Dominion Nuclear Connecticut, Inc.
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January 18, 2008

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

Serial No.: 07-0846D
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
RESPONSE TO QUESTIONS SRXB-07-0088 THROUGH SRXB-07-0090

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) and December 13, 2007 (Serial No. 07-0450C). The NRC staff forwarded requests for additional information (RAIs) in October 29, 2007, November 26, 2007, and December 14, 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), and January 14, 2008 (Serial No. 07-0834D). The NRC staff forwarded additional RAIs in a December 20, 2007 letter. The responses to Questions SRXB-07-0088 through SRXB-07-0090 of this RAI are provided 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

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 18th day of January, 2008.

My Commission Expires: August 31, 2008

Margaret B. Bennett
Notary Public

MARGARET B. BENNETT
Notary Public 354302
Commonwealth of Virginia
My Commission Expires Aug 31, 2008

Commitments made in this letter: None

Attachment

cc: U.S. Nuclear Regulatory Commission
Region I
Regional Administrator
475 Allendale Road
King of Prussia, PA 19406-1415

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Mr. S. W. Shaffer
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

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

RESPONSE TO QUESTIONS SRXB-07-0088 THROUGH SRXB-07-0090

MILLSTONE POWER STATION UNIT 3
DOMINION NUCLEAR CONNECTICUT, INC.

Reactor Systems Branch

SRXB-07-0088 (2.8.5.3.1-4)

Loss of Forced Reactor Coolant Flow - The results of this accident are discussed in terms of no violations to the departure from nucleate boiling ratio limit. Provide results showing conformance with other relevant acceptance criteria confirmed, or explain why these acceptance criteria are acceptably not analyzed.

DNC Response

With respect to the overpressure evaluation, the loss of flow events are bounded by the loss of load/turbine trip events for which assumptions are made to conservatively calculate the Reactor Coolant System (RCS) and Main Steam System (MSS) pressure transients. For the Loss of Forced Reactor Coolant Flow events, turbine trip occurs following reactor trip, whereas for the Loss of Load/Turbine Trip event, the turbine trip is the initiating fault. Therefore, the primary to secondary power mismatch and resultant RCS and MSS heatup and pressurization transients are always more severe for the Loss of Load/Turbine Trip event. For this reason, calculation of the maximum RCS and MSS pressures for the Loss of Forced RC Flow events is bounded and, therefore, unnecessary.

With respect to linear heat generation rate, the linear heat generation rate is directly proportional to power. From Figure 2.8.5-1 of the licensing report, it is seen that power is essentially a monotonically decreasing function. The linear heat generation rate follows the same trend as power. Since linear heat generation rate does not increase above the initial value during the transient the linear heat generation limit is satisfied.

SRXB-07-0089 (2.8.5.4.5-10)

Chemical And Volume Control Malfunction that Results in a Decrease in Boron Concentration in the Reactor Coolant - Page 2.8-298 lists three acceptance criteria. Confirm that the third, regarding fuel temperature, is analogous to the second acceptance criterion listed in Final Safety Analysis Report (FSAR) Section 15.4.6. The staff requests this confirmation because specific values are not listed in the SPU licensing report (LR).

DNC Response

The third acceptance criterion in License Report Section 2.8.5.4.5.2.2 is given as:

"Fuel temperature and fuel clad strain limits should not be exceeded. The peak linear heat generation rate should not exceed a value that would cause fuel centerline melt."

This correlates to FSAR Section 15.4.6.1, Item 2 in the paragraph titled "Safety Analysis Criteria & Regulatory Requirements" where the limit is stated:

"Fuel Centerline temperature is less than 4700°F"

License Report Section Table 2.8.3-1 gives the criterion used for peak linear power for prevention of fuel centerline melt in terms of kw/ft.

For the boron dilution event, since the core remains subcritical, there is no fuel heatup and the fuel temperature remains essentially in equilibrium with the RCS temperature.

SRXB-07-0090 (2.8.5.5-4)

Please provide information regarding the qualification of the power-operated relief valves (PORVs) as safety-related equipment (i.e., the PORVs' automatic control system and their ability to relieve water).

DNC Response

In 1998, the NRC approved the MPS3 amendment request for the inadvertent Emergency Core Cooling System (ECCS) actuation event. As part of the Amendment Request 161 dated June 5, 1998, information was submitted to support qualification of PORV operation to relieve water through the PORVs for at least one hour, assuming the PORV cycling rate for the inadvertent ECCS actuation event.

The PORV qualification for the inadvertent ECCS actuation event bounded the Chemical and Volume Control System (CVCS) malfunction event for the following reasons:

- The excess charging flow rate for the CVCS malfunction is less than the inadvertent ECCS event, because the normal CVCS flow path is more restrictive than the ECCS flow path. With a lower flow rate, the PORV cycling rate for the CVCS malfunction event will be slower, resulting in less PORV cycles. The lower overfill flow rate will also mean a lower average flow rate through the PORV.

- The time necessary for the operator to terminate a CVCS malfunction is significantly shorter than for an inadvertent ECCS malfunction event as currently analyzed for MPS3. Operator response in simulator exercises shows that the CVCS malfunction event is terminated well before overfill and reactor trip on high pressurizer level.

This evaluation is unaffected by SPU conditions. The PORV qualification requirements for the CVCS malfunction event at SPU conditions will remain bounded by the PORV qualification evaluation for an inadvertent ECCS actuation approved in 1998.