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RS-02-015

January 18, 2002

Mr. James Dyer  
Regional Administrator – NRC Region III  
801 Warrenville Road  
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Dresden Nuclear Power Station, Units 2 and 3  
Facility Operating License Nos. DPR-19 and DRP-25  
NRC Docket Nos. 50-237 and 50-249

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:** Communications with the NRC Regarding the Quad Cities Nuclear Power Station, Unit 1 Jet Pump Hold Down Beam Replacement Activities and Continued Operation of Quad Cities Nuclear Power Station, Unit 2 and Dresden Nuclear Power Station, Units 2 and 3.

On January 9, 2002, in accordance with 10 CFR 50.72, "Immediate notification requirements for operating nuclear power reactors," paragraph (b)(2)(i), Exelon Generation Company (EGC), LLC, notified the NRC of a shutdown required by Technical Specifications for Quad Cities Nuclear Power Station (QCNPS) Unit 1, which was caused by a failure of a reactor vessel jet pump. The purpose of this letter is to inform the NRC of our jet pump hold down beam (beam) repair/replacement actions and to summarize the bases of jet pump operability determinations for QCNPS Unit 2 and Dresden Nuclear Power Station (DNPS) Units 2 and 3. This letter also describes our intent to keep the NRC informed of future actions as the related laboratory analyses are completed to support the root cause determination.

QCNPS is replacing all of the original design beams in Unit 1 with redesigned beams prior to unit restart. The redesigned beams are less susceptible to intergranular stress corrosion cracking (IGSCC). In addition, all of the original design beams on QCNPS Unit 2 will be replaced during the upcoming Unit 2 refueling outage, currently scheduled to begin on February 12, 2002. We will also replace the original design beams on DNPS Units 2 and 3 at a time to be determined based on the results of the continuing process of assessing operability.

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The operability determinations support continued operability of the jet pumps at QCNPS Unit 2 and DNPS Units 2 and 3. These operability determinations are based on the available information regarding the QCNPS Unit 1 beam failure. The beams are currently inspected in two known high stress areas, the bolt hole region and the ear region, as recommended by current industry guidance. The QCNPS Unit 1 beam failure occurred in an area of lower stress, between these two inspection sites (i.e., the transition region). There are currently no recommended inspections for this region of the beam. The QCNPS Unit 1 1998 in-vessel inspection (IVVI) tapes were reviewed after the failure, and identified the presence of this flaw in the transition region. The failure mechanism for the beam has been initially determined to be IGSCC in the transition region of the beam. Based on visual inspections of the failed beam fracture surfaces, and given that this transition region is an area of lower stress, it is believed that the failed beam had a unique initiation site in this region which caused this beam to develop a flaw and fail. A review conducted of the DNPS Unit 2 1999 IVVI tapes, which captured the upper surfaces of the transition area of all twenty beams, did not identify indications which were similar to the indication observed in the 1998 QCNPS IVVI tape. There has been no other industry experience regarding beam failures in the transition region. As such, there is reasonable assurance that the remaining beams will remain intact and operable until they are replaced. Additional laboratory analysis and a root cause evaluation are being performed to further characterize the failure mechanism.

Within the next eight weeks, we will complete the root cause evaluation of the QCNPS Unit 1 failure. This is a reasonable period of time to complete the detailed laboratory analysis, which is expected to confirm the conclusion of the operability determinations.

We will work with the appropriate NRC personnel to schedule a meeting prior to the expiration period of the operability determinations. In this meeting we plan to discuss our finding with respect to the QCNPS Unit 1 laboratory analysis, root cause evaluation, and our determination related to continued operability of the jet pumps. We will also provide the schedule for replacement of the hold down beams on DNPS Units 2 and 3.

Should you have any questions related to this letter, please contact Mr. Keith R. Jury at (630) 657-2831.

Respectfully,



Jeffrey A. Benjamin  
Vice President - Licensing and Regulatory Affairs

cc:           Director, Office of Nuclear Reactor Regulation  
              NRC Senior Resident Inspector – Dresden Nuclear Power Station  
              NRC Senior Resident Inspector – Quad Cities Nuclear Power Station  
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