



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

July 5, 2017

Mr. Bryan C. Hanson  
Senior Vice President  
Exelon Generation Company, LLC  
President and Chief Nuclear Officer (CNO)  
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 REGARDING REQUEST TO DELETE OBSOLETE LICENSE CONDITIONS AND MAKE ADMINISTRATIVE CHANGES TO TECHNICAL SPECIFICATIONS (CAC NOS. MF9338, MF9339, MF9340, AND MF9341)**

Dear Mr. Hanson:

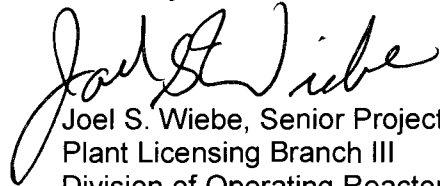
The U.S. Nuclear Regulatory Commission (the Commission) has issued the enclosed Amendment No. 193 to Renewed Facility Operating License No. NPF-72 and Amendment No. 193 to Renewed Facility Operating License No. NPF-77 for the, Braidwood Station, Units 1 and 2, respectively, and Amendment No. 198 to Renewed Facility Operating License No. NPF-37 and Amendment No. 198 to Renewed Facility Operating License No. NPF-66 for the Byron Station, Unit Nos. 1 and 2, respectively. An Amendment No. 182 to Renewed Facility Operating License No. NPF-72 will not be issued to make the Amendment numbers for the Braidwood Station, Units 1 and 2, the same. The amendments are in response to your application dated February 23, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17055A631) as supplemented by your letter dated June 29, 2017 (ADAMS Accession No. ML17180A530).

B. Hanson

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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 "Joel S. Wiebe". The signature is written in a cursive style with a large, prominent initial "J".

Joel S. Wiebe, Senior Project Manager  
Plant Licensing Branch III  
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. 193 to NPF-72
2. Amendment No. 193 to NPF-77
3. Amendment No. 198 to NPF-37
4. Amendment No. 198 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 RENEWED FACILITY OPERATING LICENSE

Amendment No. 193  
Renewed License No. NPF-72

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Exelon Generation Company, LLC (the licensee) dated February 23, 2017, as supplemented by letter dated June 29, 2017, 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 Renewed Facility Operating License No. NPF-72 is amended to:

A. In Appendix C, delete the following from Amendment Number 145 Additional Condition:

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, "TAC03 - Fuel Pin Thermal Analysis Computer Code," October 1989, and BAW-10184P-A, "GDTACO - Urania Gadolinia Fuel Pin Thermal Analysis Code," February 1995.

B. In Appendix C, delete the entire Amendment 146 Additional Condition

C. Change the Technical Specifications as indicated in the attachment to this license amendment, and paragraphs 2.C.(2) and 2.C.(7) of Renewed Facility Operating License No. NPF-72 are hereby amended to read as follows:

(2) Technical Specifications

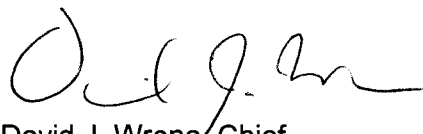
The Technical Specifications contained in Appendix A as revised through Amendment No. 193 and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated into the renewed license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(7) Additional Conditions

The Additional Conditions contained in Appendix C, as revised through Amendment No. 193, are hereby incorporated into this renewed license. The licensee shall operate the facility in accordance with the Additional Conditions.

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



David J. Wrona, Chief  
Plant Licensing Branch III  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications and Renewed Facility Operating License

Date of Issuance: July 5, 2017



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 RENEWED FACILITY OPERATING LICENSE

Amendment No. 193  
Renewed License No. NPF-77

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Exelon Generation Company, LLC (the licensee) dated February 23, 2017, as supplemented by letter dated June 29, 2017, 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 Renewed Facility Operating License No. NPF-77 is amended to:
  - A. In Appendix C, delete the entire Amendment 146 Additional Condition
  - B. Change the Technical Specifications as indicated in the attachment to this license amendment, and paragraphs 2.C.(2) and 2.C.(6) of Renewed Facility Operating License No. NPF-77 are hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 193 and the Environmental Protection Plan contained in Appendix B, both of which are attached to Renewed License No. NPF-72, dated January 27, 2016, are hereby incorporated into the renewed license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(6) Additional Conditions

The Additional Conditions contained in Appendix C, as revised through Amendment No. 193, are hereby incorporated into this renewed license. The licensee shall operate the facility in accordance with the Additional Conditions.

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



David J. Wrona, Chief  
Plant Licensing Branch III  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications and Renewed Facility Operating License

Date of Issuance: July 5, 2017

ATTACHMENT TO LICENSE AMENDMENT NOS. 193 AND 193  
RENEWED 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 Appendix "A" Technical Specifications with the attached pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

<u>Remove</u>	<u>Insert</u>
<u>License NPF-72</u> Page 3 Page 4 Appendix C, Page 1 Appendix C, Page 2	<u>License NPF-72</u> Page 3 Page 4 Appendix C, Page 1
<u>License NPF-77</u> Page 3 Page 4 Appendix C, Page 2	<u>License NPF-77</u> Page 3 Page 4
<u>TSs</u> 2.0 – 1 3.0 – 4 3.0 – 6 3.1.7 – 2 3.3.1 – 13 3.4.15 – 3 3.7.1 – 1 3.7.8 – 1, Unit 1 3.7.8 – 2, Unit 1 3.7.8 – 3, Unit 1 3.7.8 – 1, Unit 2 3.7.8 – 2, Unit 2 3.7.8 – 3, Unit 2 3.7.8 – 4, Unit 2 3.7.10 – 3 3.8.4 – 2 3.8.5 – 2 3.8.8 – 2 4.0 – 1 4.0 – 2 5.5 – 21	<u>TSs</u> 2.0 – 1 3.0 – 4 3.0 – 6 3.1.7 – 2 3.3.1 – 13 3.4.15 – 3 3.7.1 – 1 3.7.8 – 1 3.7.8 – 2 3.7.8 – 3  3.7.10 – 3 3.8.4 – 2 3.8.5 – 2 3.8.8 – 2 4.0 – 1 4.0 – 2 5.5 – 21

- (2) Exelon Generation Company, pursuant to the Act and 10 CFR Part 70, to receive, possess and use at any time special nuclear material 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;
- (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. This renewed 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 3645 megawatts thermal (100 percent rated power) in accordance with the conditions specified herein.

(2) Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 193 and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated into the renewed 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 provision 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. 193, are hereby incorporated into this renewed 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
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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	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

- (2) Exelon Generation Company, LLC, pursuant to the Act and 10 CFR Part 70, to receive, possess and use at any time special nuclear material 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;
- (3) Exelon Generation Company, LLC, 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, 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. This renewed 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 3645 megawatts thermal (100 percent rated power) in accordance with the conditions specified herein.

(2) Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 193 and the Environmental Protection Plan contained in Appendix B, both of which are attached to Renewed License No. NPF-72, dated January 27, 2016, are hereby incorporated into the renewed 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 provision 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. 193, are hereby incorporated into this renewed license. The licensee shall operate the facility in accordance with the Additional Conditions.

(7) Exelon Generation Company, LLC, 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, 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'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
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(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:

## 2.0 SAFETY LIMITS (SLs)

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### 2.1 SLs

#### 2.1.1 Reactor Core SLs

In MODES 1 and 2, the combination of THERMAL POWER, Reactor Coolant System (RCS) highest loop average temperature, and pressurizer pressure shall not exceed the limits specified in the COLR; and the following SLs shall not be exceeded.

2.1.1.1 In MODE 1, the Departure from Nucleate Boiling Ratio (DNBR) shall be maintained  $\geq 1.24$  for the WRB-2 DNB correlation for a thimble cell,  $\geq 1.25$  for the WRB-2 DNB correlation for a typical cell and  $\geq 1.19$  for the ABB-NV DNB correlation for a thimble cell and a typical cell.

2.1.1.2 In MODE 2, the DNBR shall be maintained  $\geq 1.17$  for the WRB-2 DNB correlation, and  $\geq 1.13$  for the ABB-NV DNB correlation and  $\geq 1.18$  for the WLOP DNB correlation.

2.1.1.3 In MODES 1 and 2, the peak fuel centerline temperature shall be maintained  $< 5080^{\circ}\text{F}$  decreasing by  $58^{\circ}\text{F}$  per 10,000 MWD/MTU burnup.

#### 2.1.2 RCS Pressure SL

In MODES 1, 2, 3, 4, and 5, the RCS pressure shall be maintained  $\leq 2735$  psig.

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### 2.2 SL Violations

2.2.1 If SL 2.1.1 is violated, restore compliance and be in MODE 3 within 1 hour.

2.2.2 If SL 2.1.2 is violated:

2.2.2.1 In MODE 1 or 2, restore compliance and be in MODE 3 within 1 hour.

2.2.2.2 In MODE 3, 4, or 5, restore compliance within 5 minutes.

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### 3.0 LCO Applicability

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LCO 3.0.7            Exception LCOs allow specified Technical Specification (TS) requirements to be changed to permit performance of special tests and operations. Unless otherwise specified, all other TS requirements remain unchanged. Compliance with Exception LCOs is optional. When an Exception LCO is desired to be met but is not met, the ACTIONS of the Exception LCO shall be met. When an Exception LCO is not desired to be met, entry into a MODE or other specified condition in the Applicability shall be made in accordance with the other applicable Specifications.

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LCO 3.0.8            LCOs, including associated ACTIONS, shall apply to each unit individually, unless otherwise indicated. Whenever the LCO refers to a system or component that is shared by both units, the ACTIONS will apply to both units simultaneously.

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### 3.0 SR APPLICABILITY

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SR 3.0.3 If it is discovered that a Surveillance was not performed within its specified Frequency, then compliance with the requirement to declare the LCO not met may be delayed, from the time of discovery, up to 24 hours or up to the limit of the specified Frequency, whichever is greater. This delay period is permitted to allow performance of the Surveillance. A risk evaluation shall be performed for any Surveillance delayed greater than 24 hours and the risk impact shall be managed.

If the Surveillance is not performed within the delay period, the LCO must immediately be declared not met, and the applicable Condition(s) must be entered.

When the Surveillance is performed within the delay period and the Surveillance is not met, the LCO must immediately be declared not met, and the applicable Condition(s) must be entered.

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SR 3.0.4 Entry into a MODE or other specified condition in the Applicability of an LCO shall only be made when the LCO's Surveillances have been met within their specified Frequency, except as provided by SR 3.0.3. When an LCO is not met due to Surveillances not having been met, entry into a MODE or other specified condition in the Applicability shall only be made in accordance with LCO 3.0.4

This provision shall not prevent entry into MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

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SR 3.0.5 SRs shall apply to each unit individually, unless otherwise indicated.

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ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. One demand position indicator per bank inoperable for one or more banks.	C.1.1 Verify by administrative means all DRPIs for the affected bank(s) are OPERABLE.	Once per 8 hours
	<u>AND</u>	
	C.1.2 Verify the most withdrawn rod and the least withdrawn rod of the affected bank(s) are $\leq 12$ steps apart.	Once per 8 hours
	<u>OR</u>	
	C.2 Reduce THERMAL POWER to $\leq 50\%$ RTP.	8 hours
D. Required Action and associated Completion Time not met.	D.1 Be in MODE 3.	6 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.1.7.1 Verify each DRPI agrees within 12 steps of the group demand position for the full indicated range of rod travel.	Prior to criticality after each removal of the reactor head



SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.3.1.8 (continued)	In accordance with the Surveillance Frequency Control Program
SR 3.3.1.9 -----NOTE----- Verification of setpoint is not required. ----- Perform TADOT.	In accordance with the Surveillance Frequency Control Program
SR 3.3.1.10 -----NOTE----- This Surveillance shall include verification that the time constants are adjusted to the prescribed values. ----- Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program
SR 3.3.1.11 -----NOTE----- Neutron detectors are excluded from CHANNEL CALIBRATION. ----- Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time not met.	D.1 Be in MODE 3.	6 hours
	<u>AND</u>	
	D.2 Be in MODE 5.	36 hours
E. All required monitors inoperable.	E.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.15.1 Perform CHANNEL CHECK of the required containment atmosphere radioactivity monitor.	In accordance with the Surveillance Frequency Control Program
SR 3.4.15.2 Perform COT of the required containment atmosphere radioactivity monitor.	In accordance with the Surveillance Frequency Control Program
SR 3.4.15.3 Perform CHANNEL CALIBRATION of the required containment sump monitor.	In accordance with the Surveillance Frequency Control Program
SR 3.4.15.4 Perform CHANNEL CALIBRATION of the required containment atmosphere radioactivity monitor.	In accordance with the Surveillance Frequency Control Program

3.7 PLANT SYSTEMS

3.7.1 Main Steam Safety Valves (MSSVs)

LCO 3.7.1 Five MSSVs per steam generator shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

-----NOTE-----  
Separate Condition entry is allowed for each MSSV.  
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CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more steam generators with one or more MSSVs inoperable.	A.1 Reduce THERMAL POWER to less than or equal to the Maximum Allowable % RTP specified in Table 3.7.1-1 for the number of OPERABLE MSSVs.	4 hours
	<p style="text-align: center;"><u>AND</u></p> A.2 -----NOTE----- Only required in Mode 1. -----  Reduce the Power Range Neutron Flux - High reactor trip setpoint to less than or equal to the Maximum Allowable % RTP specified in Table 3.7.1-1 for the number of OPERABLE MSSVs.	36 hours

(continued) |

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.	6 hours
	C.2 Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.7.8.1 -----NOTE----- Isolation of SX flow to individual components does not render the SX System inoperable. -----</p> <p>Verify each unit-specific SX manual, power operated, and automatic valve in the flow path servicing safety related equipment, that is not locked, sealed, or otherwise secured in position, is in the correct position.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.7.8.2 -----NOTE----- Not required when opposite unit is in MODE 1, 2, 3, or 4. -----</p> <p>Operate the opposite-unit SX pump for ≥ 15 minutes.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.7.8.3 Cycle each opposite-unit SX crosstie valve that is not secured in the open position with power removed.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.7.8.4 Verify each unit-specific SX automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.7.8.5 Verify each unit-specific SX pump starts automatically on an actual or simulated actuation signal.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>E. Two VC Filtration System trains inoperable in MODE 5 or 6, or during movement of irradiated fuel assemblies.</p> <p><u>OR</u></p> <p>One or more VC Filtration System trains inoperable due to an inoperable CRE boundary in MODE 5 or 6, or during movement of irradiated fuel assemblies.</p>	<p>E.1 Suspend movement of irradiated fuel assemblies.</p>	Immediately
	<p><u>AND</u></p> <p>E.2 Suspend positive reactivity additions.</p>	Immediately
<p>F. Two VC Filtration System trains inoperable in MODE 1, 2, 3, or 4 for reasons other than Condition B.</p>	<p>F.1 Enter LCO 3.0.3.</p>	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.7.10.1 Operate each VC Filtration System train with:</p> <p>a. Flow through the makeup system filters for <math>\geq 15</math> continuous minutes with the heaters operating; and</p> <p>b. Flow through the recirculation charcoal adsorber for <math>\geq 15</math> minutes.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>B. One DC electrical power division crosstied to opposite-unit DC electrical power subsystem that has an inoperable battery charger, while opposite unit is in MODE 1, 2, 3, or 4.</p>	<p>B.1 Open at least one crosstie breaker between the crosstied divisions.</p>	<p>204 hours</p>
<p>C. One DC electrical power division crosstied to opposite-unit DC electrical power subsystem with an inoperable source, while opposite unit is in MODE 5, 6, or defueled.</p>	<p>C.1 -----NOTE----- Only required when opposite unit has an inoperable battery. ----- Verify opposite-unit DC bus load ≤ 200 amps.</p> <p><u>AND</u></p> <p>C.2 Open at least one crosstie breaker between the crosstied divisions.</p>	<p>Once per 12 hours</p> <p>7 days</p>
<p>D. One DC electrical power subsystem inoperable for reasons other than Condition A, B, or C.</p>	<p>D.1 Restore DC electrical power subsystem to OPERABLE status.</p>	<p>2 hours</p>
<p>E. Required Action and Associated Completion Time not met.</p>	<p>E.1 Be in MODE 3.</p> <p><u>AND</u></p> <p>E.2 Be in MODE 5.</p>	<p>6 hours</p> <p>36 hours</p>



ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.2.1 Suspend CORE ALTERATIONS.  <u>AND</u>	Immediately
	A.2.2 Suspend movement of irradiated fuel assemblies.  <u>AND</u>	Immediately
	A.2.3 Initiate action to suspend operations involving positive reactivity additions.  <u>AND</u>	Immediately
	A.2.4 Initiate action to restore required DC electrical power subsystem to OPERABLE status.  <u>AND</u>	Immediately
	A.2.5 Declare affected Low Temperature Overpressure Protection feature(s) inoperable.	Immediately

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.2.1 Suspend CORE ALTERATIONS.  <u>AND</u>	Immediately
	A.2.2 Suspend movement of irradiated fuel assemblies.  <u>AND</u>	Immediately
	A.2.3 Initiate action to suspend operations involving positive reactivity additions.  <u>AND</u>	Immediately
	A.2.4 Initiate action to restore required inverters to OPERABLE status.  <u>AND</u>	Immediately
	A.2.5 Declare affected Low Temperature Overpressure Protection feature(s) inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.8.1 Verify correct inverter voltage and breaker alignment to required AC instrument buses.	In accordance with the Surveillance Frequency Control Program

## 4.0 DESIGN FEATURES

---

### 4.1 Site

#### 4.1.1 Site Location

The site is located in Reed Township, approximately 20 mi (32 km) south-southwest of the city of Joliet in northern Illinois.

#### 4.1.2 Exclusion Area Boundary (EAB)

The EAB shall not be less than 1591 ft (485 meters) from the outer containment wall.

#### 4.1.3 Low Population Zone (LPZ)

The LPZ shall be a 1.125 mi (1811 meter) radius measured from the midpoint between the two reactors.

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### 4.2 Reactor Core

#### 4.2.1 Fuel Assemblies

The reactor shall contain 193 fuel assemblies. Each assembly shall consist of a matrix of Zircaloy, ZIRLO<sup>®</sup>, or Optimized ZIRLO<sup>™</sup> clad fuel rods with an initial composition of natural or slightly enriched uranium dioxide (UO<sub>2</sub>) as fuel material. Limited substitutions of zirconium alloy or stainless steel filler rods or vacancies for fuel rods, in accordance with approved applications of fuel rod configurations, may be used. Fuel assemblies shall be limited to those fuel designs that have been analyzed with applicable NRC staff approved codes and methods and shown by tests or analyses to comply with all fuel safety design bases. A limited number of lead test assemblies that have not completed representative testing may be placed in nonlimiting core regions.

#### 4.2.2 Control Rod Assemblies

The reactor core shall contain 53 control rod assemblies. The control material shall be silver indium cadmium, hafnium, or a mixture of both types.

## 4.0 DESIGN FEATURES

---

### 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. For Holtec spent fuel pool storage racks,  $k_{\text{eff}} \leq 0.95$  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. For Holtec spent fuel pool storage racks, 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. For Holtec spent fuel pool storage racks, a nominal 8.97 inch center to center distance between fuel assemblies placed in Region 2 racks.

#### 4.3.2 Drainage

The spent fuel pool is designed and shall be maintained to prevent inadvertent draining of the pool below elevation 410 ft, 0 inches.

#### 4.3.3 Capacity

The spent fuel pool is designed and shall be maintained with a storage capacity limited to no more than 2984 fuel assemblies.

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5.5 Programs and Manuals

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5.5.15 Safety Function Determination Program (SFDP) (continued)

The SFDP identifies where a loss of safety function exists. If a loss of safety function is determined to exist by this program, the appropriate Conditions and Required Actions of the LCO in which the loss of safety function exists are required to be entered.

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5.5.16 Containment Leakage Rate Testing Program

A program shall be established to implement the leakage rate testing of the containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B, as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163, September 1995 and NEI 94-01, Revision 0.

The peak calculated containment internal pressure for the design basis loss of coolant accident,  $P_a$ , is 42.8 psig for Unit 1 and 38.4 psig for Unit 2

The maximum allowable containment leakage rate,  $L_a$ , at  $P_a$ , shall be 0.20% of containment air weight per day.

Leakage Rate acceptance criteria are:

- a. Containment leakage rate acceptance criterion is  $\leq 1.0 L_a$ . During the first unit startup following testing in accordance with this program, the leakage rate acceptance criteria are  $< 0.60 L_a$  for the Type B and C tests and  $< 0.75 L_a$  for Type A tests; and



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 RENEWED FACILITY OPERATING LICENSE

Amendment No. 198  
Renewed 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 February 23, 2017, as supplemented by letter dated June 29, 2017, 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 Renewed Facility Operating License No. NPF-37 is amended to:

A. In Appendix C, delete the entire Amendment 151 Additional Condition

B. Change the Technical Specifications as indicated in the attachment to this license amendment, and paragraphs 2.C.(2) and 2.C.(17) of Renewed Facility Operating License No. NPF-37 are hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 198 and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated into this renewed license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(17) Additional Conditions

The Additional Conditions contained in Appendix C, as revised through Amendment No. 198, are hereby incorporated into this renewed license. The licensee shall operate the facility in accordance with the Additional Conditions.

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



David J. Wrona, Chief  
Plant Licensing Branch III  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications and Renewed Facility Operating License

Date of Issuance: July 5, 2017



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 RENEWED FACILITY OPERATING LICENSE

Amendment No. 198  
Renewed 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 February 23, 2017, as supplemented by letter dated June 29, 2017, 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 Renewed Facility Operating License No. NPF-66 is amended to:
  - A. In Appendix C, delete the entire Amendment 151 Additional Condition
  - B. Change the Technical Specifications as indicated in the attachment to this license amendment, and paragraphs 2.C.(2) and 2.C.(6) of Renewed Facility Operating License No. NPF-66 are hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A (NUREG-1113), as revised through Amendment No. 198 and the Environmental Protection Plan contained in Appendix B, both of which were attached to Renewed License No. NPF-37, dated November 19, 2015, are hereby incorporated into this renewed license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(6) Additional Conditions

The Additional Conditions contained in Appendix C, as revised through Amendment No. 198, are hereby incorporated into this renewed license. The licensee shall operate the facility in accordance with the Additional Conditions.

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



David J. Wrona, Chief  
Plant Licensing Branch III  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications and Renewed Facility Operating License

Date of Issuance: July 5, 2017

ATTACHMENT TO LICENSE AMENDMENT NOS. 198 AND 198

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 License and Appendix A Technical Specifications with the attached pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove

License NPF-37

Page 3

Page 4

Appendix C, Page 2

License NPF-66

Page 3

Page 4

Appendix C, Page 2

TSs

2.0 – 1

3.0 – 4

3.0 – 6

3.1.7 – 2

3.3.1 – 14

3.4.15 – 3

3.7.1 – 1

3.7.1 – 2

3.7.8 – 1

3.7.8 – 2

3.7.9 – 2

3.7.10 – 3

3.7.10 – 4

3.8.4 – 2

3.8.5 – 2

4.0 – 2

4.0 – 3

5.5 – 21

Insert

License NPF-37

Page 3

Page 4

License NPF-66

Page 3

Page 4

TSs

2.0 – 1

3.0 – 4

3.0 – 6

3.1.7 – 2

3.3.1 – 14

3.4.15 – 3

3.7.1 – 1

3.7.1 – 2

3.7.8 – 1

3.7.8 – 2

3.7.9 – 2

3.7.10 – 3

3.7.10 – 4

3.8.4 – 2

3.8.5 – 2

4.0 – 2

5.5 – 21

- (2) Pursuant to the Act and 10 CFR Part 70, to receive, possess and use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Updated Final Safety Analysis Report, as supplemented and amended;
- (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 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. This renewed 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 3645 megawatts thermal (100 percent rated power) in accordance with the conditions specified herein.

(2) Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 198 and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated into this renewed 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.

- (7) Deleted
- (8) Deleted.
- (9) Deleted.
- (10) Deleted.
- (11) Deleted.
- (12) Deleted.
- (13) Deleted.
- (14) Deleted.
- (15) Deleted.
- (16) Deleted.
- (17) Additional Conditions

The Additional Conditions contained in Appendix C, as revised through Amendment No. 198, are hereby incorporated into this renewed license. The licensee shall operate the facility in accordance with the Additional Conditions.

- (2) Pursuant to the Act and 10 CFR Part 70, to receive, possess and use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Updated Final Safety Analysis Report, as supplemented and amended;
- (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 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 renewed 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 3645 megawatts thermal (100 percent rated power) in accordance with the conditions specified herein.

(2) Technical Specifications

The Technical Specifications contained in Appendix A (NUREG-1113), as revised through Amendment No. 198 and the Environmental Protection Plan contained in Appendix B, both of which were attached to Renewed License No. NPF-37, dated November 19, 2015, are hereby incorporated into this renewed 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) Additional Conditions

The Additional Conditions contained in Appendix C, as revised through Amendment No. 198, are hereby incorporated into this renewed 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 Byron, Unit 2, in the following minimum amount, when Byron, Unit 2, is transferred to Exelon Generation Company, LLC:

Byron Unit 2	\$156,560,489
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- (9) The decommissioning trust agreement for Byron, 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.

## 2.0 SAFETY LIMITS (SLs)

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### 2.1 SLs

#### 2.1.1 Reactor Core SLs

In MODES 1 and 2, the combination of THERMAL POWER, Reactor Coolant System (RCS) highest loop average temperature, and pressurizer pressure shall not exceed the limits specified in the COLR; and the following SLs shall not be exceeded.

2.1.1.1 In MODE 1, the Departure from Nucleate Boiling Ratio (DNBR) shall be maintained  $\geq 1.24$  for the WRB-2 DNB correlation for a thimble cell,  $\geq 1.25$  for the WRB-2 DNB correlation for a typical cell and  $\geq 1.19$  for the ABB-NV DNB correlation for a thimble cell and a typical cell.

2.1.1.2 In MODE 2, the DNBR shall be maintained  $\geq 1.17$  for the WRB-2 DNB correlation, and  $\geq 1.13$  for the ABB-NV DNB correlation and  $\geq 1.18$  for the WLOP DNB correlation.

2.1.1.3 In MODES 1 and 2, the peak fuel centerline temperature shall be maintained  $< 5080^{\circ}\text{F}$ , decreasing by  $58^{\circ}\text{F}$  per 10,000 MWD/MTU burnup.

#### 2.1.2 RCS Pressure SL

In MODES 1, 2, 3, 4, and 5, the RCS pressure shall be maintained  $\leq 2735$  psig.

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### 2.2 SL Violations

2.2.1 If SL 2.1.1 is violated, restore compliance and be in MODE 3 within 1 hour.

2.2.2 If SL 2.1.2 is violated:

2.2.2.1 In MODE 1 or 2, restore compliance and be in MODE 3 within 1 hour.

2.2.2.2 In MODE 3, 4, or 5, restore compliance within 5 minutes.

---

### 3.0 LCO Applicability

---

LCO 3.0.7            Exception LCOs allow specified Technical Specification (TS) requirements to be changed to permit performance of special tests and operations. Unless otherwise specified, all other TS requirements remain unchanged. Compliance with Exception LCOs is optional. When an Exception LCO is desired to be met but is not met, the ACTIONS of the Exception LCO shall be met. When an Exception LCO is not desired to be met, entry into a MODE or other specified condition in the Applicability shall be made in accordance with the other applicable Specifications.

---

LCO 3.0.8            LCOs, including associated ACTIONS, shall apply to each unit individually, unless otherwise indicated. Whenever the LCO refers to a system or component that is shared by both units, the ACTIONS will apply to both units simultaneously.

---



### 3.0 SR APPLICABILITY

---

SR 3.0.3 If it is discovered that a Surveillance was not performed within its specified Frequency, then compliance with the requirement to declare the LCO not met may be delayed, from the time of discovery, up to 24 hours or up to the limit of the specified Frequency, whichever is greater. This delay period is permitted to allow performance of the Surveillance. A risk evaluation shall be performed for any Surveillance delayed greater than 24 hours and the risk impact shall be managed.

If the Surveillance is not performed within the delay period, the LCO must immediately be declared not met, and the applicable Condition(s) must be entered.

When the Surveillance is performed within the delay period and the Surveillance is not met, the LCO must immediately be declared not met, and the applicable Condition(s) must be entered.

---

SR 3.0.4 Entry into a MODE or other specified condition in the Applicability of an LCO shall only be made when the LCO's Surveillances have been met within their specified Frequency, except as provided by SR 3.0.3. When an LCO is not met due to Surveillances not having been met, entry into a MODE or other specified condition in the Applicability shall only be made in accordance with LCO 3.0.4.

This provision shall not prevent entry into MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

---

SR 3.0.5 SRs shall apply to each unit individually, unless otherwise indicated.

---

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. One demand position indicator per bank inoperable for one or more banks.	C.1.1 Verify by administrative means all DRPIs for the affected bank(s) are OPERABLE.	Once per 8 hours
	<u>AND</u>	
	C.1.2 Verify the most withdrawn rod and the least withdrawn rod of the affected bank(s) are $\leq 12$ steps apart.	Once per 8 hours
	<u>OR</u>	
	C.2 Reduce THERMAL POWER to $\leq 50\%$ RTP.	8 hours
D. Required Action and associated Completion Time not met.	D.1 Be in MODE 3.	6 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.1.7.1 Verify each DRPI agrees within 12 steps of the group demand position for the full indicated range of rod travel.	Prior to criticality after each removal of the reactor head

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.3.1.8 (continued)	In accordance with the Surveillance Frequency Control Program
SR 3.3.1.9 -----NOTE----- Verification of setpoint is not required. ----- Perform TADOT.	In accordance with the Surveillance Frequency Control Program
SR 3.3.1.10 -----NOTE----- This Surveillance shall include verification that the time constants are adjusted to the prescribed values. ----- Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program
SR 3.3.1.11 -----NOTE----- Neutron detectors are excluded from CHANNEL CALIBRATION. ----- Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time not met.	D.1 Be in MODE 3.	6 hours
	<u>AND</u> D.2 Be in MODE 5.	36 hours
E. All required monitors inoperable.	E.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.15.1 Perform CHANNEL CHECK of the required containment atmosphere radioactivity monitor.	In accordance with the Surveillance Frequency Control Program
SR 3.4.15.2 Perform COT of the required containment atmosphere radioactivity monitor.	In accordance with the Surveillance Frequency Control Program
SR 3.4.15.3 Perform CHANNEL CALIBRATION of the required containment sump monitor.	In accordance with the Surveillance Frequency Control Program
SR 3.4.15.4 Perform CHANNEL CALIBRATION of the required containment atmosphere radioactivity monitor.	In accordance with the Surveillance Frequency Control Program

3.7 PLANT SYSTEMS

3.7.1 Main Steam Safety Valves (MSSVs)

LCO 3.7.1 Five MSSVs per steam generator shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

-----NOTE-----  
Separate Condition entry is allowed for each MSSV.  
-----

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. One or more steam generators with one or more MSSVs inoperable.</p>	<p>A.1 Reduce THERMAL POWER to less than or equal to the Maximum Allowable % RTP specified in Table 3.7.1-1 for the number of OPERABLE MSSVs.</p>	<p>4 hours</p>
	<p><u>AND</u></p> <p>A.2 -----NOTE----- Only required in Mode 1. -----</p> <p>Reduce the Power Range Neutron Flux-High reactor trip setpoint to less than or equal to the Maximum Allowable % RTP specified in Table 3.7.1-1 for the number of OPERABLE MSSVs.</p>	<p>36 hours</p>

(continued) |

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required Action and associated Completion Time not met.  <u>OR</u>  One or more steam generators with $\geq 4$ MSSVs inoperable.	B.1 Be in MODE 3.	6 hours
	<u>AND</u>  B.2 Be in MODE 4.	12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.1.1 -----NOTE----- Only required to be performed in MODES 1 and 2. ----- Verify each required MSSV lift setpoint per Table 3.7.1-2 in accordance with the INSERVICE TESTING PROGRAM. Following testing, lift setting shall be within $\pm 1\%$ .	In accordance with the INSERVICE TESTING PROGRAM

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



ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Outside air wet bulb temperature > 76°F.  <u>AND</u>  Any electrical division not capable of providing power to at least one OPERABLE SXCT fan.	C.1 Verify OPERABLE SXCT fans are capable of being powered by an OPERABLE emergency power source.	1 hour
	<u>AND</u> C.2 Restore SXCT fan configuration such that each electrical division is capable of providing power to at least one OPERABLE SXCT fan.	72 hours
D. SX pump discharge water temperature > 96°F.	D.1 Be in MODE 3.	6 hours
	<u>AND</u> D.2 Be in MODE 5.	36 hours
E. One or more basin level(s) < 60%.	E.1 Restore both basin levels to ≥ 60%.	6 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>E. Two VC Filtration System trains inoperable in MODE 5 or 6, or during movement of irradiated fuel assemblies.</p> <p><u>OR</u></p> <p>One or more VC Filtration System trains inoperable due to an inoperable CRE boundary in MODE 5 or 6, or during movement of irradiated fuel assemblies.</p>	E.1 Suspend movement of irradiated fuel assemblies.	Immediately
	<p><u>AND</u></p> <p>E.2 Suspend positive reactivity additions.</p>	Immediately
<p>F. Two VC Filtration System trains inoperable in MODE 1, 2, 3, or 4 for reasons other than Condition B.</p>	F.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.7.10.1 Operate each VC Filtration System train with:</p> <p>a. Flow through the makeup system filters for <math>\geq 15</math> continuous minutes with the heaters operating; and</p> <p>b. Flow through the recirculation charcoal adsorber for <math>\geq 15</math> minutes.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.7.10.2	Perform required VC Filtration System filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.7.10.3	Verify each VC Filtration System train actuates on an actual or simulated actuation signal.	In accordance with the Surveillance Frequency Control Program
SR 3.7.10.4	Perform required CRE unfiltered air inleakage testing in accordance with the Control Room Envelope Habitability Program.	In accordance with the Control Room Envelope Habitability Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>B. One DC electrical power division crosstied to opposite-unit DC electrical power subsystem that has an inoperable battery charger, while opposite unit is in MODE 1, 2, 3, or 4.</p>	<p>B.1 Open at least one crosstie breaker between the crosstied divisions.</p>	<p>204 hours</p>
<p>C. One DC electrical power division crosstied to opposite-unit DC electrical power subsystem with an inoperable source, while opposite unit is in MODE 5, 6, or defueled.</p>	<p>C.1 -----NOTE----- Only required when opposite unit has an inoperable battery. ----- Verify opposite-unit DC bus load ≤ 200 amps.</p> <p><u>AND</u></p> <p>C.2 Open at least one crosstie breaker between the crosstied divisions.</p>	<p>Once per 12 hours</p> <p>7 days</p>
<p>D. One DC electrical power subsystem inoperable for reasons other than Condition A, B, or C.</p>	<p>D.1 Restore DC electrical power subsystem to OPERABLE status.</p>	<p>2 hours</p>
<p>E. Required Action and Associated Completion Time not met.</p>	<p>E.1 Be in MODE 3.</p> <p><u>AND</u></p> <p>E.2 Be in MODE 5.</p>	<p>6 hours</p> <p>36 hours</p>

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.2.1 Suspend CORE ALTERATIONS.  <u>AND</u>	Immediately
	A.2.2 Suspend movement of irradiated fuel assemblies.  <u>AND</u>	Immediately
	A.2.3 Initiate action to suspend operations involving positive reactivity additions.  <u>AND</u>	Immediately
	A.2.4 Initiate action to restore required DC electrical power subsystem to OPERABLE status.  <u>AND</u>	Immediately
	A.2.5 Declare affected Low Temperature Overpressure Protection feature(s) inoperable.	Immediately

(continued)

## 4.0 DESIGN FEATURES

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### 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.

#### 4.3.2 Drainage

The spent fuel pool is designed and shall be maintained to prevent inadvertent draining of the pool below elevation 410 ft, 0 inches.

#### 4.3.3 Capacity

The spent fuel pool is designed and shall be maintained with a storage capacity limited to no more than 2984 fuel assemblies.

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5.5 Programs and Manuals

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5.5.15 Safety Function Determination Program (SFDP) (continued)

The SFDP identifies where a loss of safety function exists. If a loss of safety function is determined to exist by this program, the appropriate Conditions and Required Actions of the LCO in which the loss of safety function exists are required to be entered.

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5.5.16 Containment Leakage Rate Testing Program

A program shall be established to implement the leakage rate testing of the containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B, as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163, September 1995 and NEI 94-01, Revision 0.

The peak calculated containment internal pressure for the design basis loss of coolant accident,  $P_a$ , is 42.8 psig for Unit 1 and 38.4 psig for Unit 2

The maximum allowable containment leakage rate,  $L_a$ , at  $P_a$ , shall be 0.20% of containment air weight per day.

Leakage Rate acceptance criteria are:

- a. Containment leakage rate acceptance criterion is  $\leq 1.0 L_a$ . During the first unit startup following testing in accordance with this program, the leakage rate acceptance criteria are  $< 0.60 L_a$  for the Type B and C tests and  $< 0.75 L_a$  for Type A tests; and



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

SAFETY EVALUATION BY THE  
OFFICE OF NUCLEAR REACTOR REGULATION RELATED TO  
AMENDMENT NO. 193 TO RENEWED FACILITY OPERATING LICENSE NO. NPF-72,  
AMENDMENT NO. 193 TO RENEWED FACILITY OPERATING LICENSE NO. NPF-77,  
AMENDMENT NO. 198 TO RENEWED FACILITY OPERATING LICENSE NO. NPF-37,  
AND AMENDMENT NO. 198 TO RENEWED 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 U.S. Nuclear Regulatory Commission (NRC, the Commission) dated February 23, 2017 (Agencywide Documents Access and Management System Accession No. ML17055A631), as supplemented by letter dated June 29, 2017 (ADAMS Accession No. ML17180A530), Exelon Generation Company, LLC (the licensee) requested changes to the facility operating licenses and technical specification (TSs) for the Braidwood Station (Braidwood), Units 1 and 2, and Byron Station (Byron), Unit Nos. 1 and 2.

The amendment removes time, cycle, or modification-related items from the operating licenses (OLs) and technical specifications (TS). Additionally, the amendment makes editorial and formatting changes. The licensee's basis for the amendment is that the time, cycle, or modification-related items have been implemented or superseded, are no longer applicable, and no longer need to be maintained in their associated OLs or TS.

A proposed determination of no significant hazards was published in the *Federal Register* on April 11, 2017. The supplement, dated June 29, 2017, contained clarifying information and did not change the scope of the proposed action or affect the NRC staff's initial proposed finding of no significant hazards consideration.

2.0 REGULATORY EVALUATION

Section 182a of the Atomic Energy Act of 1954, as amended, requires applicants for nuclear power plant OLs to include TSs as part of the license. The NRC's regulatory requirements related to the content of the TSs are set forth in Title 10 of the *Code of Federal Regulations*



(10 CFR) Section 50.36, "Technical specifications." This regulation requires that TSs include: (1) safety limits, limiting safety system settings and limiting control settings, (2) limiting conditions for operation, (3) surveillance requirements (SRs), (4) design features, and (5) administrative controls.

Section 187 of the Atomic Energy Act, "Modification of License," states that the "terms and conditions of all licensees shall be subject to amendment, revision, or modification, by reason of amendments of this Act, or by reason of rules and regulations issued in accordance with the terms of this Act." This provision authorizes NRC to amend licenses.

Section 50.50 of 10 CFR states, in part, that the Commission will issue a license in such form and containing such conditions and limitations, including TSs, as it deems appropriate and necessary.

### 3.0 TECHNICAL EVALUATION

#### 3.1 License Conditions

Braidwood, Unit 1, Appendix C, Additional Conditions, Facility Operating License No. NPF-72

Current License Condition:

<u>Amendment Number</u>	<u>Additional Condition</u>	<u>Implementation Date</u>
145	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 [megawatt days per metric ton of uranium] 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.	With implementation of the amendment

Amended License Condition:

<u>Amendment Number</u>	<u>Additional Condition</u>	<u>Implementation Date</u>
145	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

The following text is deleted from the amended license condition:

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, "DTACO - Urania Gadolinia Fuel Pin Thermal Analysis Code," February 1995.

The licensee states in its February 23, 2017, letter that operating cycles 15, 16, and 17 are complete for Braidwood, Unit 1. The NRC staff finds that since the window of operating cycles for which the license condition applied has expired, the identified text is no longer necessary. The NRC staff, therefore, determines that 10 CFR 50.50 is satisfied with the identified text removed.

Current License Condition:

<u>Amendment Number</u>	<u>Additional Condition</u>	<u>Implementation Date</u>
146	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:	With implementation of the amendment

- (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.
- (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.
- (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.

Amended License Condition:

This license condition is deleted in its entirety.

The licensee states in its February 23, 2017, letter that the first performances of the CRE habitability surveillance, assessment, and measurement as required by the license condition items (a), (b), and (c) respectively are complete. The NRC staff finds that after the completion of the first performances of (a), (b), and (c) the license condition is no longer necessary. Therefore the NRC staff determines that 10 CFR 50.50 is met with this license condition deleted.

Braidwood, Unit 2, Appendix C, Additional Conditions, Facility Operating License No. NPF-77

Current License Condition:

<u>Amendment Number</u>	<u>Additional Condition</u>	<u>Implementation Date</u>
146	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	With implementation of the amendment

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:

- (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.
- (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.
- (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.

Amended License Condition:

This license condition is deleted in its entirety.

The licensee states in its February 23, 2017, letter that the first performances of the CRE habitability surveillance, assessment, and measurement as required by the license condition items (a), (b), and (c) respectively are complete. The NRC staff finds that after the completion of the first performances of (a), (b), and (c) the license condition is no longer necessary. Therefore, the NRC staff determines that 10 CFR 50.50 is met with this license condition deleted.

Byron, Unit No. 1, Appendix C, Additional Conditions, Facility Operating License No. NPF-37

Current License Condition:

<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 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 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 GL 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

Amended License Condition:

This license condition is deleted in its entirety.

The licensee states in its February 23, 2017, letter that the first performances of the CRE habitability surveillance, assessment, and measurement as required by the license condition items (a), (b), and (c) respectively are complete. The NRC staff finds that after the completion of the first performances of (a), (b), and (c) the license condition is no longer necessary. Therefore, the NRC staff determines that 10 CFR 50.50 is met with this license condition deleted.

Byron, Unit No. 2, Appendix C, Additional Conditions, Facility Operating License No. NPF-66

Current License Condition:

<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"><li>(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.</li><li>(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.</li><li>(c) The first performance of the periodic measurement of CRE pressure, Specification 5.5.18.d, shall be</li></ul>	With implementation of the amendment

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.

Amended License Condition:

This license condition is deleted in its entirety.

The licensee states in its February 23, 2017, letter that the first performances of the CRE habitability surveillance, assessment, and measurement as required by the license condition items (a), (b), and (c) respectively, are complete. The NRC staff finds that after the completion of the first performances of (a), (b), and (c) the license condition is no longer necessary. Therefore, the NRC staff determines that 10 CFR 50.50 is met with this license condition deleted.

### 3.2 Technical Specifications

#### 3.2.1 Braidwood, Units 1 and 2

##### Pages 2.0-1, 3.0-4, 3.0-6, and 4.0-2

Replace the current bottom single line with a double line, one space below the last text.

The NRC staff finds that this is an administrative change with no impact on TS implementation. Based on the above, the NRC staff determined that this change is acceptable and the requirements of 10 CFR 50.36 continue to be met.

##### Page 2.0-1

Existing TS 2.1.1.3

- 2.1.1.3 In MODES 1 and 2, the peak fuel centerline temperature shall be maintained as follows:
- a. < 5080 °F decreasing by 58 °F per 10,000 MWD/MTU burnup for Westinghouse fuel,
  - b. < 5173 °F decreasing by 65 °F per 10,000 MWD/MTU burnup for AREVA NP fuel (Unit 1 only), and
  - c. < 5189 °F decreasing by 65 °F per 10,000 MWD/MTU burnup for AREVA NP fuel containing Gadolinia (Unit 1 only).

Amended TS 2.1.1.3

- 2.1.1.3 In MODES 1 and 2, the peak fuel centerline temperature shall be maintained < 5080 °F decreasing by 58 °F per 10,000 MWD/MTU burnup for Westinghouse fuel.

In its letter dated February 23, 2017, the licensee stated that AREVA NP fuel is no longer in the reactor and won't be reinserted. Based on the licensee's statement, the NRC staff finds that the TS specifying the peak fuel centerline temperature limits for AREVA NP fuel (TS 2.1.1.3.b and

TS 2.1.1.2.c) are no longer necessary. Based on the above, the NRC staff determined that the change is acceptable and the requirements of 10 CFR 50.36 continue to be met.

Page 3.1.7-2

Existing SR 3.1.7.1 FREQUENCY:

Prior to criticality after each removal of the reactor head.

Amended SR 3.1.7.1 FREQUENCY:

Prior to criticality after each removal of the reactor head

Removal of the period from the FREQUENCY statement does not change the meaning or implementation of the SR and makes the statement consistent other SRs. The NRC staff finds that this is an administrative change with no impact on TS implementation. Based on the above, the NRC staff determined that this change is acceptable and the requirements of 10 CFR 50.36 continue to be met.

Page 3.3.1-13

In the header SURVEILLANCE REQUIREMENTS, delete the text "(continued)". In its letter dated February 23, 2017, the licensee states that because SR 3.3.1.8 has the text "(continued)" it is not appropriate to have it in the header. The NRC staff finds that this is an administrative change with no impact on TS implementation. Based on the above, the NRC staff determined that this change is acceptable and the requirements of 10 CFR 50.36 continue to be met.

Page 3.4.15-3 and 3.8.4-2

At the top of the pages above the top line add the header:

CONDITION	REQUIRED ACTION	COMPLETION TIME
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The NRC staff finds that this is an administrative change that makes this page consistent with other TS pages and has no impact on TS implementation. Based on the above, the NRC staff determined that this change is acceptable and the requirements of 10 CFR 50.36 continue to be met.

Page 3.7.1-1

The page is amended to add the text "(continued)" below the table at the bottom right to indicate continuation of the table on the next page. The NRC staff finds that this is an administrative change that makes this page consistent with other TS pages that are continued and has no impact on TS implementation. Based on the above, the NRC staff determined that this change is acceptable and the requirements of 10 CFR 50.36 continue to be met.



Unit 2 Page 3.7.8-2

Existing TS 3.7.8.A ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. One unit-specific SX [essential service water] train inoperable.</p>	<p>-----NOTES-----</p> <ol style="list-style-type: none"><li>1. Enter applicable Conditions and Required Actions of LCO [licensing condition for operation] 3.8.1, "AC [alternating current] Sources Operating," for Emergency Diesel Generator made inoperable by SX.</li><li>2. Enter applicable Conditions and Required Actions of LCO 3.4.6, "RCS [reactor coolant system] Loops-MODE 4," for Residual Heat Removal loops made inoperable by SX.</li></ol> <p>A.1 -----NOTE-----</p> <p>Not applicable to Unit 2 during repair of the 2A SX pump during the one-time Unit 2 planned SX System outage to be completed no later than January 23, 2017.</p> <p>-----</p> <p>Restore unit-specific SX train to OPERABLE status.</p>	<p>72 hours</p>
	<p>OR</p> <p>A.2 -----NOTE-----</p> <p>Applicable to Unit 2 during repair of the 2A SX pump during the one-time planned SX System outage to be completed no later than January 23, 2017. Allowance of the extended completion time is contingent on meeting the compensatory measures described in EGC submittal letter RS-16-197.</p> <p>-----</p> <p>Restore unit-specific SX train to OPERABLE status.</p>	

Amended TS 3.7.8.A ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. One unit-specific SX train inoperable.</p>	<p>A.1 -----NOTES-----</p> <ol style="list-style-type: none"> <li>1. Enter applicable Conditions and Required Actions of LCO 3.8.1, "AC Sources Operating," for Emergency Diesel Generator made inoperable by SX.</li> <li>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.</li> </ol> <p>-----</p> <p>Restore unit-specific SX train to OPERABLE status.</p>	<p>72 hours</p>

The removed note after A.1 is only applicable during the one-time planned SX System outage to be completed no later than January 23, 2017. The entire TS for A.2, including the completion time of 200 hours is only applicable during the one-time planned SX System outage to be completed no later than January 23, 2017. Since the January 23, 2017, date is now expired, the note after A.1 and the entire A.2 TS can be removed without any impact to implementation of the TS.

Since the Unit 2 TSs are now the same as Unit 1 TS, Unit 1 and Unit 2 TS will be specified on a common page which is consistent with the rest of the TS.

Based on the above, the NRC staff determined that this change is acceptable and the requirements of 10 CFR 50.36 continue to be met.

Page 3.7.10-3

Existing TS Condition E

CONDITION
E. Two VC [ventilation concentration] Filtration System Trains inoperable in MODE 5 or 6, or during movement of irradiated fuel assemblies.
<u>OR</u>
One or more VC Filtration System trains inoperable due to an inoperable CRE boundary in MODE 5 or 6, or during movement of irradiated fuel assemblies.

Amended TS Condition E

CONDITION
E. Two VC Filtration System Trains inoperable in MODE 5 or 6, or during movement of irradiated fuel assemblies.
<u>OR</u>
One or more VC Filtration System trains inoperable due to an inoperable CRE boundary in MODE 5 or 6, or during movement of irradiated fuel assemblies.

The formatting change for the “OR” connector does not impact implementation of the TS and makes it consistent with the TS Section 1.2, Logical Connectors, BACKGROUND, which states, “. . . the logical connector is left justified with the statement of the Condition. . .”

Based on the above, the NRC staff determined that this change is acceptable and the requirements of 10 CFR 50.36 continue to be met.

Pages 3.8.5-2, and 3.8.8-2

In the header ACTIONS, delete the text “(continued).” In its letter dated February 23, 2017, the licensee states that because the CONDITION column has the text “(continued)” it is not appropriate to have it in the header. The NRC staff finds that this is an administrative change with no impact on TS implementation. Based on the above, the NRC staff determined that this change is acceptable and the requirements of 10 CFR 50.36 continue to be met.

Page 4.0-1

Existing TS 4.2.1, Fuel Assemblies

The reactor shall contain 193 fuel assemblies. Each assembly, with exceptions as noted below, shall consist of a matrix of Zircaloy, ZIRLO®, or Optimized ZIRLO™ clad fuel rods with an initial composition of natural or slightly enriched uranium dioxide (UO<sub>2</sub>) as fuel material. Limited substitutions of zirconium alloy or stainless steel filler rods or vacancies for fuel rods, in accordance with approved applications of fuel rod configurations, may be used. Fuel assemblies shall be limited to those fuel designs that have been analyzed with applicable NRC staff approved codes and methods and shown by tests or analyses to comply with all fuel safety design bases. A limited number of

lead test assemblies that have not completed representative testing may be placed in nonlimiting core regions.

Up to 8 AREVA NP Advanced Mark-BW(A) fuel assemblies containing M5 alloy may be placed in nonlimiting Unit 1 core regions for evaluation during Cycles 15, 16, and 17.

#### Amended TS 4.2.1, Fuel Assemblies

The reactor shall contain 193 fuel assemblies. Each assembly shall consist of a matrix of Zircaloy, ZIRLO®, or Optimized ZIRLO™ clad fuel rods with an initial composition of natural or slightly enriched uranium dioxide (UO<sub>2</sub>) as fuel material. Limited substitutions of zirconium alloy or stainless steel filler rods or vacancies for fuel rods, in accordance with approved applications of fuel rod configurations, may be used. Fuel assemblies shall be limited to those fuel designs that have been analyzed with applicable NRC staff approved codes and methods and shown by tests or analyses to comply with all fuel safety design bases. A limited number of lead test assemblies that have not completed representative testing may be placed in nonlimiting core regions.

The removed text “with exceptions as noted below,” and the removed exception that specifies that, “Up to 8 AREVA NP Advanced Mark-BW(A) fuel assemblies containing M5 alloy may be placed in nonlimiting Unit 1 core regions for evaluation during Cycles 15, 16, and 17,” is only applicable during cycles 15, 16, and 17. In its February 23, 2017, letter the licensee stated that Cycles 15, 16, and 17 are complete and the AREVA NP Advanced Mark-BW(A) fuel assemblies containing M5 alloy are no longer in the core.

Based on the above, the NRC staff determined that this change is acceptable and the requirements of 10 CFR 50.36 continue to be met.

#### Page 4.0-2

Existing heading: DESIGN FEATURES (continued)

Amended heading: 4.0 DESIGN FEATURES

Adding 4.0 in front of the heading makes the page consistent with the rest of the TS pages. The text (continued) is removed because the TS Section concluded on the previous page. The NRC staff determined that these changes are administrative in nature and don't impact TS implementation.

Based on the above, the NRC staff determined that this change is acceptable and the requirements of 10 CFR 50.36 continue to be met.

#### Page 5.5-21

Existing first paragraph of TS 5.5.16, Containment Leakage Rate Testing Program

A program shall be established to implement the leakage rate testing of the containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B, as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163, September 1995 and NEI [Nuclear Energy Institute] 94-01, Revision 0, as modified by the following exceptions:

1. NEI 94-01 - 1995, Section 9.2.3: The first Unit 1 Type A test performed after the October 5, 1998 Type A test shall be performed no later than October 5, 2013.
2. NEI 94-01 - 1995, Section 9.2.3: In support of the Spring 2014 refueling outage, Unit 2 shall be placed in a MODE of operation where containment is not required to be OPERABLE in accordance with Technical Specification 3.6.1, "Containment," no later than May 4, 2014. The first Unit 2 Type A test performed after the May 4, 1999 Type A test shall be performed prior to entering MODE 4 at the start of Unit 2, Cycle 18.

#### Amended first paragraph of TS 5.5.16, Containment Leakage Rate Testing Program

A program shall be established to implement the leakage rate testing of the containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B, as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163, September 1995 and NEI 94-01, Revision 0.

In its letter dated February 23, 2017, the licensee states that the Type A tests were performed on September 27, 2013, and May 13, 2014, for Braidwood, Units 1 and 2, respectively. These were the first Type A tests performed after the October 5, 1998, Type A test and the May 4, 1999, Type A test for Braidwood, Units 1 and 2, respectively. The NRC staff finds that with the completion of these tests, the removed text, "as modified by the following exceptions:" and exceptions 1 and 2 are no longer applicable.

Based on the above, the NRC staff determined that this change is acceptable and the requirements of 10 CFR 50.36 continue to be met.

#### 3.2.2 Byron, Unit Nos. 1 and 2

##### Pages 2.0-1, 3.0-4, 3.0-6, and 4.0-2

Replace the current bottom single line with a double line, one space below the last text.

The NRC staff finds that this is an administrative change with no impact on TS implementation. Based on the above, the NRC staff determined that this change is acceptable and the requirements of 10 CFR 50.36 continue to be met.

##### Page 3.1.7-2

Existing SR 3.1.7.1 FREQUENCY:

Prior to criticality after each removal of the reactor head.

Amended SR 3.1.7.1 FREQUENCY:

Prior to criticality after each removal of the reactor head

Removal of the period from the FREQUENCY statement does not change the meaning or implementation of the SR and makes the statement consistent with other SRs. The NRC staff finds that this is an administrative change with no impact on TS implementation. Based on the

above, the NRC staff determined that this change is acceptable and the requirements of 10 CFR 50.36 continue to be met.

Page 3.3.1-14

In the header SURVEILLANCE REQUIREMENTS, delete the text "(continued)". In its letter dated February 23, 2017, the licensee states that because SR 3.3.1.8 has the text "(continued)" it is not appropriate to have it in the header. The NRC staff finds that this is an administrative change with no impact on TS implementation. Based on the above, the NRC staff determined that this change is acceptable and the requirements of 10 CFR 50.36 continue to be met.

Page 3.4.15-3, 3.7.1-2, and 3.8.4-2

At the top of the pages above the top line add the header:

CONDITION	REQUIRED ACTION	COMPLETION TIME
-----------	-----------------	-----------------

The NRC staff finds that this is an administrative change that makes this page consistent with other TS pages and has no impact on TS implementation. Based on the above, the NRC staff determined that this change is acceptable and the requirements of 10 CFR 50.36 continue to be met.

Page 3.7.1-1

The page is amended to add the text "(continued)" below the table at the bottom right to indicate continuation of the table on the next page. The NRC staff finds that this is an administrative change that makes this page consistent with other TS pages that are continued and has no impact on TS implementation. Based on the above, the NRC staff determined that this change is acceptable and the requirements of 10 CFR 50.36 continue to be met.

Pages 3.7.8-1 and 3.7.8-2

Existing TS 3.7.8 ACTIONS

CONDITIONS	REQUIRED ACTION	COMPLETION TIME
A. -----NOTE----- Not applicable to Unit 1 during replacement of the SX suction isolation valves (i.e., ISX001A and 2SX001A) during Unit 2 Refueling 15 while Unit 2 is in MODE 5, 6, or defueled. ----- One unit-specific SX train inoperable	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	

	<p>Removal loops made inoperable by SX.</p> <p>-----</p> <p>Restore unit-specific SX train to OPERABLE status.</p>	72 hours
<p>B. -----NOTE-----</p> <p>Only applicable to Unit 1 during replacement of the SX suction isolation valves (i.e., 1SX001A and 2SX001A) during Unit 2 Refueling 15 while Unit 2 is in MODE 5, 6, or defueled.</p> <p>-----</p> <p>One unit-specific SX train inoperable.</p>	<p>B.1 -----NOTES-----</p> <ol style="list-style-type: none"> <li>1. Enter applicable Conditions and Required Actions of LCO 3.8.1, "AC Sources-Operating," for Emergency Diesel Generator made inoperable by SX.</li> <li>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.</li> </ol> <p>-----</p> <p>Restore unit-specific SX train to OPERABLE status.</p>	144 hours
<p>C. Opposite-unit SX train inoperable.</p>	<p>C.1 Restore opposite-unit SX train to OPERABLE status.</p>	7 days
<p>D. Required Action and associated Completion Time of Condition A, B or C not met.</p>	<p>D.1 Be in MODE 3.</p> <p><u>AND</u></p> <p>D.2 Be in MODE 5.</p>	<p>6 hours</p> <p>36 hours</p>

Amended TS 3.7.8 ACTIONS

CONDITIONS	REQUIRED ACTION	COMPLETION TIME
<p>A One unit-specific SX train inoperable</p>	<p>A.1 -----NOTES-----</p> <ol style="list-style-type: none"> <li>1. Enter applicable Conditions and Required Actions of LCO 3.8.1, "AC Sources-Operating," for Emergency Diesel Generator made inoperable by SX.</li> <li>2. Enter applicable Conditions and Required Actions of LCO 3.4.6, "RCS Loops-MODE 4," for</li> </ol>	

	Residual Heat Removal loops made inoperable by SX.  ----- Restore unit-specific SX train to OPERABLE status.	72 hours
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>  C.2 Be in MODE 5.	6 hours   36 hours

The removed note after CONDITION A is only applicable during replacement of the SX suction isolation valves (i.e., 1SX001A and 2SX001A) during Unit No. 2 refueling outage 15. The entire TS for CONDITION B., including the completion time of 144 hours is only applicable during replacement of the SX suction isolation valves (i.e., 1SX001A and 2SX001A) during Unit No. 2 refueling outage 15. In its letter dated February 23, 2017, the licensee stated that the Byron, Unit No. 2, refueling outage 15 is complete. Since the Byron, Unit No. 2, refueling outage 15 is complete, the NRC staff finds that the note after CONDITION A and the entire CONDITION B TS can be removed without any impact to implementation of the TS. The NRC staff finds that renumbering of the CONDITIONS and REQUIRED ACTIONS because the entire CONDITION B TS is removed is an administrative change that has no impact on the TS.

Based on the above, the NRC staff determined that this change is acceptable and the requirements of 10 CFR 50.36 continue to be met.

Page 3.7.9-2

Existing TS Condition C

CONDITION
C. Outside air wet bulb temperature > 76°F.
<u>AND</u>
Any electrical division not capable of providing power to at least one OPERABLE SXCT fan.

Amended TS Condition C

CONDITION
C. Outside air wet bulb temperature > 76°F.
<u>AND</u>
Any electrical division not capable of providing power to at least one OPERABLE SXCT fan.

The formatting change for the “AND” connector does not impact implementation of the TS and makes it consistent with the TS, Section 1.2, Logical Connectors, BACKGROUND, which states, “. . . the logical connector is left justified with the statement of the Condition. . .”



Based on the above, the NRC staff determined that this change is acceptable and the requirements of 10 CFR 50.36 continue to be met.

Page 3.7.10-3

Existing TS Condition E

CONDITION
E. Two VC Filtration System Trains inoperable in MODE 5 or 6, or during movement of irradiated fuel assemblies.
<u>OR</u>
One or more VC Filtration System trains inoperable due to an inoperable CRE boundary in MODE 5 or 6, or during movement of irradiated fuel assemblies.

Amended TS Condition E

CONDITION
E. Two VC Filtration System Trains inoperable in MODE 5 or 6, or during movement of irradiated fuel assemblies.
<u>OR</u>
One or more VC Filtration System trains inoperable due to an inoperable CRE boundary in MODE 5 or 6, or during movement of irradiated fuel assemblies.

The formatting change for the "OR" connector does not impact implementation of the TS and makes it consistent with the TS Section 1.2, Logical Connectors, BACKGROUND, which states, ". . . the logical connector is left justified with the statement of the Condition. . ."

Based on the above, the NRC staff determined that this change is acceptable and the requirements of 10 CFR 50.36 continue to be met.

Page 3.7.10-4

Existing SR 3.7.10.4 FREQUENCY requirement:

In accordance with the Control Room Envelope Habitability Program.

Amended SR 3.7.10.4 FREQUENCY requirement:

In accordance with the Control Room Envelope Habitability Program

The removed period "." At the end of the requirement does not impact implementation of the SR. Based on the above, the NRC staff determined that this change is acceptable and the requirements of 10 CFR 50.36 continue to be met.

Page 3.8.5-2

In the header ACTIONS, delete the text "(continued)". In its letter dated February 23, 2017, the licensee states that because the CONDITION column has the text "(continued)" it is not

appropriate to have it in the header. The NRC staff finds that this is an administrative change with no impact on TS implementation. Based on the above, the NRC staff determined that this change is acceptable and the requirements of 10 CFR 50.36 continue to be met.

Page 4.0-2

Existing heading: DESIGN FEATURES (continued)

Amended heading: 4.0 DESIGN FEATURES

Adding 4.0 in front of the heading makes the page consistent with the rest of the TS pages. The text (continued) is removed because the TS Section concluded on the previous page. The NRC staff determined that these changes are administrative in nature and don't impact TS implementation.

Based on the above, the NRC staff determined that this change is acceptable and the requirements of 10 CFR 50.36 continue to be met.

Move the following from page 4.0-3 to page 4.0-2 after 4.3.1:

2.3.2 Drainage

The spent fuel pool is designed and shall be maintained to prevent inadvertent draining of the pool below elevation 410 ft. 0 inches.

2.3.3 Capacity

The spent fuel pool is designed and shall be maintained with a storage capacity limited to no more than 2984 fuel assemblies.

The NRC staff finds that Moving 4.3.2 and 4.3.3 to page 4.0-2 does not change the sequence of the TS and does not impact implementation of the TS.

Based on the above, the NRC staff determined that this change is acceptable and the requirements of 10 CFR 50.36 continue to be met.

Page 4.0.3

Delete the entire page since 4.3.2 and 4.3.3 were moved to the previous page and, therefore, the page has no requirements.

The NRC staff finds that this is an administrative repagination and doesn't impact TS implementation.

Based on the above, the NRC staff determined that this change is acceptable and the requirements of 10 CFR 50.36 continue to be met.

Page 5.5-21

Existing first paragraph of TS 5.5.16, Containment Leakage Rate Testing Program:

A program shall be established to implement the leakage rate testing of the containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B, as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163, September 1995 and NEI 94-01, Revision 0, as modified by the following exceptions:

1. NEI 94-01 - 1995, Section 9.2.3: The first Unit 1 Type A test performed after the February 19, 1998 Type A test shall be performed no later than February 19, 2013.
2. NEI 94-01 - 1995, Section 9.2.3: The first Unit 2 Type A test performed after the November 2, 1999 Type A test shall be performed no later than November 2, 2014.

Amended first paragraph of TS 5.5.16, Containment Leakage Rate Testing Program

A program shall be established to implement the leakage rate testing of the containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B, as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163, September 1995 and NEI 94-01, Revision 0.

In its letter dated February 23, 2017, the licensee states that the Type A tests were performed on September 27, 2012, and September 26, 2014, for Byron, Unit Nos. 1 and 2, respectively. These were the first Type A tests performed after the February 19, 1998, Type A test and the November 2, 1999, Type A test for Byron, Unit Nos. 1 and 2, respectively. The NRC staff finds that with the completion of these tests, the removed text, "as modified by the following exceptions:" and the exceptions for Unit Nos. 1 and 2 are no longer applicable.

Based on the above, the NRC staff determined that this change is acceptable and the requirements of 10 CFR 50.36 continue to be met.

#### 4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Illinois State official was notified of the proposed issuance of the amendment on April 26, 2017. The State official had no comments.

#### 5.0 ENVIRONMENTAL CONSIDERATION

The amendment relates to changes in the format of the license or otherwise makes editorial, corrective, or minor revisions. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(10). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

#### 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) there is reasonable assurance that 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: Joel S. Wiebe

Date of issuance: July 5, 2017

SUBJECT: BRAIDWOOD STATION, UNITS 1 AND 2, AND BYRON STATION, UNIT NOS. 1 AND 2 – ISSUANCE OF AMENDMENTS REGARDING REQUEST TO DELETE OBSOLETE LICENSE CONDITIONS AND MAKE ADMINISTRATIVE CHANGES TO TECHNICAL SPECIFICATIONS (CAC NOS. MF9338, MF9339, MF9340, AND MF9341) DATED JULY 5, 2017

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