



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

June 25, 2012

Mr. Michael J. Pacilio  
President and Chief Nuclear Officer  
Exelon Nuclear  
4300 Winfield Road  
Warrenville, IL 60555

SUBJECT: DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3, REVIEW OF  
COMMITMENT SUBMITTAL FOR LICENSE RENEWAL REGARDING  
OPERATING EXPERIENCE AT EXTENDED POWER UPRATE LEVEL  
(TAC NOS. ME7583 AND ME7584)

Dear Mr. Pacilio:

By letter dated November 18, 2009, Exelon Generation Company, LLC, the licensee for Dresden Nuclear Power Station, Units 2 and 3, submitted information to fulfill a commitment for license renewal regarding operating experience at extended power uprate (EPU) levels. The licensee's commitment is specified in Commitment no. 51 in Appendix A of NUREG-1796, "Safety Evaluation Report Related to the License Renewal of the Dresden Nuclear Power Station, Units 2 and 3 and Quad Cities Nuclear Power Station, Units 1 and 2," dated October 2004. Commitment no. 51 states that Exelon will "...perform an evaluation of operating experience at extended power uprate (EPU) levels prior to the period of extended operation to ensure that operating experience at EPU levels is properly addressed by the aging management programs. The evaluation will include the Dresden and Quad Cities units and other plants operating at EPU levels. Exelon will submit this evaluation to the NRC for review prior to entering the period of extended operation for each facility."

M. Pacilio

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The NRC staff reviewed the information in the licensee's letter and determined that the licensee has fulfilled Commitment no. 51 for license renewal.

Sincerely,

A handwritten signature in black ink, appearing to read "Heather M. Jones", with a stylized flourish at the end.

Heather M. Jones, Project Manager  
Subsequent Renewal, Guidance, and Operations Branch  
Division of License Renewal  
Office of Nuclear Reactor Regulation

Docket Nos. 50-237 & 50-249

Enclosure:  
Review of Commitment

cc w/encl: Listserv

OFFICE OF NUCLEAR REACTOR REGULATION  
REVIEW OF COMMITMENT FOR LICENSE RENEWAL  
EVALUATION OF OPERATING EXPERIENCE AT EXTENDED POWER UPRATE LEVEL  
PRIOR TO PERIOD OF EXTENDED OPERATION DRESDEN NUCLEAR POWER STATION,  
UNITS 2 AND 3  
DOCKET NOS. 50-237 & 50-249

By letter dated November 18, 2009, Exelon Generation Company, LLC (EGC), the licensee of Dresden Nuclear Power Station (DNPS), Units 2 and 3, submitted information to document completion of a commitment to evaluate operate experience at extended power uprate (EPU) levels prior to the period of extended operation to ensure that operating experience at EPU levels is properly addressed by the license renewal aging management programs (AMPs).

Background

In accordance with Part 54, "Requirements for Renewal of Operating Licenses for Nuclear Power Plants," of Title 10 of the *Code of Federal Regulations* (10 CFR Part 54), the NRC issued renewed operating licenses for DNPS, Units 2 and 3, on October 28, 2004. NUREG-1796, "Safety Evaluation Report Related to the License Renewal of the Dresden Nuclear Power Station, Units 2 and 3 and Quad Cities Nuclear Power Station, Units 1 and 2," dated October 2004, documents the NRC staff's technical review of the DNPS, Units 2 and 3, license renewal application. Appendix A, "Commitments for License Renewal," of NUREG-1796 lists the commitments made related to AMPs to manage the aging effects of structures, systems, and components before the period of extended operation.

The subject commitment is item number 51 in this list. It states:

Exelon will perform an evaluation of operating experience at extended power uprate (EPU) levels prior to the period of extended operation to ensure that operating experience at EPU levels is properly addressed by the aging management programs. The evaluation will include the Dresden and Quad Cities units and other plants operating at EPU levels. Exelon will submit this evaluation to the NRC for review prior to entering the period of extended operation for each facility.

The licensee provided this commitment by letter dated October 8, 2004, which is available under ADAMS Accession No. ML042960069.

The commitment was made to address a recommendation from the Advisory Committee on Reactor Safeguards (ACRS). Based on its review of the license renewal application, the ACRS recommended that, "[t]he staff should require that, prior to entering the period of extended operation, Exelon conduct an evaluation to ensure that operating experience at extended power uprate (EPU) levels is properly addressed by the aging management programs," and "[t]he staff should review and approve this evaluation." The ACRS supported its recommendation by citing:

- incidents of steam dryer damage at Quad Cities, Units 1 and 2, while operating at increased power output after EPU
- limited operating time at EPU levels

- BWR Owners Group survey of EPU plants, which identified component failures, potential decreases in time between failures, unexpected increases in component wear, and a significant number of events directly attributable to EPUs

The full results of the ACRS's review and further details on this specific recommendation are in a letter dated September 16, 2004, from Mario V. Bonaca, Chairman, ACRS, to Nils J. Diaz, Chairman, U.S. Nuclear Regulatory Commission, entitled, "Report on the Safety Aspects of the License Renewal Application for the Dresden 2 and 3 and Quad Cities 1 and 2 Nuclear Power Stations." A copy of this letter is in NUREG-1796, Section 5, "Review by the Advisory Committee on Reactor Safeguards."

#### Summary of Information in the Licensee's Letter Dated November 18, 2009

The licensee stated that it performed an operating experience review and evaluation to ensure that operating experience at EPU levels is properly addressed by the AMPs at DNPS, Units 2 and 3, and this review included experience reported by both EGC and non-EGC plants for operation at EPU conditions. The review included all reports on EPU events available on the Institute of Nuclear Power Operations Web site as of October 1, 2009. In addition, the licensee stated that it reviewed industry operating experience for each of the systems included in the scope of license renewal by using keyword searches.

Through its evaluations, the licensee stated that it identified 17 events applicable to the AMPs. The licensee found seven of these events to be related to steam dryer failures; however, it stated that it replaced the steam dryers on both DNPS units with a new, robust design and it manages their aging under the Periodic Inspection of Steam Dryers program. The licensee stated that nine events concerned active components, which are not within scope of the license renewal aging management review, and as such, are not included in any AMPs. The licensee stated that the last event was on degradation of a feedwater sparger bracket keeper, which is within the scope of license renewal and requires aging management. The licensee determined that this issue was not adequately addressed by an AMP, so the licensee entered the issue into the corrective action program to ensure that the components are adequately addressed by an AMP. The licensee stated that this last event was the only one not found to be satisfactorily addressed by an AMP.

#### NRC Staff Review

The NRC staff reviewed the licensee's letter to determine whether it contains sufficient information to demonstrate fulfillment of the commitment. The commitment consists of two parts. The first part is to evaluate operating experience at EPU levels, including the Dresden and Quad Cities units and other plants operating at EPU levels, prior to the period of extended operation to ensure that operating experience at EPU levels is properly addressed by the AMPs. The licensee stated that it reviewed operating experience reports from its own plants and from other plants for operation at EPU conditions. The licensee also stated that it evaluated those reports applicable to the DNPS AMPs. It found one case where an event was not satisfactorily addressed by one or more AMPs, and it entered the issue into the corrective action program. Therefore, the licensee has fulfilled the first part of the commitment because it reviewed plant-specific and industry operating experience related to operation at EPU conditions. The second part of the commitment is to submit the evaluation to the NRC for review prior to entering the period of extended operation for each facility. The licensee's letter states that it completed the operating experience review.

The letter is dated November 18, 2009, which is before the dates when DNPS, Units 2 and 3, entered their periods of extended operation, December 22, 2009, and January 12, 2011, respectively

The letter also provides the evaluation for NRC staff review. Therefore, the licensee has fulfilled the second part of the commitment.

#### Conclusion

The staff reviewed the information in the licensee's letter dated November 18, 2009, on completion of the commitment to review operating experience at EPU levels prior to the period of extended operation. Based on its review, the staff determines that the licensee has met the intent of this commitment for DNPS, Units 2 and 3.

Primary Contributor: Matt Homiack, NRR/DLR

Date: January 20, 2012

Letter to M. Pacilio from H. Jones dated June 25, 2012

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HJones

YDiaz-Sanabria

M. Pacilio

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The NRC staff reviewed the information in the licensee's letter and determined that the licensee has fulfilled Commitment no. 51 for license renewal.

Sincerely,

**/RA/**

Heather M. Jones, Project Manager  
Subsequent Renewal, Guidance, and Operations Branch  
Division of License Renewal  
Office of Nuclear Reactor Regulation

Docket Nos. 50-237 & 50-249

Enclosure:  
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ADAMS Accession No.: ML12167A183

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| NAME   | IKing        | HJones       | YDiaz-Sanabria | HJones        |
| DATE   | 06/ 21 /2012 | 06/ 22 /2012 | 06/ 25 /2012   | 06 / 25 /2012 |

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