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RS-01-289

December 10, 2001

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

Dresden Nuclear Power Station, Units 2 and 3  
Facility Operating License Nos. DPR-19 and DPR-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

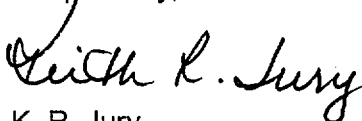
Subject: Additional Information Supporting the License Amendment Request to Permit Uprated Power Operation, Dresden Nuclear Power Station, Units 2 and 3, Quad Cities Nuclear Power Station, Units 1 and 2

Reference: Letter from R. M. Krich (Commonwealth Edison Company) to U. S. NRC, "Request for License Amendment for Power Uprate Operation," dated December 27, 2000

In the referenced letter, Commonwealth Edison Company, now Exelon Generation Company (EGC), LLC, submitted a request for changes to the operating licenses and Technical Specifications for Dresden Nuclear Power Station, Units 2 and 3, and Quad Cities Nuclear Power Station, Units 1 and 2, to allow operation at uprated power levels. In telephone conferences on November 29, 2001, and December 3, 2001, between Mr. A. R. Haeger of EGC and Mr. S. N. Bailey and Mr. L. W. Rossbach of the NRC, the NRC requested additional information regarding these proposed changes. The attachment to this letter provides the requested information.

Should you have any questions related to this letter, please contact Mr. Allan R. Haeger at (630) 657-2807.

Respectfully,



K. R. Jury  
Director - Licensing  
Mid-West Regional Operating Group

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December 10, 2001  
U.S. Nuclear Regulatory Commission  
Page 2

Attachments:

Affidavit  
Additional Information Supporting the License Amendment Request to Permit Up-rated Power  
Operation, Dresden Nuclear Power Station, Units 2 and 3, Quad Cities Nuclear Power Station,  
Units 1 and 2

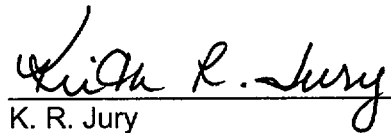
cc: Regional Administrator – NRC Region III  
NRC Senior Resident Inspector – Quad Cities Nuclear Power Station  
NRC Senior Resident Inspector – Quad Cities Nuclear Power Station  
Office of Nuclear Facility Safety – Illinois Department of Nuclear Safety

STATE OF ILLINOIS )  
COUNTY OF DUPAGE )  
IN THE MATTER OF )  
EXELON GENERATION COMPANY, LLC ) Docket Numbers  
DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3 ) 50-237 AND 50-249  
QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2 ) 50-254 AND 50-265

**SUBJECT:** Additional Information Supporting the License Amendment Request to Permit  
Upgraded Power Operation, Dresden Nuclear Power Station, Units 2 and 3, Quad  
Cities Nuclear Power Station, Units 1 and 2

**AFFIDAVIT**

I affirm that the content of this transmittal is true and correct to the best of my  
knowledge, information and belief.

  
\_\_\_\_\_  
K. R. Jury  
Director – Licensing  
Mid-West Regional Operating Group

Subscribed and sworn to before me, a Notary Public in and  
for the State above named, this \_\_\_\_\_ day of  
\_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
Notary Public

**Attachment**  
**Additional Information Supporting the License Amendment Request to Permit**  
**Up-rated Power Operation,**  
**Dresden Nuclear Power Station, Units 2 and 3,**  
**Quad Cities Nuclear Power Station, Units 1 and 2**

Question

- 1) *Test results and other justification regarding the acceptability of short term emergency core cooling system (ECCS) pump cavitation were supplied for Dresden Nuclear Power Station (DNPS) in Reference 1. Describe whether or not this information is applicable to Quad Cities Nuclear Power Station (QCNPS).*

Response

Cavitation testing was performed in 1969 by Bingham Pump Company, the original vendor for the DNPS and QCNPS ECCS pumps. As described in the DNPS Updated Final Safety Analysis Report (UFSAR) Section 6.3.3.4.3.1, "CS/LPCI PUMP Post-LOCA Short Term Evaluation," the tested pump was a QCNPS residual heat removal (RHR) pump. The DNPS UFSAR discusses the applicability of the QCNPS RHR pump cavitation test results to the DNPS low pressure coolant injection pumps and core spray pumps. The test results similarly apply to the QCNPS core spray pumps, since the ECCS pumps are all of the same model type and same impeller pattern with only minor impeller diameter differences between the RHR and core spray pumps.

The referenced DNPS UFSAR section also demonstrates that, for pre-extended power uprate (EPU) conditions, adequate ECCS flow is obtained during the brief period of pump cavitation since the flow reduction is minimal and occurs after the peak cladding temperature is reached. A similar conclusion is noted in QCNPS UFSAR Section 6.3.3.2.9, "Net Positive Suction Head Availability." For EPU, the short-term net positive suction head deficit is reduced compared to the pre-EPU case. This is because the effects of increased EPU containment pressure more than offset the increased suppression pool temperature throughout the period of interest (i.e., from 290-600 seconds into the accident). Thus, the flow reduction for the EPU case is less than for the pre-EPU case. As with the pre-EPU case, the period of cavitation during the EPU case occurs after the peak cladding temperature is reached. Therefore, adequate ECCS flow will still be obtained for both DNPS and QCNPS during the brief period of pump cavitation.

Question

- 2) *Provide a summary of changes that were included in the revised Power Uprate Safety Analysis Reports (PUSARs) submitted in Reference 2.*

Response

Except where indicated, the following changes apply to the PUSARs for both DNPS and QCNPS.

- Section 4.2.5 Revised the NPSH discussion and overpressure credit for DNPS as reflected in the response to Question 9 in Reference 3
- Section 5.3.8 Added description of changes for reactor water level low setpoint change

**Attachment**  
**Additional Information Supporting the License Amendment Request to Permit**  
**Up-rated Power Operation,**  
**Dresden Nuclear Power Station, Units 2 and 3,**  
**Quad Cities Nuclear Power Station, Units 1 and 2**

- Section 6.1.2 Revised the sentence regarding the procedurally controlled load shedding scheme to delete the time limit, formerly stated as three hours
- Section 8.4.3 Revised the discussion of increase in fission product inventory to match the response to Question 23 in Reference 4
- Table 9-7 For QCNPS, revised values to reflect values provided in Reference 5
- Table 9-9 Revised values to reflect values provided in Reference 5
- Section 9.4.1 Revised peak suppression pool temperature for anticipated transient without scram from 200 degrees F to 201 degrees F
- Section 11.3 Revised discussion to reflect an expected increase in the quantity of spent fuel, as stated in the response to Question 28 in Reference 4
- Table 11-1 Revised table to reflect all requested Technical Specifications changes

**References**

1. Letter from U. S. NRC to I. Johnson (Commonwealth Edison Company), "Issuance of Amendments to Resolve an Unreviewed Safety Question Related to Emergency Core Cooling System Suction Strainer Pressure Drop," dated January 28, 1997
2. Letter from K. A. Ainger (Exelon Generation Company, LLC) to U. S. NRC, "Safety Analysis Reports Supporting the License Amendment Request to Permit Up-rated Power Operation," dated August 31, 2001
3. Letter from K. A. Ainger (Exelon Generation Company, LLC) to U. S. NRC, "Additional Plant Systems Information Supporting the License Amendment Request to Permit Up-rated Power Operation, Dresden Nuclear Power Station and Quad Cities Nuclear Power Station," dated August 13, 2001
4. Letter from K. A. Ainger (Exelon Generation Company, LLC) to U. S. NRC, "Additional Plant Systems Information Supporting the License Amendment Request to Permit Up-rated Power Operation, Dresden Nuclear Power Station and Quad Cities Nuclear Power Station," dated August 7, 2001
5. Letter from R. M. Krich (Exelon Generation Company, LLC) to U. S. NRC, "Additional Offsite Dose Information Supporting the License Amendment Request to Permit Up-rated Power Operation," dated July 6, 2001