Exelon Nuclear
200 Exelon Way
Kennett Square, PA 19348

www.exeloncorp.com

Exelon Nuclear

10 CFR 50.46

RA-11-033
June 3, 2011

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

References:
1) Letter from David P. Helker (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission, "10 CFR 50.46 Annual Report," dated June 4, 2010

2) Letter from Michael D. Jesse (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission, "10 CFR 50.46 30-Day Report," dated May 27, 2011

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 (Reference 1) provided the cumulative Peak Cladding Temperature (PCT) errors for the most recent fuel designs through June 3, 2010.

Since the referenced annual report was issued, several vendor notifications of Emergency Core Cooling System (ECCS) model errors/changes that are applicable to OCNGS have been issued as discussed in Reference 2. Also, no ECCS-related changes or modifications have occurred at OCNGS that affect the assumptions of the ECCS analyses.

As noted in Attachment 2, new Loss of Coolant Accident (LOCA)/Maximum Average Planar Linear Heat Generation Rate (MAPLHGR) analyses were performed for both GE11 and GNF2 fuel in support of operating Cycle 23. These analyses supersede all prior LOCA assessments. These reanalyses incorporate all ECCS/LOCA methodology errors and changes known/resolved at that time (as of April 2011). Accordingly, Attachment 2 reflects this reanalysis by stating that all errors and changes have been incorporated into the reanalysis.

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 large break LOCA analysis evaluations for OCNGS. Attachment 2, "Assessment Notes," contains a detailed description for each change or error reported.

There are no commitments contained in this letter. If you have any questions, please contact Tom Loomis at 610-765-5510.

Respectfully,

Michael D. Jesse
Director - Licensing & Regulatory Affairs
Exelon Generation Company, LLC

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

cc: W. Dean, USNRC Administrator, Region I
G. E. Miller, USNRC Project Manager, OCNGS
J. A. Kulp, USNRC Senior Resident Inspector, 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 June 3, 2011

Peak Cladding Temperature Rack-Up Sheet

Oyster Creek Nuclear Generating Station

PLANT NAME: Oyster Creek
ECCS EVALUATION MODEL: SAFER/CORCL/GESTR-LOCA
REPORT REVISION DATE: 6/3/11
CURRENT OPERATING CYCLE: 23

ANALYSIS OF RECORD

Evaluation Model:

1. NEDC-23785-1-PA, Rev. 1, "The GESTR-LOCA and SAFER Models for the Evaluation of the Loss-Of-Coolant Accident Volume II, SAFER – Long Term Inventory Model for BWR Loss-Of-Coolant Analysis," October 1984.

2. NEDC-30996P-A, "SAFER Model for Evaluation of Loss-of-Coolant Accidents for Jet Pump and Non-jet Pump Plants, Volume I, SAFER – Long Term Inventory Model for BWR Loss-of-Coolant Analysis," October 1987.

3. NEDC-32950P, "Compilation of Improvements to GENE's SAFER ECCS-LOCA Evaluation Model," January 2000 (Application Methodology Description).

4. NEDC-30996P-A, "SAFER Model for Evaluation of Loss-of-Coolant Accidents for Jet Pump and Non-jet Pump Plants, Volume II, SAFER Application Methodology for Non-jet Pump Plants," October 1987 (Non-jet Pump Plant – SAFER/CORCL).

Calculations:

1. GNF Letter Report CFL-EXN-EN1-11-031, "Transmittal of Updated Exposure-Dependent GE11 and GNF2 Fuel MAPLHGR Limits for Oyster Creek Cycle 23," dated April 29, 2011.

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

3. GE-NE-0000-0001-7486-01P, "Oyster Creek Generating Station Loss-of-Coolant Accident Evaluation for GE11," GE Nuclear Energy, dated July 2002.

Fuel: GE11, GNF2
Limiting Fuel Type: GE11/GNF2 (same)
Limiting Single Failure: ADS Valve
Limiting Break Size and Location: 4.66 ft^2 Double-Ended Guillotine (DEG) in a Recirculation Discharge Pipe

Reference Peak Cladding Temperature (PCT) PCT = 2150°F

MARGIN ALLOCATION

A. PRIOR LOCA MODEL ASSESSMENTS

New LOCA analyses were performed for both GE11 and GNF2 fuel in support of operating cycle 23 (See Note 1)	$\Delta PCT = 0°F$
NET PCT (GE11/GNF2)	**2150°F**

B. CURRENT LOCA MODEL ASSESSMENTS

None (see Note 2)	$\Delta PCT = 0°F$
Total PCT Change from Current Assessments	$\sum \Delta PCT = 0°F$
Cumulative PCT Change from Current Assessments	$\sum \lvert \Delta PCT \rvert = 0°F$
NET PCT (GE11/GNF2)	**2150°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 June 3, 2011

Assessment Notes

Oyster Creek Nuclear Generating Station

1. Prior LOCA Assessment

New LOCA/MAPLHGR analyses were performed for both GE11 and GNF2 fuel in support of operating cycle 23. These analyses supersede all prior LOCA assessments. These analyses incorporate all ECCS/LOCA methodology errors and changes known/resolved at that time (as of April 2011).

[Reference: GNF Letter Report CFL-EXN-EN1-11-031, "Transmittal of Updated Exposure-Dependent GE11 and GNF2 Fuel MAPLHGR Limits for Oyster Creek Cycle 23," dated April 29, 2011]

2. Current LOCA Assessment

Since the last 10 CFR 50.46 report (May 27, 2011 letter referenced below), no vendor notifications of Emergency Core Cooling System (ECCS) model error/changes that are applicable to Oyster Creek Nuclear Generating Station have been issued. Also, no ECCS-related changes or modifications have occurred at Oyster Creek Nuclear Generating Station that affect the assumptions of the ECCS analyses.

[Reference: Letter from Michael D. Jesse (Exelon Generation Company, LLC) to U.S. Nuclear Regulatory Commission, "10 CFR 50.46 30-Day Report," RA-11-025, dated May 27, 2011]