Dominion Nuclear Connecticut, Inc.
5000 Dominion Boulevard, Glen Allen, VA 23060
Web Address: www.dom.com

April 23, 2014

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

Serial No.	14-172
NSSL/MLC	R0
Docket No.	50-423
License No.	NPF-49

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 3
SUPPLEMENT TO LICENSE AMENDMENT REQUEST FOR CHANGES TO TECHNICAL SPECIFICATION 3/4.7.5, "ULTIMATE HEAT SINK"

By letter dated May 3, 2013, Dominion Nuclear Connecticut, Inc. (DNC) submitted a license amendment request (LAR) for Millstone Power Station Unit 3 (MPS3). The proposed amendment would modify Technical Specification (TS) 3/4.7.5, "Ultimate Heat Sink," to increase the current ultimate heat sink (UHS) water temperature limit from 75°F to 80°F and change the TS Action to state, "With the ultimate heat sink water temperature greater than 80°F, be in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours." DNC requested approval of the LAR by May 5, 2014 with implementation within 60 days of issuance. A supplement to the LAR was provided to the NRC in a letter dated July 2, 2013. Additionally, DNC responded to two requests for additional information in letters dated October 2, 2013 and January 15, 2014.

Recent DNC review of a vendors' calculation which was done in support of the UHS LAR identified a non-conservative error in the calculation involving the service water to control building chilled water cross tie. This error specifically impacts the discussion provided in Attachment 1, Section 5.3.2.3, "Building Air Conditioning Water Chillers (3HVK*CHL 1 A/B)," of the LAR submittal dated May 3, 2013.

The attachment to this letter provides an updated discussion of this section with the additional information highlighted in bold font style. The updated discussion continues to support the LAR submittal for the 80°F ultimate heat sink temperature.

If you have any questions or require additional information, please contact Wanda Craft at (804) 273-4687.

Sincerely,

Mark D. Sartain
Vice President – Nuclear Engineering

VICKI L. HULL
Notary Public
Commonwealth of Virginia
140542
My Commission Expires May 31, 2014

COMMONWEALTH OF VIRGINIA)
)
COUNTY OF HENRICO)

The foregoing document was acknowledged before me, in and for the County and Commonwealth aforesaid, today by Mark D. Sartain, who is Vice President – Nuclear Engineering 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 23rd day of April, 2014.

My Commission Expires: 5-31-14.

Vicki L. Hull
Notary Public

A001
NRR

Commitments made in this letter: None

Attachment:

1. Supplement to License Amendment Request for Changes to Technical Specification 3/4.7.5, "Ultimate Heat Sink."

cc: U.S. Nuclear Regulatory Commission
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Attachment

Supplement to License Amendment Request for Changes to Technical Specification 3/4.7.5, "Ultimate Heat Sink"

Dominion Nuclear Connecticut, Inc.
Millstone Power Station Unit 3

Supplement to
License Amendment Request for Changes to Technical Specifications 3/4.7.5,
"Ultimate Heat Sink"

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Recent DNC review of a vendors' calculation which was done in support of the UHS LAR identified a non-conservative error in the calculation involving the service water to control building chilled water cross tie. This error specifically impacts the discussion provided in Attachment 1, Section 5.3.2.3, "Building Air Conditioning Water Chillers (3HVK*CHL 1 A/B)," of the LAR submittal dated May 3, 2013.

The following is an updated discussion of this section with the additional information highlighted in bold font style:

5.3.2.3 Control Building Air Conditioning Water Chillers (3HVK*CHL 1 A/B)

FSAR Sections 9.2.1.2 and 9.4.1 describe the Control Building A/C (HVK) water chillers. The SW System provides cooling water to the Control Building chillers and can also be supplied directly as a backup to the Control Building chilled water system.

Calculations were performed to determine the minimum SW flow rate required to remove maximum calculated heat loadings for established design conditions and associated heat loads using SW inlet temperatures up to and including 80°F.

Revisions to the required flow analyses for the HVK chillers have credited availability of the HVK booster pumps for some fire scenarios. The HVK booster pumps will be added to the list of equipment credited for Fire Protection / Branch Technical (BTP) 9.5-1 Compliance Report and the program will be revised accordingly.

Analyses have also been performed to demonstrate that the available SW flow will maintain the following acceptable temperatures in the cooled rooms of the Control Building when SW is supplying cooling to the HVK chillers:

- Control Room temperature is maintained at a maximum temperature of 95°F
- Computer Room, Instrument Rack Rooms, and Switchgear Rooms are maintained at a maximum temperature of 104°F

SW system minimum available flow analyses described in section 5.2 above have demonstrated delivered flow to the HVK chillers in excess of the minimum required flow at UHS temperatures up to 80°F; therefore, the HVK chillers have acceptable performance considering an increase in UHS temperature from 75°F to 80°F.

As stated above, the service water system can directly supply the Control Building chill water system. When SW is used to directly supply the Control Building chill water system, calculations demonstrate that the room temperature limits (described above) will be met with the exception of the Control Room under a certain set of circumstances. Specifically, the Control Room equilibrium room temperature can reach 96°F in the following scenario:

1. **Both trains of safety related Control Building Air Conditioning Water Chillers (3HVK*CHL 1 A/B) are nonfunctional (note that if a chiller is nonfunctional, but the crosstie is functional, this configuration is controlled by Technical Requirement 3.7.7.1 of the MPS3 technical requirements manual and is permitted only for a maximum of 30 days), and**

2. **The UHS SW temperature reaches a constant 80°F, and**

3. **A Loss of Coolant Accident (LOCA) occurs.**

This scenario will not occur if either train of Control Building Air Conditioning Water Chillers (3HVK*CHL 1 A/B) is in operation since one train alone is capable of fulfilling the cooling function. Also, given the tidal nature of the Long Island Sound, the UHS temperature will exceed the allowed peak value of 80°F proposed in the LAR well before an average temperature of 80°F (i.e., a constant 80°F) is reached as assumed in the calculation. Additionally, in scenarios other than a LOCA, Control Room Temperature can be controlled by opening doors to help cool the Control Room. Hence this scenario, although not explicitly modeled, is not realistically expected to occur. Note also that the 95°F limit is for personnel habitability, not equipment operability. NUMARC 87-00, which addresses station blackout, documents the acceptability of temperatures as high as 110°F for personnel habitability for off normal events. As with the other rooms in the Control Building, the equipment operability limit is 104°F.

The maximum SW outlet temperature for limiting conditions **(i.e., with the HVK chiller in operation)** was also determined using maximum heat loads and minimum SW flow rates. The maximum calculated outlet temperature was evaluated for the impacts on pipe stress and pipe support qualification calculations for the SW piping downstream of the HVK chiller condensers. The evaluation demonstrated that the piping and supports will continue to comply with governing design and code requirements as described in Section 5.4.