

RS-03-113

June 6, 2003

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

Quad Cities Nuclear Power Station, Units 1 and 2  
Facility Operating License Nos. DPR-29 and DPR-30  
NRC Docket Nos. 50-254 and 50-265

Subject: Reactor Coolant System Pressure and Temperature Limits

- References:
- (1) Letter from S. N. Bailey (U. S. NRC) to O. D. Kingsley (Exelon Generation Company, LLC), "Quad Cities – Issuance of Amendments – Revised Pressure-Temperature Limits (TAC Nos. MA7138 and MA7139)," dated February 4, 2000
  - (2) Letter from S. N. Bailey (U. S. NRC) to O. D. Kingsley (Exelon Generation Company, LLC), "Quad Cities Nuclear Power Station, Units 1 and 2 – Issuance of Amendments for Extended Power Uprate (TAC Nos. MB0842 and MB0843)," dated December 21, 2001
  - (3) NRC Regulatory Guide 1.190, "Calculational and Dosimetry Methods for Determining Pressure Vessel Neutron Fluence," dated March 2001
  - (4) NEDC-32983P, "General Electric Methodology for Reactor Pressure Vessel Fast Neutron Flux Evaluations"
  - (5) Letter from R. M. Krich (Exelon Generation Company, LLC) to U. S. NRC, "Additional Fluence Information Supporting the License Amendment Request to Permit Uprated Power," dated June 5, 2001
  - (6) Letter from S. A. Richards (U. S. NRC) to J. F. Klapproth (GE Nuclear Energy), "Safety Evaluation for NEDC-32983P, 'General Electric Methodology for Reactor Pressure Vessel Fast Neutron Flux Evaluation' (TAC No. MA9891)," dated September 14, 2001

In Reference 1, the NRC issued Amendment Nos. 195 and 191 to the Facility Operating Licenses for Quad Cities Nuclear Power Station (QCNPS), Units 1 and 2, respectively. These amendments approved use of the current pressure and temperature (P/T) limits

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curves in QCNPS Technical Specifications (TS) Section 3.4.9, "RCS Pressure and Temperature (P/T) Limits," through 32 effective full power years (EFPY).

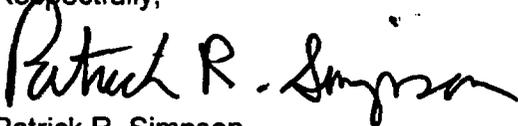
As described in Reference 2, the NRC subsequently identified technical issues with the methodology used to derive the fluence values used in the P/T limits evaluation. Specifically, the original fluence estimate was based on early dosimetry and associated analysis, which did not satisfy the guidance of NRC Regulatory Guide 1.190 (i.e., Reference 3).

New fluence estimates were calculated using the fluence methodology of General Electric topical report NEDC-32983P (i.e., Reference 4) to support EGC's license amendment request related to extended power uprate (EPU). However, since Reference 4, at that time, was still under review by the NRC, EGC proposed in Reference 5 that the NRC approve P/T limits for a shorter period (i.e., until November 30, 2004, for Unit 1 and until March 10, 2004, for Unit 2). As described in Reference 2, the NRC determined that with this alternative, there was adequate assurance of safety for the proposed time limit (i.e., one cycle of EPU operation). However, the NRC noted that new fluence predictions using NRC-accepted methodologies are required to justify continued operation beyond the proposed time limit. Reference 2 further states that EGC has committed to revising the fluence predictions using an acceptable methodology before the end of the first cycle of EPU operation on each unit or to provide justification for continued use of the existing fluence estimate.

To satisfy this commitment, General Electric developed new P/T curves for QCNPS incorporating appropriate non-beltline limits and irradiation embrittlement effects in the beltline. The new curves are based on fluence calculated in accordance with Reference 4, which was approved by the NRC in Reference 6, and adheres to the guidance in Reference 3. The new curves produce limits that are bounded by the limits approved by the NRC in Reference 1 and validate that the existing P/T curves in TS Section 3.4.9 are conservative through 32 EFPY. Therefore, a license amendment is not needed and all actions associated with the commitment documented in Reference 2 have been completed.

If you have any questions or require additional information, please contact Mr. Kenneth M. Nicely at (630) 657-2803.

Respectfully,



Patrick R. Simpson  
Manager - Licensing  
Mid-West Regional Operating Group