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Dominion®

September 19, 2013

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

Serial No. 13-474
NSSL/MLC R0
Docket No. 50-423
License No. NPF-49

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 3
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION REGARDING LICENSE AMENDMENT REQUEST TO REVISE TECHNICAL SPECIFICATION 6.8.4.F FOR PEAK CALCULATED CONTAINMENT INTERNAL PRESSURE

By letter dated April 25, 2013, Dominion Nuclear Connecticut, Inc. (DNC) submitted a license amendment request (LAR) for Millstone Power Station Unit 3 (MPS3). The proposed amendment would revise the peak calculated containment internal pressure for the design basis loss of coolant accident described in Technical Specification (TS) 6.8.4.f, "Containment Leakage Rate Testing Program." The peak calculated containment internal pressure, P_a, would increase from 41.4 psig to 41.9 psig. In a letter dated August 8, 2013, the Nuclear Regulatory Commission (NRC) transmitted a request for additional information (RAI) to DNC related to the LAR. DNC agreed to respond to the RAI by September 23, 2013.

The attachment to this letter provides DNC's response to the NRC's RAI.

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

Sincerely,

Dan Stoddard

Daniel G. Stoddard
Senior Vice President – Nuclear Operations

COMMONWEALTH OF VIRGINIA)
)
COUNTY OF HENRICO)

The foregoing document was acknowledged before me, in and for the County and Commonwealth aforesaid, today by Daniel G. Stoddard, 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 19th day of September, 2013.

My Commission Expires: 12/31/16.

Craig D Sly
Notary Public

CRAIG D SLY
Notary Public
Commonwealth of Virginia
Reg. # 7518653
My Commission Expires December 31, 2016

A017
NRR

Commitments made in this letter: None

Attachment:

Response to Request for Additional Information Regarding License Amendment Request to Revise Technical Specification 6.8.4.f for Peak Calculated Containment Internal Pressure

cc: U.S. Nuclear Regulatory Commission
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ATTACHMENT

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION REGARDING LICENSE AMENDMENT REQUEST TO REVISE TECHNICAL SPECIFICATION 6.8.4.F FOR PEAK CALCULATED CONTAINMENT INTERNAL PRESSURE

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 3

By letter dated April 25, 2013, Dominion Nuclear Connecticut, Inc. (DNC) submitted a license amendment request (LAR) for Millstone Power Station Unit 3 (MPS3). The proposed amendment would revise the peak calculated containment internal pressure for the design basis loss of coolant accident (LOCA) described in Technical Specification (TS) 6.8.4.f, "Containment Leakage Rate Testing Program." The peak calculated containment internal pressure, P_a, would increase from 41.4 psig to 41.9 psig. In a letter dated August 8, 2013, the Nuclear Regulatory Commission (NRC) transmitted a request for additional information (RAI) to DNC related to the LAR. This attachment provides DNC's response to the NRC's RAI.

Question 1

Please verify that no change is needed in Technical Specification 3.6.1.4, "Containment Pressure," in order to maintain the calculated peak containment internal pressure (P_a) below the design limit. Please indicate the containment operating pressure used as the initial condition for the Design-Basis Accident Loss-of-Coolant Accident analysis performed.

DNC Response

When Dominion first applied the approved DOM-NAF-3-0.0-P-A GOTHIC containment analysis methodology to MPS3, parametric studies were performed spanning the steady state containment pressure requirements of TS 3.6.1.4 (10.6 psia to 14.0 psia). The most adverse initial pressure for the peak containment pressure cases was an analytical value of 14.2 psia.

The value of 14.2 psia was used as the initial condition in the reanalysis of the peak containment pressure for the design basis LOCA with the corrected Westinghouse mass and energy (M&E) data. No change was needed for TS 3.6.1.4 in order to maintain P_a below the design limit.

Question 2

Please verify that this issue is not related to the recent EPITOME computer modeling errors discovered by Westinghouse.

DNC Response

MPS3 calculates containment response using Dominion's NRC-approved DOM-NAF-3-0.0-P-A GOTHIC methodology. As part of that methodology, the vendor (Westinghouse) provides M&E inputs for the blowdown, refill and reflood phases of the LOCA transient. For the post-reflood phase, the Dominion GOTHIC model contains an

internal reactor coolant system (RCS) model that is used to calculate the M&E releases to the GOTHIC containment model.

Westinghouse Nuclear Safety Advisory Letter (NSAL)-11-5 identified six issues that could potentially impact the MPS3 large break LOCA M&E calculations. The six issues, which include generic errors, are as follows:

1. The reactor vessel modeling did not include all the appropriate vessel metal mass available from the component drawings.

2. The reactor vessel modeling did not include all the appropriate vessel metal mass in the reactor vessel barrel/baffle region.

3. The reactor coolant pump (RCP) homologous curve input incorrectly included an absolute zero point coordinate.

4. The RCP homologous curve input incorrectly contained a sign error in a coordinate value.

5. The LOCA M&E release analysis initializes at a non-conservative (low) steam generator (SG) secondary pressure condition.

6. An error was found in the EPITOME computer code that is used to determine the M&E release rate during the long-term (i.e., post-reflood) SG depressurization phase of the LOCA transient.

Of these six identified issues, three were determined by Westinghouse in Table 1 of NSAL-11-5 to affect the MPS3 large break LOCA containment M&E release analysis, specifically, Issues 1, 2 and 5 (above) regarding the reactor vessel metal mass error, vessel barrel/baffle metal mass modeling, and the SG secondary pressure. Issues 1, 2, and 5 were addressed in revised M&E inputs that were used in the GOTHIC-based containment reanalysis for MPS3 that generated the requested change in P_a.

The EPITOME error listed as Issue 6 in NSAL-11-5 impacts the post-reflood M&E releases calculated by Westinghouse. MPS3 does not use Westinghouse M&E data during the post-reflood phase, relying instead on the RCS model embedded in the DOM-NAF-3-0.0-P-A GOTHIC model. Therefore, MPS3 was not affected by the EPITOME computer code error.

Question 3

Please state if the Appendix J Type B and C test procedures do not require revision upon approval of this proposed LAR. The American National Standards Institute (ANSI) 56.8-1994, Section 3.3.2 requires that Type B and C testing be performed at a pressure not less than P_a (except for airlock door seals, which may have a lower pressure

specified) and not more than 1.1 times P_a when a higher differential pressure results in increased sealing. Please discuss the site procedures for Type B and C testing, and provide a discussion on the requirement that the testing be performed within a range of pressures that, with the revised P_a, will continue to be within the range of pressures required by ANSI 56.8-1994.

DNC Response

The MPS3 Appendix J test procedures for Type B penetrations and Type C penetrations will require changes to identify the higher P_a value consistent with the proposed change to TS 6.8.4.f, "Containment Leakage Rate Testing Program."

The American National Standards Institute (ANSI) 56.8-1994, Section 3.3.2, requires that Type B and Type C testing be performed at a pressure not less than P_a and not more than 1.1 times P_a when a higher differential pressure results in increased sealing. At MPS3, leakage rate testing is conducted using the "makeup flowrate" method as described in Section 6.4.2 of ANSI 56.8-1994 which states: "the test volume shall be pressurized and maintained to at least P_a, using a pressure regulator to maintain pressure". The makeup flowrate method is used to detect and measure local leakage across pressure containing boundaries based on a constant pressure process, while measuring discharge flow. In the makeup flow rate mode, the flow rate of the leak (discharge flow) can be read directly from the Volumetric Leak Rate Monitors (VLRM) digital flow rate readout. Both procedures for Type B and Type C local leakage rate testing identify the test pressure, P_a, as specified in TS 6.8.4.f and a maximum "not to exceed" design pressure, P_d (45 psig). Both specified pressures bound the range of pressures required by ANSI 56.8-1994.

Question 4

Please describe the steps that will be taken following approval of this amendment with regard to Appendix J Type A testing procedures.

DNC Response

The Type A integrated leakage rate test procedure used during the most recent Type A testing at MPS3 is a vendor-controlled document that was approved by the Millstone technical subject matter experts and the facility safety review committee. This procedure is identified as a Category 1 (could affect containment isolation), infrequently conducted or complex evolution. As required by the procedure, the technical content will be validated prior to each use. The Type A test pressure is identified in the "Definitions" Section 2.2.9 of the vendor procedure and, as required, will be validated for accuracy prior to the next scheduled test, currently planned for 2025. The value of P_a identified in the Type A test procedure is consistent with the P_a value identified in TS 6.8.4.f.