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.: 07-0846A
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 QUESTION EICB-07-0106

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 response to Question EICB-07-0106 of this RAI is 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
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Director
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ATTACHMENT

LICENSE AMENDMENT REQUEST

STRETCH POWER UPRATE LICENSE AMENDMENT REQUEST

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

RESPONSE TO QUESTION EICB-07-0106

MILLSTONE POWER STATION UNIT 3
DOMINION NUCLEAR CONNECTICUT, INC.

Instrumentation and Controls Branch

EICB-07-0106

The license amendment request (LAR), dated July 13, 2007, proposed following Technical Specifications (TS) changes associated with instrument setpoints:

1. TS Table 2.2-1, Reactor Trip System Instrumentation Trip Setpoints, Functional Unit 18c, Power Range Neutron Flux, P-8, the nominal trip setpoint is increased from 37.5% to 50.0% and Allowable Value is increased from $\leq$ 38.1% to $\leq$ 50.6% of RTP.

2. TS Table 3.3-4, Engineered Safety Features Actuation System Instrumentation Trip Setpoints, Functional Unit 11, Cold Leg Injection Permissive, P-19, Nominal Trip Setpoint is specified as 1900 psia, and Allowable Value as $\geq$ 1897.6 psia.

To support NRC assessment of the acceptability of the LAR with regard to setpoint changes, please provide the following for each setpoint to be added or modified:

A. Setpoint Calculation Methodology: Provide documentation (including sample calculations) of the methodology used for establishing the limiting setpoint (or NSP) and the limiting acceptable values for the As-Found and As-Left setpoints as measured in periodic surveillance testing as described below. Indicate the related Analytical Limits and other limiting design values (and the sources of these values) for each setpoint.

B. Instrument Functionality: Describe the measures to be taken to ensure that the associated instrument channel is capable of performing its specified safety functions in accordance with applicable design requirements and associated analyses. Include in your discussion information on the controls you employ to ensure that the as left trip setting after completion of periodic surveillance is consistent with your setpoint methodology. Also, discuss the plant corrective action processes (including plant procedures) for restoring channels to operable status when channels are determined to be "inoperable" or "operable but degraded." If the controls are located in a document other than the TS (e.g., plant test procedure), describe how it is ensured that the controls will be implemented.

DNC Response

A. Millstone Power Station Unit 3 (MPS3) Setpoint Calculation Methodology

General Methodology

Millstone Power Station Unit 3 (MPS3) uses the methodology described in WCAP-10991 Rev.5, "Millstone Nuclear Power Station Unit 3, 24 Month Fuel Cycle Evaluation," August 1997, for the development of channel uncertainty for Reactor Trip System (RTS) and Engineered Safety Features Actuation System (ESFAS) setpoints. This methodology is conservative with respect to ISA 67-04 as described in the proposed revision to Technical Specifications dated October 15, 1997 and supplemented by letters dated January 23 and April 8, 1998. The methodology for combining of the uncertainty components of a channel uncertainty calculation is described in WCAP-10991. The methodology to determine operability, is also described in WCAP-10991, and results in a performance based allowable value (AV). The NRC approved that proposed revision to Technical Specifications as Amendment 159 dated May 26, 1998.

As stated in the MPS3 Technical Specification (TS) Bases for both the RTS and ESFAS setpoints, the Allowable Values (Nominal Trip Setpoints ± the calibration tolerance) are considered the Limiting Safety System Settings as identified in 10 CFR 50.36. The AV is satisfied by verification that the channel "as found" and "as left" conditions about the Nominal Trip Setpoint (NTSP) are within the calibration tolerance. These criteria are controlled by the TS and implemented by plant procedures. In the MPS3 TS Section 2.2.1 Parts a and b, page 2-4, and TS Section 3.3.2 Parts a and b, page 3-15, the requirement is to return the instrumentation channel to be consistent with the NTSP value. As described in the MPS3 TS Bases for these sections, a Setpoint is considered to be consistent with the NTSP when the measured "as left" Setpoint is within the ± calibration tolerance (specified as the difference between the AV and NTSP) identified in plant procedures. Therefore, because the AV is based on the rack calibration accuracy, the TS requirement is to return the channel to within the calibration accuracy.

The Allowable Values specified in Technical Specification tables for Reactor Trip and Engineered Safety Features Actuation Instrumentation define the limit beyond which a channel is inoperable. If the rack bistable setting is measured within the calibration tolerance, which is the difference between the Allowable Value and Nominal Trip Setpoint, then the channel is considered to be OPERABLE.

TS Table 2.2-1

TS Table 2.2-1, Reactor Trip System Instrumentation Setpoint, Functional Unit 18c is defined as a permissive. For TS Table 2.2-1, Functional Unit 18c, the Westinghouse Millstone Unit 3 Loss of Flow/Locked Rotor Analysis for the Stretch Power Uprate Program showed that a value of 60% Rated Thermal

Power (RTP) for the P-8 permissive is acceptable (Reference LAR Section 2.8.5.3.1.2.3). Based on that analysis, a conservative NTSP of 50% was specified for the P-8 permissive. The 10% RTP allowance between the analyzed value and the proposed NTSP far exceeds the expected loop uncertainty for the P-8 signal loop. The allowable value of $\leq$ 50.6% RTP uses the same rack calibration accuracy value (0.6% RTP) between the NTSP and the AV as the existing Technical Specification for this functional unit. This calibration tolerance value, and hence the difference between the proposed NTSP and AV, is unchanged because the same plant equipment will be used to generate the new setpoint for the permissive.

TS Table 3.3-4

TS Table 3.3-4, Engineering Safety Features Actuation System Instrumentation Trip Setpoints, Functional Unit 11 is also defined as a permissive. The new P-19 permissive will be generated by the same two-out-of-four functional logic as the existing low pressurizer pressure reactor trip (Ref. LAR Section 2.8.5.5.2.1) and, therefore, is specified to have the same NTSP, 1900 psia, and AV, $\geq$ 1897.6 psia, as that function (TS Table 2.2-1, Functional Unit 9). The NTSP for TS Table 3.3-4, Functional Unit 1.d, Pressurizer Pressure Low Safety Injection (SI) is established as 1892 psia, which is below the P-19 permissive. The instrument channels that develop the P-19 permissive and the SI signal utilize the same component types under the same plant conditions; therefore, the channel uncertainties will be the same for both functions. The low pressurizer pressure SI uncertainty analysis shows that there is margin between the NTSP and the low pressurizer pressure SI Analytical Limit, the SI and P-19 channel uncertainties are the same, and the P-19 NTSP is established more conservative in relation to the low pressurizer pressure SI NTSP. Therefore, the P-19 NTSP also has margin to the low pressurizer pressure SI analytical limit.

B. Millstone Power Station Unit 3 (MPS3) Instrument Functionality

TS Table 2.2-1 and TS Table 3.3-4

The as-found acceptance criteria used in the MPS3 plant procedures for the RTS and ESFAS instrument setpoint verification is set equal to or less than the Allowable Value ($\pm$ calibration tolerance) from the TS. The setpoint verification surveillance procedure as-left acceptance criteria is established as half of the as-found acceptance criteria. During setpoint surveillance testing, channels found to be within the as-left criteria are operable and do not require adjustment. Channels found outside the as-left criteria but within the as-found criteria are operable and are adjusted to within the as-left criteria before completing the surveillance. Channels found outside of the as-found criteria

are inoperable until they can be reset acceptably to within the as-left criteria, either through recalibration or corrective maintenance as the specific condition warrants. Plant condition reports are initiated for channels found outside the as-found acceptance criteria. These condition reports are evaluated and trended to determine if additional corrective actions are necessary.