Exelon Generation®

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10 CFR 50.46

RA-19-026

May 21, 2019

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

Oyster Creek Nuclear Generating Station
Renewed Facility Operating License No. DPR-16
NRC Docket No. 50-219

Subject: 10 CFR 50.46 Annual Report

Reference:
1) Letter from David P. Helker, Exelon Generation Company, LLC, to U.S. Nuclear Regulatory Commission, "10 CFR 50.46 Annual Report," dated May 23, 2018 (ML18143A397)

2) Letter from Michael P. Gallagher, Exelon Generation Company, LLC, to U.S. Nuclear Regulatory Commission, "Certification of Permanent Removal of Fuel from the Reactor Vessel for Oyster Creek Nuclear Generating Station," dated September 25, 2018 (ML18268A258)

The purpose of this letter is to transmit the annual 10 CFR 50.46 reporting information for Oyster Creek Nuclear Generating Station (OCNGS). The previous annual 50.46 report for OCNGS submitted on May 23, 2018 (Reference 1), provided the cumulative Peak Cladding Temperature (PCT) errors for the most recent fuel designs.

Since the last referenced annual report was issued, no vendor notifications of Emergency Core Cooling System (ECCS) model errors/changes that are applicable to OCNGS have been issued. Also, no ECCS-related changes or modifications have occurred at OCNGS that affect the assumptions of the ECCS analyses.

Two attachments are included with this letter that provide the current OCNGS 10 CFR 50.46 status. Attachment 1, "Peak Cladding Temperature Rack-Up Sheet," provides information regarding the PCT for the limiting Loss of Coolant Accident (LOCA) analysis evaluations for OCNGS. Attachment 2, "Assessment Notes," contains a detailed description for each change or error reported.

OCNGS permanently ceased power operations on September 17, 2018. Upon submittal of the certification letter (Reference 2), OCNGS is no longer authorized to operate the reactor or place or retain fuel in the reactor vessel. Therefore, this annual report covers the operating period from the issuance of the last report (Reference 1) until the plant ceased permanent operations on September 17, 2018.

There are no commitments contained in this letter.

If you have any questions, please contact Richard Gropp at 610-765-5557.

Respectfully,

D. P. Helker

David P. Helker
Manager, Licensing and Regulatory Affairs
Exelon Generation Company, LLC

Attachments: 1) Peak Cladding Temperature Rack-Up Sheet
2) Assessment Notes

cc: w/ Attachments
USNRC Administrator, Region I
USNRC Decommissioning Inspector, OCNGS
USNRC Project Manager NMSS, OCNGS

ATTACHMENT 1

10 CFR 50.46
"Acceptance criteria for emergency core cooling systems for light-water nuclear power reactors"

Report of the Emergency Core Cooling System Evaluation Model Changes and Errors

Assessments as of May 21, 2019

Peak Cladding Temperature Rack-Up Sheet

Oyster Creek Nuclear Generating Station

PLANT NAME: Oyster Creek Nuclear Generating Station (OCNGS)
ECCS EVALUATION MODEL: SAFER/CORCL/PRIME
REPORT REVISION DATE: 05/21/2019
CURRENT OPERATING CYCLE: 26

ANALYSIS OF RECORD CALCULATIONS

Calculations:

1. Report 0000-0098-3503-R2, Revision 2, "Oyster Creek Generating Station GNF2 ECCS-LOCA Evaluation," GEH Nuclear Energy, dated November 2010

2. Report 002N6964, Revision 0, "Supplemental Reload Licensing Report for Oyster Creek Reload 26 Cycle 26," dated August 2016

Fuel:	GNF2
Limiting Fuel Type:	GNF2
Limiting Single Failure:	ADS Valve
Limiting Break Location:	Recirculation Discharge Line
Limiting Break Size	4.66 ft^2 Double-Ended Guillotine (DEG)

Reference Peak Cladding Temperature (PCT) for GNF2 Fuel: 2175°F

MARGIN ALLOCATION

A. PRIOR LOCA MODEL ASSESSMENTS

10 CFR 50.46 Report dated May 23, 2017 (Note 1.1)	GNF2: ΔPCT = 0°F
10 CFR 50.46 Report dated May 23, 2018 (Note 1.2)	GNF2: ΔPCT = 0°F
NET PCT	**GNF2: 2175°F**

B. CURRENT LOCA MODEL ASSESSMENTS

Total PCT Change from Current Assessments (see Note 2)	GNF2: $\sum\Delta$PCT = 0°F
Cumulative PCT Change from Current Assessments	GNF2: $\sum\|\Delta$PCT$\|$ = 0°F
NET PCT	**GNF2: 2175°F**

ATTACHMENT 2

10 CFR 50.46
"Acceptance criteria for emergency core cooling systems for light-water nuclear power reactors"

Report of the Emergency Core Cooling System Evaluation Model Changes and Errors

Assessments as of May 21, 2019

Assessment Notes

Oyster Creek Nuclear Generating Station

1. Prior LOCA Model Assessment

The most latest 10CFR50.46 annual report submitted to NRC was on May 23, 2018 (Reference 1). This report documents a Net PCT of 2175°F for Oyster Creek Nuclear Generating Station. Details of the prior LOCA model assessments are listed in the following sections.

[Reference 1: Letter from David P. Helker (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission, "10 CFR 50.46 Annual Report," dated May 23, 2018.]

1.1. Prior LOCA Model Assessment - 2017

The referenced letter (Reference 1.1.a) documents a new LOCA/MAPLHGR analysis for fresh GNF2 fuel performed for Cycle 26, and restated/confirmed the MAPLHGRs for the existing GNF2 fuel (Reference 1.1.b). This analysis maintained the licensing basis PCT at 2175°F and superseded all prior LOCA assessments for GNF2 fuel. This analysis incorporated all ECCS/LOCA methodology errors and changes resolved at that time (as of August 2016). The 2017 Annual 10CFR50.46 report (Reference 1.1.a) documented no additional notifications as of May 2017.

[Reference 1.1.a: Letter from David P. Helker (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission, "10 CFR 50.46 Annual Report," dated May 23, 2017.]

[Reference 1.1.b: GNF Report 002N6964, Revision 0, "Supplemental Reload Licensing Report for Oyster Creek Reload 26 Cycle 26," dated August 2016.]

1.2. Prior LOCA Model Assessment – 2018

The referenced letter below reported two error notifications that are applicable to the OCNGS LOCA analysis; 2017-01 and 2017-02 (Reference 1.2).

- Notification 2017-01 addresses an incorrect assumption of lower tie plate leakage with an estimated PCT impact of 0°F for GNF2 fuel.

- Notification 2017-02 addresses a change in the fuel rod upper plenum modeling with an estimated PCT impact of 0°F for GNF2 fuel.

[Reference 1.2: Letter from David P. Helker (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission, "10 CFR 50.46 Annual Report," dated May 23, 2018.]

2. Current LOCA Model Assessment

No new 50.46 notifications were received from the fuel vendor since issuance of the last annual report dated May 23, 2018. Therefore, the total PCT value of 2175°F reported in the last annual report is unchanged for this report.