



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

December 7, 2021

Mr. David P. Rhoades
Senior Vice President
Exelon Generation Company, LLC
President and Chief Nuclear Officer (CNO)
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: CLINTON POWER STATION, UNIT NO. 1; DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3; LASALLE COUNTY STATION, UNITS 1 AND 2; AND QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS TO ADOPT REACTOR PRESSURE VESSEL WATER INVENTORY CONTROL ENHANCEMENTS (EPIDS L-2020-LLA-0253 AND L-2020-LLA-0254)

Dear Mr. Rhoades:

The U.S. Nuclear Regulatory Commission (NRC, the Commission) has issued the following enclosed amendments in response to the Exelon Generation Company, LLC (Exelon, the licensee) application dated November 18, 2020 (Agencywide Documents Access and Management System (ADAMS) Package Accession No. ML20324A090), as supplemented by letter dated August 19, 2021 (ADAMS Accession No. ML21231A144):

1. Amendment No. 240 to Facility Operating License No. NPF-62 for Clinton Power Station, Unit No. 1;
2. Amendment No. 275 to Renewed Facility Operating License No. DPR-19 and Amendment No. 268 to Renewed Facility Operating License No. DPR-25 for Dresden Nuclear Power Station, Units 2 and 3, respectively;
3. Amendment No. 252 to Renewed Facility Operating License No. NPF-11 and Amendment No. 238 to Renewed Facility Operating License No. NPF-18 for LaSalle County Station, Units 1 and 2, respectively; and
4. Amendment No. 287 to Renewed Facility Operating License No. DPR-29 and Amendment No. 283 to Renewed Facility Operating License No. DPR-30 for Quad Cities Nuclear Power Station, Units 1 and 2, respectively.

The amendments revise the technical specifications related to the reactor pressure vessel (RPV) water inventory control (WIC) for each facility based on Technical Specifications Task Force (TSTF) Traveler TSTF-582, Revision 0, "RPV WIC Enhancements" (ADAMS Accession No. ML19240A260) with variations.

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

Sincerely,

/RA/

Blake Purnell, Project Manager
Plant Licensing Branch III
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-461, 50-237, 50-249, 50-373,
50-374, 50-254, and 50-265

Enclosures:

1. Amendment No. 240 to NPF-62
2. Amendment No. 275 to DPR-19
3. Amendment No. 268 to DPR-25
4. Amendment No. 252 to NPF-11
5. Amendment No. 238 to NPF-18
6. Amendment No. 287 to DPR-29
7. Amendment No. 283 to DPR-30
8. Safety Evaluation

cc: Listserv



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

EXELON GENERATION COMPANY, LLC

DOCKET NO. 50-461

CLINTON POWER STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 240
License No. NPF-62

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Exelon Generation Company, LLC dated November 18, 2020, as supplemented by letter dated August 19, 2021, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-62 is hereby amended to read as follows:

- (2) Technical Specifications and Environmental Protection Plan

- The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 240, are hereby incorporated into this license. Exelon Generation Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

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

FOR THE NUCLEAR REGULATORY COMMISSION

Nancy L. Salgado, Chief
Plant Licensing Branch III
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical Specifications
and Facility Operating License

Date of Issuance: December 7, 2021

ATTACHMENT TO LICENSE AMENDMENT NO. 240

FACILITY OPERATING LICENSE NO. NPF-62

CLINTON POWER STATION, UNIT NO. 1

DOCKET NO. 50-461

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

Remove

Insert

License NPF-62

License NPF-62

Page 3

Page 3

TSs

TSs

1.0-3

1.0-3

1.0-4

1.0-4

3.3-43a

3.3-43a

3.3-43b

3.3-43b

3.3-43c

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3.3-43d

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3.3-44

3.3-44

3.3-51

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3.8-19

3.8-19

- (4) Exelon Generation Company, pursuant to the Act and to 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;
 - (5) 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;
 - (6) 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. Mechanical disassembly of the GE14i isotope test assemblies containing Cobalt-60 is not considered separation; and
 - (7) Exelon Generation Company, pursuant to the Act and 10 CFR Parts 30, to intentionally produce, possess, receive, transfer, and use Cobalt-60.
- C. This 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
Exelon Generation Company is authorized to operate the facility at reactor core power levels not in excess of 3473 megawatts thermal (100 percent rated power) in accordance with the conditions specified herein.
 - (2) Technical Specifications and Environmental Protection Plan
The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 240, are hereby incorporated into this license. Exelon Generation Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

1.1 Definitions (continued)

CORE OPERATING LIMITS REPORT (COLR)	The COLR is the unit specific document that provides cycle specific parameter limits for the current reload cycle. These cycle specific limits shall be determined for each reload cycle in accordance with Specification 5.6.5. Plant operation within these limits is addressed in individual Specifications.
DOSE EQUIVALENT I-131	DOSE EQUIVALENT I-131 shall be that concentration of I-131 (microcuries/gram) that alone would produce the same inhalation CEDE dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134, and I-135 actually present. The inhalation CEDE dose conversion factors used for this calculation shall be those listed in Table 2.1 of Federal Guidance Report 11, "Limiting Values of Radionuclide Intake and Air Concentration and Dose Conversion Factors for Inhalation, Submersion, and Ingestion," ORNL, 1989.
DRAIN TIME	<p>The DRAIN TIME is the time it would take for the water inventory in and above the Reactor Pressure Vessel (RPV) to drain to the top of the active fuel (TAF) seated in the RPV assuming:</p> <ol style="list-style-type: none">The water inventory above the TAF is divided by the limiting drain rate;The limiting drain rate is the larger of the drain rate through a single penetration flow path with the highest flow rate, or the sum of the drain rates through multiple penetration flow paths susceptible to a common mode failure for all penetration flow paths below the TAF except:

(continued)

Definitions

DRAIN TIME
(continued)

1. Penetration flow paths connected to an intact closed system, or isolated by manual or automatic valves that are closed and administratively controlled in the closed position, blank flanges, or other devices that prevent flow of reactor coolant through the penetration flow paths;
 1. Penetration flow paths capable of being isolated by valves that will close automatically without offsite power prior to the RPV water level being equal to the TAF when actuated by RPV water level isolation instrumentation; or
 3. Penetration flow paths with isolation devices that can be closed prior to the RPV water level being equal to the TAF by a dedicated operator trained in the task, who is in continuous communication with the control room, is stationed at the controls, and is capable of closing the penetration flow path isolation devices without offsite power.
- c. The penetration flow paths required to be evaluated per paragraph b) are assumed to open instantaneously and are not subsequently isolated, and no water is assumed to be subsequently added to the RPV water inventory;
- d. No additional draining events occur; and
- e. Realistic cross-sectional areas and drain rates are used.

A bounding DRAIN TIME may be used in lieu of a calculated value.

EMERGENCY CORE COOLING
SYSTEM (ECCS) RESPONSE
TIME

The ECCS RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its ECCS initiation setpoint at the channel sensor until the ECCS equipment is capable of performing its safety function (i.e., the valves travel to their required positions, pump discharge pressures reach their required values, etc.). Times shall include diesel generator starting and sequence loading delays, where applicable. The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured.

(continued)

3.3 INSTRUMENTATION

3.3.5.2 Reactor Pressure Vessel (RPV) Water Inventory Control Instrumentation

LCO 3.3.5.2 The RPV Water Inventory Control instrumentation for each Function in Table 3.3.5.2-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.5.2-1.

ACTIONS

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more channels inoperable.	A.1 Initiate action to place channel in trip.	Immediately
	<u>OR</u>	
	A.2.1 Declare associated penetration flow path(s) incapable of automatic isolation.	Immediately
	<u>AND</u>	
	A.2.2 Initiate action to calculate DRAIN TIME.	Immediately

SURVEILLANCE REQUIREMENTS

-----NOTE-----
These SRs apply to each Function in Table 3.3.5.2-1.

SURVEILLANCE	FREQUENCY
SR 3.3.5.2.1 Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program
SR 3.3.5.2.2 Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program

Table 3.3.5.2-1 (page 1 of 1)
RPV Water Inventory Control Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	ALLOWABLE VALUE
1. RHR System Isolation			
a. Reactor Vessel Water Level - Low, Level 3	(a)	2 in one trip system	≥ 8.3 inches
2. Reactor Water Cleanup (RWCU) System Isolation			
a. Reactor Vessel Water Level - Low Low, Level 2	(a)	2 in one trip system	≥ -48.1 inches

(a) When automatic isolation of the associated penetration flow path(s) is credited in calculating DRAIN TIME.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
H. As required by Required Action F.1 and referenced in Table 3.3.6.1-1.	H.1 Be in MODE 2.	6 hours
I. As required by Required Action F.1 and referenced in Table 3.3.6.1-1.	I.1 Isolate the affected penetration flow path(s).	1 hour
J. As required by Required Action F.1 and referenced in Table 3.3.6.1-1.	J.1 Isolate the affected penetration flow path(s).	24 hours
K. As required by Required Action F.1 and referenced in Table 3.3.6.1-1. <u>OR</u> Required Action and associated Completion Time of Condition I or J not met.	K.1 Be in MODE 3. <u>AND</u> K.2 Be in MODE 4.	12 hours 36 hours
L. As required by Required Action F.1 and referenced in Table 3.3.6.1-1.	L.1 Declare associated standby liquid control subsystem inoperable. <u>OR</u> L.2 Isolate the Reactor Water Cleanup System.	1 hour 1 hour
M. As required by Required Action F.1 and referenced in Table 3.3.6.1-1.	M.1 Initiate action to restore channel to OPERABLE status.	Immediately

(continued)

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SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY										
<p>SR 3.8.2.1 -----NOTE-----</p> <p>The following SRs are not required to be performed: SR 3.8.1.3, SR 3.8.1.9, SR 3.8.1.10, SR 3.8.1.14, and SR 3.8.1.16.</p> <p>-----</p> <p>The following SRs are applicable for AC sources required to be OPERABLE:</p> <table data-bbox="440 583 935 722"> <tr> <td>SR 3.8.1.1</td> <td>SR 3.8.1.6</td> </tr> <tr> <td>SR 3.8.1.2</td> <td>SR 3.8.1.9</td> </tr> <tr> <td>SR 3.8.1.3</td> <td>SR 3.8.1.10</td> </tr> <tr> <td>SR 3.8.1.4</td> <td>SR 3.8.1.14</td> </tr> <tr> <td>SR 3.8.1.5</td> <td>SR 3.8.1.16</td> </tr> </table>	SR 3.8.1.1	SR 3.8.1.6	SR 3.8.1.2	SR 3.8.1.9	SR 3.8.1.3	SR 3.8.1.10	SR 3.8.1.4	SR 3.8.1.14	SR 3.8.1.5	SR 3.8.1.16	<p>In accordance with applicable SRs</p>
SR 3.8.1.1	SR 3.8.1.6										
SR 3.8.1.2	SR 3.8.1.9										
SR 3.8.1.3	SR 3.8.1.10										
SR 3.8.1.4	SR 3.8.1.14										
SR 3.8.1.5	SR 3.8.1.16										



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

EXELON GENERATION COMPANY, LLC

DOCKET NO. 50-237

DRESDEN NUCLEAR POWER STATION, UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 275
Renewed License No. DPR-19

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Exelon Generation Company, LLC dated November 18, 2020, as supplemented by letter dated August 19, 2021, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Renewed Facility Operating License No. DPR-19 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 275, are hereby incorporated into this renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

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

Nancy L. Salgado, 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: December 7, 2021



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

EXELON GENERATION COMPANY, LLC

DOCKET NO. 50-249

DRESDEN NUCLEAR POWER STATION, UNIT 3

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 268
Renewed License No. DPR-25

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Exelon Generation Company, LLC dated November 18, 2020, as supplemented by letter dated August 19, 2021, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B. of Renewed Facility Operating License No. DPR-25 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 268, are hereby incorporated into this renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

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

Nancy L. Salgado, 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: December 7, 2021

ATTACHMENT TO LICENSE AMENDMENT NOS. 275 AND 268

RENEWED FACILITY OPERATING LICENSE NOS. DPR-19 AND DPR-25

DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3

DOCKET NOS. 50-237 AND 50-249

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

Remove

License DPR-19

Page 3

License DPR-25

Page 4

TSs

1.1-4

3.3.5.2-1

3.3.5.2-2

3.3.5.2-3

3.3.8.1-1

3.6.1.3-5

3.8.2-3

Insert

License DPR-19

Page 3

License DPR-25

Page 4

TSs

1.1-4

3.3.5.2-1

3.3.5.2-2

3.3.5.2-3

3.3.8.1-1

3.6.1.3-5

3.8.2-3

- (2) Exelon Generation Company, LLC, pursuant to the Act and 10 CFR Part 70, to receive, possess and use at any time special nuclear materials 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) 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 special nuclear materials as may be produced by the operation of the facility.

C. This renewed operating 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; 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 steady state reactor core power levels not in excess of 2957 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. 275, are hereby incorporated into this renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

(3) Operation in the coastdown mode is permitted to 40% power.

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

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

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

A. Maximum Power Level

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

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 268, are hereby incorporated into this renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

C. Reports

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

D. Records

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

E. Restrictions

Operation in the coastdown mode is permitted to 40% power.

1.1 Definitions (continued)

DRAIN TIME

The DRAIN TIME is the time it would take for the water inventory in and above the Reactor Pressure Vessel (RPV) to drain to the top of the active fuel (TAF) seated in the RPV assuming:

- a. The water inventory above the TAF is divided by the limiting drain rate;
- b. The limiting drain rate is the larger of the drain rate through a single penetration flow path with the highest flow rate, or the sum of the drain rates through multiple penetration flow paths susceptible to a common mode failure for all penetration flow paths below the TAF except:
 1. Penetration flow paths connected to an intact closed system, or isolated by manual or automatic valves that are closed and administratively controlled in the closed position, blank flanges, or other devices that prevent flow of reactor coolant through the penetration flow paths;
 2. Penetration flow paths capable of being isolated by valves that will close automatically without offsite power prior to the RPV water level being equal to the TAF when actuated by RPV water level isolation instrumentation; or
 3. Penetration flow paths with isolation devices that can be closed prior to the RPV water level being equal to the TAF by a dedicated operator trained in the task, who is in continuous communication with the control room, is stationed at the controls, and is capable of closing the penetration flow path isolation device without offsite power.

(continued)

3.3 INSTRUMENTATION

3.3.5.2 Reactor Pressure Vessel (RPV) Water Inventory Control Instrumentation

LC0 3.3.5.2 The RPV Water Inventory Control instrumentation for each Function in Table 3.3.5.2-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.5.2-1.

ACTIONS

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more channels inoperable.	A.1 Initiate action to place channel in trip.	Immediately
	<u>OR</u>	
	A.2.1 Declare associated penetration flow path(s) incapable of automatic isolation.	Immediately
	<u>AND</u>	
	A.2.2 Initiate action to calculate DRAIN TIME.	Immediately

SURVEILLANCE REQUIREMENTS

----- NOTE -----
These SRs apply to each Function in Table 3.3.5.2-1.

SURVEILLANCE	FREQUENCY
SR 3.3.5.2.1 Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program
SR 3.3.5.2.2 Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program

RPV Water Inventory Control Instrumentation
3.3.5.2

Table 3.3.5.2-1 (Page 1 of 1)
RPV Water Inventory Control Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	ALLOWABLE VALUE
1. Shutdown Cooling System (SDC) Isolation			
a. Reactor Vessel Water Level-Low	(a)	1 per trip system	≥ 2.65 inches
2. Reactor Water Cleanup System Isolation			
a. Reactor Vessel Water Level-Low	(a)	1 per trip system	≥ 2.65 inches

(a) When automatic isolation of the associated penetration flow path(s) is credited in calculating DRAIN TIME.

3.3 INSTRUMENTATION

3.3.8.1 Loss of Power (LOP) Instrumentation

LC0 3.3.8.1 The LOP instrumentation for each Function in Table 3.3.8.1-1 shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more channels inoperable.	A.1 Place channel in trip.	1 hour
B. Required Action and associated Completion Time not met.	B.1 Declare associated diesel generator (DG) inoperable.	Immediately

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. (continued)	<p>C.2 -----NOTES-----</p> <p>1. Isolation devices in high radiation areas may be verified by use of administrative means.</p> <p>2. Isolation devices that are a locked, sealed, or otherwise secured may be verified by use of administrative means.</p> <p>-----</p> <p>Verify the affected penetration flow path is isolated.</p>	Once per 31 days
D. MSIV leakage rate not within limit.	D.1 Restore leakage rate to within limit.	8 hours
E. Required Action and associated Completion Time of Condition A, B, C, or D not met.	<p>E.1 Be in MODE 3.</p> <p><u>AND</u></p> <p>E.2 Be in MODE 4.</p>	<p>12 hours</p> <p>36 hours</p>

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One required DG inoperable.	B.1 Suspend CORE ALTERATIONS.	Immediately
	<u>AND</u>	
	B.2 Suspend movement of recently irradiated fuel assemblies in secondary containment.	Immediately
	<u>AND</u>	
	B.3 Initiate action to restore required DG to OPERABLE status.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.2.1 -----NOTE----- The following SRs are not required to be performed: SR 3.8.1.3, SR 3.8.1.10, SR 3.8.1.11, SR 3.8.1.15, and SR 3.8.1.17. ----- The following SRs are applicable for AC sources required to be OPERABLE: SR 3.8.1.1 SR 3.8.1.7 SR 3.8.1.2 SR 3.8.1.10 SR 3.8.1.3 SR 3.8.1.11 SR 3.8.1.4 SR 3.8.1.15 SR 3.8.1.5 SR 3.8.1.17 SR 3.8.1.6	In accordance with applicable SRs



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

EXELON GENERATION COMPANY, LLC

DOCKET NO. 50-373

LASALLE COUNTY STATION, UNIT 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 252
Renewed License No. NPF-11

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Exelon Generation Company, LLC dated November 18, 2020, as supplemented by letter dated August 19, 2021, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Renewed Facility Operating License No. NPF-11 is hereby amended to read as follows:

- (2) Technical Specifications and Environmental Protection Plan

- The Technical Specifications contained in Appendix A, as revised through Amendment No. 252, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the renewed license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

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

FOR THE NUCLEAR REGULATORY COMMISSION

Nancy L. Salgado, 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: December 7, 2021



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

EXELON GENERATION COMPANY, LLC

DOCKET NO. 50-374

LASALLE COUNTY STATION, UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 238
Renewed License No. NPF-18

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Exelon Generation Company, LLC dated November 18, 2020, as supplemented by letter dated August 19, 2021, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Renewed Facility Operating License No. NPF-18 is hereby amended to read as follows:

- (2) Technical Specifications and Environmental Protection Plan

- The Technical Specifications contained in Appendix A, as revised through Amendment No. 238, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the renewed license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

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

FOR THE NUCLEAR REGULATORY COMMISSION

Nancy L. Salgado, 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: December 7, 2021

ATTACHMENT TO LICENSE AMENDMENT NOS. 252 AND 238

RENEWED FACILITY OPERATING LICENSE NOS. NPF-11 AND NPF-18

LASALLE COUNTY STATION, UNITS 1 AND 2

DOCKET NOS. 50-373 AND 50-374

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

Remove

License NPF-11

Page 3

License NPF-18

Page 3

TSs

1.1-4

3.3.5.2-1

3.3.5.2-2

3.3.5.2-3

3.3.5.2-4

3.3.6.1-4

3.3.8.1-1

3.5.1-1

3.5.1-2

3.5.2-2

3.5.2-3

3.5.2-5

3.8.2-4

Insert

License NPF-11

Page 3

License NPF-18

Page 3

TSs

1.1-4

3.3.5.2-1

3.3.5.2-2

3.3.5.2-3

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3.3.6.1-4

3.3.8.1-1

3.5.1-1

3.5.1-2

3.5.2-2

3.5.2-3

3.5.2-5

3.8.2-4

(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;

Am. 146
01/12/01

(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

Am. 202
07/21/11

(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 LaSalle County Station, Units 1 and 2, and such Class B and Class C low-level radioactive waste as may be produced by the operation of Braidwood Station, Units 1 and 2, Byron Station, Units 1 and 2, and Clinton Power Station, Unit 1.

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:

Am. 198
09/16/10

(1) Maximum Power Level

The licensee is authorized to operate the facility at reactor core power levels not in excess of full power (3546 megawatts thermal).

Am. 252
12/07/21

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 252, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the renewed license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

Am. 194
08/28/09

(3) DELETED

Am. 194
08/28/09

(4) DELETED

Am. 194
08/28/09

(5) DELETED

- (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 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) 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 LaSalle County Station, Units 1 and 2, and such Class B and Class C low-level radioactive waste as may be produced by the operation of Braidwood Station, Units 1 and 2, Byron Station, Units 1 and 2, and Clinton Power Station, Unit 1.

Am. 189
07/21/11

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:

Am. 185
09/16/10

(1) Maximum Power Level

The licensee is authorized to operate the facility at reactor core power levels not in excess of full power (3546 megawatts thermal). Items in Attachment 1 shall be completed as specified. Attachment 1 is hereby incorporated into this license.

Am. 238
12/07/21

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 238, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the renewed license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

1.1 Definitions

DOSE EQUIVALENT I-131 (continued)	30, Supplement to Part 1, pages 192-212, Table titled, "Committed Dose Equivalent in Target Organs or Tissues per Intake of Unit Activity."
DRAIN TIME	<p>The DRAIN TIME is the time it would take for the water inventory in and above the Reactor Pressure Vessel (RPV) to drain to the top of the active fuel (TAF) seated in the RPV assuming:</p> <ol style="list-style-type: none">a. The water inventory above the TAF is divided by the limiting drain rate;b. The limiting drain rate is the larger of the drain rate through a single penetration flow path with the highest flow rate, or the sum of the drain rates through multiple penetration flow paths susceptible to a common mode failure, for all penetration flow paths below the TAF except:<ol style="list-style-type: none">1. Penetration flow paths connected to an intact closed system, or isolated by manual or automatic valves that are closed and administratively controlled in the closed position, blank flanges, or other devices that prevent flow of reactor coolant through the penetration flow paths;2. Penetration flow paths capable of being isolated by valves that will close automatically without offsite power prior to the RPV water level being equal to the TAF when actuated by RPV water level isolation instrumentation; or

(continued)

3.3 INSTRUMENTATION

3.3.5.2 Reactor Pressure Vessel (RPV) Water Inventory Control Instrumentation

LCO 3.3.5.2 The RPV Water Inventory Control instrumentation for each Function in Table 3.3.5.2-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.5.2-1.

ACTIONS

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more channels inoperable.	A.1 Initiate action to place channel in trip.	Immediately
	<u>OR</u>	
	A.2.1 Declare associated penetration flow path(s) incapable of automatic isolation.	Immediately
	<u>AND</u>	
	A.2.2 Initiate action to calculate DRAIN TIME.	Immediately

SURVEILLANCE REQUIREMENTS

-----NOTE-----
These SRs apply to each Function in Table 3.3.5.2-1.

SURVEILLANCE	FREQUENCY
SR 3.3.5.2.1 Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program
SR 3.3.5.2.2 Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program

Table 3.3.5.2-1 (page 1 of 1)
RPV Water Inventory Control Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	ALLOWABLE VALUE
1. RHR Shutdown Cooling System Isolation			
a. Reactor Vessel Water Level-Low, Level 3	(a)	2 in one trip system	≥ 11.0 inches
2. Reactor Water Cleanup (RWCU) System Isolation			
a. Reactor Vessel Water Level-Low, Level 2	(a)	2 in one trip system	≥ -58.0 inches

(a) When automatic isolation of the associated penetration flow path(s) is credited in calculating DRAIN TIME.

Primary Containment Isolation Instrumentation
3.3.6.1

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
J. As required by Required Action C.1 and referenced in Table 3.3.6.1-1.	J.1 Initiate action to restore channel to OPERABLE status.	Immediately

SURVEILLANCE REQUIREMENTS

- NOTES-----
1. Refer to Table 3.3.6.1-1 to determine which SRs apply for each Primary Containment Isolation Function.
 2. When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided the associated Function maintains isolation capability.
-

SURVEILLANCE	FREQUENCY
SR 3.3.6.1.1 Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program
SR 3.3.6.1.2 Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program

(continued)

3.3 INSTRUMENTATION

3.3.8.1 Loss of Power (LOP) Instrumentation

LC0 3.3.8.1 The LOP instrumentation for each Function in Table 3.3.8.1-1 shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more channels inoperable.	A.1 Place channel in trip.	1 hour <u>OR</u> -----NOTE----- Not applicable when a loss of function occurs. ----- In accordance with the Risk Informed Completion Time Program
B. Required Action and associated Completion Time not met.	B.1 Declare associated DG inoperable.	Immediately

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS), REACTOR PRESSURE VESSEL (RPV) WATER INVENTORY CONTROL, AND REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM

3.5.1 ECCS—Operating

LCO 3.5.1 Each ECCS injection/spray subsystem and the Automatic Depressurization System (ADS) function of six safety/relief valves shall be OPERABLE.

APPLICABILITY: MODE 1,
MODES 2 and 3, except ADS valves are not required to be OPERABLE with reactor steam dome pressure ≤ 150 psig.

ACTIONS

-----NOTE-----
LCO 3.0.4.b is not applicable to High Pressure Core Spray (HPCS).

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One low pressure ECCS injection/spray subsystem inoperable.	A.1 Restore low pressure ECCS injection/spray subsystem to OPERABLE status.	7 days <u>OR</u> In accordance with the Risk Informed Completion Time Program

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>B. HPCS System inoperable.</p>	<p>B.1 Verify by administrative means RCIC System is OPERABLE when RCIC is required to be OPERABLE.</p> <p><u>AND</u></p> <p>B.2 Restore HPCS System to OPERABLE status.</p>	<p>Immediately</p> <p>14 days</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>
<p>C. Two low pressure ECCS injection/spray subsystems inoperable.</p>	<p>C.1 Restore one low pressure ECCS injection/spray subsystem to OPERABLE status.</p>	<p>72 hours</p> <p><u>OR</u></p> <p>In accordance with the Risk Informed Completion Time Program</p>
<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>12 hours</p>

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. DRAIN TIME < 36 hours and ≥ 8 hours.	C.1 Verify secondary containment boundary is capable of being established in less than the DRAIN TIME.	4 hours
	<u>AND</u>	
	C.2 Verify each secondary containment penetration flow path is capable of being isolated in less than the DRAIN TIME.	4 hours
	<u>AND</u>	
	C.3 Verify one standby gas treatment (SGT) subsystem is capable of being placed in operation in less than the DRAIN TIME.	4 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. DRAIN TIME < 8 hours.	D.1 -----NOTE----- Required ECCS injection/spray subsystem or additional method of water injection shall be capable of operating without offsite electrical power. ----- Initiate action to establish an additional method of water injection with water sources capable of maintaining RPV water level > TAF for ≥ 36 hours.	Immediately
	<u>AND</u>	
	D.2 Initiate action to establish secondary containment boundary.	Immediately
	<u>AND</u>	
	D.3 Initiate action to isolate each secondary containment penetration flow path or verify it can be automatically or manually isolated from the control room.	Immediately
	<u>AND</u>	
	D.4 Initiate action to verify one SGT subsystem is capable of being placed in operation.	Immediately

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.5.2.5 -----NOTES----- 1. Operation may be through the test return line. 2. Credit may be taken for normal system operation to satisfy this SR. ----- Operate the required ECCS injection/spray subsystem for ≥ 10 minutes.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.5.2.6 Verify each valve credited for automatically isolating a penetration flow path actuates to the isolation position on an actual or simulated isolation signal.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.5.2.7 -----NOTE----- Vessel injection/spray may be excluded. ----- Verify the required ECCS injection/spray subsystem can be manually operated.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required offsite circuit or DG of LCO Item d. inoperable.	D.1 Declare associated standby gas treatment subsystem, control room area filtration subsystem, and control room area ventilation air conditioning subsystem inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY										
<p>SR 3.8.2.1 -----NOTES-----</p> <p>The following SRs are not required to be performed: SR 3.8.1.3, SR 3.8.1.9, SR 3.8.1.10, SR 3.8.1.14, and SR 3.8.1.16.</p> <p>-----</p> <p>The following SRs are applicable for AC sources required to be OPERABLE:</p> <table data-bbox="444 1289 909 1449"> <tr> <td>SR 3.8.1.1</td> <td>SR 3.8.1.6</td> </tr> <tr> <td>SR 3.8.1.2</td> <td>SR 3.8.1.9</td> </tr> <tr> <td>SR 3.8.1.3</td> <td>SR 3.8.1.10</td> </tr> <tr> <td>SR 3.8.1.4</td> <td>SR 3.8.1.14</td> </tr> <tr> <td>SR 3.8.1.5</td> <td>SR 3.8.1.16</td> </tr> </table>	SR 3.8.1.1	SR 3.8.1.6	SR 3.8.1.2	SR 3.8.1.9	SR 3.8.1.3	SR 3.8.1.10	SR 3.8.1.4	SR 3.8.1.14	SR 3.8.1.5	SR 3.8.1.16	<p>In accordance with applicable SRs</p>
SR 3.8.1.1	SR 3.8.1.6										
SR 3.8.1.2	SR 3.8.1.9										
SR 3.8.1.3	SR 3.8.1.10										
SR 3.8.1.4	SR 3.8.1.14										
SR 3.8.1.5	SR 3.8.1.16										



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

EXELON GENERATION COMPANY, LLC

AND

MIDAMERICAN ENERGY COMPANY

DOCKET NO. 50-254

QUAD CITIES NUCLEAR POWER STATION, UNIT 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 287
Renewed License No. DPR-29

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Exelon Generation Company, LLC dated November 18, 2020, as supplemented by letter dated August 19, 2021, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B. of Renewed Facility Operating License No. DPR-29 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 287, are hereby incorporated into this renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

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

Nancy L. Salgado, 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: December 7, 2021



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

EXELON GENERATION COMPANY, LLC

AND

MIDAMERICAN ENERGY COMPANY

DOCKET NO. 50-265

QUAD CITIES NUCLEAR POWER STATION, UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 283
Renewed License No. DPR-30

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Exelon Generation Company, LLC dated November 18, 2020, as supplemented by letter dated August 19, 2021, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B. of Renewed Facility Operating License No. DPR-30 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 283, are hereby incorporated into this renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

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

Nancy L. Salgado, 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: December 7, 2021

ATTACHMENT TO LICENSE AMENDMENT NOS. 287 AND 283

RENEWED FACILITY OPERATING LICENSE NOS. DPR-29 AND DPR-30

QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2

DOCKET NOS. 50-254 AND 50-265

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

Remove

License DPR-29

Page 4

License DPR-30

Page 4

TSs

1.1-4

3.3.5.2-1

3.3.5.2-2

3.3.5.2-3

3.3.8.1-1

3.5.2-2

3.5.2-4

3.5.2-5

3.5.2-6

3.6.1.3-1

3.6.1.3-4

3.8.2-5

Insert

License DPR-29

Page 4

License DPR-30

Page 4

TSs

1.1-4

3.3.5.2-1

3.3.5.2-2

3.3.5.2-3

3.3.8.1-1

3.5.2-2

3.5.2-4

3.5.2-5

3.5.2-6

3.6.1.3-1

3.6.1.3-4

3.8.2-5

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 287, are hereby incorporated into this renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

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

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

D. Equalizer Valve Restriction

Three of the four valves in the equalizer piping between the recirculation loops shall be closed at all times during reactor operation with one bypass valve open to allow for thermal expansion of water.

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

Exelon Generation Company shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan (CSP), including changes made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The Exelon Generation Company CSP was approved by License Amendment No. 249 as modified by License Amendment No. 259.

F. The licensee shall implement and maintain in effect all provisions of the approved fire protection program as described in the Updated Final Safety Analysis Report for the facility and as approved in the Safety Evaluation Reports dated July 27, 1979 with supplements dated November 5, 1980, and

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

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 283, are hereby incorporated into this renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

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

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

D. Equalizer Valve Restriction

Three of the four valves in the equalizer piping between the recirculation loops shall be closed at all times during reactor operation with one bypass valve open to allow for thermal expansion of water.

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

Exelon Generation Company shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan (CSP), including changes made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The Exelon Generation Company CSP was approved by License Amendment No. 244 and modified by License Amendment No. 254.

F. The licensee shall implement and maintain in effect all provisions of the approved fire protection program as described in the Updated Final Safety Analysis Report for the facility and as approved in the Safety Evaluation Reports dated July 27, 1979 with supplements dated

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

1.1 Definitions (continued)

DRAIN TIME

The DRAIN TIME is the time it would take for the water inventory in and above the Reactor Pressure Vessel (RPV) to drain to the top of the active fuel (TAF) seated in the RPV assuming:

- a. The water inventory above the TAF is divided by the limiting drain rate;
- b. The limiting drain rate is the larger of the drain rate through a single penetration flow path with the highest flow rate, or the sum of the drain rates through multiple penetration flow paths susceptible to a common mode failure, for all penetration flow paths below the TAF except:
 1. Penetration flow paths connected to an intact closed system, or isolated by manual or automatic valves that are closed and administratively controlled in the closed position, blank flanges, or other devices that prevent flow of reactor coolant through the penetration flow paths;
 2. Penetration flow paths capable of being isolated by valves that will close automatically without offsite power prior to the RPV water level being equal to the TAF when actuated by RPV water level isolation instrumentation; or
 3. Penetration flow paths with isolation devices that can be closed prior to the RPV water level being equal to the TAF by a dedicated operator trained in the task, who is in continuous communication with the control room, is stationed at the controls, and is capable of closing the penetration flow path isolation device without offsite power.

(continued)

3.3 INSTRUMENTATION

3.3.5.2 Reactor Pressure Vessel (RPV) Water Inventory Control Instrumentation

LC0 3.3.5.2 The RPV Water Inventory Control instrumentation for each Function in Table 3.3.5.2-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.5.2-1.

ACTIONS

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more channels inoperable.	A.1 Initiate action to place channel in trip.	Immediately
	<u>OR</u>	
	A.2.1 Declare associated penetration flow path(s) incapable of automatic isolation.	Immediately
	<u>AND</u>	
	A.2.2 Initiate action to calculate DRAIN TIME.	Immediately

SURVEILLANCE REQUIREMENTS

----- NOTE -----
These SRs apply to each Function in Table 3.3.5.2-1.

SURVEILLANCE	FREQUENCY
SR 3.3.5.2.1 Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program
SR 3.3.5.2.2 Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program

RPV Water Inventory Control Instrumentation
3.3.5.2

Table 3.3.5.2-1 (Page 1 of 1)
RPV Water Inventory Control Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	ALLOWABLE VALUE
1. RHR Shutdown Cooling System (SDC) Isolation			
a. Reactor Vessel Water Level - Low	(a)	1 per trip system	≥ 3.8 inches
2. Reactor Water Cleanup (RWCU) System Isolation			
a. Reactor Vessel Water Level - Low	(a)	1 per trip system	≥ 3.8 inches

(a) When automatic isolation of the associated penetration flow path(s) is credited in calculating DRAIN TIME.

3.3 INSTRUMENTATION

3.3.8.1 Loss of Power (LOP) Instrumentation

LC0 3.3.8.1 The LOP instrumentation for each Function in Table 3.3.8.1-1 shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more channels inoperable.	A.1 Place channel in trip.	1 hour
B. Required Action and associated Completion Time not met.	B.1 Declare associated diesel generator (DG) inoperable.	Immediately

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. DRAIN TIME < 36 hours and ≥ 8 hours.	C.1 Verify secondary containment boundary is capable of being established in less than the DRAIN TIME.	4 hours
	<u>AND</u>	
	C.2 Verify each secondary containment penetration flow path is capable of being isolated in less than the DRAIN TIME.	4 hours
	<u>AND</u>	
	C.3 Verify one standby gas treatment (SGT) subsystem is capable of being placed in operation in less than the DRAIN TIME.	4 hours

(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. (continued)	D.3 Initiate action to isolate each secondary containment penetration flow path or verify it can be automatically or manually isolated from the control room.	Immediately
	<u>AND</u> D.4 Initiate action to verify one SGT subsystem is capable of being placed in operation.	Immediately
E. Required Action and associated Completion Time of Condition C or D not met. <u>OR</u> DRAIN TIME < 1 hour.	E.1 Initiate action to restore DRAIN TIME to ≥ 36 hours.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.5.2.1 Verify DRAIN TIME ≥ 36 hours.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.5.2.2 Verify, for the required ECCS injection/spray subsystem, the:</p> <ul style="list-style-type: none"> a. Suppression pool water level is ≥ 8.5 ft; or b. Contaminated condensate storage tank(s) water volume is $\geq 140,000$ available gallons. 	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.5.2.3 Verify, for the required ECCS injection/spray subsystem, locations susceptible to gas accumulation are sufficiently filled with water.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.5.2.4 -----NOTE----- 1. Operation may be through the test return line. 2. Credit may be taken for normal system operation to satisfy this SR. ----- Operate the required ECCS injection/spray subsystem for ≥ 10 minutes.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.5.2.5 Verify each valve credited for automatically isolating a penetration flow path actuates to the isolation position on an actual or simulated isolation signal.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.5.2.6 -----NOTE----- Vessel injection/spray may be excluded. ----- Verify the required ECCS injection/spray subsystem can be manually operated.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

3.6 CONTAINMENT SYSTEMS

3.6.1.3 Primary Containment Isolation Valves (PCIVs)

LCO 3.6.1.3 Each PCIV, except reactor building-to-suppression chamber vacuum breakers, shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

- NOTES-----
1. Penetration flow paths may be unisolated intermittently under administrative controls.
 2. Separate Condition entry is allowed for each penetration flow path.
 3. Enter applicable Conditions and Required Actions for systems made inoperable by PCIVs.
 4. Enter applicable Conditions and Required Actions of LCO 3.6.1.1, "Primary Containment," when PCIV leakage results in exceeding overall containment leakage rate acceptance criteria.
-

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. -----NOTE----- Only applicable to penetration flow paths with two or more PCIVs. ----- One or more penetration flow paths with one PCIV inoperable for reasons other than Condition D.</p>	<p>A.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured.</p> <p><u>AND</u></p>	<p>4 hours except for main steam line</p> <p><u>AND</u></p> <p>8 hours for main steam line</p> <p>(continued)</p>

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. (continued)	<p>C.2 -----NOTES----- 1. Isolation devices in high radiation areas may be verified by use of administrative means. 2. Isolation devices that are locked, sealed, or otherwise secured may be verified by use of administrative means. ----- Verify the affected penetration flow path is isolated.</p>	Once per 31 days
D. MSIV leakage rate not within limit.	D.1 Restore leakage rate to within limit.	8 hours
E. Required Action and associated Completion Time of Condition A, B, C, or D not met.	<p>E.1 Be in MODE 3. <u>AND</u> E.2 Be in MODE 4.</p>	<p>12 hours 36 hours</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY												
<p>SR 3.8.2.1 -----NOTE-----</p> <p>The following SRs are not required to be performed: SR 3.8.1.3, SR 3.8.1.10, SR 3.8.1.11, SR 3.8.1.15, and SR 3.8.1.17.</p> <p>-----</p> <p>The following SRs are applicable for AC sources required to be OPERABLE:</p> <table data-bbox="440 653 906 846"> <tr> <td>SR 3.8.1.1</td> <td>SR 3.8.1.7</td> </tr> <tr> <td>SR 3.8.1.2</td> <td>SR 3.8.1.10</td> </tr> <tr> <td>SR 3.8.1.3</td> <td>SR 3.8.1.11</td> </tr> <tr> <td>SR 3.8.1.4</td> <td>SR 3.8.1.15</td> </tr> <tr> <td>SR 3.8.1.5</td> <td>SR 3.8.1.17</td> </tr> <tr> <td>SR 3.8.1.6</td> <td></td> </tr> </table>	SR 3.8.1.1	SR 3.8.1.7	SR 3.8.1.2	SR 3.8.1.10	SR 3.8.1.3	SR 3.8.1.11	SR 3.8.1.4	SR 3.8.1.15	SR 3.8.1.5	SR 3.8.1.17	SR 3.8.1.6		<p>In accordance with applicable SRs</p>
SR 3.8.1.1	SR 3.8.1.7												
SR 3.8.1.2	SR 3.8.1.10												
SR 3.8.1.3	SR 3.8.1.11												
SR 3.8.1.4	SR 3.8.1.15												
SR 3.8.1.5	SR 3.8.1.17												
SR 3.8.1.6													



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO

AMENDMENT NO. 240 TO FACILITY OPERATING LICENSE NO. NPF-62

AMENDMENT NO. 275 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-19

AMENDMENT NO. 268 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-25

AMENDMENT NO. 252 TO RENEWED FACILITY OPERATING LICENSE NO. NPF-11

AMENDMENT NO. 238 TO RENEWED FACILITY OPERATING LICENSE NO. NPF-18

AMENDMENT NO. 287 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-29

AND AMENDMENT NO. 283 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-30

EXELON GENERATION COMPANY, LLC

CLINTON POWER STATION, UNIT NO. 1

DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3

LASALLE COUNTY STATION, UNITS 1 AND 2

QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2

DOCKET NOS. 50-461, 50-237, 50-249, 50-373, 50-374, 50-254, AND 50-265

1.0 INTRODUCTION

By application dated November 18, 2020 (Agencywide Documents Access and Management System (ADAMS) Package Accession No. ML20324A090), as supplemented by letter dated August 19, 2021 (ADAMS Accession No. ML21231A144), Exelon Generation Company, LLC (the licensee) submitted a license amendment request (LAR) for Clinton Power Station (Clinton), Unit No. 1; Dresden Nuclear Power Station (Dresden), Units 2 and 3; LaSalle County Station (LaSalle), Units 1 and 2; and Quad Cities Nuclear Power Station (Quad Cities), Units 1 and 2 (collectively, the facilities). In its application, the licensee requested that the U.S. Nuclear Regulatory Commission (NRC, the Commission) process the proposed LAR under the Consolidated Line Item Improvement Process (CLIIP). For each facility, the proposed changes would revise the technical specifications (TSs) related to the reactor pressure vessel (RPV) water inventory control (WIC) based on Technical Specifications Task Force (TSTF) Travelers TSTF-582, Revision 0, "RPV WIC Enhancements" (ADAMS Accession No. ML19240A260) and TSTF-583-T, "TSTF-582 Diesel Generator Variation" (ADAMS Accession No. ML20248H330),

and the associated NRC staff safety evaluation (SE) of TSTF-582 (ADAMS Accession No. ML20219A333). By letter dated August 13, 2020 (ADAMS Package Accession No. ML20223A000), the NRC approved TSTF-582, Revision 0, and provided the associated safety evaluation to the TSTF.

The boiling-water reactor (BWR) RPV design includes multiple penetrations located below the top of active fuel. These penetrations provide entry for control rods, recirculation flow, reactor water cleanup, and shutdown cooling. Since these penetrations are below the top of active fuel, this creates a potential to drain the reactor vessel water inventory and lose effective core cooling. The loss of water inventory and effective core cooling can potentially lead to fuel cladding failure and radioactive release. Drain Time is the time it would take for the water inventory in and above the RPV to drain to the top of active fuel.

The August 19, 2021, supplemental letter was in response to an NRC request for additional information dated July 8, 2021 (ADAMS Accession No. ML21190A019). The supplemental letter provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the NRC staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on January 26, 2021 (86 FR 7116).

1.1 Proposed TS Changes to Adopt TSTF-582

In accordance with the NRC staff-approved TSTF-582, the licensee proposed changes that would revise the TSs related to RPV WIC to incorporate operating experience and to correct errors and omissions that the licensee incorporated into the TSs for the facilities when adopting TSTF-542, Revision 2, "Reactor Pressure Vessel Water Inventory Control" (ADAMS Accession No. ML16074A448). Specifically, the licensee proposed the following changes to adopt TSTF-582:

1. The Drain Time definition in TS 1.1, "Definitions," for each facility would be revised to move the examples of common mode failure mechanisms to the Bases and to delete seismic events.
2. In TS 1.1, Drain Time definition, for each facility the exception from considering the Drain Time for penetration flow paths isolated with manual or automatic valves that are that are "locked, sealed, or otherwise secured" would be revised to apply the exception to manual or automatic valves that are "closed and administratively controlled in the closed position."
3. The Actions of TS 3.3.5.2, "Reactor Pressure Vessel (RPV) Water Inventory Control Instrumentation," for LaSalle and Quad Cities would be revised to permit placing an inoperable isolation channel in trip as an alternative to declaring the associated penetration flow path incapable of automatic isolation. Clinton and Dresden have already adopted this change.
4. For LaSalle and Quad Cities, Required Action B.2 of TS 3.3.5.2 requires calculating Drain Time with a Completion Time of "Immediately." The Required Action would be renumbered as A.2.2 and revised to state, "Initiate action to calculate DRAIN TIME."

5. For Clinton and Dresden, Required Action B.2.2 of TS 3.3.5.2 would be renumbered as A.2.2. This required action would continue to state, "Initiate action to calculate DRAIN TIME" with a Completion Time of "Immediately."
6. For LaSalle TS 3.3.6.1, "Primary Containment Isolation Instrumentation," Required Action J.2, and for Clinton TS 3.3.6.1, "Primary Containment and Drywell Isolation Instrumentation," Required Action M.2, would be deleted. These actions are no longer applicable after adoption of TSTF-542.
7. For LaSalle and Quad Cities TS 3.5.2, "RPV Water Inventory Control," the first use of the acronym "SGT" would be defined in Required Action C.3 and the acronym "SGT" would be used in Required Action D.4.
8. For each facility, TS 3.5.2 allows for the manual operation of emergency core cooling system (ECCS) pumps and valves. The following requirements are not needed for manual operation of ECCS equipment and will be eliminated:
 - a. LaSalle Surveillance Requirement (SR) 3.5.2.5 and Quad Cities SR 3.5.2.4, which require verification of valve position for required ECCS injection/spray subsystems.
 - b. For each facility, the instrumentation requirements in TS Table 3.3.5.2-1, including the related Required Actions and SRs, for the core spray and low-pressure coolant injection systems.
9. For LaSalle TS 3.5.1, "ECCS—Operating," Actions Note, the first use of the acronym "HPCS" would be defined, and the definition would be removed from Condition B.
10. For LaSalle and Quad Cities share secondary containment structures between the two units at each site. For these facilities, Required Action D.3 in TS 3.5.2 would be revised to recognize that an operable secondary containment and operable secondary containment isolation valves satisfy the Required Actions.
11. For LaSalle SR 3.5.2.6 and Quad Cities SR 3.5.2.5 requires operating the required ECCS injection/spray subsystem through the recirculation line for at least 10 minutes. These SRs would be modified by the addition of two notes. First, the existing requirement that the ECCS subsystem be run "through the recirculation line" would be replaced by a note that states: "Operation may be through the test return line." The second note would permit crediting normal operation of the low-pressure ECCS subsystem for performance of the SR.
12. The Applicability of Quad Cities TS 3.6.1.3, "Primary Containment Isolation Valves (PCIVs)," would be revised to delete: "When associated instrumentation is required to be OPERABLE per LCO [Limiting Condition for Operation] 3.3.6.1, 'Primary Containment Isolation Instrumentation.'" This would make TS 3.6.1.3 only applicable in Modes 1, 2, and 3. Following adoption of TSTF-542, no functions in LCO 3.3.6.1 are applicable outside of Modes 1, 2, and 3. Condition E of Quad Cities TS 3.6.1.3 would also be revised to reflect this change.

13. The Applicability of Dresden TS 3.6.1.3 was previously revised so that it only applies in Modes 1, 2, and 3. Condition E of Dresden TS 3.6.1.3 would be revised to reflect this previous change.
14. For each facility, SR 3.8.2.1 would be revised to not require SRs that test the ability of the diesel generator (DG) to automatically start in Modes 4 and 5. TSTF-542 eliminated the automatic ECCS initiation in Modes 4 and 5.

1.2 Variations Based on TSTF-583-T

The licensee proposed to make the following additional changes based on TSTF-583-T:

1. For each facility, TS 3.3.8.1, "Loss of Power (LOP) Instrumentation," would be revised such that LCO 3.3.8.1 would no longer apply when the associated DG is required to be operable by LCO 3.8.2.
2. For Dresden and Quad Cities SR 3.8.2.1 would be revised such that SR 3.8.1.8, SR 3.8.1.16, and SR 3.8.1.18 would not apply under TS 3.8.2, "AC [Alternating-Current] Sources–Shutdown."
3. For Clinton and LaSalle SR 3.8.2.1 would be revised such that SR 3.8.1.7, SR 3.8.1.15, and SR 3.8.1.18 would not apply under TS 3.8.2.

1.3 Additional Variations

1. The licensee noted that some of the TSs for the facilities have different numbering, nomenclature, and titles than the standard technical specifications (STS) for the RPV WIC related TSs.
2. The licensee proposed to delete Required Actions M.3.1, M.3.2, M.3.3, and M.3.4 from Clinton TS 3.3.6.1.

2.0 REGULATORY EVALUATION

The regulation at Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.36(c)(2) requires that TSs include LCOs. Per 10 CFR 50.36(c)(2)(i), LCOs "are the lowest functional capability or performance levels of equipment required for safe operation of the facility." The regulation also requires that when an LCO of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the TSs until the condition can be met.

The regulation at 10 CFR 50.36(c)(3) requires that TSs include items in the category of SRs, which are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the LCOs will be met.

The NRC staff's guidance for the review of TSs is in Chapter 16.0, Revision 3, "Technical Specifications," dated March 2010 (ADAMS Accession No. ML100351425), of NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR [Light-Water Reactor] Edition." As described therein, as part of the regulatory standardization effort, the NRC staff has prepared STSs for each of the LWR nuclear designs.

Accordingly, the NRC staff's review includes consideration of whether the proposed changes are consistent with the applicable STSs, as modified by NRC staff-approved travelers. The STS applicable to the facilities are: NUREG-1433, "Standard Technical Specifications, General Electric, BWR/4 Plants," Volume 1, "Specifications," and Volume 2, "Bases," Revision 4.0, dated April 2012 (ADAMS Accession Nos. ML12104A192 and ML12104A193, respectively) and NUREG-1434, "Standard Technical Specifications, General Electric BWR/6 Plants," Volume 1, "Specifications," and Volume 2, "Bases," Revision 4.0, dated April 2012 (ADAMS Accession Nos. ML12104A195 and ML12104A196, respectively).

Dresden and Quad Cities are General Electric BWR/3 designs, and their TSs are based on NUREG-1433 as the General Electric BWR/3 and BWR/4 designs are similar. Clinton is General Electric BWR/6 design, and its TSs are based on NUREG-1434. LaSalle is General Electric BWR/5 design, and its TSs are based on both NUREG-1433 and NUREG-1434 because this facility includes both General Electric BWR/4 and BWR/6 design elements.

Traveler TSTF-582 revised the STSs related to RPV WIC to incorporate operating experience and to correct editorial errors in TSTF-542, Revision 2, "Reactor Pressure Vessel Water Inventory Control" (ADAMS Accession No. ML16074A448). The NRC approved TSTF-542, Revision 2, on December 20, 2016 (ADAMS Package Accession No. ML16343B066). The NRC staff approved TSTF-582 under the CLIIP in a letter dated August 13, 2020. The TSTF-582 SE states that a licensee may adopt the STS changes approved in TSTF-582 if the licensee has already adopted the STS changes approved in TSTF-542, Revision 2.

3.0 TECHNICAL EVALUATION

The licensee requested to adopt TSTF-582 with some additional changes, as discussed in Sections 1.2 and 1.3 of this SE, at the facilities. The NRC staff's evaluation of the TS changes to adopt TSTF-582 is provided in Section 3.1 of this SE. The NRC staff's evaluation of the variations from TSTF-582 that are summarized in Sections 1.2 and 1.3 of this SE are provide in Section 3.2 and 3.3, respectively.

Dresden, LaSalle, and Quad Cities are all dual unit sites that have some equipment that is shared by both units. Typically, a TS is applied to each unit individually. However, TS 3.8.1 for Dresden, LaSalle, and Quad Cities and TS 3.8.2 for LaSalle specify requirements for the opposite unit electrical systems that are necessary to support certain shared equipment. These requirements are not in the STS and the NRC staff did not consider these requirements in its SE for TSTF-582. The NRC staff evaluation of the proposed changes as they are related to these "opposite unit" requirements is provided in Section 3.4 of this SE.

3.1 Evaluation of Proposed TS Changes to Adopt TSTF-582

The NRC staff compared the licensee's proposed TS changes summarized in Section 1.1 of this SE against the changes approved in TSTF-582. The NRC staff approved the TSTF-582 changes to the STS for the General Electric BWR/4 and BWR/6 designs. In accordance with Chapter 16.0 of NUREG-0800, the NRC staff determined that the STS changes approved in TSTF-582 are applicable to Clinton, Dresden, LaSalle, and Quad Cities TSs because the relevant design elements for these facilities are similar or equivalent to the General Electric BWR/4 and BWR/6 designs.

The TSTF-582 SE states that a licensee may adopt the STS changes approved in TSTF-582, if the licensee has already adopted the STS changes approved in TSTF-542. The NRC staff has

approved the adoption of TSTF-542, Revision 2, at each facility through the following license amendments:

- Clinton – Amendment No. 216 issued on March 22, 2018 (ADAMS Accession No. ML18043A505), with an update made by Amendment No. 231 issued on May 28, 2020 (ADAMS Accession No. ML19351D750).
- Dresden, Units 2 and 3 – Amendment Nos. 256 and 249, respectively, issued on January 8, 2018 (ADAMS Accession No. ML17272A783), with an update made by Amendment Nos. 268 and 261, respectively, issued on May 28, 2020 (ADAMS Accession No. ML19351D750).
- LaSalle, Units 2 and 3 – Amendment Nos. 230 and 216, respectively, issued on October 15, 2018 (ADAMS Accession No. ML18226A202).
- Quad Cities, Units 1 and 2 – Amendment Nos. 273 and 268, respectively, issued on January 28, 2019 (ADAMS Accession No. ML18353A229).

Therefore, the NRC staff concludes that the licensee's proposed changes to the TSs that are summarized in Section 1.1 of this SE are acceptable in that they are consistent with TSTF-582 and the terms for use stated in the NRC staff's SE of TSTF-582.

The NRC staff finds that with the proposed changes to the TSs summarized in Section 1.1 of this SE that:

1. LCOs 3.3.5.2 and 3.5.2 for each facility and LCO 3.6.1.3 for Quad Cities correctly specify the lowest functional capability or performance levels of equipment required for safe operation of the facility in accordance with 10 CFR 50.36(c)(2)(i).
2. The Actions in TSs 3.3.5.2 and 3.5.2 for each facility, TS 3.6.1.3 for Dresden and Quad Cities, TS 3.3.6.1 for Clinton and LaSalle, and TS 3.5.1 for LaSalle are adequate remedial actions to be taken until the associated LCO can be met in accordance with 10 CFR 50.36(c)(2)(i), because these actions provide adequate protection to the health and safety of the public.
3. The SRs in TSs 3.3.5.2 and 3.5.2 for each facility continue to provide requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the LCOs will be met in accordance with 10 CFR 50.36(c)(3).
4. SR 3.8.2.1 for each facility, to the extent it applies to the individual unit and not the "opposite unit," continues to provide requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the LCOs will be met in accordance with 10 CFR 50.36(c)(3).

Thus, with the proposed changes summarized in Section 1.1 of this SE, the TSs for each facility continue to meet the requirements of 10 CFR 50.36(c)(2)(i) and 10 CFR 50.36(c)(3) as discussed in Section 3.0 of the NRC staff's SE of TSTF-582. The NRC staff's evaluation of the changes to SR 3.8.2.1 on the "opposite unit" requirements in TS 3.8.1 for Dresden, LaSalle, and Quad Cities and TS 3.8.2 for LaSalle is discussed in Section 3.4 of the SE.

3.2 Evaluation of Variations Based on TSTF-583-T

3.2.1 Applicability of TS 3.3.8.1, “Loss of Power (LOP) Instrumentation”

The LOP instrumentation monitors the 4160-volt AC buses used to power the ECCS. Upon detection of degraded voltage or loss of voltage on a bus, the LOP instrumentation generates a LOP signal that will automatically start and load the associated DG. For each facility, LCO 3.3.8.1 specifies the LOP instrumentation that is required to be operable in Modes 1, 2, and 3, and when the associated DG is required to be operable by LCO 3.8.2. With the adoption of TSTF-582, LCO 3.8.2 would no longer require the DG to be capable of automatically starting and loading on an LOP signal, and, as a result, the LOP instrumentation that generates the LOP signal would not be needed “when the associated DG is required to be operable by LCO 3.8.2.” Therefore, the NRC staff finds it acceptable to revise TS 3.3.8.1 such that LCO 3.3.8.1 would only apply in Modes 1, 2, and 3. The NRC staff concludes that, with the applicability changes, LCO 3.3.8.1 will continue to provide for the lowest functional capability or performance levels of equipment required for safe operation of the facility and, therefore, meet the LCO requirements of 10 CFR 50.36(c)(2).

3.2.2 SR 3.8.2.1

For each facility, LCO 3.8.2 specifies the AC electrical power sources that are required to be operable for a unit in Modes 4 and 5 and during movement of recently irradiated fuel assemblies in the secondary containment. SR 3.8.2.1 specifies the TS 3.8.1 SRs that are applicable to the “AC sources required to be OPERABLE” to ensure LCO 3.8.2 is met. The licensee proposes to revise SR 3.8.2.1 such that the following SRs would no longer apply to TS 3.8.2:

- SR 3.8.1.7 for Clinton and LaSalle and SR 3.8.1.8 for Dresden and Quad Cities require periodic verification that the DG can start from standby condition and achieve (a) the specified voltage and frequency within 13 seconds (fast start) and (b) the specified steady state voltage and frequency.
- SR 3.8.1.15 for Clinton and LaSalle and SR 3.8.1.16 for Dresden and Quad Cities require periodic verification that the DG can restart from a hot condition and achieve (a) the specified voltage and frequency within 13 seconds (hot restart) and (b) the specified steady state voltage and frequency.

The DG fast start and hot restart verification requirements support the assumptions in the design-basis loss-of-coolant accident analysis. The licensee stated in its application that the minimum Drain Time at the facilities is 1 hour. The NRC staff confirmed that a DG fast start and hot restart are not required during a manual DG start to respond to a draining event that has a minimum Drain Time of 1 hour, or any other postulated event for a shutdown unit. Therefore, the NRC staff finds that it is not necessary to periodically verify the DG fast start and hot restart capability to ensure LCO 3.8.2 is met. For each facility, SR 3.8.2.1 also requires the performance of SR 3.8.1.2 to verify that the DG starts from standby conditions and achieve the required steady state voltage and frequency ranges. As SR 3.8.1.2 will continue to apply under TS 3.8.2, the NRC staff finds that it is not necessary to retain the equivalent verifications in SR 3.8.1.7 and SR 3.8.1.15 for Clinton and LaSalle and SR 3.8.1.8 and SR 3.8.1.16 for Dresden and Quad Cities. Therefore, the NRC staff finds it acceptable to revise SR 3.8.2.1 such that SR 3.8.1.7 and SR 3.8.1.15 for Clinton and LaSalle and SR 3.8.1.8 and SR 3.8.1.16 for Dresden and Quad Cities would no longer apply to the AC sources required to be operable by LCO 3.8.2.

For each facility, SR 3.8.1.18 require verification of the load sequence timers or time delay relays, as applicable, which are related to the logic for the automatic start and loading of a DG in response to an ECCS initiating signal concurrent with a loss of offsite power (LOOP). With the adoption of TSTF-582, LCO 3.8.2 would no longer require the DG to be capable of automatically starting and loading in response to an ECCS initiating signal concurrent with a LOOP. The NRC staff confirmed that the logic used for the automatic loading of the DGs is not used for manual loading of the DGs. Therefore, the NRC staff finds it acceptable to revise SR 3.8.2.1 such that SR 3.8.1.18 would no longer apply to the AC sources required to be operable by LCO 3.8.2.

The license proposed to delete a note in LaSalle SR 3.8.2.1 stating that SR 3.8.1.12 and SR 3.8.1.19 are not required to be met. The NRC staff finds this change acceptable because SR 3.8.1.12 and SR 3.8.1.19 would no longer be applicable to TS 3.8.2 with the adoption of TSTF-582.

Additionally, the licensee proposed to change SR 3.8.2.1 from a listing of exceptions (i.e., a list of TS 3.8.1 SRs that do not need to be performed) to a listing the SRs that need to be performed to demonstrate the operability of the offsite and onsite AC power sources during shutdown conditions. The NRC staff confirmed that the list of SRs that need to be performed during shutdown conditions are correctly listed in SR 3.8.2.1. The NRC staff finds that the proposed revision of SR 3.8.2.1 is acceptable because it is an editorial clarification and does not substantively change TS requirements.

The NRC staff finds that the proposed additional changes to SR 3.8.2.1 that are discussed in this section are acceptable because SR 3.8.2.1 will continue to specify the SRs necessary to demonstrate the operability of the required AC power sources and, as such, ensure the availability of the AC power required to operate the plant in a safe manner and mitigate postulated events during shutdown conditions. Therefore, the NRC staff finds the proposed changes to SR 3.8.2.1 are acceptable because SR 3.8.2.1 will continue to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that LCO 3.8.2 will continue to be met in accordance with 10 CFR 50.36(c)(3).

3.3 Evaluation of Additional Variations

3.3.1 Editorial Variations

The licensee noted that some of the TSs for the facilities have different numbering, nomenclature, and titles than the STS for the RPV WIC related TSs. The NRC staff finds that these differences do not affect the applicability of TSTF-582 to the facilities.

3.3.2 Clinton Specific Variation

TSTF-542, Revision 2, revised the BWR/6 STS 3.3.6.1 to relocate all functions applicable in Modes 4 and 5 to TS 3.3.5.2. Consistent with TSTF-582, Clinton TS 3.3.6.1 would be revised to delete Required Action M.2 as it is only applicable in Modes 4 and 5. The licensee proposed to also delete Required Actions M.3.1, M.3.2, M.3.3, and M.3.4 from Clinton TS 3.3.6.1. The licensee stated, in part, that: "With the TSTF-582 deletion of TS 3.3.6.1 M.2 for Clinton (J.2 in TSTF-582), TS 3.3.6.1 Required Actions M.3.1, M.3.2, M.3.3, and M.3.4 are no longer applicable."

Required Action M.2 in Clinton TS 3.3.6.1 requires the immediate initiation of "action to isolate the Residual Heat Removal (RHR) Shutdown Cooling System" under certain conditions when

LCO 3.3.6.1 is not met. If the shutdown cooling function is needed to provide core cooling, Required Actions M.3.1, M.3.2, M.3.3, and M.3.4 in Clinton TS 3.3.6.1 allow the penetration flow path to remain unisolated. The NRC staff finds the proposed deletion of Required Actions M.3.1, M.3.2, M.3.3, and M.3.4 from Clinton TS 3.3.6.1 acceptable because all functions applicable in Modes 4 and 5 were relocated to TS 3.3.5.2 and these required actions would no longer apply after the deletion of Required Action M.2.

3.4 Evaluation of Opposite Unit DG Requirements

The proposed changes to TS 3.8.2 for Dresden, LaSalle, and Quad Cities include the elimination of SRs for DGs that support safety-related systems shared by the two units at these sites. Typically, a TS is applied to each unit individually. However, TS 3.8.1 for Dresden, LaSalle, and Quad Cities and TS 3.8.2 for LaSalle require certain AC power sources on the opposite unit to be operable to support this shared equipment. TSTF-582 and the associated NRC SE do not address these requirements. In this section, the NRC staff evaluates the proposed changes as they are related to the "opposite unit" requirements for DGs at Dresden, LaSalle, and Quad Cities. Aside from the DG SRs, the licensee has not proposed any other changes to AC electrical power source and distribution system requirements. The related change to the TS 3.3.8.1 LOP instrumentation requirements is evaluated in Section 3.2.1 of this SE. TS 3.3.8.1 does not specify any opposite unit requirements for the LOP instrumentation.

3.4.1 Dresden Opposite Unit DG Requirements

The standby gas treatment (SGT) system, control room emergency ventilation (CREV) system, and CREV air conditioning system are shared by both units at Dresden. These systems are required to be operable when a unit is in Modes 1, 2, and 3 and during movement of recently irradiated fuel assemblies in secondary containment. The SGT system is powered by the Division 2 AC electrical power systems for Units 2 and 3. The CREV and CREV air conditioning systems are single train systems that are powered only by the Division 2 AC electrical power system for Unit 2. If there is a LOOP, DGs 2 and 3 would provide power to the Division 2 ECCS equipment for Units 2 and 3, respectively.

Dresden LCO 3.8.1 applies to a unit in Modes 1, 2, and 3 (i.e., an operating unit). The LCO specifies the AC electrical power sources that are required to be operable, which includes the following:

- c. One qualified circuit between the offsite transmission network and the opposite unit's Division 2 onsite Class 1E AC electrical power distribution subsystem capable of supporting the equipment required to be OPERABLE by LCO 3.6.4.3, "Standby Gas Treatment (SGT) System," LCO 3.7.4, "Control Room Emergency Ventilation (CREV) System" (Unit 3 only), and LCO 3.7.5, "Control Room Emergency Ventilation Air Conditioning (AC) System" (Unit 3 only); and
- d. The opposite unit's DG capable of supporting the equipment required to be OPERABLE by LCO 3.6.4.3, LCO 3.7.4 (Unit 3 only), and LCO 3.7.5 (Unit 3 only).

LCO 3.8.1 is modified by a note that states: "The opposite unit's AC electrical power sources in LCO 3.8.1.c and d are not required to be OPERABLE when the associated required equipment

(SGT subsystem, CREV System (Unit 3 only) and Control Room Emergency Ventilation [Air Conditioning] System (Unit 3 only)) is inoperable.”

The Dresden TS Bases (ADAMS Accession No. ML19177A203) for LCO 3.8.1 state, in part, that:

The opposite unit's DG must be capable of starting, accelerating to rated speed and voltage, and connecting to its Division 2 Class 1E AC electrical power distribution subsystem on detection of bus undervoltage. This sequence must be accomplished within 13 seconds and is required to be met from the same variety of initial conditions specified for the respective unit and shared DGs. For Unit 2 to meet LCO 3.8.1.d, DG 3 must be capable of supplying ESS [Essential Service System] Bus 34-1 on a loss of power to the bus in order to supply ESS Bus 39 to support equipment required by LCO 3.6.4.3. Similarly, for Unit 3 to meet LCO 3.8.1.d, DG 2 must be capable of supplying ESS Bus 24-1 on a loss of power to the bus in order to supply ESS Bus 29 to support equipment required by LCO 3.6.4.3, LCO 3.7.4, and LCO 3.7.5.

SR 3.8.1.21 is applicable to the opposite unit's AC electrical power sources and specifies the SRs in TS 3.8.1 that are necessary to ensure LCO 3.8.1.c and d are met. The SRs applicable to the opposite unit Division 2 DG, in accordance with SR 3.8.1.21, that are necessary to meet LCO 3.8.1.d include but are not limited to the following:

- SR 3.8.1.8 verifies, in part, the ability of the DG to start from standby condition and achieve the specified voltage and frequency within 13 seconds (fast start).
- SR 3.8.1.12 verifies, in part, the automatic start and loading of the DG on a LOOP signal.
- SR 3.8.1.14 verifies that the DG's noncritical automatic trips are bypassed on a loss of voltage signal on the emergency bus concurrent with an ECCS initiation signal.
- SR 3.8.1.16 verifies, in part, that the DG can restart from a hot condition and achieve the required voltage and frequency within 13 seconds (hot restart).

Dresden LCO 3.8.2 applies to a unit in Modes 4 and 5 and during movement of recently irradiated fuel assemblies in the secondary containment. LCO 3.8.2 does not specify any requirements for the opposite unit AC electrical power sources. SR 3.8.2.1 identifies the SRs in TS 3.8.1 that are necessary to ensure that LCO 3.8.2 is met. In the August 19, 2021, supplement, the licensee proposed to make SR 3.8.1.8, SR 3.8.1.12, SR 3.8.1.14, SR 3.8.1.16, and SR 3.8.1.18 no longer applicable to Dresden LCO 3.8.2. The change to SR 3.8.2.1 to make SR 3.8.1.12 and SR 3.8.1.14 no longer applicable to LCO 3.8.2 is consistent with the adoption of TSTF-582 and was evaluated by the NRC staff in Section 3.1 of this SE. The change to SR 3.8.2.1 to make SR 3.8.1.8, SR 3.8.1.16, and SR 3.8.1.18 no longer applicable to LCO 3.8.2 was evaluated by the NRC staff in Section 3.2.2 of this SE. In addition, the NRC staff evaluations in Sections 3.1 and 3.2.2 of this SE considered the potential for a fuel handling accident during movement of recently irradiated fuel assemblies in the secondary containment.

In this section, the NRC staff evaluated whether the elimination of the SR 3.8.1.8, SR 3.8.1.12, SR 3.8.1.14, and SR 3.8.1.16 from TS 3.8.2 would have an impact on the ability of the

Division 2 DG for a shutdown unit to support the shared systems required for an operating unit in accordance with TS 3.8.1. Note that SR 3.8.1.18 is not applicable to the opposite unit under TS 3.8.1, so the elimination of SR 3.8.1.18 from TS 3.8.2 would not affect the operating unit.

The licensee has not proposed to make any changes to SR 3.8.1.21. The August 19, 2021, supplement states, in part:

Since no changes have been proposed for SR 3.8.1.21, any opposite unit AC sources required by a unit operating in mode 1, 2, or 3 will continue to be subject to the existing set of SRs to establish operability. For multi-unit sites with shared AC distribution systems and sources, the same AC Source (e.g., a unit or shared DG) may be required for each Unit by different LCOs (e.g., LCO 3.8.1 or LCO 3.8.2); however, the basis for the equipment being required to be operable is different for an operating unit versus a shutdown unit. Since the operating unit must still have the capability to mitigate the effects of Design Basis Accidents (DBA) analyzed for operating conditions (e.g., DBA Loss of Coolant Accident), all of the requirements associated with DG automatic start in response to Emergency Core Cooling Systems (ECCS) or Loss of Offsite Power (LOOP) signals, time to achieve rated voltage and frequency, and load sequencing continue to be required. Thus, no changes to SR 3.8.1.21 are appropriate or proposed.

Thus, with the proposed TS 3.8.2 changes, SR 3.8.1.8, SR 3.8.1.12, SR 3.8.1.14, and SR 3.8.1.16 would continue to apply to a shutdown unit if they are necessary to ensure LCO 3.8.1.d is met. As a result, the NRC staff determined that, when LCO 3.8.1.d applies to a shutdown unit, SR 3.8.1.21 would continue to ensure that the Division 2 DG for the shutdown unit is capable of starting, accelerating to rated speed and voltage, and connecting to its Division 2 Class 1E AC electrical power distribution subsystem on detection of bus undervoltage within 13 seconds for the appropriate initial conditions. Therefore, the NRC staff finds that SR 3.8.1.21 would continue to ensure that LCO 3.8.1.d would be met in accordance with 10 CFR 50.36(c)(3).

3.4.2 LaSalle Opposite Unit DG Requirements

The SGT system, control room area filtration system, and control room area ventilation air conditioning system are shared by both units at LaSalle. These systems are required to be operable when a unit is in Modes 1, 2, and 3, during core alternations, and during movement of irradiated fuel assemblies in secondary containment. These systems are powered by the Division 2 AC electrical power system for Units 1 and 2. If there is a LOOP, DGs 1A and 2A would provide power to the Division 2 ECCS equipment for Units 1 and 2, respectively

LaSalle LCO 3.8.1 applies to a unit in Modes 1, 2, and 3 (i.e., an operating unit). The LCO specifies the AC electrical power sources that are required to be operable, which includes the following:

- c. The opposite unit's Division 2 DG capable of supporting the associated equipment required to be OPERABLE by LCO 3.6.4.3, "Standby Gas Treatment (SGT) System," LCO 3.7.4, "Control Room Area Filtration (CRAF) System," and LCO 3.7.5, "Control Room Area Ventilation Air Conditioning (AC) System."

LCO 3.8.1 is modified by a note that states: "The opposite unit's Division 2 DG in LCO 3.8.1.c is not required to be OPERABLE when the associated required equipment is inoperable."

The LaSalle TS Bases (ADAMS Accession No. ML20111A275) for LCO 3.8.1 state, in part, that:

The opposite unit's DG must be capable of starting, accelerating to rated speed and voltage, and connecting to the opposite unit's Division 2 Class 1E AC electrical power distribution subsystem on detection of bus undervoltage. This sequence must be accomplished within 13 seconds and is required to be met from the same variety of initial conditions specified for the unit DGs.

SR 3.8.1.21 is applicable to the opposite unit's AC electrical power sources and specifies the SRs in TS 3.8.1 that are necessary to ensure LCO 3.8.1.c is met. The SRs applicable to the opposite unit Division 2 DG, in accordance with SR 3.8.1.21, that are necessary to meet LCO 3.8.1.c include but are not limited to the following:

- SR 3.8.1.7 verifies, in part, the ability of the DG to start from standby condition and achieve the specified voltage and frequency within 13 seconds (fast start).
- SR 3.8.1.11 verifies, in part, the automatic start and loading of the DG on a LOOP signal.
- SR 3.8.1.15 verifies, in part, that the DG can restart from a hot condition and achieve the required voltage and frequency within 13 seconds (hot restart).

LaSalle LCO 3.8.2 applies to a unit in Modes 4 and 5 and during movement of recently irradiated fuel assemblies in the secondary containment. The LCO specifies the AC electrical power sources that are required to be operable, which includes the following:

- a. One qualified circuit between the offsite transmission network and the onsite Class 1E AC electrical power distribution subsystem(s) required by LCO 3.8.8, "Distribution Systems- Shutdown"; and
- d. One qualified circuit, which may be the same circuit in LCO 3.8.2.a, between the offsite transmission network and the opposite unit Division 2 onsite Class 1E AC electrical power distribution subsystem, or the opposite unit DG capable of supplying the opposite unit Division 2 onsite Class 1E AC electrical power distribution subsystem, when the opposite unit Division 2 onsite Class 1E AC electrical power distribution subsystem is required by LCO 3.8.8.

SR 3.8.2.1 identifies the SRs in TS 3.8.1 that are necessary to ensure that LCO 3.8.2 is met. In the August 19, 2021, supplement, the licensee proposed to make SR 3.8.1.7, SR 3.8.1.11, SR 3.8.1.12, SR 3.8.1.13, SR 3.8.1.15, SR 3.8.1.18, SR 3.8.1.19, and SR 3.8.1.21 no longer applicable to LaSalle LCO 3.8.2. The change to SR 3.8.2.1 to make SR 3.8.1.11, SR 3.8.1.12, SR 3.8.1.13, and SR 3.8.1.19 no longer applicable to LCO 3.8.2 is consistent with the adoption of TSTF-582 and was evaluated by the NRC staff in Section 3.1 of this SE. The change to SR 3.8.2.1 to make SR 3.8.1.7, SR 3.8.1.15, and SR 3.8.1.18 no longer applicable to LCO 3.8.2 was evaluated by the NRC staff in Section 3.2.2 of this SE. In addition, the NRC staff evaluations in Sections 3.1 and 3.2.2 of this SE considered the potential for a fuel handling accident during movement of recently irradiated fuel assemblies in the secondary containment.

In this section, the NRC staff evaluated whether the proposed elimination of DG SRs from TS 3.8.2 would affect the ability of a Division 2 DG to meet the “opposite unit” requirements in LCO 3.8.1.c and LCO 3.8.2.d. SR 3.8.1.12, SR 3.8.1.13, SR 3.8.1.18, and SR 3.8.1.19 are not applicable to the opposite unit under TS 3.8.1, so the elimination of these SRs from TS 3.8.2 would not affect the operating unit.

The licensee has not proposed to make any changes to SR 3.8.1.21. The August 19, 2021, supplement states, in part:

Since no changes have been proposed for SR 3.8.1.21, any opposite unit AC sources required by a unit operating in mode 1, 2, or 3 will continue to be subject to the existing set of SRs to establish operability. For multi-unit sites with shared AC distribution systems and sources, the same AC Source (e.g., a unit or shared DG) may be required for each Unit by different LCOs (e.g., LCO 3.8.1 or LCO 3.8.2); however, the basis for the equipment being required to be operable is different for an operating unit versus a shutdown unit. Since the operating unit must still have the capability to mitigate the effects of Design Basis Accidents (DBA) analyzed for operating conditions (e.g., DBA Loss of Coolant Accident), all of the requirements associated with DG automatic start in response to ECCS or LOOP signals, time to achieve rated voltage and frequency, and load sequencing continue to be required. Thus, no changes to SR 3.8.1.21 are appropriate or proposed.

Thus, with the proposed TS 3.8.2 changes, SR 3.8.1.7, SR 3.8.1.11, and SR 3.8.1.15 would continue to apply to a shutdown unit if they are necessary to ensure LCO 3.8.1.c is met. As a result, the NRC staff determined that, when LCO 3.8.1.c applies to a shutdown unit, SR 3.8.1.21 would continue to ensure that the Division 2 DG for the shutdown unit is capable of starting, accelerating to rated speed and voltage, and connecting to its Division 2 Class 1E AC electrical power distribution subsystem on detection of bus undervoltage within 13 seconds for the appropriate initial conditions. Therefore, the NRC staff finds that SR 3.8.1.21 would continue to ensure that LCO 3.8.1.c would be met in accordance with 10 CFR 50.36(c)(3).

The Division 2 DG for the operating unit may also be required to meet the opposite unit requirements in LCO 3.8.2.d. In this situation, the DG SRs in TS 3.8.1 would continue to apply to the Division 2 DG for the operating unit. Therefore, the NRC staff determined that under this scenario the elimination of the SRs from TS 3.8.2 would not affect the ability of the Division 2 DG for the operating unit to meet the opposite unit requirements in LCO 3.8.2.d.

SR 3.8.2.1 specifies the SRs for the “AC sources required to be OPERABLE” by LCO 3.8.2, which includes AC source on the opposite unit. The NRC staff considered whether eliminating the SRs specified in SR 3.8.2.1 would affect the ability to meet LCO 3.8.2.d. The SRs proposed to be eliminated from TS 3.8.2 are associated with the automatic starting and loading of the DGs. The NRC staff determined that these SRs are not necessary to meet LCO 3.8.2.d because there are no postulated events for a shutdown unit that require the automatic loading of the DGs on the opposite unit.

The proposed changes to SR 3.8.2.1 would also eliminate SR 3.8.1.21 from the TS 3.8.2 requirements (SR 3.8.1.21 would still be required under TS 3.8.1). The NRC staff determined that this change is acceptable because the proposed revision to SR 3.8.2.1 would continue to specify the SRs for the “AC sources required to be OPERABLE” by LCO 3.8.2, which includes the opposite unit AC sources required by LCO 3.8.2.d.

Base on the above, the NRC staff finds that SR 3.8.2.1 would continue to ensure that LCO 3.8.2.d would be met in accordance with 10 CFR 50.36(c)(3).

3.4.3 Quad Cities Opposite Unit DG Requirements

The SGT system, CREV system, and CREV air conditioning system are shared by both units at Quad Cities. These systems are required to be operable when a unit is in Modes 1, 2, and 3 and during movement of recently irradiated fuel assemblies in secondary containment. The SGT system is powered by the Division 2 AC electrical power systems for Units 1 and 2. The CREV and CREV air conditioning systems are single train systems that are powered only by the Division 2 AC electrical power system for Unit 1. If there is a LOOP, DGs 1 and 2 would provide power to the Division 2 ECCS equipment for Units 1 and 2, respectively.

Quad Cities LCO 3.8.1 applies to a unit in Modes 1, 2, and 3 (i.e., an operating unit). The LCO specifies the AC electrical power sources that are required to be operable, which includes the following:

- c. One qualified circuit between the offsite transmission network and the opposite unit's onsite Class 1E AC Electrical Power Distribution System capable of supporting the equipment required to be OPERABLE by LCO 3.6.4.3, "Standby Gas Treatment (SGT) System," LCO 3.7.4, "Control Room Emergency Ventilation (CREV) System" (Unit 2 only), and LCO 3.7.5, "Control Room Emergency Ventilation Air Conditioning (AC) System" (Unit 2 only); and
- d. The opposite unit's DG capable of supporting the equipment required to be OPERABLE by LCO 3.6.4.3, LCO 3.7.4 (Unit 2 only), and LCO 3.7.5 (Unit 2 only).

LCO 3.8.1 is modified by a note that states: "The opposite unit's AC electrical power sources in LCO 3.8.1.c and d are not required to be OPERABLE when the associated required equipment (SGT subsystem, CREV System (Unit 2 only), and Control Room Emergency Ventilation [Air Conditioning] System (Unit 2 only)) is inoperable."

The Quad Cities TS Bases (ADAMS Accession No. ML19298C383) for LCO 3.8.1 state, in part, that:

The opposite unit's DG must be capable of starting, accelerating to rated speed and voltage, and connecting to its Division 2 Class 1E AC electrical power distribution subsystem on detection of bus undervoltage. This sequence must be accomplished within 13 seconds and is required to be met from the same variety of initial conditions specified for the respective unit and shared DGs. For Unit 1 to meet LCO 3.8.1.d, DG 2 must be capable of supplying ESS bus 24-1 on a loss of power to the bus in order to supply ESS bus 29 to support equipment required by LCO 3.6.4.3. Similarly, for Unit 2 to meet LCO 3.8.1.d, DG 1 must be capable of supplying ESS bus 14-1 on a loss of power to the bus in order to supply ESS bus 19, to support equipment required by LCO 3.6.4.3, and to supply ESS bus 18, to support equipment required by LCO 3.7.4 and 3.7.5.

SR 3.8.1.21 is applicable to the opposite unit's AC electrical power sources and specifies the SRs in TS 3.8.1 that are necessary to ensure LCO 3.8.1.c and d are met. The SRs applicable

to the opposite unit Division 2 DG, in accordance with SR 3.8.1.21, that are necessary to meet LCO 3.8.1.d include but are not limited to the following:

- SR 3.8.1.8 verifies the ability of the DG to start from standby condition and achieve the specified voltage and frequency within 13 seconds (fast start).
- SR 3.8.1.12 verifies, in part, the automatic start and loading of the DG on a LOOP signal.
- SR 3.8.1.14 verifies that the DG's noncritical automatic trips are bypassed on a loss of voltage signal on the emergency bus concurrent with an ECCS initiation signal.
- SR 3.8.1.16 verifies that the DG can restart from a hot condition and achieve the required voltage and frequency within 13 seconds (hot restart).

Quad Cities LCO 3.8.2 applies to a unit in Modes 4 and 5 and during movement of recently irradiated fuel assemblies in the secondary containment. LCO 3.8.2 does not specify any requirements for the opposite unit AC electrical power sources. SR 3.8.2.1 identifies the SRs in TS 3.8.1 that are necessary to ensure that LCO 3.8.2 is met. In the August 19, 2021, supplement, the licensee proposed to make SR 3.8.1.8, SR 3.8.1.12, SR 3.8.1.14, SR 3.8.1.16, and SR 3.8.1.18 no longer applicable to Quad Cities LCO 3.8.2. The change to SR 3.8.2.1 to make SR 3.8.1.12 and SR 3.8.1.14 no longer applicable to LCO 3.8.2 is consistent with the adoption of TSTF-582 and was evaluated by the NRC staff in Section 3.1 of this SE. The change to SR 3.8.2.1 to make SR 3.8.1.8, SR 3.8.1.16, and SR 3.8.1.18 no longer applicable to LCO 3.8.2 was evaluated by the NRC staff in Section 3.2.2 of this SE. In addition, the NRC staff evaluations in Sections 3.1 and 3.2.2 of this SE considered the potential for a fuel handling accident during movement of recently irradiated fuel assemblies in the secondary containment.

In this section, the NRC staff evaluated whether the elimination of the SR 3.8.1.8, SR 3.8.1.12, SR 3.8.1.14, and SR 3.8.1.16 from TS 3.8.2 would have an impact on the ability of the Division 2 DG for a shutdown unit to support the shared systems required for an operating unit in accordance with TS 3.8.1. Note that SR 3.8.1.18 is not applicable to the opposite unit under TS 3.8.1, so the elimination of SR 3.8.1.18 from TS 3.8.2 would not affect the operating unit.

The licensee has not proposed to make any changes to SR 3.8.1.21. The August 19, 2021, supplement states, in part:

Since no changes have been proposed for SR 3.8.1.21, any opposite unit AC sources required by a unit operating in mode 1, 2, or 3 will continue to be subject to the existing set of SRs to establish operability. For multi-unit sites with shared AC distribution systems and sources, the same AC Source (e.g., a unit or shared DG) may be required for each Unit by different LCOs (e.g., LCO 3.8.1 or LCO 3.8.2); however, the basis for the equipment being required to be operable is different for an operating unit versus a shutdown unit. Since the operating unit must still have the capability to mitigate the effects of Design Basis Accidents (DBA) analyzed for operating conditions (e.g. DBA Loss of Coolant Accident), all of the requirements associated with DG automatic start in response to ECCS or LOOP signals, time to achieve rated voltage and frequency, and load sequencing continue to be required. Thus, no changes to SR 3.8.1.21 are appropriate or proposed.

Thus, with the proposed TS 3.8.2 changes, SR 3.8.1.8, SR 3.8.1.12, SR 3.8.1.14, and SR 3.8.1.16 would continue to apply to a shutdown unit if they are necessary to ensure LCO 3.8.1.d is met. As a result, the NRC staff determined that, when LCO 3.8.1.d applies to a shutdown unit, SR 3.8.1.21 would continue to ensure that the Division 2 DG for the shutdown unit is capable of starting, accelerating to rated speed and voltage, and connecting to its Division 2 Class 1E AC electrical power distribution subsystem on detection of bus undervoltage within 13 seconds for the appropriate initial conditions. Therefore, the NRC staff finds that SR 3.8.1.21 would continue to ensure that LCO 3.8.1.d would be met in accordance with 10 CFR 50.36(c)(3).

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Illinois State officials were notified of the proposed issuance of the amendments on October 20, 2021. The State officials had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendments change requirements with respect to installation or use of facility components located within the restricted area as defined in 10 CFR Part 20 and change surveillance requirements. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (86 FR 7116; January 26, 2021). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) 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.

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Date: December 7, 2021

SUBJECT: CLINTON POWER STATION, UNIT NO. 1; DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3; LASALLE COUNTY STATION, UNITS 1 AND 2; AND QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2 - ISSUANCE OF AMENDMENTS TO ADOPT REACTOR PRESSURE VESSEL WATER INVENTORY CONTROL ENHANCEMENTS (EPIDS L-2020-LLA-0253 AND L-2020-LLA-0254) DATED DECEMBER 7, 2021

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