Exelon Generation
4300 Winfield Road
Warrenville, IL 60555

www.exeloncorp.com

Exelon Nuclear

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U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Braidwood Station, Units 1 and 2
Facility Operating License Nos. NPF-72 and NPF-77
NRC Docket Nos. STN 50-456 and STN 50-457

Byron Station, Units 1 and 2
Facility Operating License Nos. NPF-37 and NPF-66
NRC Docket Nos. STN 50-454 and STN 50-455

Subject: Response to a Request for Additional Information Regarding a Technical Specifications Change Request – Revision to Technical Specification 3.7.1, "Main Steam Safety Valves (MSSVs)"

References:
(1) Letter from Keith R. Jury (Exelon Generation Company, LLC) to U.S. NRC, "Request for Technical Specifications Change, Revision to Technical Specification 3.7.1, 'Main Steam Safety Valves (MSSVs),'" dated August 7, 2002

(2) Letter from Kenneth A. Ainger (Exelon Generation Company, LLC) to U.S. NRC, "Response to a Request for Additional Information Regarding a Technical Specifications Change Request – Revision to Technical Specification 3.7.1, "Main Steam Safety Valves (MSSVs)," dated February 28, 2003

In Reference 1, Exelon Generation Company, LLC (EGC) requested NRC approval of proposed changes to Technical Specification (TS) 3.7.1, "Main Steam Safety Valves (MSSVs)," of Facility Operating License Nos. NPF-72, NPF-77, NPF-37, and NPF-66 for Braidwood Station, Units 1 and 2, and Byron Station, Units 1 and 2, respectively.

The proposed change revises the Limiting Condition for Operation (LCO), the associated Conditions and Required Actions of TS 3.7.1, and the values in Table 3.7.1-1. Specifically, the proposed change revises the LCO by requiring five MSSVs per steam generator to be operable consistent with the accident analyses assumptions and modifies the associated Required Actions of TS 3.7.1 by adding a requirement to reduce the Power

Range Neutron Flux – High reactor trip setpoint when one or more steam generators with one or more MSSVs are inoperable.

In Reference 2, EGC responded to the NRC's request for additional information. Subsequent to this submittal, on April 22 and 23, 2003, additional discussions were held between members of the NRC and EGC via teleconference to further clarify information presented in Reference 2. Based on these conversations, additional information addressing the following three questions is provided for your review.

NRC Question 1

State whether all accidents addressed in the Updated Final Safety Analysis (UFSAR) Chapter 15, "Accident Analysis," were reviewed and what accident scenario(s) is(are) the most limiting.

Response to Question 1

The current accident analysis of record (AOR) was most recently performed as part of the power uprate license amendment request, approved by the NRC on May 4, 2001, in amendment 119 and 113 for Byron Station and Braidwood Station, respectively. As part of the evaluation performed in support of the TS changes proposed in Reference 1, all UFSAR Chapter 15 accidents were reviewed. The most limiting accidents challenging the relief capacity of the main steam safety valves (MSSVs) continued to be the loss of load (LOL) and the rod withdrawal at power (RWAP) events.

NRC Question 2

Specifically confirm that a feedline break (FLB) accident or a small break loss of coolant accident (SBLOCA) are not the most limiting events with respect to challenging the relief capacity of the main steam safety valves (MSSVs).

Response to Question 2

The most limiting accident scenarios in the AOR, with respect to challenging the relief capacity of the MSSVs, are the LOL and RWAP. The TS changes proposed in Reference 1 have been reviewed and the LOL and RWAP continue to be the most limiting events.

NRC Question 3

The Case 3 accident scenario presented in Reference 2 indicates that the secondary pressure limit acceptance criteria was not met. Case 3 addressed a Unit 1 LOL transient at 24% power, with three operable MSSV banks, and 9% high neutron flux (HNF) trip channel uncertainty. Justify why this case is acceptable with an assumed 7.4% HNF trip channel uncertainty.

Response to Question 3

Although Case 3 was not specifically analyzed in Reference 2 with a 7.4% HNF trip channel uncertainty, based on the other cases shown in Table 1 of Reference 2, it can be concluded that the Case 3 scenario with 7.4% HNF trip channel uncertainty is acceptable. This is shown as follows:

- As stated in Reference 2, Case 4 bounds Case 3 where Case 4 addresses a Unit 1 LOL transient at 10% power, with two operable MSSV banks, and 9% high neutron flux (HNF) trip channel uncertainty. Case 4 results were also unacceptable.

- Case 5 is the same as Case 4 however uses a 7.4% HNF trip channel uncertainty. The results for Case 5 were acceptable.

- Since Case 5 is effectively an acceptable version of Case 4; and Case 4 bounded Case 3; it can be concluded that a Case 3 scenario with 7.4% HNF trip channel uncertainty would yield acceptable results.

In addition to the above logic concluding that Case 3 would yield acceptable results assuming a 7.4% HNF trip channel uncertainty, Case 3 has been subsequently analyzed utilizing a 7.4% HNF trip channel uncertainty. All acceptance criteria were met.

Should you have any further questions related to this matter, please contact J. A. Bauer at (630) 657-2801.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on 5-27-03

Kenneth A. Ainger
Manager, Licensing
Midwest Regional Operating Group