



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

December 17, 2015

Mr. Bryan C. Hanson
Senior Vice President
Exelon Generation Company, LLC
President and Chief Nuclear Officer (CNO)
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: 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 ADD TECHNICAL SPECIFICATION 3.10.8, "INSERVICE LEAK AND HYDROSTATIC TESTING OPERATIONS" (CAC NOS. MF5471-MF5476)

Dear Mr. Hanson:

The U.S. Nuclear Regulatory Commission (NRC or Commission) has issued the following enclosed amendments in response to the Exelon Generation Company, LLC application dated December 22, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14357A085), as supplemented by letter dated September 29, 2015 (ADAMS Accession No. ML15272A333):

1. Amendment No. 248 to Renewed Facility Operating License No. DPR-19 and Amendment No. 241 to Renewed Facility Operating License No. DPR-25 for Dresden Nuclear Power Station, Units 2 and 3, respectively,
2. Amendment No. 219 to Facility Operating License No. NPF-11 and Amendment No. 205 to Facility Operating License No. NPF-18 for the LaSalle County Station, Units 1 and 2, respectively, and
3. Amendment No. 261 to Renewed Facility Operating License No. DPR-29 and Amendment No. 256 to Renewed Facility Operating License No. DPR-30 for the Quad Cities Nuclear Power Station, Units 1 and 2, respectively.

The amendments add a new Technical Specification (TS) Section 3.10.8, "Inservice Leak and Hydrostatic Testing Operation."

B. Hanson

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Blake Purnell', written in a cursive style.

Blake Purnell, Project Manager
Plant Licensing Branch III-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

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

Enclosures:

1. Amendment No. 248 to DPR-19
2. Amendment No. 241 to DPR-25
3. Amendment No. 219 to NPF-11
4. Amendment No. 205 to NPF-18
5. Amendment No. 261 to DPR-29
6. Amendment No. 256 to DPR-30
7. Safety Evaluation

cc w/encls: Listserv



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. 248
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 (the licensee), dated December 22, 2014, as supplemented by letter dated September 29, 2015, 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:

Enclosure 1

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 248, are hereby incorporated into the renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

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

FOR THE NUCLEAR REGULATORY COMMISSION



Justin C. Poole, Acting Branch Chief
Plant Licensing Branch III-2
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 17, 2015



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. 241
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 (the licensee), dated December 22, 2014, as supplemented by letter dated September 29, 2015, 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.

Enclosure 2

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. 241, are hereby incorporated into the renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

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

FOR THE NUCLEAR REGULATORY COMMISSION



Justin C. Poole, Acting Branch Chief
Plant Licensing Branch III-2
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 17, 2015

ATTACHMENT TO LICENSE AMENDMENT NOS. 248 AND 241
RENEWED FACILITY OPERATING LICENSE NOS. DPR-19 AND DPR-25
DOCKET NOS. 50-237 AND 50-249

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

Remove

License DPR-19
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License DPR-25
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Insert

License DPR-19
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- (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. 248, 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. 241, 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.

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3.10 SPECIAL OPERATIONS

3.10.8 Inservice Leak and Hydrostatic Testing Operation

LCO 3.10.8 The average reactor coolant temperature specified in Table 1.1-1 for MODE 4 may be changed to "NA," and operation considered not to be in MODE 3; and the requirements of LCO 3.4.8, "Shutdown Cooling (SDC) System - Cold Shutdown," may be suspended to allow reactor coolant temperature > 212°F:

- For performance of an inservice leak or hydrostatic test,
- As a consequence of maintaining adequate pressure for an inservice leak or hydrostatic test, or
- As a consequence of maintaining adequate pressure for control rod scram time testing initiated in conjunction with an inservice leak or hydrostatic test,

provided the following MODE 3 LCOs are met:

- a. LCO 3.3.6.2, "Secondary Containment Isolation Instrumentation," Functions 1, 3, and 4 of Table 3.3.6.2-1,
- b. LCO 3.6.4.1, "Secondary Containment,"
- c. LCO 3.6.4.2, "Secondary Containment Isolation Valves (SCIVs),"
- d. LCO 3.6.4.3, "Standby Gas Treatment (SGT) System."

APPLICABILITY: MODE 4 with average reactor coolant temperature > 212°F.

ACTIONS

-----NOTE-----

 Separate Condition entry is allowed for each requirement of the LCO.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more of the above requirements not met.	A.1 -----NOTES----- Required Actions to be in MODE 4 include reducing average reactor coolant temperature to $\leq 212^{\circ}\text{F}$. ----- Enter the applicable Condition of the affected LCO.	Immediately
	<u>OR</u>	
	A.2.1 Suspend activities that could increase the average reactor coolant temperature or pressure.	Immediately
	<u>AND</u>	
	A.2.2 Reduce average reactor coolant temperature to $\leq 212^{\circ}\text{F}$.	24 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.10.8.1 Perform the applicable SRs for the required MODE 3 LCOs.	According to the 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 FACILITY OPERATING LICENSE

Amendment No. 219
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 (the licensee), dated December 22, 2014, as supplemented by letter dated September 29, 2015, 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-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. 219, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the 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 its date of issuance and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Justin C. Poole, Acting Branch Chief
Plant Licensing Branch III-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical Specifications
and Facility Operating License

Date of Issuance: December 17, 2015



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 FACILITY OPERATING LICENSE

Amendment No. 205
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 (the licensee), dated December 22, 2014, as supplemented by letter dated September 29, 2015, 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-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. 205, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the 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 its date of issuance and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Justin C. Poole, Acting Branch Chief
Plant Licensing Branch III-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical Specifications
and Facility Operating License

Date of Issuance: December 17, 2015

ATTACHMENT TO LICENSE AMENDMENT NOS. 219 AND 205

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

DOCKET NOS. 50-373 AND 50-374

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

Remove

Insert

License NPF-11
Page 3

License NPF-11
Page 3

License NPF-18
Page 3

License NPF-18
Page 3

TSs

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TSs

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3.10.8-1

3.10.8-2

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 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. 219
12/7/15 (2) Technical Specifications and Environmental Protection Plan
The Technical Specifications contained in Appendix A, as revised Through Amendment No. 219, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the 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

Am. 194
08/28/09 (6) DELETED

Am. 194
08/28/09 (7) DELETED

Am. 189
07/21/11 (5) Pursuant to the Act and 10 CFR Parts 30, 40, and 70 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 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.205
12/17/15 (2) Technical Specifications and Environmental Protection Plan
The Technical Specifications contained in Appendix A, as revised through Amendment No. 205, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

Am. 181
08/28/09 (3) DELETED

Am. 181
08/28/09 (4) DELETED

Am. 181
08/28/09 (5) DELETED

Am. 181
08/28/09 (6) DELETED

Am. 181
08/28/09 (7) DELETED

Am. 181
08/28/09 (8) DELETED

Am. 181
08/28/09 (9) DELETED

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(continued)

3.10 SPECIAL OPERATIONS

3.10.8 Inservice Leak and Hydrostatic Testing Operation

LCO 3.10.8 The average reactor coolant temperature specified in Table 1.1-1 for MODE 4 may be changed to "NA," and operation considered not to be in MODE 3; and the requirements of LCO 3.4.10, "Residual Heat Removal (RHR) Shutdown Cooling System - Cold Shutdown," may be suspended to allow reactor coolant temperature > 200°F:

- For performance of an inservice leak or hydrostatic test,
- As a consequence of maintaining adequate pressure for an inservice leak or hydrostatic test, or
- As a consequence of maintaining adequate pressure for control rod scram time testing initiated in conjunction with an inservice leak or hydrostatic test,

provided the following MODE 3 LCOs are met:

- a. LCO 3.3.6.2, "Secondary Containment Isolation Instrumentation," Functions 1, 3, 4 and 5 of Table 3.3.6.2-1,
- b. LCO 3.6.4.1, "Secondary Containment,"
- c. LCO 3.6.4.2, "Secondary Containment Isolation Valves (SCIVs),"
- d. LCO 3.6.4.3, "Standby Gas Treatment (SGT) System."

APPLICABILITY: MODE 4 with average reactor coolant temperature > 200°F.

ACTIONS

-----NOTE-----
Separate Condition entry is allowed for each requirement of the LCO.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more of the above requirements not met.	A.1 -----NOTES----- Required Actions to be in MODE 4 include reducing average reactor coolant temperature to $\leq 200^{\circ}\text{F}$. ----- Enter the applicable Condition of the affected LCO.	Immediately
	<u>OR</u>	
	A.2.1 Suspend activities that could increase the average reactor coolant temperature or pressure.	Immediately
	<u>AND</u>	
	A.2.2 Reduce average reactor coolant temperature to $\leq 200^{\circ}\text{F}$.	24 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.10.8.1 Perform the applicable SRs for the required MODE 3 LCOs.	According to the applicable SRs



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. 261
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 (the licensee), dated December 22, 2014, as supplemented by letter dated September 29, 2015, 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. 261, 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 its date of issuance and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Justin C. Poole, Acting Branch Chief
Plant Licensing Branch III-2
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 17, 2015



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. 256
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 (the licensee), dated December 22, 2014, as supplemented by letter dated September 29, 2015, 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. 256, 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 its date of issuance and shall be implemented within 60 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Justin C. Poole, Acting Branch Chief
Plant Licensing Branch III-2
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 17, 2015

ATTACHMENT TO LICENSE AMENDMENT NOS. 261 AND 256

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

DOCKET NOS. 50-254 AND 50-265

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

Remove

License DPR-29
Page 4

License DPR-30
Page 4

TSs

iii

-

-

Insert

License DPR-29
Page 4

License DPR-30
Page 4

TSs

iii

3.10.8-1

3.10.8-2

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 261, 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. 256, are hereby incorporated into this renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

C. The license 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.

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(continued)

3.10 SPECIAL OPERATIONS

3.10.8 Inservice Leak and Hydrostatic Testing Operation

LCO 3.10.8 The average reactor coolant temperature specified in Table 1.1-1 for MODE 4 may be changed to "NA," and operation considered not to be in MODE 3; and the requirements of LCO 3.4.8, "Residual Heat Removal (RHR) Shutdown Cooling System - Cold Shutdown," may be suspended to allow reactor coolant temperature > 212°F:

- For performance of an inservice leak or hydrostatic test,
- As a consequence of maintaining adequate pressure for an inservice leak or hydrostatic test, or
- As a consequence of maintaining adequate pressure for control rod scram time testing initiated in conjunction with an inservice leak or hydrostatic test,

provided the following MODE 3 LCOs are met:

- a. LCO 3.3.6.2, "Secondary Containment Isolation Instrumentation," Functions 1, 3, and 4 of Table 3.3.6.2-1,
- b. LCO 3.6.4.1, "Secondary Containment,"
- c. LCO 3.6.4.2, "Secondary Containment Isolation Valves (SCIVs),"
- d. LCO 3.6.4.3, "Standby Gas Treatment (SGT) System."

APPLICABILITY: MODE 4 with average reactor coolant temperature > 212°F.

ACTIONS

-----NOTE-----
Separate Condition entry is allowed for each requirement of the LCO.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more of the above requirements not met.	A.1 -----NOTES----- Required Actions to be in MODE 4 include reducing average reactor coolant temperature to $\leq 212^{\circ}\text{F}$. ----- Enter the applicable Condition of the affected LCO.	Immediately
	<u>OR</u>	
	A.2.1 Suspend activities that could increase the average reactor coolant temperature or pressure.	Immediately
	<u>AND</u>	
	A.2.2 Reduce average reactor coolant temperature to $\leq 212^{\circ}\text{F}$.	24 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.10.8.1 Perform the applicable SRs for the required MODE 3 LCOs.	According to the applicable SRs



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO

AMENDMENT NO. 248 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-19,

AMENDMENT NO. 241 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-25,

AMENDMENT NO. 219 TO FACILITY OPERATING LICENSE NO. NPF-11,

AMENDMENT NO. 205 TO FACILITY OPERATING LICENSE NO. NPF-18,

AMENDMENT NO. 261 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-29,

AMENDMENT NO. 256 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-30,

EXELON GENERATION COMPANY, LLC

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. 50-237, 50-249, 50-373, 50-374, 50-254, AND 50-265

1.0 INTRODUCTION

By application dated December 22, 2014, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14357A085), as supplemented by letter dated September 29, 2015 (ADAMS Accession No. ML15272A333), Exelon Generation Company, LLC (the licensee) requested a change to the facility operating licenses for the Dresden Nuclear Power Station (DNPS), Units 2 and 3; LaSalle County Station (LSCS), Units 1 and 2; and Quad Cities Nuclear Power Station (QCNPS), Units 1 and 2. The supplemental letter dated September 29, 2015, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the U.S. Nuclear Regulatory Commission (NRC) staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on March 31, 2015 (80 FR 17089).

The proposed change would add a new Technical Specification (TS) 3.10.8, "Inservice Leak and Hydrostatic Testing Operation," which is comprised of a limiting condition for operation (LCO) and a surveillance requirement (SR). Provided that the conditions of the LCO are met,

the proposed change would allow continued operation in Mode 4, "Cold Shutdown," at temperatures greater than the current Mode 4 temperature limit for specified tests. The proposed LCO may only be used for (1) performance of an inservice leak or hydrostatic test, (2) as a consequence of maintaining adequate pressure for an inservice leak or hydrostatic test, or (3) as a consequence of maintaining adequate pressure for control rod scram time testing initiated in conjunction with an inservice leak or hydrostatic test.

2.0 REGULATORY EVALUATION

2.1 Background

LCOs are the lowest functional capability or performance levels of equipment required for safe operation of the facility. 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. For each LCO, the TSs specify the operational state of the reactor for which the LCO is applicable. Typically, the applicable operational states are specified using the term "modes"; however, operational states other than modes are also used. For each of the plants listed in the application, five modes are specified in TS Table 1.1-1 as follows: Mode 1, "Power Operation"; Mode 2, "Startup"; Mode 3, "Hot Shutdown"; Mode 4, "Cold Shutdown"; and Mode 5, "Refueling." Three elements are used to determine the mode: (1) mode switch position, (2) average reactor coolant temperature, and (3) reactor vessel head closure bolt tensioning.

The licensee's proposed change concerns the Mode 3 and Mode 4 definitions; the other mode definitions are not affected. For both Mode 3 and Mode 4, the reactor mode switch is in the "Shutdown" position and all reactor vessel head closure bolts are fully tensioned. Thus, the two modes are distinguished by the average reactor coolant temperature. For DNPS and QCNPS, if the average reactor coolant temperature is less than or equal to 212 degrees Fahrenheit (°F) the reactor is in Mode 4 and if the temperature is higher than 212 °F the reactor is in Mode 3. For LSCS, if the average reactor coolant temperature is less than or equal to 200 °F the reactor is in Mode 4 and if the temperature is higher than 200 °F the reactor is in Mode 3.

The TSs require operators to take many steps when making a mode change to ensure that the applicable LCOs are met. As described in the application, the licensee's proposed change is intended to address a situation where, due to an increase in average reactor coolant temperature, some of the steps required to change from Mode 4, "Cold Shutdown," to Mode 3, "Hot Shutdown," would unnecessarily impact required testing. As described in the application, the licensee's proposed change would permit continued testing even if the average reactor coolant temperature exceeds the entry limit into Hot Shutdown. The changes would redefine Mode 4 during specific testing conditions, such that a mode change would not be required during these tests. During such testing, the mode switch position and reactor vessel head closure bolt tensioning would remain unchanged.

To affect the desired change to the TS, the licensee proposes conditions (grouped into a single LCO) that effectively removes the average reactor coolant temperature from the mode definition. The conditions are associated with (1) inservice leak testing, (2) hydrostatic testing, and (3) control rod drive scram time testing in conjunction with the two aforementioned tests.

SRs 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 licensee also proposed a new SR which would require the licensee to perform the SRs for Mode 3 LCOs for specified secondary containment

isolation instrumentation, secondary containment, secondary containment isolation valves (SCIVs), and standby gas treatment (SGT).

2.2 Proposed Change

The proposed change would add a new TS 3.10.8, "Inservice Leak and Hydrostatic Testing Operation," which is comprised of an LCO and an SR. The new LCO would, under certain circumstances, change mode definitions. For DNPS and QCNPS, the proposed TS 3.10.8 is consistent with TS 3.10.1 in NUREG-1433, "Standard Technical Specifications for General Electric BWR/4 Plants," Revision 4.0, dated April 2012 (ADAMS Accession No. ML12104A192). For LSCS, the proposed changes are consistent with NUREG-1434, "Standard Technical Specifications for General Electric BWR/6 Plants," Revision 4.0, dated April 2012 (ADAMS Accession No. ML12104A195). Revision 4.0 to NUREG-1433 and NUREG-1434 incorporated changes to TS 3.10.1 which were included in the NRC-approved Technical Specification Task Force (TSTF) Traveler TSTF-484, Revision 0, "Use of TS 3.10.1 for Scram Time Testing Activities," dated May 5, 2005 (see ADAMS Accession Nos. ML052930102 and ML063330033). The licensee references NUREG-1433, NUREG 1434, and TSTF-484 in its application.

The proposed LCO will permit the Mode 4 temperature limit to be changed to "NA" (not applicable) and operation considered not to be in Mode 3. The TS requirements for the residual heat removal (RHR) shutdown cooling system¹ applicable to cold shutdown (i.e., Mode 4) may be suspended to allow the reactor coolant temperature to exceed the Mode 4 temperature limit. This LCO may only be used for (1) performance of an inservice leak or hydrostatic test, (2) as a consequence of maintaining adequate pressure for an inservice leak or hydrostatic test, or (3) as a consequence of maintaining adequate pressure for control rod scram time testing initiated in conjunction with an inservice leak or hydrostatic test. The following Mode 3 TS LCOs associated with secondary containment must be met:

- a. LCO 3.3.6.2, "Secondary Containment Isolation Instrumentation," Functions 1, 3, and 4 of Table 3.3.6.2-1 for DNPS and QCNPS and Functions 1, 3, 4 and 5 of Table 3.3.6.2-1 for LSCS,
- b. LCO 3.6.4.1, "Secondary Containment,"
- c. LCO 3.6.4.2, "Secondary Containment Isolation Valves (SCIVs),"
- d. LCO 3.6.4.3, "Standby Gas Treatment (SGT) System."

The proposed TS 3.10.8 includes remedial action permitted by the TSs until the new LCO condition can be met. It also includes an SR to perform the applicable SRs for the Mode 3 LCOs required above. The proposed LCO will be applicable in Mode 4 with the reactor coolant temperature greater than the Mode 4 temperature limit specified in TS Table 1.1-1. The application also requests to update the TS Table of Contents to add the proposed TS 3.10.8.

2.3 Applicable Regulatory Requirements

The regulatory requirements the NRC staff considered in its review of the proposed license amendments are discussed below.

¹ TS LCO 3.4.8, "Shutdown Cooling (SDC) System - Cold Shutdown," for DNPS. TS LCO 3.4.10, "Residual Heat Removal (RHR) Shutdown Cooling System - Cold Shutdown," for LSCS. TS LCO 3.4.8, "Residual Heat Removal (RHR) Shutdown Cooling System - Cold Shutdown," for QCNPS.

Title 10 to the *Code of Federal Regulations* (10 CFR) 50.36, "Technical Specifications," establishes the regulatory requirements related to the content of TSs. Pursuant to 10 CFR 50.36, TSs are required to include items in the following five specific categories related to station operation: (1) safety limits, limiting safety system settings, and limiting control settings; (2) LCOs; (3) SRs; (4) design features; and (5) administrative controls. In accordance with 10 CFR 50.36(c)(2), LCOs are the lowest functional capability or performance levels of equipment required for safe operation of the facility. 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. In accordance with 10 CFR 50.36(c)(2), SRs 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 licensee's proposed change adds a new LCO, with remedial actions, and a new SR.

Appendix G, "Fracture Toughness Requirements," to 10 CFR Part 50 requires that pressure tests and leak test of the reactor vessel that are required by Section XI of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (ASME Code) must be completed before the core is critical.

Appendix A, "General Design Criteria (GDC) for Nuclear Power Plants," to 10 CFR Part 50 establishes the minimum requirements for the principal design criteria for water-cooled nuclear power plants. Section 3.1, "Conformance with NRC General Design Criteria," of the updated final safety analysis report (UFSAR) evaluates the plant design basis against the GDC or draft GDC published in July 1967, as appropriate. For LSCS, the UFSAR evaluation concludes that LSCS fully satisfies and complies with the GDC. The GDC below were considered in the NRC staff's review of the proposed license amendments for LSCS.

- GDC 16 as to reactor containment and associated systems establishing an essentially leak-tight barrier against the uncontrolled release of radioactivity to the environment.
- GDC 35, "Emergency core cooling," as it requires that a system to provide abundant emergency core cooling shall be provided and be able to prevent fuel and clad damage and limit the amount of clad metal-water reaction to negligible amounts.

For DNPS and QCNPS, the UFSAR concludes that that the plants fully satisfy the intent of the draft GDC published in July 1967 (ADAMS Accession No. ML043310029). The application states that the licensee determined that the plant-specific requirements for DNPS and QCNPS are sufficiently similar to the GDC as related to the proposed change. The July 1967 draft GDC below were considered in the NRC staff's review of the proposed license amendments for DNPS and QCNPS.

- Draft GDC 10, as published in July 1967, as it requires the containment structure to be designed to sustain the initial effects of gross equipment failures, such as a large coolant boundary break, without loss of required integrity and, together with other engineered safety features as may be necessary, to retain for as long as the situation requires the functional capability to protect the public.

- Draft GDC 37, as published in July 1967, as it requires engineered safety features to be designed to cope with any size reactor coolant pressure boundary break up to and including the circumferential rupture of any pipe in that boundary assuming unobstructed discharge from both ends.
- Draft GDC 44, as published in July 1967, as it requires each emergency core cooling system (ECCS) and the core shall be designed to prevent fuel and clad damage that would interfere with the emergency core cooling function and to limit the clad metal-water reaction to negligible amounts for all sizes of breaks in the reactor coolant pressure boundary, including the double-ended rupture of the largest pipe.

3.0 TECHNICAL EVALUATION

3.1 Test Descriptions and Reason for Request

The proposed TS 3.10.8 may be used for inservice leakage testing, hydrostatic testing, and control rod scram time testing performed in conjunction with either of these tests. The proposed change does not alter the requirements for any of these tests.

Inservice hydrostatic testing and system leakage pressure tests are required by the Section XI of the ASME Code. These tests are performed prior to the reactor going critical. The hydrostatic test is performed once every 10 years and the leakage tests are required each refueling outage. At the required pressures for these tests, the minimum reactor coolant system (RCS) temperature is determined from the RCS pressure and temperature limits in TS 3.4.9 for DNPS and QCNPS and TS 3.4.11 for LSCS. The application states that recirculation pump operation and an essentially water solid reactor pressure vessel are used to achieve the necessary temperature and pressures required for these tests.

The bases for the proposed TS provided with the application states:

Removal of heat addition from recirculation pump operation and reactor core decay heat is coarsely controlled by Control Rod Drive Hydraulic System flow and Reactor Water Cleanup System non-regenerative heat exchanger operation. Test conditions are focused on maintaining a steady state pressure, and tightly limited temperature control poses an unnecessary burden on the operator and may not be achievable in certain instances.

The primary containment is required to be operable under the current TSs whenever the RCS temperature is greater than the Mode 4 temperature limit (i.e., Mode 3). The application states that the restricted access to the reactor vessel in Mode 3 combined with the elevated temperatures makes performance of the required inspections for the inservice leakage or hydrostatic testing a personnel safety concern. The proposed TS 3.10.8 relaxes the requirement for primary containment to be operable during these tests if the temperature exceeds the Mode 4 temperate limit, which will allow frequent, unobstructed access to perform the leakage inspections.

The control rod scram time tests are required by SR 3.1.4.1 and SR 3.1.4.4 to be performed with the reactor steam dome pressure above 800 pounds per square inch gauge (psig) prior to exceeding 40 percent rated thermal power. These tests ensure that the measured scram times will be within the specified limits at higher pressures. Surveillance of each individual control rod's scram time ensures that the scram reactivity assumed in the design basis accidents and

transient analyses can be met. These tests may be performed in conjunction with the inservice leakage or hydrostatic tests. As discussed in TSTF-484, which is referenced in the application, temperature control limitations associated with conducting these tests may result in temperatures approaching or exceeding the Mode 4 temperature limit. Under the current TS, the testing would have to be suspended to reduce pressure and temperature to remain in Mode 4. TSTF-484 further states that in this situation the typical practice would be to defer completion of scram time testing until power operations.

3.2 NRC Staff Evaluation

The NRC staff considered past precedent and the NRC-approved TSTF-484, including the associated model SE published October 27, 2006 (71 FR 63050), in its review. DNPS and QCNPS were previously approved (ADAMS Legacy Library Accession No. 9802180099) for a similar LCO based on a version of Section 3.10.1 of the improved standard TSs (NUREG-1433) that existed prior to TSTF-484. DNPS and QCNPS later had this LCO removed from their TSs.

3.2.1 Evaluation of LCO

The NRC staff reviewed the proposed LCO to determine if it was adequate to ensure the safe operation of the plants under the applicable test conditions. Since the reactor is in shutdown conditions, the review focused on the ability of the required systems to maintain adequate core cooling and the ability to mitigate the consequences of a leak in the RCS. The NRC staff evaluated the adequacy of the required ECCS subsystems and the systems associated with secondary containment to mitigate the consequences of an RCS leak under these conditions.

The ECCS is required to be operable in Mode 3 with the reactor steam dome pressure above 150 psig per TS 3.5.1, "ECCS-Operating." At DNPS and QCNPS, the ECCS consists of high pressure coolant injection (HPCI), core spray, low pressure coolant injection (LPCI), and the automatic depressurization system (ADS). At LSCS, the ECCS consists of high pressure core spray (HPCS), low pressure core spray (LPCS), LPCI mode of the RHR system, and the ADS. Two low pressure ECCS injection/spray (i.e., core spray or LPCI) subsystems are required to be operable in Mode 4 at DNPS and QCNPS per TS 3.5.2, "ECCS-Shutdown." Two ECCS injection/spray (i.e., HPCS, LPCS, or LPCI mode of the RHR system) subsystems are required to be operable in Mode 4 at LSCS per TS 3.5.2. The proposed TS 3.10.8 would permit the licensee to remain in Mode 4 when the RCS temperature exceeds the Mode 4 temperature limit. Thus, when TS 3.10.8 is used, the ECCS requirements in TS 3.5.2 would remain applicable and the licensee would not be required to implement the ECCS requirements in TS 3.5.1 as a result of RCS temperatures exceeding the Mode 4 temperature limit.

The licensee's September 29, 2015, letter discussed that the loss of water inventory due to a loss-of-coolant accident (LOCA) would cause a rapid RCS pressure drop due to the water solid (subcooled) condition used to maintain pressure for the tests. The RCS pressure would drop below the low pressure ECCS cut in pressure well before any water level setpoints for ECCS auto initiation are reached with the water level well above the top of active fuel. Additionally, the letter states that the ADS is not necessary to reduce the pressure to below the low pressure ECCS cut in pressure under these test conditions. The application states that only one ECCS injection/spray subsystem required by TS 3.5.2 would be needed to maintain adequate reactor vessel water level post-LOCA. The September 29, 2015, letter further states that the operable emergency injection systems will be sufficient to mitigate a potential accident with HPCI/HPCS and ADS inoperable. The NRC staff determined that GDC 35, for LSCS, and draft GDC 37 and 44, for DNPS and QCNPS, would continue to be satisfied since, in the event of a LOCA, the

system would depressurize to below the low pressure ECCS cut in pressure before the water level reached the top of active fuel and the ECCS injection/spray subsystems required to be operable per TS 3.5.2 would be adequate to keep the core covered due to the low decay heat load conditions present during the tests.

The function of the secondary containment is to contain, dilute, and hold up fission products that may leak from primary containment following a design basis accident. In conjunction with operation of the SGT system and closure of the SCIVs in lines which penetrate the secondary containment, the secondary containment is designed to reduce the activity level of the fission products that are released during certain operations that take place inside primary containment, when primary containment is not required to be operable, or that take place outside primary containment. The secondary containment isolation instrumentation automatically initiates closure of appropriate SCIVs and starts the SGT system.

Under the current TSs, primary containment, secondary containment, and the SGT system are required to be operable in Mode 3 and not required to be operable in Mode 4. Under the proposed LCO, the primary containment would not be required to be operable during the tests when the average reactor coolant temperature is greater than the Mode 4 temperature limit. However, the proposed LCO would require secondary containment, SGT, SCIVs, and certain secondary containment isolation instruments to be operable during the tests. The isolation instruments required to be operable are associated with the following functions: low reactor vessel water level, high radiation in the reactor building exhaust, high radiation on the refueling floor (DNPS and QCNPS only), high radiation in the fuel pool exhaust (LSCS only), and manual initiation (LSCS only). The isolation instruments associated with the high drywell pressure function are not required to be operable for the proposed LCO.

The application states:

Since inservice leakage and hydrostatic testing is performed with a nearly water solid RCS, at low decay heat values, and near MODE 4 conditions, the stored energy in the reactor core is very low. Under these conditions, the potential for failed fuel and a subsequent increase in coolant activity above the LCO 3.4.8, "RCS Specific Activity," limits are minimized. Furthermore, the secondary containment and SGT are required to be operable, in accordance with this Special Operations LCO, and will be capable of mitigating any airborne radioactivity or steam leaks that could occur during the performance of inservice leakage and hydrostatic testing. The required pressure testing conditions provide adequate assurance that the consequences of a steam leak will be conservatively bounded by the consequences of the postulated main steam line break outside of primary containment described in the UFSAR [Section 15.6.4] (References 3, 4, and 5). Therefore, these requirements will conservatively limit radiation releases to the environment.

As discussed above, the NRC staff determined that the ECCS subsystems required to be operable per TS 3.5.2 would be adequate to keep the core covered in the event of a LOCA due to the conditions during the tests, including the low decay heat load. Based on this, the NRC staff agrees with the licensee that the potential for failed fuel and subsequent increase in coolant activity would be low. If the reactor water level is low, the associated instrumentation would isolate secondary containment (close the SCIVs) and actuate the SGT system before any fuel damage could occur. Isolation of secondary containment and actuation of the SGT system would also occur if a high level of radiation is detected by the associated radiation monitoring

instrumentation. The isolation instruments required (including the manual function for LSCS) provides adequate redundancy to ensure that secondary containment is isolated and the SGT system is actuated before any significant radioactive releases to the environment could occur.

Prior to use of the special operation LCO 3.10.8 for the inservice leakage and hydrostatic testing of the RCS, all main steam isolation valves and the primary containment isolation valves connected to RCS should be in their fully closed position, even though the primary containment is inoperable. Therefore, if there is a main steam line break in the secondary containment during use of the LCO, the resulting conditions inside and outside the secondary containment are bounded by the conditions resulting from a large main steam line break inside the secondary containment in Mode 1 described in UFSAR Section 15.6.4 (for all six plants) because the SGTS and secondary containment are operable for all six plants. Based on this, the NRC staff finds the proposed LCO 3.10.8 acceptable to the extent that GDC-16 for LSCS and draft GDC-10 for DNPS and QCNPS would continue to be satisfied.

3.2.2 Evaluation of Remedial Actions and Surveillance Requirements

If one or more requirements of the proposed LCO are not met, the proposed TS specifies the required action to be taken:

- a) Required Action A.1 – Immediately enter the applicable condition of the affected LCO; or
- b) Required Action A.2.1 – Immediately suspend activities that could increase the reactor coolant temperature or pressure; and

Required Action A.2.1 – within 24 hours, reduce the average reactant coolant temperature to less than or equal to the Mode 4 temperature limit (i.e., 212 °F for DNPS and QCNPS, and 200 °F for LSCS).

A note allows for separate condition entry for each requirement of the LCO. In addition, for Required Action A. 1 a note indicates that any required actions to be in Mode 4 include reducing the reactor coolant temperature to less than or equal to the Mode 4 temperature limit.

Required Action A.1 requires entry into the applicable condition of the affected LCO. The affected LCO's are LCO 3.3.6.2 which requires operability of the secondary containment isolation instrumentation functions 1, 3, 4, and 5 (LSCS only) of Table 3.3.6.2-1; LCO 3.6.4.1, which requires operability of secondary containment; LCO 3.6.4.2, which requires operability SCIVs; and LCO 3.6.4.3, which requires operability of the SGT system. If the operability requirements of these LCOs are not satisfied, entry is made into the applicable condition of the LCO, and the specified required actions are to be completed within the specified time frame. This means that the remedial actions taken for inoperable structure, system, or component (SSC) would be the same actions that would be taken if the SSC were to become inoperable during any other mode of applicability of the LCO. For example, if an SCIV were to become inoperable, Condition A of LCO 3.6.4.2 would be entered. The associated required action requires isolation of the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange within 8 hours and verify the affected penetration flow path is isolated once per 31 days. The existing conditions and required actions associated with LCOs 3.3.6.2, 3.6.4.1, 3.6.4.2, and 3.6.4.3 have previously

been reviewed and approved by NRC staff and are not being changed by this amendment. The staff finds that the required actions and completion times continue to be the appropriate actions to be taken in the event of inoperability of secondary containment instrumentation, secondary containment, SCIVs, and SGT system.

The note modifying Required Action A.1 is a clarifying note to specify that one of the requirements for transitioning to Mode 4 is reducing reactor coolant system average temperature to less than or equal to the Mode 4 temperature limit, consistent with the definition of Mode 4 in TS Table 1.1-1.

The alternative to Required Action A.1 is the performance of Required Actions A.2.1 and A.2.2. This alternative can be used if a required SSC is inoperable and there is not an applicable condition in the affected LCO (as referenced in Required Action A.1). Required Action A.2.1 requires suspension of activities that could increase the average reactor coolant temperature or pressure and reducing average reactor coolant temperature to less than or equal to the Mode 4 temperature limit.

These actions are intended to minimize the potential for a radiological release by reducing the energy (pressure and temperature) available in the RCS by placing the plant in Mode 4 conditions as specified in TS Table 1.1-1. These actions are appropriate in the event that secondary containment or the SGT system are inoperable. These actions are also consistent with the approach taken elsewhere in the TS, which is to place the plant in a lower mode of operation when certain SSCs are inoperable. The NRC staff finds that these are the appropriate remedial measures to be taken for this condition.

SR 3.10.8.1 requires performance of the applicable SRs for the required Mode 3 LCOs at the frequency specified for the applicable SRs. This means that the same SRs are performed at the same frequency as specified elsewhere in the TS, and are not being changed. These SRs have previously been reviewed and approved by the NRC staff. The NRC staff finds that these SRs continue to be appropriate to demonstrate the operability of the required equipment.

3.2.3 Technical Conclusion

The NRC staff finds that the proposed LCO 3.10.8 appropriately specifies the minimum requirements necessary for the conditions associated with the inservice leak and hydrostatic testing operation, including any control rod scram time testing performed in conjunction with these tests. As discussed in Section 3.2.1, the ECCS systems required in Mode 4 per TS 3.5.2 would be adequate to keep the core covered in the event of a LOCA due to the conditions during the tests, including the low decay heat load. In addition, the secondary containment, SGT, and related systems required to be operable by the proposed LCO will ensure the consequences of a potential release of radioactive material are bounded by the current UFSAR analysis. As discussed in Section 3.2.3, the proposed TS specifies appropriate remedial measures to be taken when the requirements of the LCO are not met. Therefore, the proposed TS meets the requirements of 10 CFR 50.36(c)(2). Also, as discussed in Section 3.2.3, the staff finds that the appropriate SRs are contained in proposed SR 3.10.8.1 such that the requirements of 10 CFR 50.36(c)(3) are met.

4.0 STATE CONSULTATION

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

5.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes SRs. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (80 FR 17089; March 31, 2015). 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 amendment 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 17, 2015

B. Hanson

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

Sincerely,

/RA/

Blake Purnell, Project Manager
Plant Licensing Branch III-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

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

Enclosures:

1. Amendment No. 248 to DPR-19
2. Amendment No. 241 to DPR-25
3. Amendment No. 219 to NPF-11
4. Amendment No. 205 to NPF-18
5. Amendment No. 261 to DPR-29
6. Amendment No. 256 to DPR-30
7. Safety Evaluation

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