved by the NRC on December 22, 2016 as LA 331 (Reference 1.2). On February 3, 2017, the NRC issued a corrected safety evaluation associated with this license amendment (Reference 1.5).

Commitment

3. *DNC's Standing Order 14-016 (Rev. 0, dated May 11, 2014), as revised in accordance with paragraph 1 above, will remain in place until NRC makes a final determination on the license amendment request submitted under paragraph 2 above.*

Summary of Actions Taken:

Standing Order 14-016, Revision 1 was issued on October 20, 2015 to address commitment number 1a. Standing Order 14-016, Revision 1 remained in place and effective until February 7, 2017. Standing Order 14-016, Revision 1 was discontinued as part of the implementation of LA 331, which was approved by the NRC on December 22, 2016 (Reference 1.2).

Commitment

4. *If the NRC denies the license amendment request submitted under paragraph 2 above, or the licensee withdraws the license amendment request, the Millstone Unit 2 design and licensing basis for the operation of charging pumps to mitigate the inadvertent opening of PORVs that was in place prior to implementation of Amendment No. 283 (dated September 9, 2004) will be reinstated by this Confirmatory Order, and DNC will take all actions necessary to conform Millstone Unit 2 to the reinstated design and licensing basis.*

Summary of Actions Taken:

The LAR submitted to the NRC under commitment 2 above (Reference 1.1) was approved by the NRC on December 22, 2016 as LA 331 (Reference 1.2). Therefore, no additional action was necessary to meet this commitment.

Commitment

5. *By no later than February 15, 2016, DNC will submit a license amendment request seeking NRC approval of the spent fuel pool heat load analysis and any associated technical specification changes. This will be treated as a high priority review by the NRC.*

Summary of Actions Taken:

A review of the spent fuel pool heat load analysis indicated that a TS change was not necessary. However, changes to the MPS2 TS Bases and FSAR were necessary. On January 26, 2016, DNC submitted a LAR to the NRC (Reference 1.3) requesting approval of changes to TS Bases Section 3/4.9.3 to remove reference to the Spent Fuel Pool (SFP) heat load analysis, and to FSAR Section 9.5 to allow fuel movement to start 100 hours after reactor subcriticality and proceed at an average rate of six assemblies per hour, provided the Reactor Building Closed Cooling Water temperature to the SFP cooling and shutdown cooling heat exchangers is maintained at less than or equal to 75°F. The LAR included a copy of the SFP heat load analysis in support of the revisions. The LAR was approved by the NRC on November 29, 2016 as LA 330 (Reference 1.4).

Commitment

6. *DNC's Standing Order 14-021 (Rev. 0 dated July 9, 2014) will remain in place until NRC makes a final determination on the license amendment request submitted under paragraph 5 above.*

Summary of Actions Taken:

Standing Order 14-021 (Revision 0, dated July 9, 2014) remained in place and effective until January 24, 2017. Standing Order 14-021 was discontinued as part of the implementation of LA 330, which was approved by the NRC on November 29, 2016 (Reference 1.4).

Commitment

7. *If the NRC denies the license amendment request submitted under paragraph 5 above, or the licensee withdraws the license amendment request, TS 3/4.9.3.1 in the Millstone Unit 2 license will be revised by this Confirmatory Order to require 150 hours of decay time before moving irradiated fuel from the reactor to the spent fuel pool, and changes made by Licensing Basis Document Change Request 10-MP2-007 (dated June 22, 2010) to Chapter 9 of the Millstone Unit 2 UFSAR and to the TS Bases will be replaced by the prior content of those documents. DNC will take all actions necessary to conform Millstone Unit 2 to the requirements of the revised TS and UFSAR.*

Summary of Actions Taken:

The LAR submitted to the NRC under Commitment 5 above (Reference 1.3) was approved by the NRC on November 29, 2016 as LA 330 (Reference 1.4). Therefore, no additional action was necessary to meet this commitment.

Commitment

8. *By no later than June 30, 2016, DNC will complete a self-assessment of its 10 CFR 50.59 program and procedures (including applicability, screening and evaluations) including a review of procedures, implementation, initial training, continuing training, and safety review committee activities. A majority of the self-assessment team will be comprised of a combination of non-Dominion industry experts and peers. The assessment will also address the Millstone Nuclear Oversight organization's responsibilities and the effectiveness of the execution of those responsibilities regarding the 10 CFR 50.59 program.*
 - a. *DNC shall make available to the NRC, upon request, the results of the assessment and any corrective actions DNC will take to address the results.*
 - b. *DNC will complete corrective actions resulting from findings of the assessment consistent with the requirements of the Millstone Corrective Action Program.*

Summary of Actions Taken:

A formal self-assessment of the 10 CFR 50.59 process was completed prior to June 30, 2016. The eight member self-assessment team included three Dominion employees, four industry peers and one industry expert. The team performed an assessment of the 10 CFR 50.59 program and procedures (including Applicability, Screening and Evaluations) including a review of procedures, implementation, initial training, continuing training, Facility Safety Review Committee (FSRC) activities and Millstone Nuclear Oversight's responsibilities and the effectiveness of the execution of those responsibilities.

The self-assessment also included an evaluation of personnel performance to identify any gaps between the current and desired levels of personnel performance regarding compliance with the 10 CFR 50.59 program and procedure requirements.

The corrective action program procedure provides guidance for entering conditions adverse to quality into the corrective action program (CAP). Additional guidance related to addressing self-assessment findings is provided in the self-assessment program procedure. Per the self-assessment program procedure, an area for improvement (AFI)

would require a condition report, a performance deficiency (PD) would require a non-CAP performance improvement assignment (PA), and a learning opportunity (LO) may be addressed via a PA or other department tracking methods.

The team did not identify any AFIs during the self-assessment. Therefore, no condition reports were required to be generated to address the self-assessment results. However, the team identified three PDs and eight LOs which were assigned as non-CAP PAs. The assignments have been completed.

Additionally, three individual conditions adverse to quality, unrelated to the final results, were identified during the self-assessment and entered into the CAP as condition reports (CRs).

A copy of the completed self-assessment and actions were made available to the NRC.

Commitment

9. *DNC has conducted two apparent cause evaluations to address the issues included in this Confirmatory Order.*
 - a. *The results of these evaluations will be made available to the NRC for review.*

Summary of Actions Taken:

An Apparent Cause Evaluation (ACE) was performed to address changes made to Section 14.6.1 of the MPS2 FSAR to remove credit for charging pumps. The ACE was approved by the corrective action review board on July 7, 2015.

An ACE was performed to address the FSAR change related to SFP decay heat. The ACE was approved by the corrective action review board on June 12, 2015.

The results of both ACEs were made available to the NRC for review.

Commitment

10. *By no later than March 1, 2016, DNC will complete a common cause evaluation of 10 CFR 50.59 issues that have been identified after July 1, 2012, with emphasis on any underlying culture-related issues that specifically may exist in the Millstone Power Station Engineering and Licensing groups and the Facility Safety Review Committee. The team will include a member trained in cultural issues. Interviews of a sample of the staff members from the above groups will be included in the evaluation. In regard to this evaluation, DNC shall:*
 - a. *Make the results of the evaluation available to the NRC.*

- b. Communicate to Millstone Power Station employees the results of the evaluation within three (3) months of receiving the evaluation results.*
- c. Review the results of the common cause evaluation and initiate corrective actions as appropriate within 30 days of receiving evaluation results.*

Summary of Actions Taken:

A common cause evaluation of 10 CFR 50.59 issues from the period of July 1, 2012 to December 11, 2015, with emphasis on underlying culture-related issues that specifically may exist in the Millstone Power Station Engineering and Licensing groups, and the Facility Safety Review Committee, was performed and approved on February 26, 2016. Interviews of a sample of the staff members from the above groups were included in the evaluation. The common cause evaluation team was composed of fleet and Millstone personnel, and one external peer. The team included a member trained on cultural issues.

- a. The common cause evaluation results were made available to the NRC.*
- b. On March 30, 2016, a communication was approved by the Millstone Director Nuclear Station Safety and Licensing and was disseminated to employees at Millstone to convey the results of the common cause evaluation.*
- c. The corrective actions from the common cause evaluation were entered into the CAP within 30 days after the common cause evaluation was complete and the evaluation results formally reviewed and approved by the corrective action review board.*

Commitment

11. By no later than June 30, 2016, DNC will complete a formal sampling program, using MIL Standard 105 or similar, of products (applicability determinations, screenings, and evaluations) completed using the DNC 10 CFR 50.59 programs and procedures.

- a. The reviewers conducting the sampling program will be third party independent reviewers.*
- b. Applicability determinations, screenings, and evaluations will be sampled as separate populations.*
- c. For each population, the sampling time period will begin in 2002 and end as of the date of this Confirmatory Order.*
- d. DNC will enter any identified deficiencies into DNC's corrective action program.*

- e. Pursuant to Section 3.3 of the NRC Enforcement Policy, the NRC will consider exercising enforcement discretion to refrain from issuing a Notice of Violation or civil penalty for any non-willful Severity Level II, III, or IV violation identified as part of the sampling program described above, if the violation meets all of the following criteria:
- (1) the violation has the same or similar cause as the apparent violations of 10 CFR 50.59 that are the subject of this Confirmatory Order;
 - (2) the violation is a newly-found violation that occurred prior to issuance of this Confirmatory Order;
 - (3) the violation does not substantially change the safety significance or the character of the regulatory concerns arising out of the apparent violations that underlie this Confirmatory Order; and
 - (4) the violation is corrected, by both immediate corrective action(s) and long-term comprehensive corrective action(s), within a reasonable time following identification.
- f. The NRC will also consider discretion for any DNC-identified performance deficiencies that meet the criteria listed in paragraph 11.e and are categorized as a Green or White finding under the NRC's Reactor Oversight Program.

Summary of Actions Taken:

A third party independent formal sampling of 10 CFR 50.59 Evaluations, Screens, and Applicability Reviews (ARs) was completed prior to June 30, 2016. The formal sampling population included Millstone Power Station documents completed between January 1, 2002 and the date of issuance of Confirmatory Order EA-13-188 (August 26, 2015). ARs were not performed at Millstone prior to February 3, 2011. Therefore, the sampling time period for Applicability Reviews was February 3, 2011, through August 26, 2015. The sampling time period for the Screens was January 1, 2002, through August 26, 2015. The sampling time period for the Evaluations was January 1, 2002, through August 26, 2015.

Sampling was completed using the sampling guidance provided in MIL Standard 105E (MIL-STD-105E), "Sampling Procedures and Tables for Inspection by Attribute". MIL-STD-105E is the latest available revision of MIL Standard 105, and was effective on May 10, 1989. The sampling criteria were based on a single sampling plan with an Inspection Level II (normal inspection). Using the random sampling selection process per MIL-STD-105E, 17 Evaluations, 203 Screens, and 320 ARs were selected for third party independent review. These sample numbers included a few additional documents

to ensure the minimum sample size required by MIL-STD-105E was achieved. The sample sizes of Evaluations, Screens and ARs were selected independently of each other to ensure each document type was sampled as a separate population.

The documents sampled were reviewed against the procedures in effect at the time the document was developed.

Identified deficiencies were entered into the DNC corrective action program.

Commitment

12. By no later than thirty (30) calendar days after the issuance of this Confirmatory Order, DNC's Chief Nuclear Officer will issue a fleet-wide communication (written or recorded) to reinforce the importance of providing complete and accurate information to the NRC, including requirements for updating out-of-date information, and the potential consequences of a failure to comply with these requirements. The communication, whether written or recorded, and any associated materials or references, will be made available to the NRC.

Summary of Actions Taken:

A fleet-wide memorandum was developed by the Chief Nuclear Officer (CNO) to reinforce the importance of providing complete and accurate information to the NRC, including requirements for updating out-of-date information, and the potential consequences of a failure to comply with these requirements. The fleet-wide memorandum was signed by the CNO on September 14, 2015, and disseminated to Corporate Nuclear, Kewaunee, Millstone, North Anna, and Surry personnel on September 21, 2015. This memorandum was made available to the NRC.

Commitment

13. By no later than December 31, 2016, DNC will provide a presentation at an industry forum to discuss the events that led to this Confirmatory Order, the lessons learned, and actions taken. The presentation and any associated material will be made available to the NRC.

Summary of Actions Taken:

On October 12, 2016, the Vice President of Nuclear Engineering and Fleet Support provided a presentation at the Institute of Nuclear Power Operations Engineering Vice Presidents Meeting in Atlanta, Georgia. The presentation discussed the events that led to Confirmatory Order EA-13-188, the lessons learned, and the actions taken as a result of Confirmatory Order EA-13-188. A copy of the presentation was made available to the NRC.

Commitment

14. DNC will review its plant access training and revise it as necessary to ensure that it includes training on compliance with NRC requirements, including, but not limited to, 10 CFR 50.5 and 50.9. Any revisions will be made available to the NRC.

Summary of Actions Taken:

Plant access training was reviewed and deemed sufficient regarding training on compliance with 10 CFR 50.5 and 50.9. In December 2016, the system used to distribute plant access training was changed from the Learning Management System (LMS) to an industry common NANTEL system. Plant access training in the NANTEL system has been reviewed and deemed to continue to be sufficient regarding training on compliance with 10 CFR 50.5 and 50.9. The applicable training material was made available to the NRC.

Commitment

15. *Notwithstanding that NRC and DNC disagree about whether a willful violation occurred, DNC will develop and provide focused training to Dominion corporate Engineering and Licensing personnel who perform work for Millstone and to DNC Engineering and Licensing personnel, to ensure awareness of the importance of complying with regulatory requirements, and the potential consequences of a failure to comply, including what constitutes a willful violation of NRC requirements. DNC will provide this training by April 1, 2016, and will repeat it 12 months after the initial training session. The training and any associated training materials will be made available to the NRC.*

Summary of Actions Taken:

Dominion corporate Engineering and Licensing who perform work for Millstone and DNC Engineering and Licensing personnel completed Regulatory Sensitivity Training to ensure awareness of the importance of complying with regulatory requirements, and the potential consequences of a failure to comply, including what constitutes a willful violation of NRC requirements. The training consisted of a video with embedded presentation slides assigned through the LMS. The training was documented as complete on March 13, 2016. The training video and presentation slides for the initial Regulatory Sensitivity Training were made available to the NRC.

Twelve months after the initial training session, a follow-up Regulatory Sensitivity training session was provided to Dominion corporate Engineering and Licensing personnel who perform work for Millstone and DNC Engineering and Licensing personnel. The training was delivered via video through LMS assignments at Millstone, and either classroom training or video at the corporate offices. The training video and presentation slides for the follow-up Regulatory Sensitivity Training were made available to the NRC.

Commitment

16. *DNC will develop and provide focused training to Dominion corporate Engineering and Licensing personnel performing work for Millstone and to DNC Engineering and Licensing personnel, covering the requirements of 10 CFR 50.9, emphasizing the importance of providing complete and accurate information to the NRC and of informing the NRC promptly upon discovery of inaccurate information or omissions associated with pending NRC licensing actions or other information submitted to the NRC. DNC will provide this training by April 1, 2016. The training and any associated training materials will be made available to the NRC.*

Summary of Actions Taken:

Dominion corporate Engineering and Licensing personnel performing work for Millstone and DNC Engineering and Licensing personnel completed Regulatory Sensitivity Training covering the requirements of 10 CFR 50.9, emphasizing the importance of providing complete and accurate information to the NRC and of informing the NRC promptly upon discovery of inaccurate information or omissions associated with pending NRC licensing actions or other information submitted to the NRC. The training consisted of a video with embedded presentation slides assigned through LMS. The training was documented as complete on March 13, 2016. The training video and presentation slides were made available to the NRC.

References

- 1.1 Letter from M. D. Sartain (Dominion) to NRC, "Dominion Nuclear Connecticut, Inc. Millstone Power Station Unit 2 License Amendment Request to Revise ECCS TS 3/4.5.2 and FSAR Chapter 14 to Remove Charging," dated January 25, 2016.
- 1.2 Letter from Richard V. Guzman (NRC) to David A. Heacock (Dominion), "Millstone Power Station, Unit No. 2 - Issuance of Amendment Re: Revision to Emergency Core Cooling System Technical Specifications and Final Safety Analysis Report Chapter 14 to Remove Charging Pump Flow (CAC No. MF7297)," dated December 22, 2016.
- 1.3 Letter from Mark D. Sartain (Dominion) to NRC, "Dominion Nuclear Connecticut, Inc. Millstone Power Station Unit 2 License Amendment Request Spent Fuel Pool Heat Load Analysis," dated January 26, 2016.
- 1.4 Letter from Richard V. Guzman (NRC) to David A. Heacock (Dominion), "Millstone Power Station, Unit No. 2 - Issuance of Amendment Regarding the Revision of Spent Fuel Pool Decay Heat Analysis Description (CAC No. MF7333)," dated November 29, 2016.
- 1.5 Letter from Richard V. Guzman (NRC) to Daniel G. Stoddard (Dominion), "Millstone Power Station Unit No. 2 - Correction to Safety Evaluation for License Amendment No. 331 Re: Revision to Emergency Core Cooling System Technical Specifications and Final Safety Analysis Report, Chapter 14, to Remove Charging Pump Flow (CAC No. MF7297)," dated February 3, 2017.