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

Dominion®

July 17, 2012

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

Serial No. 12-474
NSSL/MAE R0
Docket No. 50-336
License No. DPR-65

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 2
LICENSE AMENDMENT REQUEST REGARDING REMOVAL OF A LICENSE CONDITION, PROPOSED TECHNICAL SPECIFICATIONS BASES CHANGE AND FSAR CHANGE FOR ULTIMATE HEAT SINK TEMPERATURE MEASUREMENT

Pursuant to 10 CFR 50.90, Dominion Nuclear Connecticut, Inc. (DNC) requests amendment to Operating License DPR-65 for Millstone Power Station Unit 2 (MPS2). The proposed changes will revise Technical Specification Bases (TSB) 3/4.7.11, "Ultimate Heat Sink," Final Safety Analysis Report (FSAR) Section 9.7.2.1.2 "Design Criteria, Service Water System," and Appendix B, "Additional Conditions, Facility Operating License No. DPR-65." The proposed TSB and FSAR changes would provide additional operational margin for measurement of the Ultimate Heat Sink (UHS) temperature. The proposed change to Appendix B is to remove a license condition that is no longer needed.

The proposed changes have been reviewed and approved by the Facility Safety Review Committee.

Information provided in the attachments to this letter is summarized below:

- Attachment 1 provides Description, Technical Analysis, Regulatory Analysis and Environmental Analysis for the proposed TSB, FSAR changes, and removal of the license condition. As discussed in this attachment, the proposed amendment does not involve a significant hazards consideration pursuant to the provisions of 10 CFR 50.92.

- Attachment 2 contains marked-up pages to reflect the proposed changes to the TSB.

- Attachment 3 contains marked-up pages to reflect the proposed changes to the FSAR.

- Attachment 4 contains marked-up pages to reflect the proposed changes to Appendix B of the operating license.

DNC requests approval of the proposed amendment by July 31, 2013. Once approved, the amendment will be implemented within 120 days.

A001
NRR

In accordance with 10 CFR 50.91(b), a copy of this license amendment request is being provided to the State of Connecticut.

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

Sincerely,

J. Alan Price
Vice President – Nuclear Engineering

COMMONWEALTH OF VIRGINIA)
)
COUNTY OF HENRICO)

The foregoing document was acknowledged before me, in and for the County and Commonwealth aforesaid, today by J. Alan Price, 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 17th day of July, 2012.

My Commission Expires: August 31, 2012

Notary Public

WANDA K. MARSHALL
Notary Public
Commonwealth of Virginia
7173057
My Commission Expires Aug 31, 2012

Commitments made in this letter: None

Attachments:

1. Evaluation of the Proposed Changes
2. Marked-up pages of the proposed changes to the technical specifications bases
3. Marked-up pages of the proposed changes to final safety analysis report
4. Marked-up pages of the proposed changes to Appendix B of the operating license

cc: U.S. Nuclear Regulatory Commission
Region I
2100 Renaissance Blvd, Suite 100
King of Prussia, PA 19406-2713

J. S. Kim
Project Manager,
Mail Stop 08 C2A
U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2738

NRC Senior Resident Inspector
Millstone Power Station

Director
Bureau of Air Management
Monitoring and Radiation Division
Department of Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

Attachment 1

Evaluation of the Proposed Changes

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 2

1.0 SUMMARY DESCRIPTION

Pursuant to 10 CFR 50.90, Dominion Nuclear Connecticut, Inc. (DNC) requests amendment to Operating License DPR-65 for Millstone Power Station Unit 2 (MPS2). The proposed changes will revise Technical Specification Bases (TSB) 3/4.7.11, "Ultimate Heat Sink," Final Safety Analysis Report (FSAR) Section 9.7.2.1.2 "Design Criteria, Service Water System," and Appendix B, "Additional Conditions, Facility Operating License No. DPR-65." The proposed TSB and FSAR changes would provide additional operational margin for measurement of the Ultimate Heat Sink (UHS) temperature. The proposed change to Appendix B is to remove a license condition that is no longer needed.

2.0 DETAILED DESCRIPTION

A. DETAILED DESCRIPTION OF THE PROPOSED CHANGES

TSB 3/4.7.11, "Ultimate Heat Sink"

Replace the following paragraph on page B 3/4 7-7:

"When the highest reading valid control room indication indicates the temperature of the UHS is > 70°F, local SWS header indications must be used. The highest reading valid local SWS header temperature shall be used to verify the UHS temperature limit of 75°F is not exceeded. Normally, local SWS header temperature will be taken at the inlet to the vital AC switchgear room cooling coils. If the local SWS header temperature cannot be taken at the inlet to the vital AC switchgear room cooling coils, the inlet to the Reactor Building Closed Cooling Water heater exchangers, or other acceptable instrumentation should be used to determine SWS header temperature."

with:

"When the highest nominal valid control room indication indicates that the UHS temperature is > 70°F, the UHS temperature determination method shall use local SWS header/branch temperature measurements. When homogeneous intake structure operating temperatures are assessed to exist (e.g., no condenser backwash evolutions), the UHS temperature shall be determined by computing the average of multiple SWS inlet header/branch temperature measurements. Normally, three vital switchgear room cooler SW inlet line local digital temperature measurements are available and these three instruments are averaged to determine the UHS temperature. Alternatively, the Reactor Building Closed Cooling Water heat exchanger SW inlet or other acceptable instrument/location can be employed to obtain other measurements, if the normal vital switchgear room cooler SW inlet instruments are unavailable. When the Intake Structure bay operating temperatures are assessed to be potentially non-homogeneous (such as would be expected

during condenser backwash evolutions), SWS supply temperature measurements shall be obtained for each operable SWS loop and the highest valid SWS supply loop temperature shall be used to determine the UHS temperature. In the implementing surveillance procedure, the ≤ 75°F limiting condition of operation and the 77°F maximum allowable operating temperature criterion defined in TS 3/4.7.11 Action Statements a. and b. shall be reduced by an applicable UHS temperature measurement uncertainty allowance."

Final Safety Analysis Report (FSAR) Section 9.7.2.1.2 "Design Criteria, Service Water System."

Replace the following paragraph on pages 9.7-5 and 9.7-6:

"When the highest reading valid control room indication indicates the temperature of the ultimate heat sink is > 70°F, local service water system header indication must be used. The highest reading valid local service water system header temperature shall be used to verify the ultimate heat sink temperature limit of 75°F is not exceeded. Normally, local service water system header temperature will be taken at the inlet to the vital AC switchgear room cooling coils. If the local service water system header temperature cannot be taken at the inlet to the vital AC switchgear room cooling coils, the inlet to the reactor building closed cooling water heat exchangers, or other acceptable instrumentation, should be used to determine service water system header temperature, instrument uncertainty is incorporated in the associated surveillance procedure. The maximum allowable ultimate heat sink temperature will be reduced from 75°F by the value of the associated instrument uncertainty."

with:

"When the highest nominal valid control room indication indicates that the UHS temperature is > 70°F, the UHS temperature determination method shall use local SWS header/branch temperature measurements. When homogeneous intake structure operating temperatures are assessed to exist (e.g., no condenser backwash evolutions), the UHS temperature shall be determined by computing the average of multiple SWS inlet header/branch temperature measurements. Normally, three vital switchgear room cooler SW inlet line local digital temperature measurements are available and these three instruments are averaged to determine the UHS temperature. Alternatively, the Reactor Building Closed Cooling Water heat exchanger SW inlet or other acceptable instrument/location can be employed to obtain other measurements, if the normal vital switchgear room cooler SW inlet instruments are unavailable. When the Intake Structure bay operating temperatures are assessed to be potentially non-homogeneous (such as would be expected during condenser backwash evolutions), SWS supply temperature measurements shall be obtained for each operable SWS loop and the highest valid SWS supply loop temperature shall be used to determine the UHS temperature. In the

implementing surveillance procedure, the ≤ 75°F limiting condition of operation and the 77°F maximum allowable operating temperature criterion defined in TS 3/4.7.11 Action Statements a. and b. shall be reduced by an applicable UHS temperature measurement uncertainty allowance."

Appendix B, Additional Conditions, Facility Operating License No. DPR-65

Delete the licensing condition associated with Amendment No. 213. This condition presently states:

"This amendment requires the licensee to incorporate in the Updated Final Safety Analysis Report (UFSAR) certain changes to the description of the facility.

Implementation of this amendment is the incorporation of the changes described in the licensee's application dated March 27, 1997, supplemented on September 25, 1997, and evaluated in the staff's Safety Evaluation dated February 9, 1998. The description shall include details on selection of instruments and consideration of their accuracies for measuring ultimate heat sink temperatures greater than 70°F."

The implementation date for this condition was "Next update of the UFSAR" and has been completed.

B. A DISCUSSION OF CONDITIONS THAT THE PROPOSED AMENDMENT INTENDS TO RESOLVE

Amendment No. 213 discusses the TS 3/4.7.11 UHS temperature surveillance methodology. Two UHS temperature conditions are discussed (i.e., ≤ 70°F and > 70°F). No changes are proposed for ≤ 70°F UHS temperature condition.

For UHS temperature greater than 70°F, the safety evaluation report (SER) of Amendment No. 213 states in Section 3.0, paragraph 3:

"The licensee indicated that instrument uncertainty will be accounted for in the associated surveillance procedures of the local service water header instrumentation previously discussed. If both preferred local indications are not available, an alternative would be required. Other installed instrumentation in the service water system, located at other locations, or the use of temporary instrumentation would be considered by the licensee under these circumstances. Any alternative considered would take into account instrument inaccuracies by lowering the acceptance criteria to less than the 75°F TS limit. This commitment is included in Appendix B to the license."

Therefore, the surveillance methods shall account for temperature measurement uncertainty. However, SER Section 3.0, paragraph 2 states:

"When the UHS temperature exceeds 70°F, the highest valid local temperature indication of the service water system is used."

For UHS temperature greater than 70°F, DNC is proposing to use the average of multiple, valid local SWS temperature instruments. This method will reduce the temperature measurement uncertainty resulting in recovering uncertainty allowance associated with instrument accuracy. Thus, the UHS temperature measurement uncertainty is addressed in the UHS operating temperature determination method. However, DNC will continue to use the highest valid local temperature indication during condenser backwash evolutions because Intake Structure temperatures may be non-homogeneous.

Since the proposed UHS operating temperature determination method is different than that previously reviewed and approved by Amendment No. 213, DNC is requesting NRC review and approval of the proposed FSAR and TSB changes.

3.0 TECHNICAL EVALUATION

3.1 System Description

FSAR Section 9.7.1 provides the Circulating Water (CW) System description. FSAR Section 9.7.2 provides the Service Water System (SWS) description including the UHS temperature surveillance method description (see Attachment 3).

The SWS consists of two loops that are governed by TS 3/4.7.4.1. The MPS2 UHS is Long Island Sound. The UHS supports heat removal from both safety and non-safety related heat exchangers via the SWS and CW System. FSAR Figure 1.2-17 and FSAR Figure 2.5-23 depict the Intake Structure.

3.2 Current Licensing Bases

Amendment No. 213 forms the current licensing basis with respect to the TS 3/4.7.11 UHS operating temperature determination method. UHS temperature surveillance method detailed in Amendment No. 213 is described in FSAR Section 9.7.2 and the TS 3/4.7.11 bases section. These documents state that for UHS temperature greater than 70°F, the highest valid local SW instrument reading shall be used to determine the UHS temperature and that the methodology shall address temperature measurement uncertainty.

A license condition was also included by Amendment No. 213 in Appendix B of the license, which is a list of additional license conditions. The licensing condition states:

"This amendment requires the licensee to incorporate in the Updated Final Safety Analysis Report (UFSAR) certain changes to the description of the facility.

Implementation of this amendment is the incorporation of the changes described in the licensee's application dated March 27, 1997, supplemented on September 25, 1997, and evaluated in the staff's Safety Evaluation dated February 9, 1998. The description shall include details on selection of instruments and consideration of their accuracies for measuring ultimate heat sink temperatures greater than 70°F."

3.3 Justification of the Change

The proposed change has no impact when UHS temperature is ≤ 70°F.

When the UHS temperature is > 70°F, averaging multiple vital switchgear room cooler SW inlet temperature instrument readings (or equivalent SWS supply header/branch measurements) reduces the required temperature measurement uncertainty allowance. Specifically, the proposed measurement locations provide representative indication of the SWS supply header operating temperature. Therefore, this method provides reasonable assurance that the plant will not be operated outside its design and licensing basis.

Averaging is applied when Intake Structure operating conditions are homogeneous (e.g., no condenser backwash evolutions ongoing). Under potentially non-homogeneous operating conditions, the UHS temperature determination method will continue to use the highest valid measurement, coupled with a temperature measurement uncertainty allowance.

There are typically three vital AC switchgear room cooling coil temperature instruments available (i.e., TI-6928, TI-6929, and TI-6930). The instrument channel indications are digital and located in the Turbine Building. Normally temperature indicators TI-6928 and TI-6929 are associated with SW Header A and TI-6930 with SW Header B. If these normal vital switchgear room cooler SW inlet instruments are unavailable, the Reactor Building Closed Cooling Water heat exchanger SW inlet or other acceptable instrument/location can be employed to obtain other measurements.

In summary, the proposed surveillance method of averaging temperature measurements provides reasonable assurance that the plant will not be operated outside the technical specification limiting condition of operation and it provides increased operating margin.

Additionally, subsequent to issuance of Amendment No. 213, FSAR Section 9.7.2.1.2 "Design Criteria, Service Water System" was updated to incorporate the details on selection of instruments and consideration of their accuracies for measuring ultimate heat sink temperatures greater than 70°F. This proposed change revises the same paragraph in FSAR Section 9.7.2.1.2 that was updated as a result of the license condition from Amendment No. 213. Since this proposed

change revises the information in the FSAR which fulfilled the requirements of the license condition, the licensing condition is no longer needed.

4.0 REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements/Criteria

On February 20, 1971, the Atomic Energy Commission published in the Federal Register the General Design Criteria for Nuclear Power Plants. Prior to this date, proposed General Design Criteria for Nuclear Power Plants as issued on July 11, 1967, in the Federal Register were in effect. Before issuance of the construction permit for Millstone Unit 2, discussions reflecting the design intent in consideration of the 1967 proposed criteria were submitted in the PSAR. Design and construction was thus initiated and was completed based upon the 1967 proposed criteria.

The original issue of the MPS2 TS did not contain a technical specification addressing the Ultimate Heat Sink (UHS). However, Amendment No. 145 was issued on June 12, 1990. The amendment added TS 3/4.7.11, "Ultimate Heat Sink," which required that the UHS operability be determined by measuring the average temperature at the intake structure. TS 3/4.7.11 was subsequently revised by Amendment No. 162 issued on August 26, 1992, Amendment No. 191 issued on November 3, 1995, Amendment No. 213 issued on February 9, 1998, Amendment No. 247 issued on July 10, 2000, and Amendment No. 257 issued on May 31, 2001.

4.2 No Significant Hazards Consideration

Pursuant to 10 CFR 50.90, Dominion Nuclear Connecticut, Inc. (DNC) requests amendment to Operating License DPR-65 for Millstone Power Station Unit 2 (MPS2). The proposed changes will revise Technical Specification Bases (TSB) 3/4.7.11, "Ultimate Heat Sink," Final Safety Analysis Report (FSAR) section 9.7.2.1.2 "Design Criteria, Service Water System," and Appendix B, "Additional Conditions, Facility Operating License No. DPR-65." The proposed TSB and FSAR changes would provide additional operational margin for measurement of the Ultimate Heat Sink (UHS) temperature. The proposed change to Appendix B is to remove a licensing condition that is no longer needed.

According to 10 CFR 50.92(c), a proposed amendment to an operating license involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not:

1. Involve a significant increase in the probability or consequences of an accident previously evaluated; or

2. Create the possibility of a new or different kind of accident from any accident previously evaluated ; or

3. Involve a significant reduction in a margin of safety.

In support of this determination, an evaluation of each of the three criteria set forth in 10 CFR 50.92 is provided below regarding the proposed license amendment.

1. *Do the proposed changes involve a significant increase in the probability or consequences of an accident previously evaluated*?

Response: No

The proposed change continues to reasonably ensure that the plant is operated within its design basis and Technical Specification (TS) 3/4.7.11 UHS temperature ≤ 75°F limiting condition of operation because temperature is determined at representative locations and measurement uncertainty continues to be accommodated within the surveillance process when UHS temperature exceeds 70°F. Thus, the proposed change has no significant impact upon previously evaluated accident probability or accident consequences because the UHS temperature used within various design and safety analyses is not impacted. Structures, system, and components (SSCs) not significantly impacted include the safety-related and non-safety related SWS heat exchangers and the main condensers which are cooled by the Circulating Water (CW) System.

Based on the above, DNC concludes that the proposed change does not involve a significant increase in the probability or consequences of an accident or transient previously evaluated in the safety analysis report.

2. *Do the proposed changes create the possibility for a new or different kind of accident from an accident previously evaluated*?

Response: No

The proposed change continues to reasonably ensure that the plant is operated within its design basis and the TS 3/4.7.11 UHS temperature ≤ 75°F limiting condition of operation because UHS temperature is determined at representative locations and temperature measurement uncertainty continues to be accommodated within the surveillance method when UHS temperature exceeds 70°F. Thus, the proposed change doesn't create the possibility for a new or different kind of accident from accident previously evaluated because design functions and SSCs remain unaffected. The proposed change doesn't create a new failure mode, mechanism, or accident initiators not considered in the design and licensing basis because there is no new reliance upon credited equipment.

Based on the above, DNC concludes that the proposed change does not create the possibility of a new or different kind of accident or transient from any previously evaluated.

3. *Do the proposed changes involve a significant reduction in the margin of safety?*

Response: No

UHS temperature is determined at representative locations and measurement uncertainty continues to be accommodated within the surveillance method when UHS temperature exceeds 70°F. This change involves recovering uncertainty allowance associated with instrument accuracy. Thus, the proposed change continues to reasonably ensure that the plant is operated within the TS 3/4.7.11 UHS temperature ≤ 75°F limiting condition of operation. This change has no impact upon a design limit, safety limit, or safety margin. Safety margin is maintained by assurance that the UHS temperature remains ≤ 75°F limiting condition of operation.

If the TS 3/4.7.11 UHS temperature ≤ 75°F limiting condition of operation is exceeded, UHS temperature measurement uncertainty is addressed in the proposed method relative to the Action Statements a. and b. regarding the 77°F maximum operating UHS temperature criterion. Thus, there is no significant impact upon engineering analyses that support Action Statements a. and b. technical bases because reasonable assurance is provided that Action Statement b. will be entered prior to a maximum 77°F UHS temperature being exceeded.

Based on the above, DNC concludes that the proposed changes do not involve a significant reduction in the margin of safety.

Conclusion

From the above discussions, DNC has concluded that the proposed amendment presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

5.0 ENVIRONMENTAL CONSIDERATION

DNC has evaluated this proposed license amendment consistent with the criteria for identification of licensing and regulatory actions requiring environmental assessment in accordance with 10 CFR 51.21, "Criteria for and identification of licensing and regulatory actions requiring environmental assessments." DNC has determined that this proposed change meets the criteria for categorical exclusion set forth in paragraph (c)(9) of 10 CFR 51.22, "Criterion for categorical exclusion; identification of licensing and regulatory actions eligible for categorical exclusion or otherwise not requiring environmental review," and has determined that no irreversible consequences exist in

accordance with paragraph (b) of 10 CFR 50.92, "Issuance of amendment." This determination is based on the fact that this change is being processed as an amendment to the license issued pursuant to 10 CFR 50, "Domestic Licensing of Production and Utilization Facilities," which changes a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, "Standards for Protection Against Radiation," or which changes an inspection or surveillance requirement and the amendment meets the following specific criteria:

1. The amendment involves no significant hazards consideration.

   As demonstrated in Section 4.2 above, "No Significant Hazards Consideration," the proposed change does not involve any significant hazards consideration.

2. There is no significant change in the types or significant increase in the amounts of any effluent that may be released offsite.

   The proposed UHS temperature surveillance change does not result in an increase in power level, and does not increase the production nor alter the flow path or method of disposal of radioactive waste or byproducts; thus, there will be no change in the amounts of radiological effluents released offsite.

   Based on the above evaluation, the proposed change will not result in a significant change in the types or significant increase in the amounts of any effluent released offsite.

3. There is no significant increase in individual or cumulative occupational radiation exposure.

   The proposed change will not result in any changes to the configuration of the facility. The proposed UHS temperature surveillance will not cause a change in the level of controls or methodology used for the processing of radioactive effluents or handling of solid radioactive waste, nor will the proposed amendment result in any change in the normal radiation levels in the plant. Therefore, there will be no increase in individual or cumulative occupational radiation exposure resulting from this change.

Attachment 2

Marked-Up Technical Specifications Bases Pages

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 2

~~LBDCR 06-MP2-009~~
~~May 4, 2006~~

PLANT SYSTEMS

BASES

3/4.7.10 DELETED

3/4.7.11 ULTIMATE HEAT SINK

The limitations on the ultimate heat sink temperature ensure that sufficient cooling capacity is available to either,

1) provide normal cooldown of the facility, or 2) to mitigate the effects of accident conditions within acceptable limits.

The limitations on maximum temperature are based on a 30-day cooling water supply to safety related equipment without exceeding their design basis temperature.

Various indications are available to monitor the temperature of the ultimate heat sink (UHS). The following guidelines apply to ensure the UHS Technical Specification limit is not exceeded.

The control room indications are normally used to ensure compliance with this specification. Control room indications are acceptable because of the close correlation between control room indications and local Service Water System (SWS) header indications (historically within approximately 2° F). The highest reading valid temperature obtained from the Unit 2 intake structure and the inlets to the Circulating Water System water boxes shall be used to verify the UHS temperature is ≤70° F.

Insert A

~~When the highest reading valid control room indication indicates the temperature of the UHS is > 70° F, local SWS header indications must be used. The highest reading valid local SWS header temperature shall be used to verify the UHS temperature limit of 75° F is not exceeded. Normally, local SWS header temperature will be taken at the inlet to the vital AC switchgear room cooling coils. If the local SWS header temperature cannot be taken at the inlet to the vital AC switchgear room cooling coils, the inlet to the Reactor Building Closed Cooling Water heater exchangers, or other acceptable instrumentation should be used to determine SWS header temperature.~~

If the UHS temperature exceeds 75° F, plant operations may continue provided the LCO recorded water temperatures averaged over the previous 24 hour period, are at or below 75° F. This verification is required to be performed once per hour when the water temperature exceeds 75° F. If the UHS temperature, averaged over the previous 24 hour period, exceeds the 75° F Technical Specification limit, or if the UHS temperature exceeds 77° F, a plant shutdown in accordance with the ACTION requirements will be necessary.

INSERT A

When the highest nominal valid control room indication indicates that the UHS temperature is > 70°F, the UHS temperature determination method shall use local SWS header/branch temperature measurements. When homogeneous intake structure operating temperatures are assessed to exist (e.g., no condenser backwash evolutions), the UHS temperature shall be determined by computing the average of multiple SWS inlet header/branch temperature measurements. Normally, three vital switchgear room cooler SW inlet line local digital temperature measurements are available and these three instruments are averaged to determine the UHS temperature. Alternatively, the Reactor Building Closed Cooling Water heat exchanger SW inlet or other acceptable instrument/location can be employed to obtain other measurements, if the normal vital switchgear room cooler SW inlet instruments are unavailable. When the Intake Structure bay operating temperatures are assessed to be potentially non-homogeneous (such as would be expected during condenser backwash evolutions), SWS supply temperature measurements shall be obtained for each operable SWS loop and the highest valid SWS supply loop temperature shall be used to determine the UHS temperature. In the implementing surveillance procedure, the ≤ 75°F limiting condition of operation and the 77°F maximum allowable operating temperature criterion defined in TS 3/4.7.11 Action Statements a. and b. shall be reduced by an applicable UHS temperature measurement uncertainty allowance.

Attachment 3

Marked-Up Final Safety Analysis Report Pages

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 2

MPS-2 FSAR

9.7.2.1.2 Design Criteria

The service water system is designed to the following design criteria:

a. The service water system shall be designed with suitable redundancy that in the event of a LOCA, concurrent with a loss of offsite power and a single active failure, the service water system can perform its safety function. (Note: The postulation of a LOCA concurrent with a seismic event is outside the design basis.)

b. The service water system shall be sized and shall have capacity to provide sufficient water for all modes of operation at a maximum ultimate heat sink temperature of 75°F.

c. The system shall be designed in accordance with the general criteria as described in Section 6.1.

d. The system shall be designed as a moderate energy system.

e. The system shall be designed to withstand a pipe rupture (as an initiating event). Single failures in the redundant train shall not be postulated to occur. Multiple failures of the service water piping will not occur.

The ultimate heat sink consists of the service water cooling system serving the components mentioned in Section 9.7.2.1.2. The water source for the heat sink is the Long Island Sound sea water. It provides sufficient cooling for more than 30 days:

a. to permit safe shutdown and cooldown of the reactor and can maintain a safe shutdown condition for unit 2 and other units at the site;

b. to allow control of an accident in the event one occurs.

Technical Specifications require the temperature of the ultimate heat sink (UHS) to be ≤ 75°F when Millstone Unit Number 2 is operating in Modes 1, 2, 3, or 4. However, Technical Specification 3/ 4.7.11 also allows plant operation to continue if the temperature of the UHS exceeds the 75°F limit provided the water temperature, averaged over the previous 24 hour period is at or below 75°F and provided the UHS temperature is below 77°F. Various indications are available to monitor the temperature of the ultimate heat sink. The control room indications are normally used to ensure compliance with this limit. Control room indications are acceptable because of the close correlation between control room indications and local service water system header indications (historically within approximately 2°F). The highest reading valid temperature obtained from the Unit 2 intake structure and the inlets to the circulating water system water boxes shall be used to verify the ultimate heat sink temperature limit is ≤ 70°F.

Insert A

~~When the highest reading valid control room indication indicates the temperature of the ultimate heat sink is > 70°F, local service water system header indication must be used. The highest reading valid local service water system header temperature shall be used to verify the ultimate~~

~~heat sink temperature limit of 75°F is not exceeded. Normally, local service water system header temperature will be taken at the inlet to the vital AC switchgear room cooling coils. If the local service water system header temperature cannot be taken at the inlet to the vital AC switchgear room cooling coils, the inlet to the reactor building closed cooling water heat exchangers, or other acceptable instrumentation, should be used to determine service water system header temperature, instrument uncertainty is incorporated in the associated surveillance procedure. The maximum allowable ultimate heat sink temperature will be reduced from 75°F by the value of the associated instrument uncertainty.~~

The safety related equipment in the intake structure (pump motors and controls) are protected against the maximum hypothetical tide and storm surges including wave action by being located above elevations 22 feet 0 inches. The pumps are also designed for drought condition for low-low water level of minus 7 feet.

The ultimate heat sink is served only by one source of water, that of the Long Island Sound sea water. The Long Island Sound sea water capacity is sufficient to provide a total maximum quantity of 24,000 gpm cooling water for more than 30 days. A second source of water is not required.

Canals or conduits between the water source and the intake structure are not provided. The intake structure is located on the water source.

9.7.2.2 System Description

9.7.2.2.1 System

The service water system is described by Figure 9.7-1. Three half capacity (12,000 gpm each) vertical wet pit motor driven pumps take suction downstream from the travelling screens in the intake structure. Two independent cross-connected supply headers with isolation valves are provided to all heat exchangers. Two independent discharge headers are provided for the RBCCW heat exchangers that run above ground from the discharge of the heat exchangers to the discharge canal. Two discharge headers are provided, one for each diesel, for the diesel generator cooling water heat exchangers, above-ground portion; once the headers go underground, they are combined for a short distance prior to entering the discharge canal. One discharge header is provided for the TBCCW heat exchangers as the three discharge pipes are combined above ground prior to entering the discharge canal. The discharge header for the chilled water system and for the vital switchgear room cooling heat exchangers combine with the TBCCW heat exchanger discharge header before entering the discharge canal. Normally, one pump and service water header are required to provide cooling of the RBCCW and diesel generator cooling water heat exchangers following a loss-of-coolant accident (LOCA) or for Unit shutdown. In the event of a loss of station power, the pump motors are supplied power from the emergency buses. The TBCCW headers are isolated for either a SIAS or LNP signal.

9.7.2.2.2 Components

A description of the service water system components is given in Table 9.7-2.

INSERT A

When the highest nominal valid control room indication indicates that the UHS temperature is > 70°F, the UHS temperature determination method shall use local SWS header/branch temperature measurements. When homogeneous intake structure operating temperatures are assessed to exist (e.g., no condenser backwash evolutions), the UHS temperature shall be determined by computing the average of multiple SWS inlet header/branch temperature measurements. Normally, three vital switchgear room cooler SW inlet line local digital temperature measurements are available and these three instruments are averaged to determine the UHS temperature. Alternatively, the Reactor Building Closed Cooling Water heat exchanger SW inlet or other acceptable instrument/location can be employed to obtain other measurements, if the normal vital switchgear room cooler SW inlet instruments are unavailable. When the Intake Structure bay operating temperatures are assessed to be potentially non-homogeneous (such as would be expected during condenser backwash evolutions), SWS supply temperature measurements shall be obtained for each operable SWS loop and the highest valid SWS supply loop temperature shall be used to determine the UHS temperature. In the implementing surveillance procedure, the ≤ 75°F limiting condition of operation and the 77°F maximum allowable operating temperature criterion defined in TS 3/4.7.11 Action Statements a. and b. shall be reduced by an applicable UHS temperature measurement uncertainty allowance.

Attachment 4

Marked-Up Appendix B, Additional Conditions, Facility Operating License No. DPR-65

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 2

APPENDIX B
ADDITIONAL CONDITIONS
FACILITY OPERATING LICENSE NO. DPR-65

The licensee shall comply with the following conditions on the schedules noted below:

Amendment Number	Additional Condition	Implementation Date
212	This amendment authorizes the licensee to incorporate in the Updated Final Safety Analysis Report certain changes to the description of the facility. Implementation of this amendment is the incorporation of these changes as described in Attachment 3 of the licensee's application dated September 3, 1997, and evaluated in the staff's Safety Evaluation dated January 23, 1998.	30 days from the date of issuance
~~213~~	~~This amendment requires the licensee to incorporate in the Updated Final Safety Analysis Report (UFSAR) certain changes to the description of the facility.~~ ~~Implementation of this amendment is the incorporation of the changes described in the licensee's application dated March 27, 1997, supplemented on September 25, 1997, and evaluated in the staff's Safety Evaluation dated February 9, 1998. The description shall include details on selection of instruments and consideration of their accuracies for measuring ultimate heat sink temperatures greater than 70 ° F.~~	~~Next update of the UFSAR~~
222	This amendment authorizes the licensee to include in the Updated Final Safety Analysis Report (UFSAR) changes to the description of the facility. Implementation of this amendment is the updating of the UFSAR to reflect the changes in Attachment 3 of the licensee's application dated July 2, 1998, and evaluated in the staff's Safety Evaluation dated December 18,1998	Next UFSAR update