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Dominion®

April 24, 2008

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2378

Serial No.: 07-0450F
NLOS/MAE: 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 STRETCH POWER UPRATE LICENSE AMENDMENT REQUEST SUPPLEMENTAL INFORMATION, ROD WITHDRAWAL AT POWER EVENT

Dominion Nuclear Connecticut, Inc. (DNC) submitted a stretch power uprate license amendment request (LAR) for Millstone Power Station Unit 3 (MPS3) in letters dated July 13, 2007 (Serial Nos. 07-0450 and 07-0450A), and supplemented the submittal by letters dated September 12, 2007 (Serial No. 07-0450B), December 13, 2007 (Serial No. 07-0450C), March 5, 2008 (Serial No. 07-0450D) and March 27, 2008 (Serial No. 07-0450E). The NRC staff forwarded requests for additional information (RAIs) in October 29, 2007, November 26, 2007, December 14, 2007 and December 20, 2007 letters. DNC responded to the RAIs in letters dated November 19, 2007 (Serial No. 07-0751), December 17, 2007 (Serial No. 07-0799), January 10, 2008 (Serial Nos. 07-0834, 07-0834A, 07-0834C, and 07-0834F), January 11, 2008 (Serial Nos. 07-0834B, 07-0834E, 07-0834G, and 07-0834H), January 14, 2008 (Serial No. 07-0834D), January 18, 2008 (Serial Nos. 07-0846, 07-0846A, 07-0846B, 07-0846C, and 07-0846D), January 31, 2008 (Serial No. 07-0834I), February 25, 2008 (Serial Nos. 07-0799A and 07-0834J), March 10, 2008 (Serial Nos. 07-0846E and 07-0846F), March 25, 2008 (Serial No. 07-0834K) and April 4, 2008 (Serial No. 07-0834L).

Based on discussions with the NRC staff in a conference call on April 4, 2008, DNC is providing supplemental information regarding the analysis of a rod withdrawal at power event. The supplemental information is contained in the attachment to this letter.

The information provided by this letter does not affect the conclusions of the significant hazards consideration discussion in the December 13, 2007 DNC letter (Serial No. 07-0450C).

Should you have any questions in regard to this submittal, please contact Ms. Margaret Earle at 804-273-2768.

Sincerely,

Gerald T. Bischof
Vice President - Nuclear Engineering

VICKI L. HULL
Notary Public
Commonwealth of Virginia
140542
My Commission Expires May 31, 2010

COMMONWEALTH OF VIRGINIA)
)
COUNTY OF HENRICO)

The foregoing document was acknowledged before me, in and for the County and Commonwealth aforesaid, today by Gerald T. Bischof, 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 24TH day of April, 2008.

My Commission Expires: May 31, 2010.

Vicki L. Hull
Notary Public

Commitments made in this letter:

Changes will be made to Chapter 15 and Chapter 7 of the FSAR to make it consistent with the current Licensing Report Table 2.8.5.0-7 and revised Table 2.8.5.0-5.

Attachment

cc: U.S. Nuclear Regulatory Commission
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NRC Senior Resident Inspector
Millstone Power Station

Director
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Monitoring and Radiation Division
Department of Environmental Protection
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ATTACHMENT

LICENSE AMENDMENT REQUEST

STRETCH POWER UPRATE LICENSE AMENDMENT REQUEST

ROD WITHDRAWAL EVENT SUPPLEMENTAL INFORMATION

MILLSTONE POWER STATION UNIT 3
DOMINION NUCLEAR CONNECTICUT, INC.

Stretch Power Uprate License Amendment Request
Supplemental Information Addressing RCS Overpressurization in an Inadvertent Rod Withdrawal Event at Power

In the Stretch Power Uprate (SPU) License Report submitted as part of the associated license amendment, Section 2.8.5.4.2.2 referenced the generic Rod Withdrawal RCS overpressurization analysis performed by Westinghouse. However, in a subsequent review Dominion Nuclear Connecticut, Inc. (DNC) recognized that reference to the generic analysis is not required to support the conclusion that overpressurization will not occur for the rod withdrawal event.

For the generic analysis, a plant with a water filled loop seal in the pressurizer safety valve discharge piping was modeled. With a water filled loop seal, a 1.5 second delay in the opening of the pressurizer safety valve is assumed to account for the discharge of the water in the loop seal. This results in pressurizer pressure exceeding the pressurizer safety valve setpoint. Since MPS3 does not have water filled loop seals, reference to this generic analysis is not necessary in order to determine the maximum pressurizer pressure.

Without a water filled loop seal in the pressurizer safety valve discharge line, the maximum pressurizer pressure for the rod withdrawal event is bounded by the current pressurizer safety valve setpoint of 2500 psia +3% drift or 2575 psia. The safety valve capacity is sufficient to assure that pressurizer pressure will not exceed the setpoint. For rod withdrawal at full power, this can be seen from License Report Figures 2.8.5.4.2-2 and 2.8.5.4.2-5 which show the capacity of the Power Operated Relief Valves (PORVs) is sufficient to maintain pressurizer pressure less than or equal to the PORV setpoint. Each pressurizer safety valve has a larger capacity than a PORV and there are three safety valves as compared to only two PORVs. Thus, it is concluded that the pressurizer safety valves will prevent overpressurization for the rod withdrawal event.

Consistent with the current MP3 licensing basis, the positive flux rate trip provides additional margin to assure that the Departure from Nucleate Boiling Ratio (DNBR) spectrum study analysis of the Rod Withdrawal event does not result in a DNBR exceeding its limits. The use of positive flux rate is also sufficient to conclude that overpressurization will not occur. To assure that the SPU would not reduce margin, this credit for the trip will be retained. Since the positive flux rate trip is credited for margin, the License Report section will be modified to clarify the credit taken for the positive flux rate trip as well as to reflect the discussion of the loop seals. The FSAR is currently written from the stand point of identifying only those trips explicitly credited in the accident analysis and does not discuss this trip. The FSAR will be revised to clarify that the positive flux rate trip is credited for margin for an inadvertent rod withdrawal event at power.

The following paragraph from License Report Section 2.8.5.4.2.2:

"Also, a conservative generic evaluation which is applicable to MPS3 has shown that the positive flux rate and high pressurizer pressure functions provide a timely reactor trip that precludes RCS overpressurization in instances where the power range high neutron flux – high setting or the OTΔT trips occur too late to provide the necessary protection. This evaluation confirms that the design RCS pressure limit is met. The generic method has been reviewed and approved by the NRC in Amendments 167 and 168 for the Diablo Canyon Nuclear Plant, Units 1 and 2, dated April 22, 2004. This evaluation method was also used in the current MPS3 FSAR analysis."

is replaced by the following:

"Consistent with the current licensing bases, no additional analyses are necessary to address RCS overpressurization. Since Millstone Unit 3 does not have water-filled loop seals in the pressurizer safety valve discharge piping, the pressurizer safety valves have sufficient capacity to assure that pressurizer pressure is bounded by the assumed pressurizer opening setpoint of 2575 psia (includes +3% drift). The combination of the overpower, overtemperature ΔT and the positive flux rate trips assures that the RCS expansion rate is acceptable. Thus, it is concluded that the design RCS pressure is met for a rod withdrawal event at power."

While credit for the positive flux rate trip was already identified in Table 2.8.5.0-7, the setpoint was not provided in Table 2.8.5.0-5. This oversight is corrected in the attached revised table. Changes will be made to Chapter 15 and Chapter 7 of the FSAR to make it consistent with the current Licensing Report Table 2.8.5.0-7 and the revised Table 2.8.5.0-5. Therefore, Table 2.8.5.0-5 in Licensing Report Section 2.8.5.0 is replaced with:

Table 2.8.5.0-5
Trip Point and Time Delays to Trip Assumed in Accident Analyses

Trip Function	Limiting Trip Point Assumed in Analyses (1)	Time Delay (Seconds)
Power range high neutron flux, high setting	116.5%	0.5
Power range high neutron flux, low setting	35%	0. 5
Power Range, Neutron Flux, High Positive Rate	6.08%/sec	2
Overtemperature ΔT	Variable; see Table 2.8.5.0-6 and Figure 2.8.5.0-1	7.0 (2)
Overpower ΔT	Variable; see Table 2.8.5.0-6 and Figure 2.8.5.0-1	7.0 (2)
High pressurizer pressure	2410 psig	2.0
Low pressurizer pressure	1845 psig	2.0
Low reactor coolant flow (from loop flow detectors)	85% loop flow	1.0
Reactor coolant pump underspeed	92% nominal	0.6
Turbine trip	Not applicable	1.5 (3)
Low-Low steam generator water level	0% of narrow range level span (both feed line break and loss of normal feedwater/loss of off-site power)	2.0
High-high steam generator level trip of the feedwater pumps and closure of feedwater system valves, and turbine trip	100% of narrow range level span	2.5 (4) 7.0 (5)

(1) Tabulated values conservatively bound technical specification values with uncertainties. Refer to LR Section 2.8.5.6.2 for SGTR trip point assumptions.

(2) Total time delay from time the temperature difference in the coolant loop exceeds the trip setpoint until the RCCAs are free to fall. Delay includes the response characteristics of the RTD/thermowell/scoop configuration, electronic delays, trip breaker opening delays, and gripper opening delays.

(3) Direct reactor trip following turbine trip not credited to meet the acceptance criteria.

(4) From time setpoint is reached to turbine trip.

(5) From time setpoint is reached to feedwater isolation.