



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

July 22, 2009

Mr. Charles G. Pardee
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: BRAIDWOOD STATION, UNITS 1 AND 2, AND BYRON STATION, UNIT NOS. 1 AND 2 - ISSUANCE OF AMENDMENTS RE: CLARIFICATION OF OPERATING LICENSE AND TECHNICAL SPECIFICATIONS (TAC NOS. MD9360, MD9361, MD9362, AND MD9363)

Dear Mr. Pardee:

The Nuclear Regulatory Commission (the Commission) has issued the enclosed Amendment No.160 to Facility Operating License No. NPF-72 and Amendment No.160 to Facility Operating License No. NPF-77 for the Braidwood Station, Units 1 and 2, and Amendment No.165 to Facility Operating License No. NPF-37 and Amendment No.165 to Facility Operating License No. NPF-66 for the Byron Station, Unit Nos. 1 and 2, respectively.

The amendments are in response to your application dated July 29, 2008 (Agencywide Documents Access and Management System Accession No. ML082120328), to remove time, cycle, or modification-related items from the facility operating licenses and technical specifications (TSs) for both stations and to correct typographical errors introduced into the TSs at both stations in a previous amendment.

A copy of the Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

A handwritten signature in black ink, appearing to read "Marshall J. David".

Marshall J. David, Senior Project Manager
Plant Licensing Branch III-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. STN 50-456, STN 50-457,
STN 50-454, and STN 50-455

Enclosures:

1. Amendment No.160 to NPF-72
2. Amendment No.160 to NPF-77
3. Amendment No.165 to NPF-37
4. Amendment No.165 to NPF-66
5. Safety Evaluation

cc w/encls: Distribution via Listserv



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

EXELON GENERATION COMPANY, LLC

DOCKET NO. STN 50-456

BRAIDWOOD STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 160
License No. NPF-72

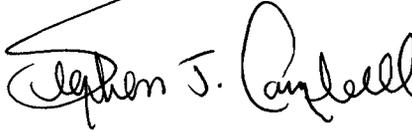
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Exelon Generation Company, LLC (the licensee) dated July 29, 2008, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications and Facility Operating License as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-72 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No.160, and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated into this license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date of its issuance and shall be implemented within 60 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in black ink that reads "Stephen J. Campbell". The signature is written in a cursive style with a large, sweeping initial 'S'.

Stephen J. Campbell, Chief
Plant Licensing Branch III-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications and Facility Operating License

Date of Issuance: July 22, 2009



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

EXELON GENERATION COMPANY, LLC

DOCKET NO. STN 50-457

BRAIDWOOD STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 160
License No. NPF-77

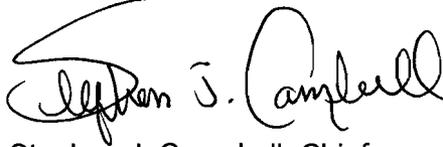
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Exelon Generation Company, LLC (the licensee) dated July 29, 2008, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications and Facility Operating License as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-77 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No.160, and the Environmental Protection Plan contained in Appendix B, both of which are attached to License No. NPF-72, dated July 2, 1987, are hereby incorporated into this license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date of its issuance and shall be implemented within 60 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in black ink, appearing to read "Stephen J. Campbell". The signature is written in a cursive style with a large, sweeping initial 'S'.

Stephen J. Campbell, Chief
Plant Licensing Branch III-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications and Facility Operating License

Date of Issuance: July 22, 2009

ATTACHMENT TO LICENSE AMENDMENT NOS.160 AND 160

FACILITY OPERATING LICENSE NOS. NPF-72 AND NPF-77

DOCKET NOS. STN 50-456 AND STN 50-457

Replace the following pages of the Facility Operating Licenses and the Appendix A Technical Specifications (TSs) with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove

License NPF-72
License Page 3
License Page 4
License Page 4b
License Page 5
License Attachment 1
License Appendix C, Page 1
License Appendix C, Page 2
License Appendix C, Page 3

License NPF-77
License Page 3
License Page 4
License Page 4b
License Page 5
License Page 6
License Appendix C, Page 1
License Appendix C, Page 2
License Appendix C, Page 3

TSs

v
vi
3.3.1-6
3.7.2-2
3.7.8-1
3.7.8-2

Insert

License NPF-72
License Page 3
License Page 4
License Page 4b
License Page 5
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License Appendix C, Page 1
License Appendix C, Page 2
--

License NPF-77
License Page 3
License Page 4
License Page 4b
License Page 5
License Page 6
License Appendix C, Page 1
License Appendix C, Page 2
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TSs

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3.3.1-6
3.7.2-2
3.7.8-1
3.7.8-2

- (3) Exelon Generation Company, 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 material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
 - (4) Exelon Generation Company, 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 calibration or associated with radioactive apparatus or components; and
 - (5) Exelon Generation Company, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.
- C. The license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and 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:
- (1) Maximum Power Level

The licensee is authorized to operate the facility at reactor core power levels not in excess of 3586.6 megawatts thermal (100 percent rated power) in accordance with the conditions specified herein and other items identified in Attachment 1 to this license. The items identified in Attachment 1 to this license shall be completed as specified. Attachment 1 is hereby incorporated into this license.
 - (2) Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No.160, and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated into this license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.
 - (3) Emergency Planning

In the event that the NRC finds that the lack of progress in completion of the procedures in the Federal Emergency Management Agency's final rule, 44 CFR Part 350, is an indication that a major substantive problem exists in achieving or maintaining an adequate state of emergency preparedness, the provisions of 10 CFR Section 50.54(s)(2) will apply.

(4) Deleted.

(5) Deleted.

(6) Deleted.

(7) Additional Conditions

The Additional Conditions contained in Appendix C, as revised through Amendment No. 160, are hereby incorporated into this license. The licensee shall operate the facility in accordance with the Additional Conditions.

(8) Exelon Generation Company shall provide to 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 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's consolidated net utility plant, as recorded on Exelon Generation Company's books of account.

(9) Exelon Generation Company shall have decommissioning trust funds for Braidwood, Unit 1, in the following minimum amount, when Braidwood, Unit 1, is transferred to Exelon Generation Company:

| | |
|------------------|---------------|
| Braidwood Unit 1 | \$154,273,345 |
|------------------|---------------|

(10) The decommissioning trust agreement for Braidwood, Unit 1, at the time the transfer of the unit to Exelon Generation Company is effected and thereafter, is subject to the following:

(a) The decommissioning trust agreement must be in a form acceptable to the NRC.

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

- D. An exemption was previously granted pursuant to 10 CFR 70.24. The exemption was granted with NRC materials license No. SNM-1938, issued October 8, 1985, and relieved the licensee from the requirement of having a criticality alarm system. Therefore, the licensee is exempted from the criticality alarm system provision of 10 CFR 70.24 so far as this section applies to the storage of fuel assemblies held under this license.
- E. The licensee shall implement and maintain in effect all provisions of the approved fire protection program as described in the Final Safety Analysis Report, as supplemented and amended, and as approved in the SER dated November 1983 and its supplements, 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.

- F. Exelon Generation Company shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualifications, 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 50354(p). The combined set of plans¹, which contain Safeguards Information protected under 10 CRF 73.21, is entitled: "Braidwood Station Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan, Revision 3," submitted by letter dated May 17, 2006.
- G. Deleted
- H. The licensee shall have and maintain financial protection of such type and in such amounts as the Commission shall require in accordance with Section 170 of the Atomic Energy Act of 1954, as amended, to cover public liability claims.
- I. This license is effective as of the date of issuance and shall expire at midnight on October 17, 2026.

FOR THE NUCLEAR REGULATORY COMMISSION

original signed by:

Thomas E. Murley, Director
Office of Nuclear Reactor Regulation

Attachments:

- 1. Appendix A – Technical Specifications (NUREG-1276)
- 2. Appendix B – Environmental Protection Plan
- 3. Appendix C – Additional Conditions

Date of Issuance: July 2, 1987

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

APPENDIX C

ADDITIONAL CONDITIONS

FACILITY OPERATING LICENSE NO. NPF-72

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> |
|-------------------------|--|--------------------------------------|
| 145 | <p>The safety limit equation specified in TS 2.1.1.3 regarding fuel centerline melt temperature (i.e., less than 5080 °F, decreasing by 58 °F per 10,000 MWD/MTU burnup as described in WCAP-12610-P-A, "VANTAGE+ Fuel Assembly Reference Core Report," April 1995) is valid for uranium oxide fuel without the presence of poisons mixed homogeneously into the fuel pellets. If fuel pellets incorporating homogeneous poisons are used, the topical report documenting the fuel centerline melt temperature basis must be reviewed and approved by the NRC and referenced in this license condition. TS 2.1.1.3 must be modified to also include the fuel centerline melt temperature limit for the fuel with homogeneous poison. During operation in Cycles 15, 16, and 17, up to eight (8) AREVA NP Advanced Mark-BW(A) fuel assemblies containing fuel pellets incorporating homogeneous poisons may be placed in nonlimiting Unit 1 core locations provided the fuel cycle designs are developed such that the TS 2.1.1.3 Safety Limit equation for Westinghouse fuel is bounding. The design basis for the AREVA NP fuel rod centerline melt follows that given in BAW-10162P-A, "TACO3 – Fuel Pin Thermal Analysis Computer Code," October 1989, and BAW-10184P-A, "GDTACO – Urania Gadolinia Fuel Pin Thermal Analysis Code," February 1995.</p> | With implementation of the amendment |

ADDITIONAL CONDITIONS

FACILITY OPERATING LICENSE NO. NPF-72

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> |
|-----------------------------|---|--------------------------------------|
| 146 | <p>Upon implementation of Amendment No. 146 adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air inleakage as required by SR 3.7.10.4, in accordance with TS 5.5.18.c.(i), the assessment of CRE habitability as required by Specification 5.5.18.c.(ii), and the measurement of CRE pressure as required by Specification 5.5.18.d, shall be considered met. Following implementation:</p> <p>(a) The first performance of SR 3.7.10.4, in accordance with Specification 5.5.18.c.(i), shall be within the specified Frequency of 6 years, plus the 18-month allowance of SR 3.0.2, as measured from November 7, 2004, the date of the most recent successful tracer gas test, as stated in the February 7, 2005 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.</p> <p>(b) The first performance of the periodic assessment of CRE habitability, Specification 5.5.18.c.(ii), shall be within 3 years, plus the 9-month allowance of SR 3.0.2, as measured from November 7, 2004, the date of the most recent successful tracer gas test, as stated in the February 7, 2005 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.</p> <p>(c) The first performance of the periodic measurement of CRE pressure, Specification 5.5.18.d, shall be within 18 months, plus the 138 days allowed by SR 3.0.2, as measured from the date of the most recent successful pressure measurement test, or within 138 days if not performed previously.</p> | With implementation of the amendment |

material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;

- (4) Exelon Generation Company, LLC 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 calibration or associated with radioactive apparatus or components; and
- (5) Exelon Generation Company, LLC, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. The license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and 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:

(1) Maximum Power Level

The licensee is authorized to operate the facility at reactor core power levels not in excess of 3586.6 megawatts thermal (100 percent rated power) in accordance with the conditions specified herein and other items identified in Attachment 1 to this license. The items identified in Attachment 1 to this license shall be completed as specified. Attachment 1 is hereby incorporated into this license.

(2) Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 160, and the Environmental Protection Plan contained in Appendix B, both of which are attached to License No. NPF-72, dated July 2, 1987, are hereby incorporated into this license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(3) Emergency Planning

In the event that the NRC finds that the lack of progress in completion of the procedures in the Federal Emergency Management Agency's final rule, 44 CFR Part 350, is an indication that a major substantive problem exists in achieving or maintaining an adequate state of emergency preparedness, the provisions of 10 CFR Section 50.54(s)(2) will apply.

(4) Deleted.

(5) Deleted.

(6) Additional Conditions

The Additional Conditions contained in Appendix C, as revised through Amendment No. 160 , are hereby incorporated into this license. The licensee shall operate the facility in accordance with the Additional Conditions.

(7) 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.

(8) Exelon Generation Company, LLC, shall have decommissioning trust funds for Braidwood, Unit 2, in the following minimum amount, when Braidwood, Unit 2, is transferred to Exelon Generation Company, LLC:

| | |
|------------------|---------------|
| Braidwood Unit 2 | \$154,448,967 |
|------------------|---------------|

(9) The decommissioning trust agreement for Braidwood, Unit 2, at the time the transfer of the unit to Exelon Generation Company, LLC is effected and thereafter, is subject to the following:

(a) The decommissioning trust agreement must be in a form acceptable to the NRC.

(b) With respect to the decommissioning trust fund, investments in the securities or other obligations of Exelon Corporation or affiliates thereof, or their successors or assigns are prohibited. Except for investments tied to market indexes or other non-nuclear sector mutual funds, investments in any entity owning one or more nuclear power plants are prohibited.

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

D. An exemption was previously granted pursuant to 10 CFR 70.24. The exemption was granted with NRC materials license No. SNM-1938, issued October 8, 1985, and relieved the licensee from the requirement of having a criticality alarm system. Therefore, the licensee is exempted from the criticality alarm system provision of 10 CFR 70.24 so far as this section applies to the storage of fuel assemblies held under this license.

- E. The licensee shall implement and maintain in affect all provisions of the approved fire protection program as described in the Final Safety Analysis Report, as supplemented and amended, and as approved in the SER dated November 1983 and its supplements, subject to the following provision:

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

- F. Exelon Generation Company shall fully implement and maintain in effect in all provisions of the Commission-approved physical security, training and qualifications, 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 50354(p). The combined set of plans¹, which contain Safeguards information protected under 10 CFR 73.21, is entitled: "Braidwood Station Security Plan, Training and Qualification Plan, and Safeguards Contingency Plan, Revision 3," submitted by letter dated May 17, 2006.
- G. Deleted
- H. The licensee shall have and maintain financial protection of such type and in such amounts as the Commission shall require in accordance with Section 170 of the Atomic Energy Act of 1954, as amended, to cover public liability claims.
- I. This license is effective as of date of issuance and shall expire at midnight on December 18, 2027.

FOR THE NUCLEAR REGULATORY COMMISSION

original signed by:

James H. Sniezek, Deputy Director
Office of Nuclear Reactor Regulation

Attachments:

1. Appendix A - Technical Specifications (NUREG -1276)
2. Appendix B - Environmental Protection Plan
3. Appendix C - Additional Conditions

Date of issuance: May 20, 1988

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

APPENDIX C

ADDITIONAL CONDITIONS

FACILITY OPERATING LICENSE NO. NPF-77

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> |
|-----------------------------|---|--------------------------------------|
| 122 | The safety limit equation specified in TS 2.1.1.3 regarding fuel centerline melt temperature (i.e., less than 5080 °F, decreasing by 58 °F per 10,000 MWD/MTU burnup as described in WCAP-12610-P-A, "VANTAGE+ Fuel Assembly Reference Core Report," April 1995) is valid for uranium oxide fuel without the presence of poisons mixed homogeneously into the fuel pellets. If fuel pellets incorporating homogeneous poisons are used, the topical report documenting the fuel centerline melt temperature basis must be reviewed and approved by the NRC and referenced in this license condition. TS 2.1.1.3 must be modified to also include the fuel centerline melt temperature limit for the fuel with homogeneous poison. | With implementation of the amendment |

ADDITIONAL CONDITIONS

FACILITY OPERATING LICENSE NO. NPF-77

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> |
|-----------------------------|---|--------------------------------------|
| 146 | <p>Upon implementation of Amendment No. 146 adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air leakage as required by SR 3.7.10.4, in accordance with TS 5.5.18.c.(i), the assessment of CRE habitability as required by Specification 5.5.18.c.(ii), and the measurement of CRE pressure as required by Specification 5.5.18.d, shall be considered met. Following implementation:</p> <p>(a) The first performance of SR 3.7.10.4, in accordance with Specification 5.5.18.c.(i), shall be within the specified Frequency of 6 years, plus the 18-month allowance of SR 3.0.2, as measured from November 7, 2004, the date of the most recent successful tracer gas test, as stated in the February 7, 2005 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.</p> <p>(b) The first performance of the periodic assessment of CRE habitability, Specification 5.5.18.c.(ii), shall be within 3 years, plus the 9-month allowance of SR 3.0.2, as measured from November 7, 2004, the date of the most recent successful tracer gas test, as stated in the February 7, 2005 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.</p> <p>(c) The first performance of the periodic measurement of CRE pressure, Specification 5.5.18.d, shall be within 18 months, plus the 138 days allowed by SR 3.0.2, as measured from the date of the most recent successful pressure measurement test, or within 138 days if not performed previously.</p> | With implementation of the amendment |

ACTIONS (continued)

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|--|--|---------------------------------|
| <p>N. One RTB train inoperable.</p> | <p>-----NOTE----- One train may be bypassed for up to 4 hours for surveillance testing, provided the other train is OPERABLE. -----</p> <p>N.1 Restore train to OPERABLE status.</p> <p><u>OR</u></p> <p>N.2 Be in MODE 3.</p> | <p>24 hours</p> <p>30 hours</p> |
| <p>O. One or more channels inoperable.</p> | <p>0.1 Verify interlock is in required state for existing unit conditions.</p> <p><u>OR</u></p> <p>0.2 Be in MODE 3.</p> | <p>1 hour</p> <p>7 hours</p> |

(continued)

SURVEILLANCE REQUIREMENTS

| SURVEILLANCE | FREQUENCY |
|--|--|
| <p>SR 3.7.2.1 -----NOTE----- Only required to be performed in MODES 1 and 2. ----- Verify closure time of each MSIV is ≤ 5 seconds.</p> | <p>In accordance with the Inservice Testing Program</p> |
| <p>SR 3.7.2.2 -----NOTE----- Only required to be performed in MODES 1 and 2. ----- Verify each MSIV actuates to the isolation position on an actual or simulated actuation signal.</p> | <p>18 months</p> |

3.7 PLANT SYSTEMS

3.7.8 Essential Service Water (SX) System

LCO 3.7.8 The following SX trains shall be OPERABLE:

- a. Two unit-specific SX trains; and
- b. One opposite-unit SX train for unit-specific support.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|--|---|-----------------|
| <p>A. One unit-specific SX train inoperable.</p> | <p>A.1</p> <p>-----NOTES-----</p> <p>1. Enter applicable Conditions and Required Actions of LCO 3.8.1, "AC Sources-Operating," for Emergency Diesel Generator made inoperable by SX.</p> <p>2. Enter applicable Conditions and Required Actions of LCO 3.4.6, "RCS Loops-MODE 4," for Residual Heat Removal loops made inoperable by SX.</p> <p>-----</p> <p>Restore unit-specific SX train to OPERABLE status.</p> | <p>72 hours</p> |

(continued)

ACTIONS (continued)

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|--|--|-----------------|
| B. Opposite-unit SX train inoperable. | B.1 Restore opposite-unit SX train to OPERABLE status. | 7 days |
| C. Required Action and associated Completion Time of Condition A or B not met. | C.1 Be in MODE 3. <u>AND</u> | 6 hours |
| | C.2 Be in MODE 5. | 36 hours |



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

EXELON GENERATION COMPANY, LLC

DOCKET NO. STN 50-454

BYRON STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 165
License No. NPF-37

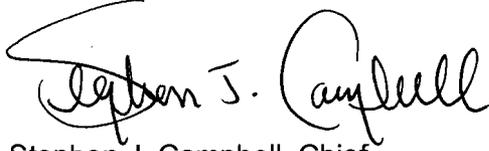
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Exelon Generation Company, LLC (the licensee) dated July 29, 2008, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications and Facility Operating License as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-37 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 65, and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated into this license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date of its issuance and shall be implemented within 60 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in black ink, reading "Stephen J. Campbell". The signature is written in a cursive style with a large, sweeping initial "S".

Stephen J. Campbell, Chief
Plant Licensing Branch III-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications and Facility Operating License

Date of Issuance: July 22, 2009



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

EXELON GENERATION COMPANY, LLC

DOCKET NO. STN 50-455

BYRON STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 165
License No. NPF-66

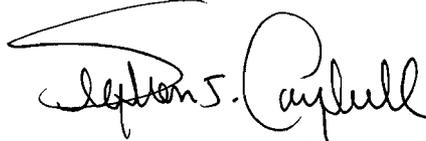
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Exelon Generation Company, LLC (the licensee) dated July 29, 2008, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications and Facility Operating License as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-66 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A (NUREG 1113), as revised through Amendment No. 165, and the Environmental Protection Plan contained in Appendix B, both of which are attached to License No. NPF-37, dated February 14, 1985, are hereby incorporated into this license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date of its issuance and shall be implemented within 60 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Stephen J. Campbell, Chief
Plant Licensing Branch III-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications and Facility Operating License

Date of Issuance: July 22, 2009

ATTACHMENT TO LICENSE AMENDMENT NOS.165 AND 165

FACILITY OPERATING LICENSE NOS. NPF-37 AND NPF-66

DOCKET NOS. STN 50-454 AND STN 50-455

Replace the following pages of the Facility Operating Licenses and the Appendix A Technical Specifications (TSs) with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove

License NPF-37

License Page 3
License Appendix C, Page 1
License Appendix C, Page 2
License Appendix C, Page 3

License NPF-66

License Page 3
License Appendix C, Page 1
License Appendix C, Page 2
License Appendix C, Page 3

TSs

v
vi
3.3.1-6
3.7.2-2
3.7.8-1
3.7.8-2
3.7.15-1
3.7.16-1
3.7.16-2
3.7.16-3
3.7.16-4
3.7.16-5
3.7.16-6
3.7.16-7
4.0-2

Insert

License NPF-37

License Page 3
License Appendix C, Page 1
License Appendix C, Page 2
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License NPF-66

License Page 3
License Appendix C, Page 1
License Appendix C, Page 2
--

TSs

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3.3.1-6
3.7.2-2
3.7.8-1
3.7.8-2
3.7.15-1
3.7.16-1
3.7.16-2
3.7.16-3
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4.0-2

- (4) 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 calibration or associated with radioactive apparatus or components; and
 - (5) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.
- C. The license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and 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:
- (1) Maximum Power Level

The licensee is authorized to operate the facility at reactor core power levels not in excess of 3586.6 megawatts thermal (100 percent power) in accordance with the conditions specified herein.
 - (2) Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 165, and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated into this license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.
 - (3) Deleted.
 - (4) Deleted.
 - (5) Deleted.
 - (6) The licensee shall implement and maintain in effect all provisions of the approved fire protection program as described in the licensee's Fire Protection Report, and as approved in the SER dated February 1987 through Supplement No. 8, 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.

APPENDIX C

ADDITIONAL CONDITIONS

FACILITY OPERATING LICENSE NO. NPF-37

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> |
|-------------------------|---|--------------------------------------|
| 127 | The safety limit equation specified in TS 2.1.1.3 regarding fuel centerline melt temperature (i.e., less than 5080 °F, decreasing by 58 °F per 10,000 MWD/MTU burnup as described in WCAP-12610-P-A, "VANTAGE+ Fuel Assembly Reference Core Report," April 1995) is valid for uranium oxide fuel without the presence of poisons mixed homogeneously into the fuel pellets. If fuel pellets incorporating homogeneous poisons are used, the topical report documenting the fuel centerline melt temperature basis must be reviewed and approved by the NRC and referenced in this license condition. TS 2.1.1.3 must be modified to also include the fuel centerline melt temperature limit for the fuel with homogeneous poison. | With implementation of the amendment |

ADDITIONAL CONDITIONS

FACILITY OPERATING LICENSE NO. NPF-37

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> |
|-----------------------------|---|--------------------------------------|
| 151 | <p>Upon implementation of Amendment No. 151 adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air inleakage as required by SR 3.7.10.4, in accordance with TS 5.5.18.c.(i), the assessment of CRE habitability as required by Specification 5.5.18.c.(ii), and the measurement of CRE pressure as required by Specification 5.5.18.d, shall be considered met. Following implementation:</p> <p>(a) The first performance of SR 3.7.10.4, in accordance with Specification 5.5.18.c.(i), shall be within the specified Frequency of 6 years, plus the 18-month allowance of SR 3.0.2, as measured from November 1, 2004, the date of the most recent successful tracer gas test, as stated in the January 31, 2005 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.</p> <p>(b) The first performance of the periodic assessment of CRE habitability, Specification 5.5.18.c.(ii), shall be within 3 years, plus the 9-month allowance of SR 3.0.2, as measured from November 1, 2004, the date of the most recent successful tracer gas test, as stated in the January 31, 2005 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.</p> <p>(c) The first performance of the periodic measurement of CRE pressure, Specification 5.5.18.d, shall be within 18 months, plus the 138 days allowed by SR 3.0.2, as measured from the date of the most recent successful pressure measurement test, or within 138 days if not performed previously.</p> | With implementation of the amendment |

- (3) 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 material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
- (4) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts are required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
- (5) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. The license shall be deemed to contain and is subject to the conditions specified in the Commission's regulation set forth in 10 CFR Chapter I and 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:

(1) Maximum Power Level

The licensee is authorized to operate the facility at reactor core power levels not in excess of 3586.6 megawatts thermal (100 percent rated power) in accordance with the conditions specified herein.

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A (NUREG 1113), as revised through Amendment No. 165, and the Environmental Protection Plan contained in Appendix B, both of which are attached to License No. NPF-37, dated February 14, 1985, are hereby incorporated into this license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

- (3) Deleted.
- (4) Deleted.
- (5) Deleted.

APPENDIX C

ADDITIONAL CONDITIONS

FACILITY OPERATING LICENSE NO. NPF-66

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> |
|-------------------------|---|--------------------------------------|
| 127 | The safety limit equation specified in TS 2.1.1.3 regarding fuel centerline melt temperature (i.e., less than 5080 °F, decreasing by 58 °F per 10,000 MWD/MTU burnup as described in WCAP-12610-P-A, "VANTAGE+ Fuel Assembly Reference Core Report," April 1995) is valid for uranium oxide fuel without the presence of poisons mixed homogeneously into the fuel pellets. If fuel pellets incorporating homogeneous poisons are used, the topical report documenting the fuel centerline melt temperature basis must be reviewed and approved by the NRC and referenced in this license condition. TS 2.1.1.3 must be modified to also include the fuel centerline melt temperature limit for the fuel with homogeneous poison. | With implementation of the amendment |

ADDITIONAL CONDITIONS

FACILITY OPERATING LICENSE NO. NPF-66

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> |
|-----------------------------|--|--------------------------------------|
| 151 | <p>Upon implementation of Amendment No. 151 adopting TSTF-448, Revision 3, the determination of control room envelope (CRE) unfiltered air inleakage as required by SR 3.7.10.4, in accordance with TS 5.5.18.c.(i), the assessment of CRE habitability as required by Specification 5.5.18.c.(ii), and the measurement of CRE pressure as required by Specification 5.5.18.d, shall be considered met. Following implementation:</p> <ul style="list-style-type: none">(a) The first performance of SR 3.7.10.4, in accordance with Specification 5.5.18.c.(i), shall be within the specified Frequency of 6 years, plus the 18-month allowance of SR 3.0.2, as measured from November 1, 2004, the date of the most recent successful tracer gas test, as stated in the January 31, 2005 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.(b) The first performance of the periodic assessment of CRE habitability, Specification 5.5.18.c.(ii), shall be within 3 years, plus the 9-month allowance of SR 3.0.2, as measured from November 1, 2004, the date of the most recent successful tracer gas test, as stated in the January 31, 2005 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.(c) The first performance of the periodic measurement of CRE pressure, Specification 5.5.18.d, shall be within 18 months, plus the 138 days allowed by SR 3.0.2, as measured from the date of the most recent successful pressure measurement test, or within 138 days if not performed previously. | With implementation of the amendment |

ACTIONS (continued)

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|-------------------------------------|--|-------------------------|
| N. One RTB train inoperable. | -----NOTE----- One train may be bypassed for up to 4 hours for surveillance testing, provided the other train is OPERABLE. ----- | 24 hour 30 hours |
| | N.1 Restore train to OPERABLE status. | |
| | <u>OR</u> N.2 Be in MODE 3. | |
| O. One or more channels inoperable. | 0.1 Verify interlock is in required state for existing unit conditions. | 1 hour |
| | <u>OR</u> 0.2 Be in MODE 3. | 7 hours |

(continued)

SURVEILLANCE REQUIREMENTS

| SURVEILLANCE | | FREQUENCY |
|--------------|--|--|
| SR 3.7.2.1 | <p>-----NOTE----- Only required to be performed in MODES 1 and 2. -----</p> <p>Verify closure time of each MSIV is ≤ 5 seconds.</p> | In accordance with the Inservice Testing Program |
| SR 3.7.2.2 | <p>-----NOTE----- Only required to be performed in MODES 1 and 2. -----</p> <p>Verify each MSIV actuates to the isolation position on an actual or simulated actuation signal.</p> | 18 months |

3.7 PLANT SYSTEMS

3.7.8 Essential Service Water (SX) System

LCO 3.7.8 The following SX trains shall be OPERABLE:

- a. Two unit-specific SX trains; and
- b. One opposite-unit SX train for unit-specific support.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|--|--|-----------------|
| <p>A. One unit-specific SX train inoperable.</p> | <p>A.1 -----NOTES----- 1. Enter applicable Conditions and Required Actions of LCO 3.8.1, "AC Sources-Operating," for Emergency Diesel Generator made inoperable by SX. 2. Enter applicable Conditions and Required Actions of LCO 3.4.6, "RCS Loops-MODE 4," for Residual Heat Removal loops made inoperable by SX. ----- Restore unit-specific SX train to OPERABLE status.</p> | <p>72 hours</p> |

(continued)

ACTIONS (continued)

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|--|--|-----------------|
| B. Opposite-unit SX train inoperable. | B.1 Restore opposite-unit SX train to OPERABLE status. | 7 days |
| C. Required Action and associated Completion Time of Condition A or B not met. | C.1 Be in MODE 3. | 6 hours |
| | C.2 Be in MODE 5. | 36 hours |

3.7 PLANT SYSTEMS

3.7.15 Spent Fuel Pool Boron Concentration

LCO 3.7.15 The spent fuel pool boron concentration shall be \geq 300 ppm. |

APPLICABILITY: Whenever fuel assemblies are stored in the spent fuel pool.

ACTIONS

-----NOTE-----
LCO 3.0.3 is not applicable.

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|--|--|-----------------|
| A. Spent fuel pool boron concentration not within limit. | A.1 Suspend movement of fuel assemblies in the spent fuel pool. | Immediately |
| | <u>AND</u> | |
| | A.2 Initiate action to restore spent fuel pool boron concentration to within limit. | Immediately |

3.7 PLANT SYSTEMS

3.7.16 Spent Fuel Assembly Storage

- LCO 3.7.16 Each spent fuel assembly stored in the spent fuel pool shall, as applicable:
- a. Region 1 of spent fuel pool storage racks |
Have an initial nominal enrichment of ≤ 5.0 weight percent U-235 to permit storage in any cell location.
 - b. Region 2 of spent fuel pool storage racks |
Have a combination of initial enrichment and burnup within the Acceptable Burnup Domain of Figure 3.7.16-1. |

APPLICABILITY: Whenever fuel assemblies are stored in the spent fuel pool.

ACTIONS

-----NOTE-----
LCO 3.0.3 is not applicable.

| CONDITION | REQUIRED ACTION | COMPLETION TIME |
|-------------------------------------|---|-----------------|
| A. Requirements of the LCO not met. | A.1 Initiate action to move the noncomplying fuel assembly into a location which restores compliance. | Immediately |

SURVEILLANCE REQUIREMENTS

| SURVEILLANCE | FREQUENCY |
|---|--|
| SR 3.7.16.1 Verify by administrative means the initial nominal enrichment of the fuel assembly is ≤ 5.0 weight percent U-235. | Prior to storing the fuel assembly in Region 1 |
| SR 3.7.16.2 Verify by administrative means the combination of initial enrichment and burnup, as applicable, of the fuel assembly is within the Acceptable Burnup Domain of Figure 3.7.16-1. | Prior to storing the fuel assembly in Region 2 |

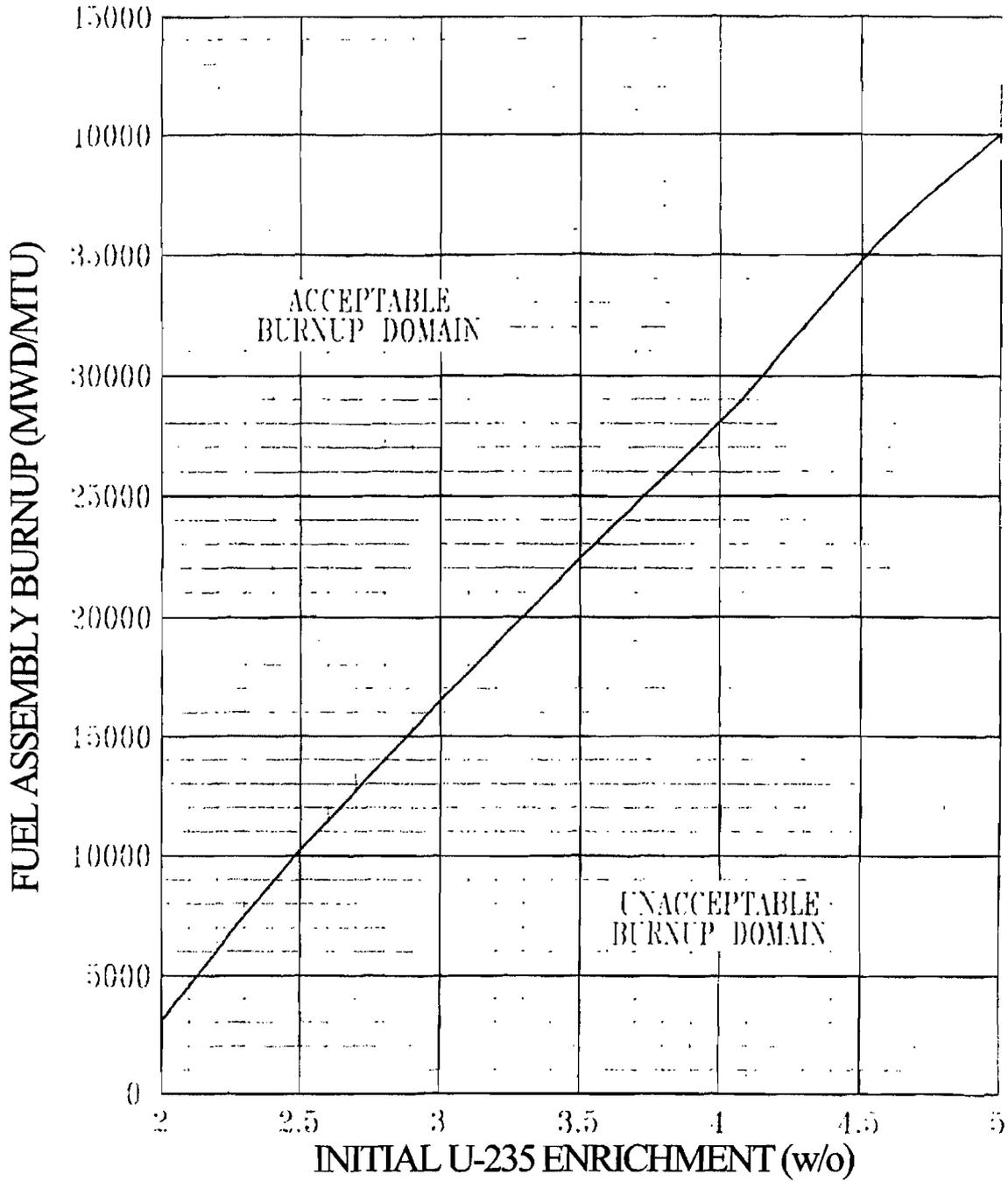


Figure 3.7.16-1 (page 1 of 1)
Region 2 Fuel Assembly Burnup Requirements

DESIGN FEATURES (continued)

4.3 Fuel Storage

4.3.1 Criticality

The spent fuel storage racks are designed and shall be maintained, as applicable, with:

- a. Fuel assemblies having a maximum U-235 enrichment of 5.0 weight percent;
- b. A $k_{\text{eff}} \leq 0.95$ if fully flooded with unborated water, which includes an allowance for uncertainties as described in Holtec International Report HI-982094, "Criticality Analysis for Byron/Braidwood Rack Installation Project," Project No. 80944, 1998;
- c. A nominal 10.888 inch north-south and 10.574 inch east-west center to center distance between fuel assemblies placed in Region 1 racks; and
- d. A nominal 8.97 inch center to center distance between fuel assemblies placed in Region 2 racks.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO.160 TO FACILITY OPERATING LICENSE NO. NPF-72,
AMENDMENT NO.160 TO FACILITY OPERATING LICENSE NO. NPF-77,
AMENDMENT NO.165 TO FACILITY OPERATING LICENSE NO. NPF-37,
AND AMENDMENT NO.165 TO FACILITY OPERATING LICENSE NO. NPF-66
EXELON GENERATION COMPANY, LLC
BRAIDWOOD STATION, UNITS 1 AND 2
BYRON STATION, UNIT NOS. 1 AND 2
DOCKET NOS. STN 50-456, STN 50-457,
STN 50-454, AND STN 50-455

1.0 INTRODUCTION

By letter to the Nuclear Regulatory Commission (NRC, the Commission) dated July 29, 2008 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML082120328), Exelon Generation Company, LLC (EGC, the licensee) submitted a license amendment request (LAR) for Braidwood Station (Braidwood), Units 1 and 2, and Byron Station (Byron), Unit Nos. 1 and 2. The LAR proposed to remove time, cycle, or modification-related items from the facility operating licenses and technical specifications (TSs) for Braidwood and Byron, and to correct typographical errors introduced into the Braidwood and Byron TSs in a previous amendment.

2.0 REGULATORY EVALUATION

Section 182a of the Atomic Energy Act of 1954, as amended, requires applicants for nuclear power plant operating licenses to include TSs as part of the license. TSs specify the requirements for operation of nuclear reactors. Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.36(c) specifies the categories and criteria for information that must be included in the TSs. These include, among others, the following: (1) safety limits, limiting safety system settings, and limiting control settings; (2) limiting conditions for operation; (3) surveillance requirements; (4) design features; and (5) administrative controls.

Regulatory requirements related to the amendment of operating licenses are contained in 10 CFR 50.92, "Issuance of amendment." 10 CFR 50.92(c) specifies the criteria for concluding that a proposed amendment involves no significant hazards consideration. Specifically, the

proposed amendment involves no significant hazards consideration, if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

The NRC staff reviewed the licensee's proposed changes for compliance with 10 CFR 50.36(c) and 10 CFR 50.92(c).

3.0 TECHNICAL EVALUATION

In the LAR, the licensee proposed the following changes to the facility operating licenses and TSs. The description of these changes and the NRC staff's evaluation follow.

3.1 Braidwood Unit 1 Facility Operating License

Delete facility operating license condition (OLC) 2.C.(4), "Initial Startup Test Program," because the OLC has been satisfied. This OLC required the licensee to report any changes to the initial startup test program described in Chapter 14 of the Final Safety Analysis Report (FSAR) within 1 month of such changes. In the LAR, the licensee stated that the initial startup test program is complete and no further changes can be made. The NRC staff finds that, because the initial startup test program is complete, this OLC has been satisfied and is no longer required. The NRC staff also finds that deletion of this OLC does not violate any of the three criteria of 10 CFR 50.92(c) and, accordingly, does not involve a significant hazards consideration. Therefore, the NRC staff finds the proposed deletion acceptable.

Delete OLC 2.C.(5), "Regulatory Guide [RG] 1.97, Revision 2 Compliance." This OLC required the licensee to submit a final report on RG 1.97 compliance and a schedule for implementation within 6 months of NRC approval of the Detailed Control Room Design Review. In the LAR, the licensee stated that the subject report was transmitted to the NRC on September 1, 1987, and proposed to delete this OLC because the action has been completed. The NRC staff finds that, because the subject report was submitted (Legacy ADAMS Accession No. 8710050039), this OLC has been satisfied and is no longer required. The NRC staff also finds that deletion of this OLC does not violate any of the three criteria of 10 CFR 50.92(c) and, accordingly, does not involve a significant hazards consideration. Therefore, the NRC staff finds the proposed deletion acceptable.

Delete the first paragraph of facility operating license Section 2.D related to an exemption from the requirements of 10 CFR Part 50, Appendix J, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors," Paragraph III.D.2(b)(ii), for containment air lock testing. In the LAR, the licensee stated that the need for this exemption was eliminated with the issuance of License Amendment No. 73, on April 4, 1996. The NRC staff finds that the original exemption related to the prescriptive leakage testing requirements (Option A) of 10 CFR Part 50, Appendix J, and is no longer necessary because of License Amendment No. 73 (ADAMS Accession No. ML020870051). In License Amendment No. 73, the licensee switched to the performance-based leakage testing requirements (Option B) of 10 CFR Part 50, Appendix J. The NRC staff also finds that deletion of this exemption from the facility operating license does not violate any of the three criteria of 10 CFR 50.92(c) and, accordingly, does not involve a

significant hazards consideration. Therefore, the NRC staff finds the proposed deletion of the first paragraph of facility operating license Section 2.D acceptable.

Delete facility operating license Attachment 1, "Work Items to be completed." In the LAR, the licensee stated that Attachment 1 refers to letters to the NRC from Commonwealth Edison Company (the original licensee) detailing the operation and testing of the auxiliary building ventilation (VA) system during Braidwood Unit 1 startup and operation, and Braidwood Unit 2 construction. The licensee further stated that construction is complete on both Braidwood units and the VA system is fully operational. The NRC staff finds that, because construction is complete on both Braidwood units and the VA system is fully operational, Attachment 1 is no longer required. The NRC staff also finds that deletion of this attachment does not violate any of the three criteria of 10 CFR 50.92(c) and, accordingly, does not involve a significant hazards consideration. Therefore, the NRC staff finds the proposed deletion acceptable.

3.2 Braidwood Unit 2 Facility Operating License

Delete facility OLC 2.C.(4), "Initial Startup Test Program," because the OLC has been satisfied. This OLC required the licensee to report any changes to the initial startup test program described in Chapter 14 of the FSAR within 1 month of such changes. In the LAR, the licensee stated that the initial startup test program is complete and no further changes can be made. The NRC staff finds that, because the initial startup test program is complete, this OLC has been satisfied and is no longer required. The NRC staff also finds that deletion of this OLC does not violate any of the three criteria of 10 CFR 50.92(c) and, accordingly, does not involve a significant hazards consideration. Therefore, the NRC staff finds the proposed deletion acceptable.

Delete the first paragraph of facility operating license Section 2.D related to an exemption from the requirements of 10 CFR Part 50, Appendix J, Paragraph III.D.2(b)(ii), for containment air lock testing. In the LAR, the licensee stated that the need for this exemption was eliminated with the issuance of License Amendment No. 73, on April 4, 1996. The NRC staff finds that the original exemption related to the prescriptive leakage testing requirements (Option A) of 10 CFR Part 50, Appendix J, and is no longer necessary because of License Amendment No. 73 (ADAMS Accession No. ML020870051). In License Amendment No. 73, the licensee switched to the performance-based leakage testing requirements (Option B) of 10 CFR Part 50, Appendix J. The NRC staff also finds that deletion of this exemption from the facility operating license does not violate any of the three criteria of 10 CFR 50.92(c) and, accordingly, does not involve a significant hazards consideration. Therefore, the NRC staff finds the proposed deletion of the first paragraph of facility operating license Section 2.D acceptable.

Delete a time-related specific exemption regarding the requirements of 10 CFR 50.49(f) and 10 CFR 50.49(j) from facility operating license Section 2.D. This exemption was required until the startup following the Braidwood, Unit 2, surveillance outage that was scheduled in January 1989. In the LAR, the licensee stated that this outage was completed as planned. The NRC staff finds that, because the scheduled outage was completed as planned, time-related specific exemption is no longer required. The NRC staff also finds that deletion of this exemption does not violate any of the three criteria of 10 CFR 50.92(c) and, accordingly, does not involve a significant hazards consideration. Therefore, the NRC staff finds the proposed deletion of this exemption from facility operating license Section 2.D acceptable.

On page 6 of the facility operating license, delete the reference to Attachment 1, entitled, "Work Items to be completed." In the LAR, the licensee stated that, although this attachment is listed in the Unit 2 facility operating license, it does not physically exist for Unit 2. The NRC staff finds that deletion of a reference to an attachment that does not exist does not violate any of the three criteria of 10 CFR 50.92(c) and, accordingly, does not involve a significant hazards consideration. Therefore, the NRC staff finds the proposed deletion of the reference to Attachment 1 acceptable.

3.3 Braidwood Unit 1 and Braidwood Unit 2 Facility Operating Licenses

Revise Appendix C, "Additional License Conditions," in the Unit 1 and Unit 2 facility operating licenses to delete items that have been satisfied and are no longer required, specifically, those items associated with License Amendment Nos. 98 and 113 (ADAMS Accession Nos. ML020870040 and ML011420274, respectively). In the LAR, the licensee stated that the conditions associated with License Amendment No. 98 were implemented within 180 days of the issuance of License Amendment No. 98, which was issued on December 22, 1998. In the LAR, the licensee also stated that the conditions associated with License Amendment No. 113 are related to power uprate activities, which have been completed as documented in submittals to the NRC dated August 15, 2001; January 14, 2002; August 13, 2002; and September 27, 2002 (ADAMS Accession Nos. ML012320143, ML020390301, ML022330024, and ML022390175, respectively). The NRC staff finds that, because the conditions associated with License Amendment No. 98 have been implemented, these conditions have been satisfied and are no longer required. Also, the NRC staff finds that, because the conditions associated with License Amendment No. 113 have been completed as verified by a NRC staff review of the licensee's referenced submittals, these conditions have been satisfied and are no longer required. Furthermore, the NRC staff finds that deletion of these conditions does not violate any of the three criteria of 10 CFR 50.92(c) and, accordingly, does not involve a significant hazards consideration. Therefore, the NRC staff finds acceptable the proposed deletion of the Appendix C additional license conditions associated with License Amendment Nos. 98 and 113.

3.4 Braidwood Station TSs

Revise the TS Table of Contents to delete the listings of TS tables and TS figures from the Table of Contents. TS tables and figures are not required to be listed separately in the TS Table of Contents either by 10 CFR 50.36(c) or by NUREG-1431, "Standard Technical Specifications Westinghouse Plants," Revision 3.0, June 2004. Therefore, the NRC staff finds the proposed deletion of the listings of TS tables and TS figures from the Table of Contents acceptable.

Revise TS 3.3.1, "RTS Instrumentation," Condition N, Required Action note to delete the number "1." in front of the note, to change "Notes" to "Note," and to remove an extra blank line in the note. In the LAR, the licensee stated that the proposed revisions correct editorial oversights in the nomenclature and structure of this note, introduced in Braidwood License Amendment No. 148 (ADAMS Accession No. ML080110179). The NRC staff finds that these revisions correct editorial oversights from a previous amendment and are administrative in nature. The NRC staff also finds that the requirements of 10 CFR 50.36(c)(2), "Limiting conditions for operation," will continue to be met after the revisions are made. Therefore, the NRC staff finds the proposed changes to TS 3.3.1 acceptable.

Revise TS 3.7.2, "Main Steam Isolation Valves," to delete Note 2 from both Surveillance Requirement (SR) 3.7.2.1 and SR 3.7.2.2. The notes state, "Not required to be met until the first startup after September 27, 2001." In the LAR, the licensee stated that the requirements imposed by these notes, which were added in Braidwood License Amendment No. 119 (ADAMS Accession No. ML012980264), have been implemented. The NRC staff finds that, because the starting date for implementation of the SRs has passed and the SRs are currently being performed as required, these notes are no longer required. The NRC staff also finds that the requirements of 10 CFR 50.36(c)(3), "Surveillance requirements," will continue to be met after the notes are deleted. Therefore, the NRC staff finds the proposed deletion of Note 2 from SR 3.7.2.1 and SR 3.7.2.2 acceptable.

Revise TS 3.7.8, "Essential Service Water (SX) System," to delete the note from Condition A and to delete Condition B, in its entirety. As discussed in Braidwood License Amendment No. 130 (ADAMS Accession No. ML040610869), replacement of SX pump suction isolation valves necessitated the addition of the one-time, outage-related note in Condition A and the insertion of Condition B. In the LAR, the licensee stated that the subject valves were replaced during Unit 2 Refueling Outage 11. The NRC staff finds that, because the work requiring the Condition A note and Condition B, in its entirety, has been completed, the note and condition are no longer required. The NRC staff also finds that the requirements of 10 CFR 50.36(c)(2) will continue to be met after the note and condition are deleted. Therefore, the NRC staff finds the proposed deletion of the Condition A note and Condition B, in its entirety, to TS 3.7.8 acceptable.

3.5 Byron Unit No. 1 and Byron Unit No. 2 Facility Operating Licenses

Revise Appendix C, "Additional License Conditions," in the Unit No. 1 and Unit No. 2 facility operating licenses to delete items that have been satisfied and are no longer required, specifically, those items associated with License Amendment Nos. 106 and 119 (ADAMS Accession Nos. ML020870040 and ML011420274, respectively). In the LAR, the licensee stated that the conditions associated with License Amendment 106 were implemented within 180 days of the issuance of License Amendment No. 106, which was issued on December 22, 1998. In the LAR, the licensee also stated that the conditions associated with License Amendment No. 119 are related to power uprate activities, which have been completed as documented in submittals to the NRC dated August 8, 2001; November 5, 2001; and September 27, 2002 (ADAMS Accession Nos. ML080250480, ML020110354, and ML022390175, respectively). The NRC staff finds that, because the conditions associated with License Amendment No. 106 have been implemented, these conditions have been satisfied and are no longer required. Also, the NRC staff finds that, because the conditions associated with License Amendment No. 119 have been completed as verified by a NRC staff review of the licensee's referenced submittals, these conditions have been satisfied and are no longer required. Furthermore, the NRC staff finds that deletion of these conditions does not violate any of the three criteria of 10 CFR 50.92(c) and, accordingly, does not involve a significant hazards consideration. Therefore, the NRC staff finds acceptable the proposed deletion of the Appendix C additional license conditions associated with License Amendment Nos. 106 and 119.

3.6 Byron Station TSs

Revise the TS Table of Contents to delete the listings of TS tables and TS figures from the Table of Contents. TS tables and figures are not required to be listed separately in the TS Table of Contents either by 10 CFR 50.36(c) or by NUREG-1431, Revision 3.0. Therefore, the NRC staff finds the proposed deletion of the listings of TS tables and TS figures from the Table of Contents acceptable.

Revise TS 3.3.1, "RTS Instrumentation," Condition N, Required Action note to delete the number "1." in front of the note, to change "Notes" to "Note," and to remove an extra blank line in the note. In the LAR, the licensee stated that the proposed revisions correct editorial oversights in the nomenclature and structure of this note, introduced in Byron License Amendment No. 153 (ADAMS Accession No. ML080110179). The NRC staff finds that these revisions correct editorial oversights from a previous amendment and are administrative in nature. The NRC staff also finds that the requirements of 10 CFR 50.36(c)(2) will continue to be met after the revisions are made. Therefore, the NRC staff finds the proposed changes to TS 3.3.1 acceptable.

Revise TS 3.7.2, "Main Steam Isolation Valves," to delete Note 2 from both SR 3.7.2.1 and SR 3.7.2.2. The notes state, "Not required to be met until the first startup after September 27, 2001." In the LAR, the licensee stated that the requirements imposed by these notes, which were added in Byron License Amendment No. 124 (ADAMS Accession No. ML012980264), have been implemented. The NRC staff finds that, because the starting date for implementation of the SRs has passed and the SRs are currently being performed as required, these notes are no longer required. The NRC staff also finds that the requirements of 10 CFR 50.36(c)(3) will continue to be met after the notes are deleted. Therefore, the NRC staff finds the proposed deletion of Note 2 from SR 3.7.2.1 and SR 3.7.2.2 acceptable.

Revise TS 3.7.8, "Essential Service Water (SX) System," to delete the notes from Condition A and to delete Condition B, in its entirety. As discussed in Byron License Amendment No. 136 (ADAMS Accession No. ML040610869), replacement of SX pump suction isolation valves necessitated the addition of the one-time, outage-related notes in Condition A and the insertion of Condition B. In the LAR, the licensee stated that the subject work was completed during Unit 1 Refueling Outage 13. The NRC staff finds that, because the work requiring the Condition A note and Condition B, in its entirety, has been completed, the note and condition are no longer required. The NRC staff also finds that the requirements of 10 CFR 50.36(c)(2) will continue to be met after the note and condition are deleted. Therefore, the NRC staff finds the proposed deletion of the Condition A note and Condition B, in its entirety, to TS 3.7.8 acceptable.

Revise TS 3.7.15, "Spent Fuel Pool Boron Concentration," TS 3.7.16, "Spent Fuel Assembly Storage," and TS 4.3.1, "Criticality," to remove all references to Joseph Oat spent fuel pool storage racks, including the deletion of existing Figures 3.7.16-1, 3.7.16-2, and 3.7.16-3, the renumbering of existing Figure 3.7.16-4 to 3.7.16-1, and required formatting changes. As stated in the LAR, the Joseph Oat spent fuel storage racks have been replaced with Holtec spent fuel storage racks as of January 1, 2001. (The licensee noted in the LAR that similar changes were not proposed for Braidwood because the Braidwood Station TS were previously revised to remove references to Joseph Oat fuel storage racks in Braidwood License Amendment No. 145 (ADAMS Accession No. ML072620362)). The NRC staff finds that, because the Joseph Oat spent fuel storage racks are no longer installed at Byron, the removal of references to these

racks deletes wording that is no longer required. The NRC staff also finds that the requirements of 10 CFR 50.36(c)(2), 10 CFR 50.36(c)(3), and 10 CFR 50.36(c)(4), "Design features," will continue to be met after references to Joseph Oat fuel storage racks are deleted. Therefore, the NRC staff finds the proposed revisions to TS 3.7.15, TS 3.7.16, and TS 4.3.1 acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Illinois State official was notified of the proposed issuance of the amendments. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendments change requirements with respect to installation or use of a facility's components located within the restricted area, as defined in 10 CFR Part 20, or changes SRs. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (73 FR 52417; September 9, 2008). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner; (2) such activities will be conducted in compliance with the Commission's regulations; and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: M. David, NRR

Date: July 22, 2009

July 22, 2009

Mr. Charles G. Pardee
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: BRAIDWOOD STATION, UNITS 1 AND 2, AND BYRON STATION, UNIT NOS. 1 AND 2 - ISSUANCE OF AMENDMENTS RE: CLARIFICATION OF OPERATING LICENSE AND TECHNICAL SPECIFICATIONS (TAC NOS. MD9360, MD9361, MD9362, AND MD9363)

Dear Mr. Pardee:

The Nuclear Regulatory Commission (the Commission) has issued the enclosed Amendment No. 160 to Facility Operating License No. NPF-72 and Amendment No. 160 to Facility Operating License No. NPF-77 for the Braidwood Station, Units 1 and 2, and Amendment No. 165 to Facility Operating License No. NPF-37 and Amendment No. 165 to Facility Operating License No. NPF-66 for the Byron Station, Unit Nos. 1 and 2, respectively.

The amendments are in response to your application dated July 29, 2008 (Agencywide Documents Access and Management System Accession No. ML082120328), to remove time, cycle, or modification-related items from the facility operating licenses and technical specifications (TSS) for both stations and to correct typographical errors introduced into the TSS at both stations in a previous amendment

A copy of the Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

/RA/

Marshall J. David, Senior Project Manager
Plant Licensing Branch III-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. STN 50-456, STN 50-457,
STN 50-454, and STN 50-455

Enclosures:

1. Amendment No. 160 to NPF-72
2. Amendment No. 160 to NPF-77
3. Amendment No. 165 to NPF-37
4. Amendment No. 165 to NPF-66
5. Safety Evaluation

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|--------|-----------|-----------|--------------|---------------------|-----------|
| NAME | MDavid | THarris | RElliott | BHarris | SCampbell |
| DATE | 07/14/09 | 07/14/09 | 07/14/09 | 7/21/09 | 7/22/09 |

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