

May 30, 2008

Mr. Charles G. Pardee
Chief Nuclear Officer
AmerGen Energy Company, LLC
200 Exelon Way
Kennett Square, PA 19348

SUBJECT: OYSTER CREEK NUCLEAR GENERATING STATION – ISSUANCE OF
AMENDMENT RE: PRIMARY CONTAINMENT OXYGEN CONCENTRATION
(TAC NO. MD7413)

Dear Mr. Pardee:

The Commission has issued the enclosed Amendment No. 266 to Facility Operating License (FOL) No. DPR-16 for the Oyster Creek Nuclear Generating Station (Oyster Creek), in response to your application dated May 16, 2007.

The amendment revises the Oyster Creek Technical Specifications (TSs) 3.5.A.6, "Primary Containment." Specifically, the amendment revises the actions taken and applicability of the requirement to inert the primary containment atmosphere to less than 4 percent oxygen (O₂) concentration. Additionally, the amendment introduces definitions for thermal power and rated thermal power. Corresponding changes throughout the TSs incorporate these definitions.

A copy of the related Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

/ra/

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. 266 to DPF-16
2. Safety Evaluation

cc w/encls: See next page

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Division of Operating Reactor Licensing
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Docket No. 50-219

Enclosures:

1. Amendment No. 266 to DPF-19
2. Safety Evaluation

cc w/encls: See next page

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Amendment Accession Number: ML081230328 TS Pages Accession Number: ML081230346

OFFICE	LPLI-2/PM	LPLI-2/LA	DSS/SCVB/BC	OGC	LPLI-2/BC
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DATE	5/29/08	5/30/08	5/23/08	5/20/08	5/30/08

OFFICIAL RECORD COPY

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AMERGEN ENERGY COMPANY, LLC

DOCKET NO. 50-219

OYSTER CREEK NUCLEAR GENERATING STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 266
License No. DPR-16

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment filed by AmerGen Energy Company, LLC (the licensee), dated May 16, 2007, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act and the rules and regulations of the Commission;
 - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-16 is hereby amended to read as follows:

- (2) Technical Specifications

- The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 266, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

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

FOR THE NUCLEAR REGULATORY COMMISSION

/ra/

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: May 30, 2008

ATTACHMENT TO LICENSE AMENDMENT NO. 266FACILITY OPERATING LICENSE NO. DPR-16DOCKET NO. 50-219

Replace the following page of Facility Operating License No. DPR-16 with the attached revised page as indicated. The revised page is identified by amendment number and contains marginal lines indicating the area of change.

Remove

3

Insert

3

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

Remove

ii

1.0-6

--

2.1-1

2.3-1

3.1-17

3.3-3a

3.5-4

--

4.2-1

4.6-1

Insert

ii

1.0-6

1.0-9

2.1-1

2.3-1

3.1-17

3.3-3a

3.5-4

3.5-4a

4.2-1

4.6-1

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 266 TO FACILITY OPERATING LICENSE NO. DPR-16
AMERGEN ENERGY COMPANY, LLC
OYSTER CREEK NUCLEAR GENERATING STATION
DOCKET NO. 50-219

1.0 INTRODUCTION

By letter dated May 16, 2007 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML071360339), AmerGen Energy Company, LLC (AmerGen or the licensee) submitted Technical Change Request No. 327, requesting changes to the Technical Specifications (TSs) for the Oyster Creek Nuclear Generating Station (Oyster Creek).

The amendment would revise Oyster Creek TSs 3.5.A.6, "Primary Containment." Specifically, the amendment would revise the actions taken and applicability of the requirement to inert the primary containment atmosphere to less than 4 percent oxygen (O₂) concentration. Currently, the primary containment atmosphere must be inert within 24 hours of placing the reactor mode switch in the run mode and may be de-inerted 24 hours prior to a scheduled shutdown. The proposed revision would require the primary containment atmosphere to be inert within 24 hours after reaching 15 percent of rated thermal power and would allow the containment atmosphere to be de-inerted 24 hours prior to reducing power below 15 percent rated thermal power. Additionally, the amendment would introduce definitions for thermal power and rated thermal power. Corresponding changes throughout the TSs were proposed to incorporate these definitions.

2.0 REGULATORY EVALUATION

Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.44(b)(2)(i) requires an inerted atmosphere for the Oyster Creek containment so that during and following an accident (i.e., loss-of-coolant accident (LOCA)), the possibility of a hydrogen combustion event within the containment cannot occur. Inerting is achieved by purging the primary containment with nitrogen until the oxygen concentration is less than 4 percent.

3.0 TECHNICAL EVALUATION

3.1 Containment Oxygen Concentration Requirements

The purpose of TS 3.5.A.6 is to prevent primary containment damage due to a possible ignition of hydrogen. Following a LOCA combined with a degraded emergency core cooling system (ECCS) response, hydrogen may be produced by the postulated zirconium (e.g., fuel cladding) and water reaction. In the presence of sufficient quantities of oxygen, which is produced in small quantities by radiolysis of reactor coolant, a potential ignition of hydrogen could lead to

leakage integrity failure of containment. To prevent this from occurring, the Oyster Creek TSs require that the containment be maintained with less than 4 percent oxygen concentration to minimize the potential of hydrogen combustion following a LOCA.

The proposed change to the applicability of TS 3.5.A.6 would not change the current limits for the required containment oxygen concentration, but would minimally increase the time these parameters would not be required to be within the TS limits during startup and shutdown. The exposure time to the unlikely combination of a LOCA and a degraded ECCS response (or other events that may cause significant hydrogen generation) remains minimal, even with the relaxed applicability requirements.

In the case that the limiting condition for operation (LCO) is not met, the proposed TS 3.5.A.6.c would require reducing the containment oxygen concentration to below 4 percent within 24 hours and, failing that, reducing thermal power to below 15 percent of rated thermal power within 8 hours. The proposed change would allow the licensee to hold indefinitely (barring other TS restrictions) at 15 percent of rated thermal power with an oxygen concentration above 4 percent. The reduced hydrogen generation from LOCA at this reduced power level would serve to limit the potential of an ignition. Additionally, TS LCOs regarding ECCS operability would appropriately limit reactor operation in this range if the ECCS were in a degraded condition. Given the reduced severity of a LOCA at the reduced power and the operational limitations imposed by the ECCS, the proposed TS will adequately limit the possibility of a hydrogen combustion event.

Additionally, the licensee stated that the change in applicability of the TS requirement would allow for increased operational flexibility due to the increased ability of personnel to enter containment during these time frames.

As discussed above, the Nuclear Regulatory Commission (NRC) staff finds that the proposed revision to TS 3.5.A.6 would continue to maintain an inerted primary containment atmosphere during normal plant operation. The proposed change allows a small increase in the exposure to the duration containment is de-inerted during operational conditions where an event resulting in significant hydrogen generation is unlikely. The NRC staff finds the proposed change will continue to meet 10 CFR 50.44(b)(2)(i) and is, therefore, acceptable.

3.2 New Definitions

The amendment would also introduce definitions for thermal power and rated thermal power including changes for their consistent use within the TSs. The new definitions were included with this amendment request to implement the proposed wording in the revision to TS 3.5.A.6 and consistency with NUREG-1433, "Standard Technical Specification – General Electric Plants, BWR/4, Revision 3.1, December 1, 2005."

AmerGen proposed to define rated thermal power as a total reactor core heat transfer rate to the reactor coolant of 1930 Megawatts thermal. The Oyster Creek TSs used this previously undefined term in a context consistent with the proposed definition and this value is consistent with the currently licensed maximum power level listed in License Condition 2.C.(1). Therefore, the proposed definition is acceptable. The licensee also proposed to create a definition for thermal power as the total reactor core heat transfer rate to the reactor coolant. The NRC staff finds that the Oyster Creek TSs used this previously undefined term in a context consistent with the proposed definition and that this definition is consistent and clear. Therefore, the proposed definition is acceptable.

In addition to using the terms in the revised TS 3.5.A.6, AmerGen revised the remainder of the TSs to incorporate these definitions. The NRC staff reviewed the pages where the licensee proposed to modify the definition and confirmed that the inclusion of the TS defined term left the intent and implementation of the specification unchanged. Additionally, the NRC staff reviewed the current Oyster Creek TSs to confirm that all instances were proposed for revision. One instance was noted as not having been included in the proposed TS pages. This complete set of pages will be included in the final issuance of this amendment.

The NRC staff finds that the proposed definitions are consistent with the current intent and implementation of the TSs, affecting only the format of the TSs. Therefore, the proposed revision is acceptable.

The NRC staff notes that some of the issued pages include bases sections of the TSs due to being on the same page as an actual TS change. The TS bases are programmatically controlled by the licensee. The NRC staff did not review the changes to the bases, nor does this safety evaluation evaluate their accuracy.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the New Jersey State official were notified of the proposed issuance of the amendment. The State officials 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 (73 FR 13023). 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: G. E. Miller

Date: May 30, 2008