

RA08-016

March 28, 2008

10 CFR 50.46

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

LaSalle County Station, Units 1 and 2  
Facility Operating License Nos. NPF-11 and NPF-18  
NRC Docket Nos. 50-373 and 50-374

Subject: Plant Specific ECCS Evaluation Changes – 10 CFR 50.46 Report

Reference: Letter from D. J. Enright (Exelon Generation Company, LLC) to U. S. NRC,  
"Plant Specific ECCS Evaluation Changes – 10 CFR 50.46 Report," dated  
March 30, 2007

In accordance with 10 CFR 50.46, "Acceptance criteria for emergency core cooling systems for light-water nuclear power reactors," Exelon Generation Company, LLC, (EGC) submits the enclosed attachments to fulfill the annual reporting requirements for LaSalle County Station (LSCS), Units 1 and 2.

In the referenced letter, EGC reported a fuel peak cladding temperature (PCT) of 1460°F (including all assessments) for Units 1 and 2 for the General Electric (GE) fuel, calculated based on an acceptable model. For the current reporting period, there is no change in the PCT for the GE fuel.

The referenced letter also provided a fuel PCT of 1729°F (including all assessments) for Units 1 and 2 for the AREVA NP (formerly Framatome Advanced Nuclear Power (FANP)) fuel, calculated based on an acceptable model. For the current reporting period, there is no change in the PCT for the AREVA NP fuel.

Unit 1 and Unit 2 employ a mixed core design containing co-resident GE and AREVA NP fuel. The Loss of Coolant Accident (LOCA) analyses of record for both GE and AREVA NP fuel are within all of the acceptance criteria set forth in 10 CFR 50.46.

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Attachments 1 and 2 provide the PCT information for the limiting LOCA evaluations for LSCS, Units 1 and 2 (including all assessments) as of February 1, 2008. The assessment notes are contained in Attachment 3 and provide a detailed description for each change reported.

Should you have any questions concerning this letter, please contact Mr. Terrence W. Simpkin, Regulatory Assurance Manager, at (815) 415-2800.

Respectfully,



David P. Rhoades  
Plant Manager  
LaSalle County Station

Attachment 1: LaSalle Units 1 and 2 10 CFR 50.46 Report (GE Fuel)  
Attachment 2: LaSalle Units 1 and 2 10 CFR 50.46 Report (AREVA NP Fuel Formerly FANP)  
Attachment 3: LaSalle Units 1 and 2 10 CFR 50.46 Report (Assessment Notes)

cc: Regional Administrator - NRC Region III  
NRC Senior Resident Inspector – LaSalle County Station

**Attachment 1**  
**LaSalle Units 1 and 2 10 CFR 50.46 Report (GE Fuel)**

PLANT NAME: LaSalle Units 1 and 2  
 ECCS EVALUATION MODEL: SAFER/GESTR LOCA  
 REPORT REVISION DATE: February 1, 2008  
 CURRENT OPERATING CYCLES: L1C13\* and L2C12

**ANALYSIS OF RECORD**

Evaluation Model Methodology: NEDE-23785-1-PA, Rev. 1, "GESTR-LOCA and SAFER Models for the Evaluation of the Loss-of-Coolant Accident (Volume III), SAFER/GESTR Application Methodology," October 1984.

Calculation: GE-NE-0000-0022-8684-R2, "Exelon LaSalle Units 1 and 2 SAFER/GESTR Loss-of-Coolant Accident Analysis for GE 14 Fuel," November 2006.

Fuel: GE14

Limiting Single Failure: HPCS Diesel Generator

Limiting Break Size and Location: 0.08 ft<sup>2</sup> Recirculation Pump Suction Line Break

Reference PCT: 1460°F

**MARGIN ALLOCATION**

**A. PRIOR LOCA MODEL ASSESSMENTS**

10CFR50.46 report dated August 28, 2006 (Note 1)	$\Delta PCT = 0 \text{ }^\circ\text{F}$
10CFR50.46 report dated March 30, 2007 (Note 3)	$\Delta PCT = 0 \text{ }^\circ\text{F}$
Net PCT	1460 °F

**B. CURRENT LOCA MODEL ASSESSMENTS**

Impact of Bent Flow Diverter (Note 4)	$\Delta PCT = 0 \text{ }^\circ\text{F}$
Total PCT change from current assessments	$\sum \Delta PCT = 0 \text{ }^\circ\text{F}$
Cumulative PCT change from current assessments	$\sum  \Delta PCT  = 0 \text{ }^\circ\text{F}$
Net PCT	1460 °F

\* LaSalle Unit 1 Cycle 13 Startup – February 28, 2008

**Attachment 2**  
**LaSalle Units 1 and 2 10 CFR 50.46 Report (AREVA NP Fuel Formerly FANP)**

PLANT NAME: LaSalle Units 1 and 2  
 ECCS EVALUATION MODEL: EXEM BWR-2000 Evaluation Model  
 REPORT REVISION DATE: February 1, 2008  
 CURRENT OPERATING CYCLES: L1C13\* and L2C12

**ANALYSIS OF RECORD**

Evaluation Model Methodology: EMF-2361 (P)(A) Revision 0, EXEM BWR-2000 ECCS Evaluation Model, Framatome ANP, May 2001.

Calculation: EMF-3230 (P) Revision 0, LaSalle Units 1 and 2 EXEM BWR-2000 LOCA Break Spectrum Analysis for ATRIUM – 10 Fuel, November 2005.  
 EMF-3231 (P) Revision 0, LaSalle Units 1 and 2 EXEM BWR-2000 LOCA-ECCS Analysis MAPLHGR Limit for ATRIUM – 10 Fuel, November 2005.

Fuel: ATRIUM – 10

Limiting Single Failure: Low-pressure coolant injection Diesel Generator

Limiting Break Size and Location: Double Ended Guillotine/0.8 discharge coefficient of Recirculation Pump Suction Piping

Reference PCT: 1729 °F

**MARGIN ALLOCATION**

**A. PRIOR LOCA MODEL ASSESSMENTS**

10CFR50.46 report dated August 28, 2006 (Note 2)	$\Delta PCT = 0 \text{ }^\circ\text{F}$
10CFR50.46 report dated March 30, 2007 (Note 3)	$\Delta PCT = 0 \text{ }^\circ\text{F}$
Net PCT	1729 °F

**B. CURRENT LOCA MODEL ASSESSMENTS**

Impact of Bent Flow Diverter (Note 4)	$\Delta PCT = 0 \text{ }^\circ\text{F}$
Total PCT change from current assessments	$\Sigma \Delta PCT = 0 \text{ }^\circ\text{F}$
Cumulative PCT change from current assessments	$\Sigma \Delta PCT = 0 \text{ }^\circ\text{F}$
Net PCT	1729 °F

\* LaSalle Unit 1 Cycle 13 Startup – February 28, 2008

**Attachment 3**  
**LaSalle Units 1 and 2 10 CFR 50.46 Report (Assessment Notes)**

1. Prior LOCA model assessment for GE Fuel

To address the impact of axial power shape on the small break LOCA (SBLOCA) a complete SBLOCA break spectrum analysis was performed in November 2006. Additionally all reported 10CFR50.46 errors/issues that affect small break ECCS-LOCA analysis have been accounted for in this analysis. As reported in the Referenced letter below, the large break LOCA (LBLOCA) is non-limiting. There are no input errors, code errors, or modeling changes identified that would require adjustment to the LBLOCA results reported in the Referenced letter below.

[Referenced letter. Letter from Daniel J. Enright (Exelon) to U.S. NRC, "Plant Specific ECCS Evaluation Changes – 10 CFR 50.46 Report," dated August 28, 2006.]

2. Prior LOCA Model Assessment for AREVA NP fuel

An AREVA NP (formerly FANP) LOCA evaluation was performed in November 2005 due to the discharge of ATRIUM -9 fuel and the reanalysis of the ATRIUM-10 fuel for L1C12. This analysis was reported to the NRC in the Referenced letter below. The AREVA NP analysis for L2C12 demonstrated that the LOCA analysis performed for L1C12 in November 2005 is applicable to L2C12. Since the performance of November 2005 LOCA analysis, no input error, code errors, or modeling changes have been identified which would require adjustment to the results. The referenced letter also provided the Unit 2 PCT of 1832 °F (including all assessments) for the AREVA NP fuel based on an acceptable model for a mixed core of ATRIUM-9 and ATRIUM-10 with ATRIUM-9 being the limiting fuel type. Since the last evaluation, ATRIUM-9 fuel has been discharged from Unit 2 core, making the ATRIUM-10 fuel the limiting fuel type. Because the PCT for the ATRIUM-10 fuel for Unit 2 is 1729 °F, this is a change of over 50 °F from the last evaluation using a NRC approved acceptable model. For Unit 1, there were no changes for the ATRIUM-10 fuel and the PCT remains at 1729 °F.

[Referenced letter. Letter from Daniel J. Enright (Exelon) to U.S. NRC, "Plant Specific ECCS Evaluation Changes – 10CFR 50.46 Report," dated August 28, 2006.]

3. Prior LOCA Model Assessment for GE and AREVA NP Fuel

The 10CFR 50.46 report submitted to the NRC in the referenced letter below did not report any LOCA Model Assessment for GE or the AREVA NP Fuel.

[Referenced letter. Letter from Daniel J. Enright (Exelon) to U.S. NRC, "Plant Specific ECCS Evaluation Changes – 10CFR 50.46 Report," dated March 30, 2007.]

4. Current LOCA Model Assessment for GE and AREVA NP Fuel

During the performance of the LaSalle Unit 2 Reload 11 outage inspection of the Core Spray Sparger a bent flow deflector in one of the high pressure core spray sparger nozzle was noted. Both GE and AREVA NP performed an evaluation and determined that impact of this bent flow deflector on the LOCA analyses are insignificant. A zero degree PCT impact is assigned. Note: This PCT impact is only applicable to Unit 2 and does not apply to Unit 1.