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

June 16, 2011

Mr. Michael J. Pacilio
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: OYSTER CREEK NUCLEAR GENERATING STATION - ISSUANCE OF AMENDMENT RE: ELIMINATION OF DAILY TESTING OF AN OPERABLE EMERGENCY DIESEL GENERATOR (TAC NO. ME4141)

Dear Mr. Pacilio:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 278 to Renewed Facility Operating License No. DPR-16 for the Oyster Creek Nuclear Generating Station (Oyster Creek), in response to your application dated June 25, 2010, as supplemented by letters dated October 18, 2010, December 1, 2010, March 9, 2011, and May 16, 2011. The amendment revises the actions required by Oyster Creek Technical Specifications in the event of an inoperable emergency diesel generator.

A copy of our Safety Evaluation is enclosed and a Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

G. Edward Miller, Project Manager
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-219

Enclosures:
1. Amendment No. 278 to Renewed DPR-16
2. Safety Evaluation

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

EXELON GENERATION COMPANY, LLC

DOCKET NO. 50-219

OYSTER CREEK NUCLEAR GENERATING STATION

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 278
Renewed License No. DPR-16

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Exelon Generation Company, LLC, dated June 25, 2010, as supplemented by letters dated October 18, 2010, December 1, 2010, March 9, 2011, and May 16, 2011, 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-16 is hereby amended to read as follows:

   (2) Technical Specifications

   The Technical Specifications contained in Appendix A, as revised through Amendment No. 278, are hereby incorporated in the license. Exelon Generation Company shall operate the facility in accordance with the Technical Specifications.

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

FOR THE NUCLEAR REGULATORY COMMISSION

Harold K. Chernoff, Chief
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to the License
and Technical Specifications

Date of Issuance: June 16, 2011

ATTACHMENT TO LICENSE AMENDMENT NO. 278

RENEWED FACILITY OPERATING LICENSE NO. DPR-16

DOCKET NO. 50-219

Replace the following page of the Facility Operating License with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Remove	Insert
Page 3	Page 3

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

Remove	Insert
3.7-2	3.7-2
- -	3.7-2a
3.7-3	3.7-3

(3) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use at any time any byproduct, source, or 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 materials without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and

(5) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to possess, but not separate such byproduct, source, or special nuclear materials as may be produced by the operation of the facility.

C. This license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

Exelon Generation Company is authorized to operate the facility at steady-state power levels not in excess of 1930 megawatts (thermal) (100 percent rated power) in accordance with the conditions specified herein.

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 278 are hereby incorporated in the license. Exelon Generation Company shall operate the facility in accordance with the Technical Specifications.

(3) Fire Protection

Exelon Generation Company 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 Report dated March 3, 1978, and supplements thereto, subject to the following provision:

The licensee may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

4. Station batteries B and C and an associated battery charger are OPERABLE. Switchgear control power for 4160 volt bus 1D and 460 volt buses 1B2 and 1B3 is provided by 125 VDC Distribution Center DC-B. Switchgear control power for 4160 volt bus 1C and 460 volt buses 1A2 and 1A3 is provided by 125 VDC Distribution Center DC-C.

5. Bus tie breakers ED and EC are in the open position.

B. The reactor shall be PLACED IN the COLD SHUTDOWN CONDITION if the availability of power falls below that required by Specification A above, except that

1. The reactor may remain in operation for a period not to exceed 7 days if a startup transformer is out of service. None of the engineered safety feature equipment fed by the remaining transformer may be out of service.

2. The reactor may remain in operation for a period not to exceed 7 days if 125 VDC Motor Control Center DC-2 is out of service, provided the requirements of Specification 3.8 are met.

3. The reactor may remain in operation provided the requirements of Specification 3.7.D are met.

C. Standby Diesel Generators

1. The reactor shall not be made critical unless both diesel generators are operable and capable of feeding their designated 4160 volt buses.

2. If one diesel generator becomes inoperable during power operation:

a. Repairs shall be initiated immediately.

b. The reactor may remain in operation for a period not to exceed 7 days.

c. During the diesel generator out-of-service period none of the engineered safety features normally fed by the operational diesel generator may be out of service or the reactor shall be placed in the cold shutdown condition.

d. Perform the following within 24 hours:

1. Verify the remaining diesel generator is OPERABLE and not subject to common cause failure,

OR

2. Operate the remaining OPERABLE diesel generator at least one hour at greater than 80% rated load.

C. Standby Diesel Generators (Continued)

3. If both diesel generators become inoperable during power operation, the reactor shall be placed in the cold shutdown condition.

4. For the diesel generators to be considered operable:

A) There shall be a minimum of 14,000 gallons of diesel fuel in the standby diesel generator fuel tank,

OR

B) To facilitate inspection, repair, or replacement of equipment which would require full or partial draining of the standby diesel generator fuel tank, the following conditions must be met:

1) There shall be a minimum of 14,000 gallons of fuel oil contained in temporary tanker trucks, connected and aligned to the diesel generator fill station.

-AND-

2) The reactor cavity shall be flooded above elevation 117 feet with the spent fuel pool gates removed, or all reactor fuel shall be contained in the spent fuel pool with spent fuel pool gates installed.

AND

3) The plant shall be placed in a configuration in which the core spray system is not required to be OPERABLE.

D. Station Batteries and Associated Battery Chargers

1. With one required station battery B or C charger inoperable:

   a. Restore associated station battery terminal voltage to greater than or equal to the minimum established float voltage within 2 hours,

   b. Verify affected station battery float current ≤ 2 amps once per 12 hours, and

   c. Restore station battery charger to OPERABLE status within 7 days.

2. With one or more station B and C batteries inoperable due to:

   a. One station battery B or C having one or more battery cells float voltage < 2.07 volts, perform 4.7.C.1.a and 4.7.C.1.b for the affected battery within 2 hours and restore affected cell(s) voltage ≥ 2.07 volts within 24 hours.

   b. One station battery B or C float current > 2 amps, perform 4.7.C.1.a for the affected battery within 2 hours and restore affected battery float current to within limits within 12 hours.

   c. One station battery B or C having one or more cells electrolyte level less than minimum established design limits, if electrolyte level was below the top of the plates restore electrolyte level to above top of plates within 8 hours and verify no evidence of leakage(*) within 12 hours. In all cases, restore electrolyte level to greater than or equal to minimum established design limits within 31 days.

   d. One station battery B or C having pilot cell electrolyte temperature less than minimum established design limits, restore battery pilot cell temperature to greater than or equal to minimum established design limits within 12 hours.

(*) If electrolyte level was below the top of the plates, the verification that there is no evidence of leakage is required to be completed regardless of when electrolyte level is restored.

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 278 TO RENEWED FACILITY

OPERATING LICENSE NO. DPR-16

EXELON GENERATION COMPANY, LLC

OYSTER CREEK NUCLEAR GENERATING STATION

DOCKET NO. 50-219

1.0 INTRODUCTION

By application dated June 25, 2010[1], and supplemented by letters dated October 18, 2010, December 1, 2010, March 9, 2011, and May 16, 2011[2], Exelon Generation Company, LLC (the licensee) requested an amendment to Facility Operating License No. DPR-16 for Oyster Creek Nuclear Generating Station (OCNGS). The supplements contained clarifying information, did not expand the scope of the proposed amendment, and did not change the NRC staff's initial proposed finding of no significant hazards consideration, as published in the *Federal Register* on January 11, 2011 (76 FR 1647).

The proposed amendment revises the Oyster Creek Technical Specifications Section 3.7.C.2 by replacing the requirement to operate the remaining emergency diesel generator (EDG) on a daily basis when the other EDG is declared inoperable. The requirement would be replaced with a surveillance requirement to either operate the remaining EDG or determine the other EDG is not inoperable due to common cause failure.

2.0 REGULATORY EVALUATION

The U.S. Nuclear Regulatory Commission (NRC) staff applied the following regulatory requirements and guidance documents for review of the license amendment request (LAR):

Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50.36, paragraph (c)(2) which states, "When a limiting condition for operation of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the technical specifications until the condition can be met."

As stated in 10 CFR 50.36(c)(3), "Surveillance requirements 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 limiting conditions for operation will be met."

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[1] Agencywide Documents Access and Management System (ADAMS) Accession No. ML101790064
[2] ADAMS Accession Nos. ML102920448, ML103360147, ML110680504 and ML111360216, respectively

Generic Letter (GL) 84-15, "Proposed Staff Actions to Improve and Maintain Diesel Generator Reliability," discusses the NRC staff's determination that there is a need to ensure EDG reliability because of the critical role EDGs play in mitigating various transients and postulated events following a loss of offsite power. The NRC staff stated in GL 84-15 that reducing the frequency of cold fast-start surveillance testing on EDGs will help improve their reliability.

GL 94-01, "Removal of Accelerated Testing and Special Reporting Requirements for Emergency Diesel Generators," was issued to inform licensees that they may request a license amendment to remove accelerated testing requirements for EDGs from their TSs. GL 94-01 also discusses the NRC staff's expectation that the licensee would establish performance criteria to determine EDG reliability as well as perform appropriate root cause determination and corrective action following a single maintenance-preventable failure.

NUREG-1366, "Improvements to Technical Specification Surveillance Requirements," discusses the deletion of certain surveillance requirements (SRs) within the licensee's TSs in order to improve equipment reliability.

3.0 TECHNICAL EVALUATION

The OCNGS has two separate and independent EDGs as part of the onsite standby power supplies for safety-related systems. The operability of the EDGs is verified by routine surveillance testing specified in SRs TS 4.7.A. If one EDG becomes inoperable, TS Section 3.7.C.2 requires the other EDG to be tested at least one hour every 24 hours at greater than 80% rated load. The purpose of testing is to verify that the other EDG is operable.

The existing wording of TS Section 3.7.C.2 states:

> If one diesel generator becomes inoperable during power operation, repairs shall be initiated immediately and the other diesel shall be operated at least one hour every 24 hours at greater than 80% rated load until repairs are completed. The reactor may remain in operation for a period not to exceed 7 days if a diesel generator is out of service. During the repair period none of the engineered safety features normally fed by the operational diesel generator may be out of service or the reactor shall be placed in the cold shutdown condition. If a diesel is made inoperable for biennial inspection, the testing and engineered safety feature requirements described above must be met.

The licensee has proposed the following wording of TS Section 3.7.C.2, based on its LAR dated June 25, 2010, letter dated October 18, 2010 (in which item d of the proposed TS Section 3.7.C.2 was revised in response to the staff's request for additional information), letter dated March 9, 2011 (in which item d of the proposed TS Section 3.7.C.2 was revised to capitalize the word "OPERABLE" in keeping consistent with the TS conversions for capitalization of TS-defined terms), and letter dated May 16, 2011 (in which item d of the proposed TS Section 3.7.C.2 was improved to eliminate the possibility of misinterpreting the definition of EDG OPERABILITY):

If one diesel generator becomes inoperable during power operation:

a. Repairs shall be initiated immediately.

b. The reactor may remain in operation for a period not to exceed 7 days.

c. During the diesel generator out-of-service period none of the engineered safety features normally fed by the operational diesel generator may be out of service or the reactor shall be placed in the cold shutdown condition.

d. Perform the following within 24 hours:

1. Verify the remaining diesel generator is OPERABLE and not subject to common cause failure,

OR

2. Operating the remaining OPERABLE diesel generator at least one hour at greater than 80% rated load.

The main differences between the existing and proposed revised TS wording are: (1) the existing TS require the remaining EDG to be operated at least one hour every 24 hours at greater than 80% load, whereas the proposed revised TS would require the remaining EDG to be tested only once at greater than 80% load; or (2) determining the remaining EDG is not inoperable due to common cause failure within 24 hours.

The proposed changes would eliminate the requirement for EDG testing if the inoperability is not due to a common cause failure and would reduce the frequency of testing if common cause failure could not be ruled out. As discussed in GL 84-15, GL 94-01, and NUREG-1366, reducing frequency of testing of the EDG has a positive effect on its reliability. This reliability benefit must be balanced with the need to ensure that the EDG is capable of performing a when needed. To balance these factors, the required actions should provide confidence that the remaining EDG is operable and require these actions to be completed within an appropriate time frame.

The Surveillance Requirements (SRs) contained in Section 4.7 of the Oyster Creek TSs are used to verify the operability of the Oyster Creek EDGs on a periodic basis. If the licensee is able to demonstrate that the cause of the failure in one EDG does not have common cause applicability to the other, the previous satisfactory performances of the SRs on the remaining EDG provide confidence in its ability to perform its function.

As an alternative, the licensee can verify operability of the remaining EDG by operating it for one hour at greater than 80% rated load. This verification provides confidence in its ability to perform its function. This test is equivalent to the existing required action to operate the remaining EDG, however it only needs to be performed once during the 7-day allowed outage time rather than the current requirement of once per day. The NRC staff finds that this would appropriately verify the operability of the remaining EDG while eliminating unnecessary additional testing during the remaining 7 days.

The licensee has proposed a 24 hour time frame for completing the actions described above. This is consistent with GL 84-15, where the NRC staff found this time frame to be acceptable.

In GL 94-01, the NRC staff provided its expectation that licensees seeking amendments to reduce the frequency of EDG testing would establish performance criteria for monitoring reliability. The licensee has already implemented a maintenance program for monitoring and maintaining EDG reliability in accordance with 10 CFR 50.65, "Requirements for monitoring the effectiveness of maintenance at nuclear power plants," and it is consistent with Regulatory Guide 1.160, "Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." The NRC staff finds that this adequately addresses the NRC staff expectation in GL 94-01.

The proposed change would also delete the wording, "If a diesel is made inoperable for biennial inspection, the testing and engineered safety feature requirements described above must be met." The actions required by this TS in response to an inoperable EDG do not differentiate the reason for the inoperability. The TS would require the actions be taken regardless of whether the inoperability was due to biennial inspection or any other reason. Therefore, this statement is not necessary and its deletion is acceptable.

The NRC staff has reviewed the proposed changes to TS 3.7.C.2 and finds that they would continue to require appropriate actions in the event of an inoperable EDG while improving EDG reliability. Therefore, the proposed changes meet the requirements of 10 CFR 50.36 and are acceptable.

4.0 STATE CONSULTATION

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

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendment involves 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 amendment involves no significant hazards consideration, and there has been no public comment on such finding (76 FR 1647). Accordingly, the amendment meets 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 amendment.

6.0 CONCLUSION

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

Principal Contributor: V. Goel
J. Whited

Date: June 16, 2011

June 16, 2011

Mr. Michael J. Pacilio
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: OYSTER CREEK NUCLEAR GENERATING STATION - ISSUANCE OF AMENDMENT RE: ELIMINATION OF DAILY TESTING OF AN OPERABLE EMERGENCY DIESEL GENERATOR (TAC NO. ME4141)

Dear Mr. Pacilio:

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Sincerely,
/ra/
G. Edward Miller, Project Manager
Plant Licensing Branch I-2
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Docket No. 50-219

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