

EXELON GENERATION COMPANY, LLC

DOCKET NO. 50-304

ZION NUCLEAR POWER STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 172  
License No. DPR-48

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 January 25, 2008, and supplemented on March 18, 2008, March 28, 2008, April 1, 2008, September 25, 2008, October 23, 2008, and February 4, 2009, including clarifying E-mails on March 14, 2008, May 16, 2008, and July 9, 2008, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, Facility Operating License No. DPR-48 is amended as follows:

The top line of the heading of the license is hereby amended to read as follows:  
"ZionSolutions, LLC."

The footnote to Paragraph 1.A. is hereby amended to read as follows: "The Nuclear Regulatory Commission approved the transfer of the license from Exelon Generation Company, LLC to ZionSolutions, LLC on \_\_\_\_\_, 2009."

Paragraph 1.E. is hereby amended to read as follows: "ZionSolutions, LLC is technically and financially qualified to engage in the activities authorized by this operating license in accordance with the rules and regulations of the Commission;"

Paragraph 1.F. is hereby amended to read as follows: "ZionSolutions, LLC has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;"

Paragraph 2. is hereby amended to read as follows: "Facility Operating License No. DPR-48 is hereby issued to ZionSolutions, LLC (ZS or the licensee) to read as follows:"

Paragraph 2.A. is hereby amended to read as follows: "This license applies to the Zion Nuclear Power Station, Unit 2, a pressurized, light water moderated and cooled reactor and associated electric generating equipment (the facility). The facility is located on the applicant's 250 acre site on the west shore of Lake Michigan in Zion, Lake County, Illinois, approximately midway between Milwaukee, Wisconsin and Chicago, Illinois, as described in the Defueled Safety Analysis Report, as supplemented and amended."

Paragraph 2.B. is hereby amended to read as follows: "Subject to the conditions and requirements incorporated herein, the Commission hereby licenses ZS:"

Paragraph 2.B.(2) is hereby amended to read as follows: "Pursuant to the Act and 10 CFR Part 70, "Special Nuclear Material," to receive, possess, and use at any time in connection with the operation of the facility, that amount of uranium enriched in the isotope U-235 in accordance with the limitations for storage and amounts required for reactor operation as described in the Zion Station Defueled Safety Analysis Report as supplemented and amended, or as described in any amendment to this license;"

Paragraph 2.C.(12) is hereby amended to read as follows: "ZS shall provide the Director of the Office of Nuclear Reactor Regulation a copy of any application, at the time it is filed, to transfer (excluding grants of security interests or liens) from ZS to its direct or indirect parent, or to any other affiliated company, facilities for the production, transmission, or distribution of electric energy having a depreciated book value exceeding ten percent (10%) of ZS's consolidated net utility plant, as recorded on ZS's books of account."

Paragraph 2.C.(13) is hereby deleted.

Paragraph 2.C.(14) is hereby amended to read as follows: "The decommissioning trust agreement for Zion, Unit 2, at the time the transfer of the unit to ZS is effected and thereafter, is subject to the following:

Paragraph 2.C.(14)(b) is hereby amended to read as follows: "With respect to the decommissioning trust fund, investments in the securities of other obligations of EnergySolutions, LLC or affiliates thereof, or their successors or assigns are prohibited.

Except for investments tied to market indexes or other non-nuclear sector mutual funds, investment in any entity owning one or more nuclear power plants are prohibited.”

Paragraph 2.C.(15) is hereby amended to read as follows: “ZS shall take all necessary steps to ensure that the decommissioning trust is maintained in accordance with the application for approval of the transfer of the Zion, Unit 2, license and the requirements of the Order approving the transfer, and consistent with the safety evaluation supporting the Order.”

3. 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. DPR-48 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B as revised through Amendment No. 172, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

4. This license amendment is effective at the time the proposed direct license transfer is completed and shall be implemented within 30 days from that date.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Keith I. McConnell, Deputy Director  
Decommissioning and Uranium Recovery  
Licensing Directorate  
Division of Waste Management  
and Environmental Protection  
Office of Federal and State Materials  
and Environmental Management Programs

Attachment:

1. Changes to the License
2. Technical Specifications

Date of Issuance:

ATTACHMENT 1 TO LICENSE AMENDMENT NO. 172

FACILITY OPERATING LICENSE NO DPR-48

DOCKET NO. 50-304

Replace the following pages of the Facility Operating License No. DPR-48 with the enclosed revised pages.

Remove

License Page 1  
License Page 2  
License Page 3  
License Page 5  
License Page 6

Insert

License Page 1  
License Page 2  
License Page 3  
License Page 5  
License Page 6

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ZIONSOLUTIONS, LLC

(Zion Nuclear Power Station, Unit 2)

DOCKET NO. 50-304

FACILITY OPERATING LICENSE

License No. DPR-48

1. The Atomic Energy Commission (the Commission) having found that:
  - A. The application for license filed by the applicant\* 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 and all required notifications to other agencies or bodies have been duly made;
  - B. Construction of the Zion Nuclear Power Station, Unit 2 (the facility) has been substantially completed in conformity with Provisional Construction Permit No. CPPR-59 and the application, as amended, the provisions of the Act and the rules and regulation of the Commission;
  - C. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
  - D. There is reasonable assurance (i) that the activities authorized by this operating license can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the rules and regulations of the Commission;

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\* The Nuclear Regulatory Commission approved the transfer of the license from Exelon Generation Company, LLC to ZionSolutions, LLC on \_\_\_\_\_, 2009.

- E. Zion*Solutions*, LLC is technically and financially qualified to engage in the activities authorized by this operating license in accordance with the rules and regulations of the Commission;
  - F. Zion*Solutions*, LLC has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;
  - G. The issuance of this license will not be inimical to the common defense and security or to the health and safety of the public;
  - H. Operation of the facility during the period of this license in accordance with its terms and conditions will provide adequate protection of the environment during the period of this license;
  - I. After weighing the environmental, economic, technical and other benefits of the facility against environmental costs and considering available alternatives, the issuance of Facility Operating License No. DPR-48 (subject to the conditions for protection of the environment set forth herein) is in accordance with 10 CFR Part 50, Appendix D, of the Commission's regulations and all applicable requirements of said Appendix D have been satisfied;
  - J. The receipt, possession, and use of source, byproduct and special nuclear material as authorized by this license will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40 and 70, including 10 CFR Sections 30.33, 70.23 and 70.31.
2. Facility Operating License No. DPR-48 is hereby issued to Zion*Solutions*, LLC (ZS or the licensee) to read as follows:
- A. This license applies to the Zion Nuclear Power Station, Unit 2, a pressurized, light water moderated and cooled reactor and associated electric generating equipment (the facility). The facility is located on the applicant's 250 acre site on the west shore of Lake Michigan in Zion, Lake County, Illinois, approximately midway between Milwaukee, Wisconsin and Chicago, Illinois, as described in the Final Safety Analysis Report, as supplemented and amended.

B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses ZS:

- (1) Pursuant to Section 104b of the Atomic Energy Act of 1954, as amended, and 10 CFR Part 50, "Licensing of Production and Utilization Facilities," to possess, use, and operate the facility as a utilization facility at the designated location;
- (2) Pursuant to the Act and 10 CFR Part 70, "Special Nuclear Material," to receive, possess, and use at any time in connection with the operation of the facility, that amount of uranium enriched in the isotope U-235 in accordance with the limitations for storage and amounts required for reactor operation as described in the Zion Station Final Safety Analysis Report as supplemented and amended, or as described in any amendment to this license;
- (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 instrumentation calibration or associated with radioactive apparatus or components;
- (5) Pursuant to the Act and 10 CFR Parts 30 and 70 to receive, possess, but not separate, such byproduct and special nuclear material as may be produced by the operation of the facility.

- (a) Deleted.
  - (b) Deleted.
  - (c) Deleted 1-15-81; Am. 58.
  - (d) Deleted 1-15-81; Am. 58.
  - (e) Deleted 1-15-81; Am. 58.
- (8) Deleted.
- (9) Deleted.
- (10) Deleted.
- (11) Deleted.
- (12) ZS shall provide the Director of the Office of Nuclear Reactor Regulation a copy of any application, at the time it is filed, to transfer (excluding grants of security interests or liens) from ZS to its direct or indirect parent, or to any other affiliated company, facilities for the production, transmission, or distribution of electric energy having a depreciated book value exceeding ten percent (10%) of ZS's consolidated net utility plant, as recorded on ZS's books of account.
- (13) Deleted.
- (14) The decommissioning trust agreement for Zion, Unit 2, at the time the transfer of the unit to ZS is effected and thereafter, is subject to the following:
- (a) The decommissioning trust agreement must be in a form acceptable to the NRC.
  - (b) With respect to the decommissioning trust fund, investments in the securities or other obligations of EnergySolutions, LLC or affiliates thereof, or their successors or assigns are prohibited. Except for investments tied to market indexes or other non-nuclear sector mutual funds, investment in any entity owning one or more nuclear power plants are prohibited.

- (c) The decommissioning trust agreement for Zion, Unit 2, must provide that no disbursements or payments from the trust shall be made by the trustee unless the trustee has first given the Director of the Office of Nuclear Reactor Regulation 30 days prior written notice of payment. The decommissioning trust agreement shall further contain a provision that no disbursements or payments from the trust shall be made if the trustee receives prior written notice of objection from the NRC.
  - (d) The decommissioning trust agreement must provide that the agreement cannot be amended in any material respect without 30 days prior written notification to the Director of the Office of Nuclear Reactor Regulation.
  - (e) The appropriate section of the decommissioning trust agreement shall state that the trustee, investment advisor, or anyone else directing the investments made in the trust shall adhere to a "prudent investor" standard, as specified in 18 CFR 35.32(a)(3) of the Federal Energy Regulatory Commission's regulations.
- (15) ZS shall take all necessary steps to ensure that the decommissioning trust is maintained in accordance with the application for approval of the transfer of the Zion, Unit 2, license and the requirements of the Order approving the transfer, and consistent with the safety evaluation supporting the Order.
- 3. This amended license is issued without prejudice to subsequent licensing action which may be taken by the Commission.
  - 4. This license is effective as of the date of issuance and shall expire at midnight on November 14, 2013

FOR THE ATOMIC ENERGY COMMISSION

Original Signed by Roger S. Boyd

A. Giambusso, Deputy Director  
for Reactor Projects  
Directorate of Licensing

Date of Issuance: November 14, 1973

Amendment No. 172

ATTACHMENT 2 TO LICENSE AMENDMENT NOS. 185 AND 172

FACILITY OPERATING LICENSE NOS DPR-39 AND DPR-48

DOCKET NOS. 50-295 AND 50-304

Revise the Appendix A Technical Specification by removing the pages identified below and inserting the attached replacement pages. The revised pages are identified by amendment numbers.

Remove Page

5-2  
5-20

Insert Page

5-2  
5-20

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5.0 ADMINISTRATIVE CONTROLS

5.2 Organization

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5.2.1 General Organizational Requirements

Onsite and offsite organizations shall be established for station and corporate management, respectively. The onsite and offsite organizations shall include the positions for activities affecting the safe storage and handling of nuclear fuel.

- a. Lines of authority, responsibility, and communication shall be established and defined for the highest management levels through intermediate levels to and including all operating organization positions. These relationships shall be documented and updated, as appropriate, in the form of organization charts, functional descriptions of departmental responsibilities and relationships, and job descriptions for key personnel positions, or in equivalent forms of documentation. These requirements shall be documented in the Quality Assurance Manual or a site specific quality assurance program description incorporated directly or by reference in the DSAR.
- b. The Decommissioning Plant Manager shall be responsible for overall plant safety and shall have control over those onsite activities necessary for safe storage and handling of nuclear fuel.
- c. The President, *ZionSolutions*, shall have corporate responsibility for the safe handling and storage of nuclear fuel and shall take any measures needed to ensure acceptable performance of the staff in operating, maintaining, and providing technical support to the plant to ensure the safe handling and storage of nuclear fuel.
- d. The individuals who train the Certified Fuel Handlers, and those who carry out health physics and quality assurance functions may report to an appropriate onsite manager; however, they shall have sufficient organizational freedom to ensure their ability to perform their assigned functions.

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5.9 Reviews

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5.9.2 Station Review Committee (SRC)

The SRC is responsible for reviewing and advising the Decommissioning Plant Manager on matters related to the safe storage of nuclear fuel. The review function is independent of line organization responsibilities.

- a. The SRC shall include a minimum of five members. Alternates may be substituted for regular members. The licensee shall designate in writing the chairman, the members, and alternates for the SRC.
- b. The SRC shall collectively have experience and knowledge in the following functional areas:
  1. Fuel handling and storage (including the potential for criticality),
  2. Chemistry and radiochemistry
  3. Engineering
  4. Radiation protection, and
  5. Regulatory assurance.
- c. The SRC shall hold at least one meeting per quarter.
- d. A quorum shall consist of three regular members or their duly appointed alternates. Those members representing the line organizations responsible for the operation and maintenance of the facility shall not constitute a majority of the quorum. At least one member of the quorum shall be the chairman or the chairman's designated alternate.
- e. As a minimum, the SRC shall perform the following functions:
  1. Advise the Decommissioning Plant Manager on all matters related to safe storage of nuclear fuel; and
  2. Notify the responsible President, *ZionSolutions*, of any safety significant disagreement between the SRC and the Decommissioning Plant Manager within 24 hours.

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