



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

February 16, 2017

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

**SUBJECT: 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 REVISE SURVEILLANCE REQUIREMENT FOR SECONDARY CONTAINMENT ACCESS DOORS (CAC NOS. MF7325–MF7330)**

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 February 3, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16034A542), as supplemented by letters dated July 28 and December 12, 2016 (ADAMS Accession Nos. ML16210A478 and ML16347A424, respectively):

1. Amendment No. 253 to Renewed Facility Operating License No. DPR-19 and Amendment No. 246 to Renewed Facility Operating License No. DPR-25 for the Dresden Nuclear Power Station, Units 2 and 3, respectively;
2. Amendment No. 222 to Renewed Facility Operating License No. NPF-11 and Amendment No. 208 to Renewed Facility Operating License No. NPF-18 for the LaSalle County Station, Units 1 and 2, respectively; and
3. Amendment No. 265 to Renewed Facility Operating License No. DPR-29 and Amendment No. 260 to Renewed Facility Operating License No. DPR-30 for the Quad Cities Nuclear Power Station, Units 1 and 2, respectively.

The amendments revise Surveillance Requirement 3.6.4.1.2 to provide an allowance for brief, inadvertent, simultaneous opening of redundant secondary containment access doors during normal entry and exit conditions.

B. Hanson

- 2 -

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 'B. Purnell', written in a cursive style.

Blake Purnell, Project Manager  
Plant Licensing Branch III  
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. 253 to DPR-19
2. Amendment No. 246 to DPR-25
3. Amendment No. 222 to NPF-11
4. Amendment No. 208 to NPF-18
5. Amendment No. 265 to DPR-29
6. Amendment No. 260 to DPR-30
7. Safety Evaluation

cc w/encls: Distribution via 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. 253  
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 February 3, 2016, as supplemented by letters dated July 28 and December 12, 2016, 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:

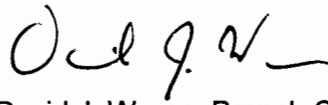
Enclosure 1

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 253, 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 90 days.

FOR THE NUCLEAR REGULATORY COMMISSION



David J. Wrona, Branch 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: February 16, 2017



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. 246  
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 February 3, 2016, as supplemented letters dated July 28 and December 12, 2016, 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:

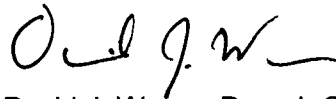
Enclosure 2

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 246, 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 90 days.

FOR THE NUCLEAR REGULATORY COMMISSION



David J. Wrona, Branch 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: February 16, 2017

ATTACHMENT TO LICENSE AMENDMENT NOS. 253 AND 246

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 (TSs), 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  
Page 3

License DPR-25  
Page 4

TSs  
3.6.4.1-2

Insert

License DPR-19  
Page 3

License DPR-25  
Page 4

TSs  
3.6.4.1-2

- (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. 253, 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. 246, 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.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.4.1.1	Verify secondary containment vacuum is $\geq 0.25$ inch of vacuum water gauge.	In accordance with the Surveillance Frequency Control Program
SR 3.6.4.1.2	Verify one secondary containment access door in each access opening is closed, except when the access opening is being used for entry and exit.	In accordance with the Surveillance Frequency Control Program
SR 3.6.4.1.3	Verify the secondary containment can be maintained $\geq 0.25$ inch of vacuum water gauge for 1 hour using one SGT subsystem at a flow rate $\leq 4000$ cfm.	In accordance with the Surveillance Frequency Control Program
SR 3.6.4.1.4	Verify all secondary containment equipment hatches are closed and sealed.	In accordance with the Surveillance Frequency Control Program



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. 222  
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 (the licensee), dated February 3, 2016, as supplemented by letters dated July 28 and December 12, 2016, 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. 222, 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 its date of issuance and shall be implemented within 90 days.

FOR THE NUCLEAR REGULATORY COMMISSION

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

David J. Wrona, Branch 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: February 16, 2017



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. 208  
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 (the licensee), dated February 3, 2016, as supplemented by letters dated July 28 and December 12, 2016, 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. 208, 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 its date of issuance and shall be implemented within 90 days.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in black ink, appearing to read 'D. J. Wrona', with a stylized flourish at the end.

David J. Wrona, Branch 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: February 16, 2017

ATTACHMENT TO LICENSE AMENDMENT NOS. 222 AND 208  
RENEWED FACILITY OPERATING LICENSE NOS. NPF-11 AND NPF-18  
DOCKET NOS. 50-373 AND 50-374

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

Remove

License NPF-11  
Page 3

License NPF-18  
Page 3

TSs  
3.6.4.1-3

Insert

License NPF-11  
Page 3

License NPF-18  
Page 3

TSs  
3.6.4.1-3

- (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. 222  
02/16/17 (2) Technical Specifications and Environmental Protection Plan
- The Technical Specifications contained in Appendix A, as revised through Amendment No. 222, 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
- Am. 189  
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. 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. 208  
02/16/17 (2) Technical Specifications and Environmental Protection Plan
- The Technical Specifications contained in Appendix A, as revised through Amendment No. 208, 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.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.4.1.1	Verify secondary containment vacuum is $\geq 0.25$ inch of vacuum water gauge.	In accordance with the Surveillance Frequency Control Program
SR 3.6.4.1.2	Verify one secondary containment access door in each access opening is closed, except when the access opening is being used for entry and exit.	In accordance with the Surveillance Frequency Control Program
SR 3.6.4.1.3	Verify the secondary containment can be drawn down to $\geq 0.25$ inch of vacuum water gauge in $\leq 900$ seconds using one standby gas treatment (SGT) subsystem.	In accordance with the Surveillance Frequency Control Program
SR 3.6.4.1.4	Verify the secondary containment can be maintained $\geq 0.25$ inch of vacuum water gauge for 1 hour using one SGT subsystem at a flow rate $\leq 4400$ cfm.	In accordance with the Surveillance Frequency Control Program
SR 3.6.4.1.5	Verify all secondary containment equipment hatches are closed and sealed.	In accordance with the Surveillance Frequency Control Program



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. 265  
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 February 3, 2016, as supplemented by letters dated July 28 and December 12, 2016, 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.

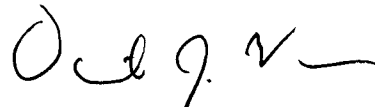
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Renewed Facility Operating License No. DPR-29 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 265, 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 90 days.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in black ink, appearing to read 'D. J. Wrona', with a stylized flourish at the end.

David J. Wrona, Branch 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: February 16, 2017



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. 260  
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 February 3, 2016, as supplemented by letters dated July 28 and December 12, 2016, 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;P
  - 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.

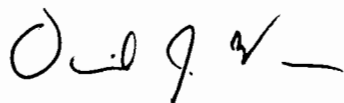
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Renewed Facility Operating License No. DPR-30 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 260, 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 90 days.

FOR THE NUCLEAR REGULATORY COMMISSION



David J. Wrona, Branch 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: February 16, 2017

ATTACHMENT TO LICENSE AMENDMENT NOS. 265 AND 260  
RENEWED FACILITY OPERATING LICENSE NOS. DPR-29 AND DPR-30  
DOCKET NOS. 50-254 AND 50-265

Replace the following page of the Renewed Facility Operating Licenses and Appendix A, Technical Specifications (TSs), 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  
3.6.4.1-2

Insert

License DPR-29  
Page 4

License DPR-30  
Page 4

TSs  
3.6.4.1-2

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 265, 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 plans<sup>1</sup>, 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

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<sup>1</sup> 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. 260, 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 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 plans<sup>1</sup>, 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

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<sup>1</sup> The Training and Qualification Plan and Safeguards Contingency Plan are Appendices to the Security Plan.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.4.1.1	Verify secondary containment vacuum is $\geq 0.10$ inch of vacuum water gauge.	In accordance with the Surveillance Frequency Control Program
SR 3.6.4.1.2	Verify one secondary containment access door in each access opening is closed, except when the access opening is being used for entry and exit.	In accordance with the Surveillance Frequency Control Program
SR 3.6.4.1.3	Verify the secondary containment can be maintained $\geq 0.25$ inch of vacuum water gauge for 1 hour using one SGT subsystem at a flow rate $\leq 4000$ cfm.	In accordance with the Surveillance Frequency Control Program
SR 3.6.4.1.4	Verify all secondary containment equipment hatches are closed and sealed.	In accordance with the Surveillance Frequency Control Program



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO

AMENDMENT NO. 253 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-19,

AMENDMENT NO. 246 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-25,

AMENDMENT NO. 222 TO RENEWED FACILITY OPERATING LICENSE NO. NPF-11,

AMENDMENT NO. 208 TO RENEWED FACILITY OPERATING LICENSE NO. NPF-18,

AMENDMENT NO. 265 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-29,

AMENDMENT NO. 260 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 February 3, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16034A542), as supplemented by letters dated July 28 and December 12, 2016 (ADAMS Accession Nos. ML16210A478 and ML16347A424, respectively), Exelon Generation Company, LLC (Exelon, the licensee) submitted a request to revise the technical specifications (TSs) for Dresden Nuclear Power Station, Units 2 and 3 (DNPS); LaSalle County Station, Units 1 and 2 (LSCS); and Quad Cities Nuclear Power Station, Units 1 and 2 (QCNPS). The proposed change would revise TS Surveillance Requirement (SR) 3.6.4.1.2 for each facility to provide an allowance for brief, inadvertent, simultaneous opening of redundant secondary containment access doors during normal entry and exit conditions.

The July 28 and December 12, 2016, supplemental letters were in response to U.S. Nuclear Regulatory Commission (NRC or Commission) requests for additional information dated June 29 (ADAMS Accession No. ML16172A111) and November 10, 2016 (ADAMS Accession No. ML16308A100), respectively. The supplemental letters 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 March 29, 2016 (81 FR 17505).

## 2.0 REGULATORY EVALUATION

### 2.1 Background

The secondary containment is a structure that completely encloses the primary containment, including components that may contain primary system fluid. The secondary containment serves as the containment during reactor refueling and maintenance operations when the primary containment is open and as an additional barrier when the primary containment is functional. The safety function of the secondary containment is to contain airborne radioactivity that may leak from primary containment following a design-basis accident (DBA), such that the safety-related standby gas treatment (SGT) system can collect and filter radioactive material in the secondary containment atmosphere before release to the environment. This ensures that the control room operators' and offsite doses are within the regulatory limits. There is no redundant train or system that can perform the secondary containment function should the secondary containment be inoperable.

At DNPS and QCNPS both units share a common secondary containment and SGT system. At LSCS each unit has its own secondary containment, but share a common SGT system. The secondary containment boundary is the combination of walls, floor, roof, ducting, doors, hatches, penetrations, and equipment that physically form the secondary containment. A routinely used secondary containment access opening contains at least one inner and one outer door in an airlock configuration. In some cases, secondary containment access openings are shared such that there are multiple inner or outer doors. All secondary containment access doors are normally kept closed except when the access opening is being used for entry and exit of personnel, equipment, or material.

### 2.2 Proposed Change

The limiting condition for operation (LCO) for LSCS TS 3.6.4.1, "Secondary Containment," requires that secondary containment be operable in Modes 1, 2, and 3, during movement of irradiated fuel assemblies in the secondary containment, during core alterations, and during operations with the potential to drain down the reactor vessel. The LCOs for DNPS and QCNPS TS 3.6.4.1 require that secondary containment be operable in Modes 1, 2, and 3, during movement of recently irradiated fuel assemblies in the secondary containment, and during operations with the potential to drain down the reactor vessel. The licensee proposes to change SR 3.6.4.1.2 for each facility, which is one of the SRs required to demonstrate that the secondary containment is operable. Currently, SR 3.6.4.1.2 states:

Verify one secondary containment access door in each access opening is closed.

The application proposes to change SR 3.6.4.1.2, for each facility, to state:

Verify one secondary containment access door in each access opening is closed, except when the access opening is being used for entry and exit.

The purpose of the proposed change is to provide an allowance for brief, inadvertent, simultaneous opening of redundant secondary containment access doors during normal entry and exit conditions.

The licensee's application, as supplemented, also provided revised TS Bases pages to be implemented with the associated TS changes. These pages were provided for information only.

The TS Bases will be revised by the licensee in accordance with the TS Bases Control Program for each facility.

### 2.3 Applicable Regulatory Requirements

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

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: (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 level of equipment required for safe operation of the facility. When LCOs are not met, the licensee shall shut down the reactor or follow any remedial action permitted by the TSs until the LCO can be met. In accordance with 10 CFR 50.36(c)(3), 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 regulations in 10 CFR 50.67, "Accident source term," sets limits for the radiological consequences of a postulated DBA using an alternative source term (AST). The NRC approved a full scope implementation of an AST methodology by amendments dated September 11, 2006, for DNPS and QCNPS (ADAMS Package Accession No. ML062070292), and September 6, 2010, for LSCS (ADAMS Accession No. ML101750625).

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. For each facility, 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, as appropriate. For LSCS, the UFSAR evaluation concludes that LSCS fully satisfies and complies with the GDC. For DNPS and QCNPS, the UFSAR evaluation concludes that the plants fully satisfy the intent of the draft GDC published in July 1967 (ADAMS Accession No. ML043310029). However, the licensee has made changes to DNPS and QCNPS that may have invoked the final GDC. The extent to which the final GDC have been invoked can be found in specific sections of the UFSAR and in other plant-specific design and licensing bases documents for DNPS and QCNPS.

The following GDC and draft GDC are applicable to the NRC staff's review of the proposed license amendments:

- GDC 16, "Containment design," was considered for LSCS insofar as it requires that the reactor containment and associated systems establish an essentially leak-tight barrier against the uncontrolled release of radioactivity to the environment.
- Draft GDC 10, as published in July 1967, was considered for DNPS and QCNPS insofar 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.

- GDC 19, "Control room," was considered for each facility insofar as it requires that adequate radiation protection be provided to permit access and occupancy of the control room under accident conditions, without personnel receiving radiation exposures in excess of 5 roentgen equivalent man (rem) whole body, or its equivalent to any part of the body, for the duration of the accident.

## 2.4 Applicable Guidance

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

Regulatory Guide (RG) 1.183, "Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors," dated July 2000 (ADAMS Accession No. ML003716792). This RG provides guidance for analyzing the radiological consequences of several DBAs to show compliance with 10 CFR 50.67.

NUREG-0800, "Standard Review Plan [SRP] for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR [Light-Water Reactor] Edition." Relevant sections of the SRP used in review of this license amendment request include the following:

- SRP Section 15.0.1, "Radiological Consequence Analyses Using Alternative Source Terms," Revision 0, dated July 2000 (ADAMS Accession No. ML003734190). This SRP section states that the reviewer should evaluate the proposed change against the guidance in RG 1.183.
- SRP Section 16.0, "Technical Specifications," Revision 3, dated March 2010 (ADAMS Accession No. ML100351425). As described therein, as part of the regulatory standardization effort, the NRC staff has prepared Standard Technical Specifications (STS) for each of the light-water reactor nuclear designs. The STS contain guidance for the format and content of TSs that meet the requirements of 10 CFR 50.36. For this review, the NRC staff used NUREG-1433, Revision 4, "Standard Technical Specifications, General Electric BWR/4 Plants" (ADAMS Accession No. ML12104A192), and NUREG-1434, Revision 4, "Standard Technical Specifications, General Electric BWR/6 Plants" (ADAMS Accession No. ML12104A195), for guidance on the TS format.

## 2.5 Other Regulatory Requirements and Guidance

The reporting criteria for licensee event reports is contained in 10 CFR 50.72, "Immediate notification requirements for operating nuclear power reactors," and 10 CFR 50.73, "Licensee event report system." Guidelines that the NRC staff considers acceptable for meeting these requirements are contained NUREG-1022, Revision 3, "Event Report Guidelines: 10 CFR 50.72 and 10 CFR 50.73," dated January 2013 (ADAMS Accession No. ML13032A220), as supplemented on September 2014 (ADAMS Accession No. ML14267A447). Section 3.2.7 of NUREG-1022, Revision 3, discusses the reporting criteria in 10 CFR 50.72(b)(3)(v) and 10 CFR 50.73(a)(2)(v), which relate to events or conditions that could have prevented fulfillment of a safety function. This section states, in part, that there are a limited number of single-train systems that perform a safety functions. For such systems, inoperability of a single train is reportable, even though the plant TSs may allow such a condition to exist for a limited time. This issue, as it relates to reporting the momentary inoperability of secondary containment, is discussed in the NRC letter to Exelon dated January 8, 2015 (ADAMS Accession No. ML14323A682).

### 3.0 TECHNICAL EVALUATION

The NRC staff review evaluated the impact of the proposed change on the secondary containment functional requirements and the DBA analysis. The NRC staff review was limited to the licensee's request to provide an allowance for the brief, inadvertent, simultaneous opening of redundant secondary containment access doors during normal entry and exit conditions. Planned activities that could result in the simultaneous opening of redundant secondary containment access openings, such as maintenance of a secondary containment personnel access door or movement of large equipment through the openings that would take longer than the normal transit time, were considered outside the scope of the staff's review.

The safety function of the secondary containment is to contain airborne radioactivity that may leak from primary containment following a DBA, such that the safety-related SGT system can collect and filter radioactive material in the secondary containment atmosphere before release to the environment. This ensures that the control room operators' and offsite doses are within the regulatory limits.

During normal operation, secondary containment is maintained at a vacuum (i.e., less than atmospheric pressure) by controlling the exhaust air dampers to prevent ground level exfiltration of any airborne radioactive material. The vacuum condition ensures that any leakage is into the building and that any secondary containment atmosphere exiting the facility is via a pathway monitored for airborne contamination. In the event of an accident, secondary containment is isolated, which consists of closing the reactor building ventilation system isolation dampers and shutting down the normal ventilation fans, and the SGT system is activated to minimize leakage of air through the airlocks, pipe and electrical penetrations, and the reactor building walls and roof. Following isolation, the SGT system will maintain and/or restore the vacuum inside secondary containment and will remove radioactive contamination from the reactor building air before discharging it through the plant vent stack. The NRC staff evaluated how these functional requirements would be impacted by the proposed change.

The licensee stated in its application that it is possible for an unintentional, simultaneous opening of an inner and an outer door in a secondary containment access opening. Based on the current wording in SR 3.6.4.1.2, the secondary containment would be considered inoperable when this occurs. In addition, 10 CFR 50.72 and 10 CFR 50.73 require prompt notification and submittal of a licensee event report, regardless of the length of time of inoperability. The licensee further stated that in the vast majority of cases when this has occurred, the secondary containment was restored to operable status in much less than the TS required 4-hour completion time. The proposed change would eliminate the need to declare the secondary containment inoperable for brief, inadvertent, simultaneous opening of redundant secondary containment access door when they are being used for entry and exit. In addition, the change would eliminate the need to submit a licensee event report for this condition.

As discussed in Section 2.3, the NRC previously approved full scope implementation of an AST methodology at LSCS, DNPS, and QCNPS. The AST methodology is used to determine the onsite and offsite radiological doses that result from DBAs. Each facility's UFSAR describes the DBAs and their radiological consequence analysis results. The NRC staff reviewed the impact of modifying each facility's TSs to allow the secondary containment personnel access openings to be open for entry and exit on all DBAs currently analyzed in each respective UFSAR that could have the potential for significant dose consequences. The staff evaluated the proposed change against the design-basis radiological consequence dose analyses for each facility to ensure that the change will not result in an increase in the radiation dose consequences and

that the resulting calculated radiation doses will remain within the design criteria specified in 10 CFR 50.67 and the accident-specific design criteria outlined in RG 1.183.

### 3.1 Engineered and Administrative Controls

In its July 28, 2016, letter, the licensee stated:

Dresden Nuclear Power Station (DNPS), LaSalle County Station (LSCS), and Quad Cities Nuclear Power Station (QCNPS) each have multiple secondary containment access openings that can be used to access the reactor building while the unit is online. Each of these access openings has some form of control, either engineered or administrative, to prevent the simultaneous opening of more than one door in an access opening. The engineered controls consist of interlocks that prevent two doors from being opened simultaneously and door alarms. The administrative controls consist of training and communication to station personnel, door signage, and in some cases procedural requirements to contact other station organizations (e.g., Security, Radiation Protection, or Main Control Room personnel) to obtain permission prior to traversing through a door. The proposed license amendment does not impact the existing engineered and administrative controls.

The July 28, 2016, letter also stated that equipment issues (e.g., interlock failure) will be entered into the plant's corrective action program. The licensee stated:

This ensures that internal reporting, documenting, monitoring, and trending are performed to ensure the adequacy of the controls. In addition, interlock performance at each station is monitored through the Maintenance Rule program.

Based on the information provided in the July 28, 2016, letter, the NRC staff determined that the licensee's process for controlling secondary containment entry and exit remains unaffected by the proposed change to SR 3.6.4.1.2. With the proposed change, if redundant secondary containment access doors were inadvertently opened simultaneously during normal entry and exit the licensee would still perform an evaluation of the event.

### 3.2 Normal Conditions

During the applicable modes and conditions, adequate vacuum must be maintained in secondary containment for it to be considered operable. For each facility, SR 3.6.4.1.1 requires the licensee to periodically verify that the secondary containment vacuum is adequate. This requirement is not affected by the proposed change.

The July 28, 2016, letter states that the licensee performed a review of licensee event reports submitted to the NRC since 2014. The licensee identified two reports for DNPS, five reports for LSCS, and six reports for QCNPS where a set of secondary containment access doors was inadvertently opened simultaneously for a brief period of time. The licensee stated that secondary containment differential pressure was maintained for each of the events identified in these reports. In its December 12, 2016, letter, the licensee states the proposed SR 3.6.4.1.2 wording uses the phrase "being used for entry and exit" to ensure that the time both doors may be open simultaneously is limited to the time it takes to traverse through a door, which is typically less than 10 seconds.



Based on this, the NRC staff has reasonable assurance that during normal conditions (i.e., when secondary containment vacuum is maintained by the normal ventilation system) the functional capability of secondary containment can be maintained during the brief, inadvertent, simultaneous opening of a set of secondary containment access doors. SR 3.6.4.1.1 will continue to ensure that the licensee verifies that adequate vacuum is maintained in secondary containment during normal conditions.

### 3.3 LSCS Accident Conditions

At LSCS, the AST analysis for a loss-of-coolant accident (LOCA) assumes that, at the start of the event, power is lost to the normal ventilation system and secondary containment is at atmospheric pressure. The analysis assumes that it takes the SGT system 15 minutes to drawdown the secondary containment to the required vacuum. Radiological releases into the secondary containment prior to the 15 minute drawdown time are assumed to leak directly to the environment as a ground-level release with no filtration. After the 15 minute drawdown time, radiological releases are assumed to be filtered by the SGT system prior to release to the atmosphere through the plant vent stack.

LSCS SR 3.6.4.1.3 requires verification that the secondary containment can be drawn down to an adequate vacuum in less than 900 seconds (15 minutes) using one SGT subsystem. The licensee's December 12, 2016, letter states that the typical drawdown time using one SGT subsystem is less than 180 seconds. The letter further states that the time that both personnel access doors may be open simultaneously is typically less than 10 seconds. Based on this, the NRC staff determined that sufficient margin exists in the LSCS AST LOCA analysis to ensure that secondary containment can be reestablished during brief, inadvertent, simultaneous opening of inner and outer secondary containment personnel access doors. The NRC staff has reasonable assurance that with the proposed change a failure of a safety system needed to control the release of radioactive material to the environment will not result. The proposed change will not impact the design bases and will not result in an increase in any onsite or offsite doses.

### 3.4 DNPS and QCNPS Accident Conditions

The SGT system is a safety-related system and consist of two redundant trains. DNPS and QCNPS SR 3.6.4.1.3 requires verification that the secondary containment can be maintained at adequate vacuum for 1 hour using just one SGT subsystem. However, unlike LSCS, the DNPS and QCNPS AST analyses do not assume an explicit secondary containment drawdown time. In a letter dated September 15, 2003 (ADAMS Accession No. ML032671358), the licensee provided supplemental information in support of the DNPS and QCNPS AST amendments that stated, in part (Attachment 1, page 11 of 15)<sup>1</sup>:

In the event of a design basis LOCA, secondary containment instrumentation automatically initiates closure of appropriate secondary containment isolation valves and starts the SGT System to limit fission product release. The reactor building is at a negative pressure at the beginning of the event, SGT automatically starts and maintains negative pressure, hence the reactor building

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<sup>1</sup> The licensee's February 3, 2016, application stated that the accident analyses for DNPS, LSCS, and QCNPS assume "the secondary containment is initially at atmospheric pressure." However, the licensee's December 12, 2016, supplement stated that for DNPS and QCNPS this statement in the application was incorrect. In its December 12, 2016, letter, the licensee also confirmed that the information in this quote from the September 15, 2003, letter is correct.

pressure is always negative and no exfiltration will occur in the LOCA accident sequence.

The licensee's December 12, 2016, letter, states, in part:

For a LOCA coincident with a loss of offsite power, the SGT system would not be available until after the diesel generators (DGs) start and achieve the required voltage and frequency. SR 3.8.1.8 for DNPS and QCNPS specify that the DG start time is  $\leq 13$  seconds. This time, coupled with the time needed to initiate the DG start signal and sequence other loads, bounds the time (i.e., typically less than 10 seconds) that redundant secondary containment access doors would be inadvertently simultaneously open. As a result, there would not be any impact on the ability of the SGT system to draw down secondary containment to the TS required vacuum condition. In addition, [the] AST assumes that there is insignificant release of activity for the first two minutes during the coolant activity release phase. The onset of the gap activity release phase is two minutes after the initiation of the accident. This release would then have to be transported from the reactor pressure vessel into primary containment, and then into the secondary containment volume. Therefore, the functional capability of secondary containment will be maintained during accident conditions, without an explicit secondary containment drawdown time, since the timeframes currently assumed in the accident analyses significantly bound the time that both doors in a secondary containment access opening may be open under the proposed change (i.e., typically less than 10 seconds).

The event timing for the DBA analysis (i.e., a LOCA coincident with a loss of offsite power) at DNPS and QCNPS is consistent with RG 1.183, and is not impacted by the proposed change. The assumed time it takes from event initiation until radioactive material reaches secondary containment (i.e., minutes) bounds the time that both doors in a secondary containment access opening may be open simultaneously (i.e., about 10 seconds). In addition, the licensee's analysis of event reports indicates that the differential pressure can be maintained during the brief, simultaneous opening of redundant secondary containment access doors.

Based on this, the NRC staff determined that sufficient margin exists in the DBA analysis for DNPS and QCNPS to ensure that secondary containment can be reestablished during brief, inadvertent, simultaneous opening of inner and outer secondary containment personnel access doors. SR 3.6.4.1.1 will continue to ensure that the licensee verifies that adequate vacuum is maintained in secondary containment prior to an accident. SR 3.6.4.1.3 will continue to ensure that secondary containment can be maintained at an adequate vacuum for accident conditions. The staff has reasonable assurance that with the proposed change a failure of a safety system needed to control the release of radioactive material to the environment will not result. The proposed change will not impact the design bases and will not result in an increase in any onsite or offsite doses.

### 3.5 Evaluation of TS Changes

The NRC staff reviewed the proposed changes to the TSs by considering whether the proposed SRs would continue to meet the requirements of 10 CFR 50.36. The regulations do not specify the format or content of individual specifications. For each facility, the proposed changes to SR 3.6.4.1.2 would add an exception to allow both doors in a secondary containment access opening to be opened simultaneously for normal entry or exit. This change clarifies the

applicability of the requirement, but does not change the method of verifying secondary containment integrity. The NRC staff determined that the proposed SR would continue to meet the requirements in 10 CFR 50.36(c)(3), which specifies that SRs are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, facility operation will be within safety limits, and the LCOs will be met.

The TSs for DNPS, LCSC, and QCNPS are based on the improved STS. The NRC staff reviewed the format and content of the corresponding TSs in NUREG-1433, Revision 4, and NUREG-1434, Revision 4, to determine if the proposed changes were consistent with the format and content of the NUREGs. The NRC staff found that the proposed changes were consistent with the format of NUREG-1433 and NUREG-1434 and the content of NUREG-1434. The corresponding TS in NUREG-1434 has a similar SR to the proposed revised SRs for each facility.

### 3.6 Technical Conclusion

Based on evaluation above, the NRC staff concludes that the proposed changes are acceptable. The staff has reasonable assurance that with the proposed changes the functional capability of secondary containment for each facility will be maintained. In addition, the NRC staff finds that the proposed changes do not affect the current radiological consequence analyses at DNPS, LSCS, and QCNPS.

### 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 (81 FR 17505; March 29, 2016). 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 of issuance: February 16, 2017.

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 REVISE SURVEILLANCE REQUIREMENT FOR  
SECONDARY CONTAINMENT ACCESS DOORS (CAC NOS. MF7325–MF7330) DATED:

Amendment Nos. 253/246; 222/208; 265/260

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**ADAMS Accession No: ML17037D212**

**\*by memo \*\*by email**

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