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RS-09-026

10 CFR 50.90

February 17, 2009

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: Additional Information Supporting the Request for a License Amendment to Revise Local Power Range Monitor Calibration Frequency

References:

1. Letter from Mr. P. R. Simpson (Exelon Generation Company, LLC) to U. S. NRC, "Request for a License Amendment to Revise Local Power Range Monitor Calibration Frequency," dated July 25, 2008
2. Letter from U. S. NRC to Mr. C. G. Pardee (Exelon Generation Company, LLC), "LaSalle County Station, Units 1 and 2 – Request for Additional Information Related to License Amendment Request to Revise Local Power Range Monitor Calibration Frequency (TAC Nos. MD9414 and MD9415)," dated October 1, 2008
3. Letter from Mr. P. R. Simpson (Exelon Generation Company, LLC) to U. S. NRC, " Additional Information Supporting the Request for a License Amendment to Revise Local Power Range Monitor Calibration Frequency," dated October 31, 2008

In Reference 1, Exelon Generation Company, LLC (EGC) requested an amendment to the facility operating license for LaSalle County Station (LSCS), Units 1 and 2. Specifically, the proposed changes will revise Technical Specification (TS) 3.3.1.1, "Reactor Protection System (RPS) Instrumentation," Surveillance Requirement (SR) 3.3.1.1.8 and TS 3.3.1.3, "Oscillation Power Range Monitor (OPRM) Instrumentation," SR 3.3.1.3.2 to increase the frequency interval between Local Power Range Monitor (LPRM) calibrations from 1000 effective full power hours (EFPH) to 2000 EFPH.

In Reference 2, the NRC requested that EGC provide additional information in support of their review of Reference 1. The response to this NRC request was provided in Reference 3. Following their review of the responses provided in Reference 3, the NRC

requested by email that EGC provide additional information to support their review of Reference 1. The attachment to this letter provides the requested information.

EGC has reviewed the information supporting a finding of no significant hazards consideration that was previously provided to the NRC in Reference 1. The additional information provided in this submittal does not affect the bases for concluding that the proposed license amendment does not involve a significant hazards consideration. No new regulatory commitments are established by this submittal.

If you have any questions concerning this letter, please contact Mr. Timothy A. Byam at (630) 657-2804.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 17th day of February 2009.

Respectfully,

Patrick R. Simpson
Manager – Licensing
Exelon Generation Company, LLC

Attachment: Additional Information Supporting the Request for a License Amendment to Revise Local Power Range Monitor Calibration Frequency

ATTACHMENT

Additional Information Supporting the Request for a License Amendment
to Revise Local Power Range Monitor Calibration Frequency

1. *The Exelon response to RAI 1.3 states that "the uncertainty analysis was done for a fixed decay factor value of -0.092 for both units. By choosing a fixed sensitivity, one expects to maximize the uncertainty in the predicted response."*

   Provide the results of the uncertainty analysis using the values of the decay constants specific to the LPRM detectors at the LSCS and demonstrate that the uncertainties based on the fixed decay factor bound that based on the LSCS specific decay factors. The information should include the uncertainties (relative standard deviations) for Units 1 and 2 for exposure values of 1000 MWd/MTU, 2500 MWd/MTU, and 2675 MWd/MTU in a format consistent with Tables 6 and 7.

   Response:

   LaSalle County Station (LSCS) does not evaluate the historical data of each LPRM to determine an LPRM specific decay constant for use in core monitoring so there is no data available to perform a detector specific decay constant analysis. Therefore, as described in the response to RAI request 1.3 in Reference 1, the uncertainty analysis completed in support of the proposed amendment request (i.e., Reference 2) was completed based on a fixed decay factor value of –0.092 for LSCS Units 1 and 2. This decay factor value is based on manufacturer's data. As documented in Tables 6 and 7 of Reference 1, the following uncertainty values, provided below in Table 1, were calculated using the fixed decay constant of –0.092.

   Table 1
   Exposure versus Uncertainty Value
   (Decay Constant of –0.092)

Exposure (MWd/MTU)	1000	2500	2675
Uncertainty Value	0.0332	0.0406	0.0415

   The actual decay constant used in the LSCS core monitoring has been -0.1189. The uncertainty values for this decay constant were provided in Tables 6 and 7 of the previous RAI response (i.e., Reference 1). These uncertainty values for each of the requested exposures are summarized in Table 2 below.

Table 2
Exposure versus Uncertainty Value
(Decay Constant of –0.1189)

Exposure (MWd/MTU)	1000	2500	2675
Uncertainty Value	0.0335	0.0427	0.0439

As can be seen by the data provided in Tables 1 and 2 above, the uncertainty values calculated using the fixed decay constant of –0.092 are slightly lower than the uncertainty values calculated for LSCS using the fixed decay constant used during core monitoring. Since the uncertainty value associated with the core monitoring system decay constant of –0.1189 exceeds the uncertainty value for the Safety Limit Minimum Critical Power Ratio (SLMCPR) analysis at 2675 MWd/MTU, LSCS will modify the core monitoring system decay constant to –0.100.

Tables 6 and 7 of Reference 1 also provide the uncertainty values for the decay constant value of –0.100 (i.e., the average decay constant value calculated for actual LSCS data). These uncertainties are summarized in Table 3 below. The Table 3 results below demonstrate that the uncertainty value for a decay constant of –0.100 at an exposure of 2675 MWd/MTU is bounded by the uncertainty value used in the SLMCPR analysis.

Table 3
Exposure versus Uncertainty Value
(Decay Constant of –0.1000)

Exposure (MWd/MTU)	1000	2500	2675
Uncertainty Value	0.0333	0.0412	0.0422

2. *The RAI 1.4 response states that "the accumulated exposure values were obtained from the core monitor system (i.e., POWERPLEX-II and POWERPLEX-III)." The RAI 1.3 response indicates that "the actual value currently in use for core monitoring is -0.1189." The sensitivity analytical results included in Table 6 and 7 show that for the cases using the decay factor -0.1189 are 0.92 percent and 1.03 percent for the nominal exposure values of 2500 MWD/MTU and 2675 MWD/MTU, respectively. As indicated in the RAI 1.3 and 1.4 responses, both values of the uncertainty, 0.92 percent and 1.03 percent, are greater than the allowable uncertainty of 0.9 percent used in the MCPR safety limit analysis. Based on the results of the uncertainty analysis discussed above, justify that the proposed extension of the LPRM calibration interval from 1000 EFPH to 2000 EFPH is acceptable.*

Response:

As indicated in Reference 1, the historical data were evaluated with a fixed decay constant of -0.1189 (i.e., the fixed decay factor value used during core monitoring) and the increase in uncertainty was greater than allowed by the SLMCPR analysis. In order to justify operation with the longer calibration interval, LSCS will modify the decay constant to -0.100 in their core monitoring system so that the evaluated LPRM uncertainty is within the bounds of the SLMCPR analysis. As documented in Table 7 of Reference 1, the increase in uncertainty will be 0.89 percent for the maximum allowed exposure interval of 2675 MWd/MTU. This ensures that the allowable uncertainty increase will be less than the allowable uncertainty increase of 0.9 percent used in the SLMCPR analysis.

3. *Since the accumulated exposure values were obtained from the core monitor system with the decay factor of –0.1189 used in the POWERPLEX software, provide a discussion and analysis to justify the adequacy of use of the accumulated exposure values in the uncertainty analysis for the cases with the decay values of the LSCS specific detectors, and fixed decay values of –0.80, -0.92, -0.10, and –0.1189 shown in Table 6 and 7.*

Response:

The accumulated exposure values are based upon an integrated thermal flux calculated at the detector location by the 3D nodal simulator. This calculated flux is completely independent of the decay constant and thus the accumulated exposure values are independent of the decay constant. The decay constant is used solely for anticipating the decreased sensitivity of the LPRM between LPRM calibrations by the core monitoring system.

References:

1. Letter from Mr. P. R. Simpson (Exelon Generation Company, LLC) to U. S. NRC, "Additional Information Supporting the Request for a License Amendment to Revise Local Power Range Monitor Calibration Frequency," dated October 31, 2008

2. Letter from Mr. P. R. Simpson (Exelon Generation Company, LLC) to U. S. NRC, "Request for a License Amendment to Revise Local Power Range Monitor Calibration Frequency," dated July 25, 2008