



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

EXELON GENERATION COMPANY, LLC

DOCKET NO. 50-249

DRESDEN NUCLEAR POWER STATION, UNIT 3

RENEWED FACILITY OPERATING LICENSE NO. DPR-25

The U.S. Nuclear Regulatory Commission (Commission) having previously made the findings set forth in License No. DPR-25 issued on January 12, 1971, has now found that:

- a. The application to renew License No. DPR-25 filed by the Exelon Generation Company, LLC (the licensee) complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I, and all required notifications to other agencies or bodies have been duly made;
- b. Actions have been identified and have been or will be taken with respect to (1) managing the effects of aging during the period of extended operation on the functionality of structures and components that have been identified to require review under 10 CFR 54.21(a)(1), and (2) time-limited aging analyses that have been identified to require review under 10 CFR 54.21(c), such that there is reasonable assurance that the activities authorized by this renewed operating license will continue to be conducted in accordance with the current licensing basis, as defined in 10 CFR 54.3, for Dresden Nuclear Power Station, Unit 3 (facility or plant), and that any changes made to the plant's current licensing basis in order to comply with 10 CFR 54.29(a) are in accord with the Act and the Commission's regulations;
- c. The applicant* has submitted to the Commission all technical information required by Provisional Construction Permit No. CPPR-22, the Atomic Energy Act of 1954, as amended (the Act), and the rules and regulations of the Commission to complete the application for a construction permit and facility license dated February 10, 1966, as supplemented by application for a facility license dated November 17, 1967 and amended by Amendment Nos. 8 through 24, dated August 30, 1968, November 21, 1968, February 28, 1969, March 18, 1969, April 16, 1969, May 20, 1969, July 2, 1969, July 22, 1969, August 5, 1969, August 8, 1969, August 10, 1969, August 18, 1969, September 2, 1969, October 16, 1969, May 7, 1970, August 11, 1970 and September 4, 1970, respectively, (the application); and supplemented by the applicant's letter dated December 17, 1970, and telegram dated December 18, 1970;

*The Nuclear Regulatory Commission approved the transfer of the license from Commonwealth Edison Company to Exelon Generation Company, LLC on August 3, 2000.

- d. The Dresden Nuclear Power Station Unit 3 (the facility) has been substantially completed in conformity with Provisional Construction Permit No. CPPR-22, the application, the provisions of the Act and the rules and regulations of the Commission;
- e. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the regulations of the Commission;
- f. There is reasonable assurance: (i) that the facility can be operated at power levels not in excess of 2957 megawatts (thermal) in accordance with this license without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the rules and regulations of the Commission;
- g. Exelon Generation Company, LLC is technically and financially qualified to engage in the activities authorized by this renewed operating license in accordance with the rules and regulations of the Commission;
- h. Exelon Generation Company, LLC has furnished proof of financial protection to satisfy the requirements of 10 CFR Part 140;
- i. The issuance of this renewed operating license will not be inimical to the common defense and security or to the health and safety of the public; and
- j. After weighing the environmental, economic, technical, and other benefits of the facility against environmental and other costs and considering available alternatives, the issuance of this Renewed Facility Operating License No. DPR-25 is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

On the basis of the foregoing findings regarding this facility, Facility Operating License No. DPR-25, issued January 12, 1971, is superseded by Renewed Facility Operating License No. DPR-25, which is hereby issued to Exelon Generation Company, LLC (EGC or the licensee), to read as follows:

- 1. This renewed operating license applies to the Dresden Nuclear Power Station, Unit 3, a single cycle, boiling, light water reactor and electric generating equipment (the facility). The facility is located at the Dresden Nuclear Power Station in Grundy County, Illinois, and is described in the "Safety Analysis Report," as supplemented and amended (Amendment Nos. 8 through 24).
- 2. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses Exelon Generation Company, LLC:
 - A. Pursuant to Section 104b of the Act and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," to possess, use, and operate the facility as

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a utilization facility at the designated location at the Dresden Nuclear Power Station, in accordance with the procedures and limitations set forth in this renewed operating license;

- B. Pursuant to the Act and 10 CFR Part 70, to receive, possess and use at any time special nuclear material, not including plutonium, as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Final Safety Analysis Report, as supplemented and amended as of September 3, 1976;
- C. Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess and use at any time any byproduct, source and special nuclear materials as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts required;
- D. Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument and equipment calibration or associated with radioactive apparatus or components; and
- E. Pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the Dresden Nuclear Power Station, Unit Nos. 1, 2, and 3.
- F. Surveillance Requirements

The Surveillance Requirements contained in Appendix A Technical Specifications and listed below are not required to be performed immediately upon implementation of Amendment No. 145:

- a. Surveillance Requirement 4.1A.2 - RPS Logic System Functional Test
- b. Surveillance Requirement 4.2.A.2 - Primary & Secondary Containment Logic System Functional Test
- c. Surveillance Requirement 4.2.J.2 - Feedwater Pump Trip Logic System Functional Test
- d. Surveillance Requirement 4.6.F.1.b - Relief Valve Logic System Functional Test
- e. Surveillance Requirement 4.9.A.9 - Simultaneous Diesel Generator Start

f. Surveillance Requirement 4.9.A.10 - Diesel Storage Tank Cleaning
(Unit 3 and Unit 2/3 only)

Each of the above Surveillance Requirements shall be successfully demonstrated prior to entering into MODE 2 on the first plant startup following the fourteenth refueling outage (D3R14).

3. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations: 10 CFR Part 20, Section 30.34 of 10 CFR Part 30, Section 40.41 of 10 CFR Part 40, Sections 50.54 and 50.59 of 10 CFR Part 50, and Section 70.32 of 10 CFR Part 70; is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

A. Maximum Power Level

The licensee is authorized to operate the facility at steady state power levels not in excess of 2957 megawatts (thermal), except that the licensee shall not operate the facility at power levels in excess of five (5) megawatts (thermal), until satisfactory completion of modifications and final testing of the station output transformer, the auto-depressurization interlock, and the feedwater system, as described in the licensee's telegrams; dated February 26, 1971, have been verified in writing by the Commission.

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 266, are hereby incorporated into this renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

C. Reports

The licensee shall make certain reports in accordance with the requirements of the Technical Specifications.

D. Records

The licensee shall keep facility operating records in accordance with the requirements of the Technical Specifications.

E. Restrictions

Operation in the coastdown mode is permitted to 40% power

- F. The licensee shall maintain the commitments made in response to the March 14, 1983, NUREG-0737 Order, subject to the following provision:

The licensee may make changes to commitments made in response to the March 14, 1983, NUREG-0737 Order without prior approval of the Commission as long as the change would be permitted without NRC approval, pursuant to the requirements of 10 CFR 50.59. Consistent with this regulation, if the change results in an Unreviewed Safety Question, a license amendment shall be submitted to the NRC staff for review and approval prior to implementation of the change.

- G. The licensee shall implement and maintain in effect all provisions of the approved fire protection program as described in the Updated Final Safety Analysis Report for the facility and as approved in the Safety Evaluation Reports dated March 22, 1978 with supplements dated December 2, 1980, and February 12, 1981; January 19, 1983; July 17, 1987; September 28, 1987; and January 5, 1989, subject to the following provision:

The licensee may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

- H. Physical Protection

The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822), and the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans¹, which contain Safeguards Information protected under 10 CFR 73.21, is entitled: "Dresden Nuclear Power Station Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan, Revision 2," submitted by letter dated May 17, 2006.

Exelon Generation Company shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan (CSP), including changes made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The Exelon Generation Company CSP was approved by License Amendment No. 231 and modified by License Amendment No. 239.

¹ The Training and Qualification Plan and Safeguards Contingency Plan are Appendices to the Security Plan.

- I. Deleted
- J. Deleted
- K. Deleted
- L. Deleted [Amdt. 87, 7-24-86]

M. Deleted [Amdt. 85, 12-12-85]

N. By Amendment No. 144, the license is amended to allow, on a one time temporary basis, operation of Dresden, Unit 3, with the corner room structural steel members in the Low Pressure Coolant Injection Corner Rooms outside the Updated Final Safety Analysis Report (UFSAR) design parameters. Operation under these conditions is allowed up to and including the next scheduled refueling outage (D3R14).

The repairs to Dresden, Unit 3, corner room structural steel shall restore the steel design margins to the current UFSAR (updated through Revision 1A) design criteria. The design of the modifications to the Dresden, Unit 3, corner room structural steel members will be based on use of elastic section modulus and the structural steel stresses will be limited to 1.6 of the American Institute of Steel Construction (AISC allowables). The modifications to Dresden, Unit 3, corner room structural steel will be implemented during the upcoming D3R14 refueling outage.

During this interim period of operation, should vibratory ground motion exceeding the UFSAR Operating Basis Earthquake (OBE) design parameters, Dresden, Unit 3, will be shut down for inspection and will not start up without prior NRC approval.

O. Additional Conditions

The Additional Conditions contained in Appendix B, as revised through Amendment No. 185, are hereby incorporated into this license. The licensee shall operate the facility in accordance with the Additional Conditions.

P. Deleted

Q. Deleted

R. Exelon Generation Company, LLC shall provide the Director of the Office of Nuclear Reactor Regulation a copy of any application, at the time it is filed, to transfer (excluding grants of security interests or liens) from Exelon Generation Company, LLC to its direct or indirect parent, or to any other affiliated company, facilities for the production, transmission, or distribution of electric energy having a depreciated book value exceeding ten percent (10%) of Exelon Generation Company, LLC's consolidated net utility plant, as recorded on Exelon Generation Company, LLC's books of account.

- S. Deleted.
- T. Deleted.
- U. Deleted.
- V. Exelon Generation Company, LLC shall relocate certain Technical Specification requirements to EGC-controlled documents upon implementation of the Amendment No. 180. The items and appropriate documents are as described in Table LA, "Removal of Details Matrix," and Table R, "Relocated Specifications," that are attached to the NRC's Safety Evaluation enclosed with Amendment No. 180.
- W. The schedule for performing Surveillance Requirements (SRs) that are new or revised in Amendment No. 180 shall be as follows:

For SRs that are new in this amendment, the first performance is due at the end of the first surveillance interval that begins on the date of implementation of Amendment No. 180.

For SRs that existed prior to this amendment whose intervals of performance are being reduced, the first reduced surveillance interval begins upon completion of the first surveillance performed after implementation of Amendment No. 180.

For SRs that existed prior to this amendment that have modified acceptance criteria, the first performance is due at the end of the first surveillance interval that began on the date the surveillance was last performed prior to the implementation of Amendment No. 180.

For SRs that existed prior to this amendment whose intervals of performance are being extended, the first extended surveillance interval begins upon completion of the last surveillance performed prior to implementation of Amendment No. 180.

- X. The license is amended to authorize changing the UFSAR to allow credit for containment over pressure as detailed below, to assure adequate Net Positive Suction Head is available for low pressure Emergency Core Cooling System pumps following a design-basis accident.

| From (sec) | To (sec) | Credit (psig) |
|----------------|--------------|---------------|
| Accident start | 290 | 9.5 |
| 290 | 5,000 | 4.8 |
| 5,000 | 30,000 | 6.6 |
| 30,000 | 40,000 | 6.0 |
| 40,000 | 45,500 | 5.4 |
| 45,500 | 52,500 | 4.9 |
| 52,500 | 60,500 | 4.4 |
| 60,500 | 70,000 | 3.8 |
| 70,000 | 84,000 | 3.2 |
| 84,000 | 104,000 | 2.5 |
| 104,000 | 136,000 | 1.8 |
| 136,000 | Accident end | 1.1 |

Y. Updated Final Safety Analysis Report

The Exelon Generation Company, LLC Updated Final Safety Analysis Report supplement, submitted pursuant to 10 CFR 54.21(d), describes certain future activities to be completed prior to the period of extended operation. The Exelon Generation Company, LLC shall complete these activities no later than January 12, 2011, and shall notify the NRC in writing when implementation of these activities is complete and can be verified by NRC inspection.

The Updated Final Safety Analysis Report supplement, as revised, shall be included in the next scheduled update to the Updated Final Safety Analysis Report required by 10 CFR 50.71(e)(4) following issuance of this renewed license. Until that update is complete, Exelon Generation Company, LLC may make changes to the programs and activities described in the supplement without prior Commission approval, provided that Exelon Generation Company, LLC evaluates such change pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.

- Z. All capsules in the reactor vessel that are removed and tested must meet the test procedures and reporting requirements of ASTM E 185-82 to the extent practicable for the configuration of the specimens in the capsule. Any changes to the capsule withdrawal schedule, including spare capsules, must be approved by the NRC prior to implementation. All capsules placed in storage must be maintained for future insertion.

AA. Mitigation Strategy License Condition

Develop and maintain strategies for addressing large fires and explosions and that include the following key areas:

- (a) Fire fighting response strategy with the following elements:
 - 1. Pre-defined coordinated fire response strategy and guidance
 - 2. Assessment of mutual aid fire fighting assets
 - 3. Designated staging areas for equipment and materials
 - 4. Command and control
 - 5. Training of response personnel

- (b) Operations to mitigate fuel damage considering the following:
 - 1. Protection and use of personnel assets
 - 2. Communications
 - 3. Minimizing fire spread
 - 4. Procedures for implementing integrated fire response strategy
 - 5. Identification of readily-available pre-staged equipment
 - 6. Training on integrated fire response strategy
 - 7. Spent fuel pool mitigation measures

- (c) Actions to minimize release to include consideration of:
 - 1. Water spray scrubbing
 - 2. Dose to onsite responders

- BB. The licensee shall implement and maintain all Actions required by Attachment 2 to NRC Order EA-06-137, issued June 20, 2006, except the last action that requires incorporation of the strategies into the site security plan, contingency plan, emergency plan and/or guard training and qualification plan, as appropriate.

- CC. Upon implementation of Amendment No. 218 adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air inleakage as required by SR 3.7.4.4, in accordance with TS 5.5.14.c.(i), the assessment of CRE habitability as required by Specification 5.5.14.c.(ii), and the measurement of CRE pressure as required by Specification 5.5.14.d, shall be considered met. Following implementation:
 - (1) The first performance of SR 3.7.4.4, in accordance with Specification 5.5.14.c.(i), shall be within the specified Frequency of 6 years, plus the 18-month allowance of SR 3.0.2, as measured from January 1997, the date of the most recent successful tracer gas test, as stated in the December 9, 2003 letter response to Generic Letter 2003-01, or within the next 18 months if the time period since the most recent successful tracer gas test is greater than 6 years.
 - (2) The first performance of the periodic assessment of CRE habitability, Specification 5.5.14.c.(ii), shall be within 3 years, plus the 9-month allowance of SR 3.0.2, as measured from January 1997, the date of the most recent successful tracer gas test, as stated in the December 9, 2003 letter response to Generic Letter 2003-01, or within the next 9 months if the time period since the most recent successful tracer gas test is greater than 3 years.
 - (3) The first performance of the periodic measurement of CRE pressure, Specification 5.5.14.d, shall be within 24 months, plus the 6 months allowed by SR 3.0.2, as measured from the date of the most recent successful pressure measurement test, or within 6 months if not performed previously.

- DD. Upon implementation of Amendment No. 242 the licensee shall adhere to the following requirements as part of the DNPS unit 3 spent fuel pool coupon surveillance program to ensure that the B-10 areal density of the BORAL remains at or above its minimum credited value and that the regulatory requirement to maintain the Technical Specification value of $k_{\text{eff}} \leq 0.95$ continues to be met:
- (1) Ensure that coupon measurements of B-10 areal density are performed by a qualified laboratory;
 - (2) Ensure that the coupons are removed for evaluation every 10 years;
 - (3) Ensure that should any coupon be identified as failing the minimum certified B-10 areal density criterion based on coupon test results, EGC will perform in-situ testing to confirm that the minimum B-10 areal density (0.02 g/cm^2) is met for the BORAL panels installed in the DNPS spent fuel pools; and,
 - (4) Submit a report to the NRC within 90 days following the completion of evaluations associated with Item 3 above. The report shall include; a description of the testing results, the assessments performed, and the interim and long-term corrective actions for abnormal indications.

4. This renewed operating license is effective as of the date of issuance and shall expire at midnight on January 12, 2031.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

J. E. Dyer, Director
Office of Nuclear Reactor Regulation

Attachments:

1. Appendix A – Technical Specifications
 2. Appendix B – Additional Conditions
- Date of Issuance: October 28, 2004

Renewed License No. DPR-25
Amendment No. 218

Appendix A: Technical Specifications

Dresden 3 uses the same Appendix A as Dresden 2. Please refer to Dresden 2 for Appendix A (ML052990131).

APPENDIX B

ADDITIONAL CONDITIONS

FACILITY OPERATING LICENSE NO. DPR-25

The licensee shall comply with the following conditions on the schedules noted below:

| <u>Amendment Number</u> | <u>Additional Condition</u> | <u>Implementation Date</u> |
|-----------------------------|---|--|
| 152 | The licensee shall complete the evaluation of the torus attached piping. | Prior to Unit 3 returning to Mode 3 from refueling outage D3R14. |
| 152 | The EOPs shall be changed to alert operator to NPSH concerns and to make containment spray operation consistent with the overpressure requirements for NPSH. | Shall be implemented within 30 days after issuance of Amendment No. 152. |
| 155 | This amendment authorizes the licensee to incorporate in the Updated Final Safety Analysis Report (UFSAR), the description of the Reactor Coolant System design pressure, temperature and volume that was removed from Technical Specification Section 5.4, and evaluated in a safety evaluation dated June 12, 1997. | 30 days from the date of issuance of Amendment No. 155. |

| <u>Amendment Number</u> | <u>Additional Condition</u> | <u>Implementation Date</u> |
|-----------------------------|--|--|
| 158 | The licensee shall review the Dresden Operation Annunciator and General Abnormal Conditions Procedures and revise them as required to ensure operator action is taken in a timely manner to limit occupational doses and environmental releases. | 60 days from the date of issuance of Amendment No. 158 |
| 158 | The licensee shall change the set points for the Main Steam Line Radiation Monitor and Offgas System Radiation Monitor alarms to 1.5 times the normal full power N-16 background (with hydrogen addition) dose rates. | 60 days from the date of issuance of Amendment No. 158 |