

10 CFR 50.55a

RS-07-146

October 30, 2007

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001Quad Cities Nuclear Power Station, Units 1 and 2
Renewed Facility Operating License Nos. DPR-29 and DPR-30
NRC Docket Nos. 50-254 and 50-265

- References:
1. Letter from P. R. Simpson (Exelon Generation Company, LLC) to U. S. NRC, "Request for Relief from ASME OM Code 5-year Test Interval for Main Steam Safety Valves (Relief Request RV-30E)," dated September 7, 2007
 2. Email from J. S. Wiebe (U.S. NRC) to J. L. Hansen (Exelon Generation Company, LLC), "Preliminary Request for Additional Information – QCNPS MSSV Relief Request (RV-30E)," dated October 4, 2007

Subject: Response to Request for Additional Information Related to Relief Request RV-30E

In Reference 1, Exelon Generation Company, LLC (EGC) requested relief from the American Society of Mechanical Engineers/American National Standards Institute, "Code for Operation and Maintenance of Nuclear Power Plants," 1998 Edition through 2000 Addenda, Appendix I, "Inservice Testing of Pressure Relief Devices in Light-Water Reactor Nuclear Power Plants," Section I-1330, "Test Frequencies, Class 1 Pressure Relief Valves."

Specifically, EGC requested NRC approval of proposed Relief Request RV-30E to extend the five-year test interval, on a one-time basis, for three Main Steam Safety Valves (MSSVs) at Quad Cities Nuclear Power Station (QCNPS), Unit 1 and five MSSVs at QCNPS, Unit 2. In Reference 2, the NRC transmitted a preliminary request for additional information (RAI) to EGC concerning the requested relief.

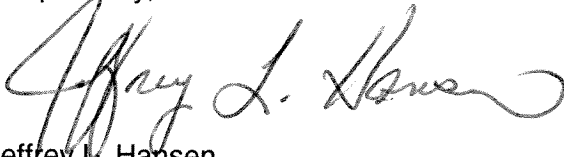
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The response to the NRC RAI is presented in the Attachment to this letter. As stated in Reference 1, EGC requests approval of RV-30E by November 27, 2007 to enable continued operation of QCNPS Unit 2 until the nineteenth refueling outage (Q2R19), which is currently scheduled to begin in March 2008. This approval schedule will also enable continued operation of QCNPS Unit 1 until the twentieth refueling outage (Q1R20), which is currently scheduled to begin in May 2009.

There are no regulatory commitments contained within this letter.

If you have any questions concerning this letter, please contact Mr. John L. Schrage at (630) 657-2821.

Respectfully,

A handwritten signature in black ink, appearing to read "Jeffrey L. Hansen". The signature is fluid and cursive, with a long, sweeping tail on the final letter.

Jeffrey L. Hansen
Manager - Licensing

Attachment: Response to Request for Additional Information, Relief Request RV-30E

Attachment

Response to NRC Request for Additional Information
Relief Request RV-30E

Attachment
Response to NRC Request for Additional Information
Relief Request RV-30E

By letter dated September 7, 2007, Exelon Generation Company, LLC (EGC) requested relief from the American Society of Mechanical Engineers/American National Standards Institute, "Code for Operation and Maintenance of Nuclear Power Plants," 1998 Edition through 2000 Addenda, (ASME OM Code), Appendix I, "Inservice Testing of Pressure Relief Devices in Light-Water Reactor Nuclear Power Plants," Section I-1330, "Test Frequencies, Class 1 Pressure Relief Valves" (Reference 1). The relief request proposed to extend the five-year test interval, on a one-time basis, for three Main Steam Safety Valves (MSSVs) at Quad Cities Nuclear Power Station (QCNPS), Unit 1 and five MSSVs at QCNPS, Unit 2. The NRC has requested the following additional information to complete its review.

NRC Request

The main steam safety valves (MSSVs) provide overpressure protection for the reactor coolant pressure boundary. The QCNPS technical specifications surveillance requirement 3.4.3.1 requires verification that the MSSVs safety function lift set points are within $\pm 1\%$ of set pressure. Your justification for extending the test interval beyond 5 years uses, in part, the ASME OM Code as-found acceptance criteria of $\pm 3\%$ of set pressure. Provide justification that the MSSVs will remain operable within $\pm 1\%$ of set pressure in accordance with the current technical specifications during the requested test interval extension.

EGC Response

As stated above, EGC has requested relief from the ASME OM Code five-year test interval for eight MSSVs (i.e., Dresser Model 3777Q safety valves) at QCNPS. The subject relief request cites an acceptance criterion of $\pm 3\%$ because RV-30E is requesting relief from the ASME OM Code, which establishes the $\pm 3\%$ as-found test requirement.

In Reference 2, EGC transmitted a license amendment request (LAR) to the NRC, which requested a revision to the QCNPS Surveillance Requirement (SR) 3.4.3.1 lift setpoint tolerance from the existing, and conservative value of $\pm 1\%$ to the ASME OM Code value of $\pm 3\%$. The proposed change implements a wider MSSV tolerance to establish consistency with the ASME OM Code, and is justified by an NRC-approved licensing topical report. EGC requested NRC review and approval of this LAR by November 2, 2007. Once approved, EGC will implement the TS revision for both QCNPS Unit 1 and Unit 2 during the upcoming QCNPS Unit 2 nineteenth refueling outage (Q2R19), which is currently scheduled to start on March 3, 2008. Therefore, following Q2R19 (scheduled to begin in approximately four months) the TS as-found acceptance criteria for all eight MSSVs will be consistent with the ASME OM Code.

Prior to Q2R19, six of the eight MSSVs for which relief has been requested (i.e., one on Unit 2 and five on Unit 1) will (or have) exceeded the five-year test interval requirement, prior to implementation of the revised TS acceptance criteria, as described in Table 1 below. The test interval for the remaining two MSSVs, both of which are installed on Unit 1, will expire on March 24, 2009, which is subsequent to the implementation of the revised TS acceptance criteria.

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 Response to NRC Request for Additional Information
 Relief Request RV-30E

Table 1 Five-year Test Interval		
MSSV S/N	Unit	Five Year Test Interval Exceeded
BK-7163	2	9/21/2006
BK-6278	2	9/21/2006
BK-6266	2	10/09/2006
BK-6529	2	2/28/2007
BK-7164	2	11/27/2007
BK-7159	1	12/26/2007

Since the five-year test interval for four MSSVs (i.e., MSSV S/Ns BK-7163, BK-6278, BK-6266, and BK-6529) had expired prior to discovery, TS compliance for these MSSVs has been established by application of TS SR 3.0.3. SR 3.0.3 provides an allowance for delaying entry into an associated Limiting Condition for Operation (LCO) for a missed TS SR provided a risk assessment is performed for any extension beyond 24 hours. EGC has completed this risk assessment.

Verification of operability in accordance with the TS for the remaining two QCNPS MSSVs (i.e., MSSV S/Ns BK-7159 and BK-7164) during the requested interval extension is based on:

- 1) Historical as-found test results for the two applicable MSSVs;
- 2) Additional test results of Dresser Model 3777Q MSSVs following extended storage in a controlled environment.

Table 2 below provides pertinent Inservice Testing (IST) interval information for these two MSSVs (e.g., installation date, storage duration, installed duration, and requested interval extension).

Table 2 Applicable QCNPS MSSVs						
MSSV S/N	Storage Duration	Installation Date	Installed Duration	Scheduled Replacement Outage	Scheduled Replacement Date	Requested Interval Extension
BK-7159	28 months	4/17/2005	4 years	Q1R20	05/2009	17 months
BK-7164	42 months	4/17/2006	2 years	Q2R19	03/2008	5 months

1) Historical Test Results for Applicable MSSVs

Historical test results for the two applicable QCNPS MSSVs, as described in Table 3 below, indicate that all but one as-found lift setpoint test for one MSSV were within the TS acceptance criteria of $\pm 1\%$. In addition, the most recent as-found test results for each MSSV were also within the TS acceptance criteria. Finally, the overall as-found test performance trend indicates a high level of reliability with respect to acceptable lift test performance for the two MSSVs.

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 Response to NRC Request for Additional Information
 Relief Request RV-30E

This data indicates that extended storage of Dresser Model 3777Q MSSVs, in a controlled environment, has a minimal impact on the ability of the MSSV to satisfy the TS as-found acceptance criteria of $\pm 1\%$. As indicated in Table 2, the requested interval extension for the two applicable MSSVs is bounded by the storage duration of the tested MSSVs that met the TS acceptance criteria (i.e., as described in Table 4). In addition, the requested interval extension for the two applicable MSSVs is significantly less than their pre-installation storage period.

The additional test results of stored MSSVs described in Table 4, in concert with the storage duration of these MSSVs, provides reasonable assurance that the pre-installation storage period for the applicable MSSVs will not impact the ability of the valves to satisfy the TS acceptance criteria of $\pm 1\%$, during the requested interval extension. In a Safety Evaluation approving a similar relief request for DNPS (Reference 4), the NRC indicated that these test results, and the conclusion that was drawn from these results, helped provide assurance that an extension of the 5-year IST test interval resulting from a pre-installation storage period does not impair the operational readiness of the Dresser Model 3777Q MSSVs. The NRC reconfirmed this in Reference 3 by noting that test results of stored safety valves at PBAPS indicated that the impact of storage in a controlled environment on the opening setpoint was minimal.

Table 4				
Special Test Results of Stored Dresser Model 3777Q MSSVs				
Valve S/N	Storage Duration	Nameplate Pressure Setting (psig)	As-found Lift Setpoint (psig)	As-found % Deviation
BK-6252	52 months	1240	1224	-1.290%
BL-2467	42 months	1250	1251	0.080%
BK-6318	24 months	1260	1261	0.079%
BK-6294	15 months	1260	1257	-0.238%

References

1. Letter from P. R. Simpson (Exelon Generation Company, LLC) to U. S. NRC, "Request for Relief from ASME OM Code 5-year Test Interval for Main Steam Safety Valves (Relief Request RV-30E)," dated September 7, 2007
2. Letter from P. R. Simpson (Exelon Generation Company, LLC) to U. S. NRC, "Request for License Amendment to Increase Main Steam Safety Valve Lift Setpoint Tolerance and Standby Liquid Control System Enrichment," dated November 7, 2006
3. Letter from H. K. Chernoff (U. S. NRC) to C. G. Pardee (Exelon Generation Company, LLC), "Peach Bottom Atomic Power Station, Unit 2 – Request for Relief from ASME OM Code 5-Year Test Interval for Safety Relief Valve/Safety Valves, Relief Request (RR) 01A-VRR-2," dated October 25, 2007
4. Letter from R. A. Gibbs (U. S. NRC) to C. M. Crane (Exelon Generation Company, LLC), "Dresden Nuclear Power Station, Unit 2 – Request for Relief from ASME OM Code 5-Year Test Interval Requirements," dated September 20, 2007

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Response to NRC Request for Additional Information
Relief Request RV-30E

As described in Reference 1, EGC utilizes an ASME OM Code-certified MSSV refurbishment procedure following each as-found MSSV test, thus ensuring a high level of MSSV reliability. This high level of reliability, as validated by the test data in Table 3, establishes reasonable assurance that the setpoint tolerance value will remain within the TS acceptance criteria of $\pm 1\%$ for the requested interval extension. In a Safety Evaluation approving a similar relief request for Peach Bottom Atomic Power Station (PBAPS) (Reference 3), the NRC indicated that routine refurbishment of safety relief valves every two operating cycles provides reasonable assurance that setpoint drift will be minimized.

Valve S/N	As-found Test Date	As-found % Deviation
BK-7164	09/10/1992	-0.556%
BK-7164	04/03/1996	0.000%
BK-7164	03/09/1999	0.635%
BK-7164	11/14/2002	0.556%
BK-7159	06/12/1994	0.800%
BK-7159	03/11/1999	1.587%
BK-7159	11/14/2002	0.635%

2) Additional Tests of Dresser Model 3777Q MSSVs

In addition to the evaluation of historical test results for the two applicable MSSVs, EGC recently (i.e., in April 2007) tested four Dresser Model 3777Q MSSVs that had been stored in a controlled environment for an extended period of time, but never installed. These MSSVs had been previously installed at QCNPS, refurbished in accordance with the ASME-OM Code-certified procedure, and were waiting to be installed as replacement MSSVs. The controlled environment in which these MSSVs were stored was not subject to thermal cycling or vibration (i.e., the conditions to which installed MSSVs are subjected).

The purpose of the additional testing was to recertify the four MSSVs as contingency valves. These MSSVs, which are listed in Table 4, had been maintained in this controlled environment for the duration indicated in the table. The lift setpoint test results for the four MSSVs are also shown in Table 4. Three of the four stored MSSVs opened at a pressure within the TS acceptance criteria of $\pm 1\%$. Although the test result for one stored MSSV exceeded the TS acceptance criteria, the result was in a negative, or conservative direction.