

RS-09-100

10 CFR 50.90

July 27, 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
 4. 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 February 17, 2009
 5. 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 May 8, 2009

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 response to that request was provided in Reference 4. In an email dated May 13, 2009, the NRC requested additional clarification of the responses provided in Reference 4. EGC provided the requested clarification in Reference 5. Based on their review of the responses to these requests, the NRC requested by email, additional clarification of the responses provided in References 3 through 5. The additional clarification is provided in the Attachment 1 to this letter.

Attachment 2 contains information AREVA considers to be proprietary. AREVA requests that the proprietary information in Attachment 2 be withheld from public disclosure in accordance with the requirements of paragraph (a)(4) of 10 CFR 2.390, "Public inspections, exemptions, requests for withholding." The original signed affidavit supporting this request is provided in Attachment 3 to this letter. Attachment 4 to this letter provides a non-proprietary version of Attachment 2.

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 27th day of July 2009.

Respectfully,


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

Attachments:

1. Additional Information Supporting the Request for a License Amendment to Revise Local Power Range Monitor Calibration Frequency
2. LaSalle LPRM Calibration Extension – AREVA Responses to NRC Follow-up Request for Additional Information (Proprietary)
3. AREVA Affidavit
4. LaSalle LPRM Calibration Extension – AREVA Responses to NRC Follow-up Request for Additional Information (Non-Proprietary)

ATTACHMENT 1

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

NRC RAI:

The response to RAI SRXB-1 does not provide the requested analysis using decay constants specific to the LPRM detectors used in LSCS. It states that "*due to the similarity in the characteristics behavior of the detectors used in Grand Gulf and LSCS, the conclusions presented by Grand Gulf showing the fixed decay constant bounds the specific decay constant is applicable to LSCS.*" It also indicates that the GE LPRM detectors used in Grand Gulf are NA-250 detectors, while the GE LPRM detectors used in LSCS are NA-300 detectors.

Request 1:

Discuss the differences of the NA-250 and NA-300 detectors.

Response 1:

The NA-250 detectors (i.e., bottom entry in-core LPRM detectors) are used in BWR-6 reactors (such as Grand Gulf Nuclear Station, River Bend Station, and Clinton Power Station), and the NA-300 detectors (i.e., top entry LPRM assemblies) are used in all other BWR/ABWR reactors (i.e., LaSalle County Station). However, there are some differences between these two types of LPRM's as shown below.

<u>Parameter</u>	<u>NA-250</u>	<u>NA-300</u>
Sensitivity (A/nv)	4.8 E-18	7.2 E-18
Perturbation factor	0.629	0.714 ("C" lattice) 0.694 ("D" lattice)
Lifetime Thermal Neutron Fluence (nvt)	1.5 E22	1.9 E22

The regenerative characteristic is similar between the two LPRM detector types because the blend of U-234 and U-235 is the same. The difference in expected lifetime arises due to the lower initial sensitivity of the NA-250 and the difference in neutron/gamma flux ratio.

Finally, the NA-250 LPRM detectors are individually replaceable from under the reactor vessel. NA-300 LPRM assemblies must be removed from the top, replacing all 4 detectors in the LPRM assembly at the same time.

Request 2:

Address the effects of differences on the uncertainty analysis, and justify that with the different GE LPRM detectors, the Grand Gulf sensitivity study identifying the effects of the fixed and the specific decay constants on the results of uncertainty analysis is applicable to LSCS.

ATTACHMENT 1

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

Response 2:

Based on discussions with the NRC, it was verified that the intent of this request was to obtain additional clarification on the Exelon Generation Company, LLC (EGC) response to RAI SRXB-1 provided in Reference 1. Specifically, the NRC requested the following information.

"RAI-1 requested the licensee to provide an uncertainty analysis using decay constants specific to the LPRM detectors at the LSCS. The results should demonstrate that the uncertainties based on a fixed decay factor bound that based on the LPRM specific decay factors for the LSCS. In the response, the licensee did not provide the requested analysis. Instead, it summarized the results of its analysis and indicated that: (1) the analysis used in support of the LAR was based on a fixed decay factor of -0.092, which is based on manufacture's data; and (2) the decay constant used in the CMS will be adjusted to -0.100 to assure that the evaluated LPRM uncertainty is within the bounds of SLMCPR analysis.

With the results of the analysis with the fixed decay constants of either -0.092 or -0.100, the NRC staff is not sure whether the results are adequate to represent the actual data with values of the decay constants specific to various LPRM detectors at the LSCS. To resolve this RAI satisfactorily, the licensee should provide a discussion or an analysis (such as the requested detector specific decay constant analysis) to show that the assumption used in the analysis in support of the LAR is valid, i.e., the uncertainties based on a fixed decay factor bound that based on the LPRM specific decay factors for the LSCS. If the licensee uses an existing analysis to support the RAI response, it should address applicability of the existing analysis to the LAR. The RAI response should identify the effects of any plant specific deviations, such as the LPRM exposure data that may be collected from different models of LPRM detectors, or methods for the uncertainty analysis that may be based on different ranges of the LPRM exposures to represent a nominal exposure value."

AREVA NP has completed a calculation of the LPRM specific decay constants (λ) for LaSalle County Station (LSCS) Units 1 and 2. These decay constants were calculated based on calibration data provided by EGC.

The LPRM specific decay constants were calculated by AREVA NP based on calibration data provided by EGC for LSCS Units 1 and 2. The same calibration data was previously provided to the NRC in Reference 1. The results of the analysis summarized in Table 1 of Attachment 2 show that for the fixed decay constant, the standard deviations are similar to those for LPRM specific decay constants and bounded by the decay constants assumed for SLMCPR calculations using AREVA NP's NRC approved methods (Reference 2). The results summarized in Table 2 of Attachment 2, show that for the fixed decay constant the changes in standard deviation from short to long calibration interval are similar to that for the LPRM specific decay values and bounded by the limit derived from the change in SLMCPR uncertainties when going from short to long calibration intervals.

ATTACHMENT 1

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

A summary of the LPRM specific decay constants is provided in Tables 3 and 4 of Attachment 2. LPRM specific decay constant calculated uncertainties were found to be similar to those for a fixed decay constant of -0.1. The uncertainties used in SLMCPR calculations using AREVA NP's NRC approved methodology bound the calculated uncertainties based on both the fixed and the LPRM specific decay constants, thereby supporting extended calibration intervals out to 2675 MWd/MTU with the use of a fixed decay constant of -0.1 for all LPRMs. Therefore, as supported by the AREVA analyses provided in Attachment 2, LSCS will continue to utilize fixed decay constants as described in Reference 1.

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 May 8, 2009
2. ANF-524(P)(A) Revision 2 and Supplements 1 and 2, ANF Critical Power Methodology for Boiling Water Reactors, Advanced Nuclear Fuels Corporation, November 1990

ATTACHMENT 3

AREVA Affidavit

requested qualifies under 10 CFR 2.390(a)(4) "Trade secrets and commercial or financial information."

6. The following criteria are customarily applied by AREVA NP to determine whether information should be classified as proprietary:

- (a) The information reveals details of AREVA NP's research and development plans and programs or their results.
- (b) Use of the information by a competitor would permit the competitor to significantly reduce its expenditures, in time or resources, to design, produce, or market a similar product or service.
- (c) The information includes test data or analytical techniques concerning a process, methodology, or component, the application of which results in a competitive advantage for AREVA NP.
- (d) The information reveals certain distinguishing aspects of a process, methodology, or component, the exclusive use of which provides a competitive advantage for AREVA NP in product optimization or marketability.
- (e) The information is vital to a competitive advantage held by AREVA NP, would be helpful to competitors to AREVA NP, and would likely cause substantial harm to the competitive position of AREVA NP.

The information in the Document is considered proprietary for the reasons set forth in paragraphs 6(b), 6(d) and 6(e) above.

7. In accordance with AREVA NP's policies governing the protection and control of information, proprietary information contained in this Document have been made available, on a limited basis, to others outside AREVA NP only as required and under suitable agreement providing for nondisclosure and limited use of the information.

8. AREVA NP policy requires that proprietary information be kept in a secured file or area and distributed on a need-to-know basis.

9. The foregoing statements are true and correct to the best of my knowledge, information, and belief.

[Handwritten Signature]

SUBSCRIBED before me this 27th
day of July, 2009.

[Handwritten Signature]

Susan K. McCoy
NOTARY PUBLIC, STATE OF WASHINGTON
MY COMMISSION EXPIRES: 1/10/12



ATTACHMENT 4

**LaSalle LPRM Calibration Extension – AREVA Responses to NRC
Follow-up Request for Additional Information (Non-Proprietary)**



AREVA NP Inc.,
an AREVA and Siemens company

Engineering Information Record

Document No: 51 - 9117825 - 000

**LaSalle LPRM Calibration Extension – AREVA Responses to NRC Follow-up
Request for Additional Information, Non-Proprietary**

LaSalle LPRM Calibration Extension – AREVA Responses to NRC Follow-up
 Request for Additional Information, Non-Proprietary

Safety Related? YES NO

Does this document contain assumptions requiring verification? YES NO

Signature Block

Name and Title/Discipline	Signature	P/LP, R/LR, A/A-CRF	Date	Pages/Sections Prepared/Reviewed/ Approved or Comments
P. J. Halvorson Engineer, Core Monitoring		P	7/24/09	All
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D. E. Garber Manager, Neutronics Richland		A	7/24/09	All

Note: P/LP designates Preparer (P), Lead Preparer (LP)
 R/LR designates Reviewer (R), Lead Reviewer (LR)
 A/A-CRF designates Approver (A), Approver of Customer Requested Format A-CRF

LaSalle LPRM Calibration Extension – AREVA Responses to NRC Follow-up
Request for Additional Information, Non-Proprietary

Table of Contents

	Page
SIGNATURE BLOCK.....	2
RECORD OF REVISION	3
LIST OF TABLES	5
1.0 INTRODUCTION.....	6
2.0 REFERENCES.....	6
APPENDIX A: ADDITIONAL INFORMATION SUPPORTING THE REQUEST FOR A LICENSE AMENDMENT TO REVISE LOCAL POWER RANGE MONITOR CALIBRATION FREQUENCY	7
APPENDIX B: CALCULATED LPRM SPECIFIC DECAY CONSTANTS.....	10

LaSalle LPRM Calibration Extension – AREVA Responses to NRC Follow-up
Request for Additional Information, Non-Proprietary

List of Tables

	Page
TABLE 1: SUMMARY OF THE STANDARD DEVIATIONS	8
TABLE 2: CHANGE IN STANDARD DEVIATION	9
TABLE 3: LASALLE UNIT 1 LPRM SPECIFIC DECAY CONSTANTS	10
TABLE 4: LASALLE UNIT 2 LPRM SPECIFIC DECAY CONSTANTS	16

LaSalle LPRM Calibration Extension – AREVA Responses to NRC Follow-up
Request for Additional Information, Non-Proprietary

1.0 INTRODUCTION

The proprietary version of this document is 51-9116107-001 (Reference 1).

Appendix A provides the AREVA NP response to the NRC Request for Additional Information (RAI) provided by Exelon Generation Company, LLC (Reference 2). The response is based on calculations performed by AREVA NP (Reference 3).

Appendix B provides the AREVA NP calculated LPRM specific decay constants from Reference 3.

2.0 REFERENCES

1. 51-9116107-001, "LaSalle LPRM Calibration Extension – AREVA Responses to NRC Follow-up Request for Additional Information", July 2009.
2. Email from U. S. NRC to Exelon Generation Company, LLC, mentioned in Exelon letter from P. R. Simpson to NRC, titled "Additional Information Supporting the Request for a License Amendment to Revise Local Power Range Monitor Calibration Frequency", dated May 8, 2009.
3. 32-9115520-000, "LPRM Calibration Uncertainty Analysis for LaSalle – LPRM Specific Decay Coefficients", July 2009.
4. AREVA NP Inc Document Number 38-9088314-000, based on Exelon SEAG 08-000136, "LaSalle Unit 1 and Unit 2 LPRM Data" from 7/29/2008.
5. ANF-524(P)(A) Revision 2 and Supplements 1 and 2, ANF Critical Power Methodology for Boiling Water Reactors, Advanced Nuclear Fuels Corporation, November 1990.

LaSalle LPRM Calibration Extension – AREVA Responses to NRC Follow-up
Request for Additional Information, Non-Proprietary

**APPENDIX A: ADDITIONAL INFORMATION SUPPORTING THE REQUEST FOR A
LICENSE AMENDMENT TO REVISE LOCAL POWER RANGE MONITOR
CALIBRATION FREQUENCY**

SRXB-1

RAI-1 requested the licensee to provide an uncertainty analysis using decay constants specific to the LPRM detectors at the LSCS. The results should demonstrate that the uncertainties based on a fixed decay factor bound that based on the LPRM specific decay factors for the LSCS. In the response, the licensee did not provide the requested analysis. Instead, it summarized the results of its analysis and indicated that: (1) the analysis used in support of the LAR was based on a fixed decay factor of -0.092, which is based on manufacture's data; and (2) the decay constant used in the CMS will be adjusted to -0.100 to assure that the evaluated LPRM uncertainty is within the bounds of SLMCPR analysis.

With the results of the analysis with the fixed decay constants of either -0.092 or -0.100, the NRC staff is not sure whether the results are adequate to represent the actual data with values of the decay constants specific to various LPRM detectors at the LSCS. To resolve this RAI satisfactorily, the licensee should provide a discussion or an analysis (such as the requested detector specific decay constant analysis) to show that the assumption used in the analysis in support of the LAR is valid, i.e., the uncertainties based on a fixed decay factor bound that based on the LPRM specific decay factors for the LSCS. If the licensee uses an existing analysis to support the RAI response, it should address applicability of the existing analysis to the LAR. The RAI response should identify the effects of any plant specific deviations, such as the LPRM exposure data that may be collected from different models of LPRM detectors, or methods for the uncertainty analysis that may be based on different ranges of the LPRM exposures to represent a nominal exposure value.

LaSalle LPRM Calibration Extension – AREVA Responses to NRC Follow-up
Request for Additional Information, Non-Proprietary

RESPONSE

LPRM specific decay constants were calculated by AREVA NP based on calibration data provided by Exelon for LSCS units 1 and 2 (Reference 4). The results of the analysis summarized in Table 1 show that for the fixed -0.1 λ value, the standard deviations are similar to those for LPRM specific λ values and less than that assumed for SLMCPR calculations (4.3% for extended calibration intervals) using AREVA NP's NRC approved methods (Reference 5).

Table 1: Summary of the Standard Deviations



LaSalle LPRM Calibration Extension – AREVA Responses to NRC Follow-up
Request for Additional Information, Non-Proprietary

The results summarized in Table 2 show that for the fixed -0.1λ value, the changes in standard deviation from short to long calibration interval are similar to that for LPRM specific λ values and less than 0.9% (a limit derived from the change in SLMCPR uncertainties when going from short to long calibration intervals).

Table 2: Change in Standard Deviation



LPRM specific decay constant calculated uncertainties were found to be similar to those for fixed -0.1 decay constants. The uncertainties used in SLMCPR calculations using AREVA NP's NRC approved methodology bound the calculated uncertainties based on both the fixed -0.1 and the LPRM specific decay constants, thereby supporting extended calibration intervals out to 2675 MWd/MTU with the use of a fixed -0.1 decay constant for all LPRMs.

LaSalle LPRM Calibration Extension – AREVA Responses to NRC Follow-up
 Request for Additional Information, Non-Proprietary

APPENDIX B: CALCULATED LPRM SPECIFIC DECAY CONSTANTS

The following LPRM specific decay constants were calculated by AREVA NP as part of Reference 3. Note that when only one data point was available, a fixed -0.1 decay constant was assumed.

Table 3: LaSalle Unit 1 LPRM Specific Decay Constants

String #	LPRM	Level	λ
1	L-2693	A	-0.064536
1	L-2693	B	-0.106486
1	L-2693	C	-0.091594
1	L-2693	D	-0.095251
2	K-7089	A	-0.103161
2	K-7089	B	-0.118656
2	K-7089	C	-0.125343
2	K-7089	D	-0.113100
3	L-2689	A	-0.086421
3	L-2689	B	-0.094950
3	L-2689	C	-0.091229
3	L-2689	D	-0.095697
4	K-7091	A	-0.099445
4	K-7091	B	-0.117011
4	K-7091	C	-0.116669
4	K-7091	D	-0.086173
5	L-2692	A	-0.094847
5	L-2692	B	-0.094427
5	L-2692	C	-0.090860
5	L-2692	D	-0.097480
6	03s61368	A	-0.035989
6	03s61368	B	-0.032658
6	03s61368	C	-0.009494
6	03s61368	D	0.011154

LaSalle LPRM Calibration Extension – AREVA Responses to NRC Follow-up
Request for Additional Information, Non-Proprietary

**Table 3: LaSalle Unit 1 LPRM Specific Decay
Constants (continued)**

String #	LPRM	Level	λ
7	00s19542	A	-0.117702
7	00s19542	B	-0.109943
7	00s19542	C	-0.140575
7	00s19542	D	-0.126615
8	00s19547	A	-0.105861
8	00s19547	B	-0.115672
8	00s19547	C	-0.122204
8	00s19547	D	-0.125258
9	03s61362	A	-0.050153
9	03s61362	B	-0.042240
9	03s61362	C	-0.017146
9	03s61362	D	-0.013969
10	05s105126	A	-0.183701
10	05s105126	B	-0.100000
10	05s105126	C	-0.100000
10	05s105126	D	-0.006328
11	01s19549	A	-0.127609
11	01s19549	B	-0.139663
11	01s19549	C	-0.146763
11	01s19549	D	-0.074092
12	03s61367	A	-0.082153
12	03s61367	B	-0.087174
12	03s61367	C	-0.051989
12	03s61367	D	0.030138
13	04s82833	A	-0.100000
13	04s82833	B	-0.100000
13	04s82833	C	-0.100000
13	04s82833	D	-0.100000
14	K-7092	A	-0.096060
14	K-7092	B	-0.121862

LaSalle LPRM Calibration Extension – AREVA Responses to NRC Follow-up
 Request for Additional Information, Non-Proprietary

**Table 3: LaSalle Unit 1 LPRM Specific Decay
 Constants (continued)**

String #	LPRM	Level	λ
14	K-7092	C	-0.121134
14	K-7092	D	-0.122039
15	99S06335	A	-0.092356
15	99S06335	B	-0.104541
15	99S06335	C	-0.087621
15	99S06335	D	-0.112769
16	99S06332	A	-0.095072
16	99S06332	B	-0.087310
16	99S06332	C	-0.097196
16	99S06332	D	-0.128564
17	L-2703	A	-0.098261
17	L-2703	B	-0.099973
17	L-2703	C	-0.100135
17	L-2703	D	-0.103243
18	03s61361	A	-0.047674
18	03s61361	B	-0.028788
18	03s61361	C	-0.040312
18	03s61361	D	-0.024765
19	95S01707	A	-0.104571
19	95S01707	B	-0.115412
19	95S01707	C	-0.118913
19	95S01707	D	-0.107450
20	05s105131	A	-0.100000
20	05s105131	B	-0.100000
20	05s105131	C	0.054445
20	05s105131	D	-0.100000
21	99S06333	A	-0.072533
21	99S06333	B	-0.110906
21	99S06333	C	-0.103025
21	99S06333	D	-0.086343
22	00s10723	A	-0.115570

LaSalle LPRM Calibration Extension – AREVA Responses to NRC Follow-up
Request for Additional Information, Non-Proprietary

**Table 3: LaSalle Unit 1 LPRM Specific Decay
Constants (continued)**

String #	LPRM	Level	λ
22	00s10723	B	-0.124759
22	00s10723	C	-0.136556
22	00s10723	D	-0.134821
23	03s61364	A	-0.080289
23	03s61364	B	-0.055041
23	03s61364	C	-0.052231
23	03s61364	D	0.034800
24	L-2708	A	-0.084316
24	L-2708	B	-0.087613
24	L-2708	C	-0.089175
24	L-2708	D	-0.104492
25	00s19544	A	-0.107273
25	00s19544	B	-0.119338
25	00s19544	C	-0.146700
25	00s19544	D	-0.118752
26	05s105132	A	0.082693
26	05s105132	B	-0.100000
26	05s105132	C	0.026605
26	05s105132	D	-0.100000
27	03s61359	A	-0.044887
27	03s61359	B	-0.037792
27	03s61359	C	-0.025389
27	03s61359	D	0.019643
28	00s19546	A	-0.102962
28	00s19546	B	-0.120880
28	00s19546	C	-0.129257
28	00s19546	D	-0.117156
29	05s105134	A	-0.051082
29	05s105134	B	-0.001915
29	05s105134	C	-0.100000
29	05s105134	D	-0.100000

LaSalle LPRM Calibration Extension – AREVA Responses to NRC Follow-up
Request for Additional Information, Non-Proprietary

**Table 3: LaSalle Unit 1 LPRM Specific Decay
Constants (continued)**

String #	LPRM	Level	λ
30	05s105125	A	-0.080014
30	05s105125	B	-0.100000
30	05s105125	C	0.187149
30	05s105125	D	0.124960
31	95S01703	A	-0.090085
31	95S01703	B	-0.112169
31	95S01703	C	-0.112621
31	95S01703	D	-0.103891
32	05s105130	A	-0.100000
32	05s105130	B	-0.100000
32	05s105130	C	-0.100000
32	05s105130	D	-0.628003
33	00s19545	A	-0.116050
33	00s19545	B	-0.112784
33	00s19545	C	-0.133068
33	00s19545	D	-0.120433
34	03s61360	A	-0.032412
34	03s61360	B	-0.028803
34	03s61360	C	-0.050897
34	03s61360	D	-0.000093
35	99S06334	A	-0.085660
35	99S06334	B	-0.103170
35	99S06334	C	-0.123684
35	99S06334	D	-0.132831
36	03s61365	A	-0.052479
36	03s61365	B	0.019160
36	03s61365	C	-0.043374
36	03s61365	D	-0.053376
37	00s19548	A	-0.098922
37	00s19548	B	-0.111215
37	00s19548	C	-0.120284

LaSalle LPRM Calibration Extension – AREVA Responses to NRC Follow-up
Request for Additional Information, Non-Proprietary

**Table 3: LaSalle Unit 1 LPRM Specific Decay
Constants (continued)**

String #	LPRM	Level	λ
37	00s19548	D	-0.118366
38	95S01706	A	-0.113298
38	95S01706	B	-0.144629
38	95S01706	C	-0.106089
38	95S01706	D	-0.100603
39	05s105129	A	-0.020860
39	05s105129	B	-0.100000
39	05s105129	C	-0.100000
39	05s105129	D	-0.007733
40	95s01704	A	-0.105916
40	95s01704	B	-0.124834
40	95s01704	C	-0.118290
40	95s01704	D	-0.066715
41	00s19543	A	-0.104431
41	00s19543	B	-0.127773
41	00s19543	C	-0.145729
41	00s19543	D	-0.145466
42	03s61363	A	-0.022097
42	03s61363	B	-0.042699
42	03s61363	C	-0.017005
42	03s61363	D	-0.003905
43	95S01705	A	-0.081959
43	95S01705	B	-0.106993
43	95S01705	C	-0.114494
43	95S01705	D	-0.101785

LaSalle LPRM Calibration Extension – AREVA Responses to NRC Follow-up
Request for Additional Information, Non-Proprietary

Table 4: LaSalle Unit 2 LPRM Specific Decay Constants

String#	LPRM	Level	λ
1	96S00501	A	-0.128402
1	96S00501	C	-0.077116
1	96S00501	D	-0.002917
2	04s82827	A	0.004877
2	04s82827	B	-0.100000
2	04s82827	C	0.000477
2	04s82827	D	-0.100000
3	02S41541	A	-0.032238
3	02S41541	B	-0.046920
3	02S41541	C	-0.062628
3	02S41541	D	-0.055267
4	M5419	A	-0.109844
4	M5419	B	-0.132587
4	M5419	C	-0.109462
5	04s82826	A	-0.018926
5	04s82826	B	-0.100000
5	04s82826	C	-0.100000
5	04s82826	D	-0.100000
6	02S41547	A	-0.031684
6	02S41547	B	-0.066373
6	02S41547	C	-0.068793
6	02S41547	D	-0.040241
7	02S41544	A	-0.025824
7	02S41544	B	-0.055191
7	02S41544	C	-0.069592
7	02S41544	D	0.009082

LaSalle LPRM Calibration Extension – AREVA Responses to NRC Follow-up
Request for Additional Information, Non-Proprietary

**Table 4: LaSalle Unit 2 LPRM Specific Decay
Constants (continued)**

String #	LPRM	Level	λ
8	00s10719	A	-0.096276
8	00s10719	B	-0.106666
8	00s10719	C	-0.123691
8	00s10719	D	-0.134629
9	02S41555	A	-0.025624
9	02S41555	B	-0.048960
9	02S41555	C	-0.052324
9	02S41555	D	-0.043676
10	04s82829	A	-0.100000
10	04s82829	B	0.004690
10	04s82829	C	-0.100000
10	04s82829	D	-0.100000
11	02S41548	A	-0.042397
11	02S41548	B	-0.035969
11	02S41548	C	-0.059606
11	02S41548	D	-0.013613
12	02S41553	A	-0.058491
12	02S41553	B	-0.050528
12	02S41553	C	-0.072370
12	02S41553	D	-0.005328
13	04s82825	A	-0.020434
13	04s82825	B	-0.018217
13	04s82825	C	-0.007795
13	04s82825	D	-0.013529
14	02S41542	A	-0.026554
14	02S41542	B	-0.027432
14	02S41542	C	-0.041304
14	02S41542	D	-0.058319
15	96S00500	A	-0.108939
15	96S00500	B	-0.116905

LaSalle LPRM Calibration Extension – AREVA Responses to NRC Follow-up
Request for Additional Information, Non-Proprietary

**Table 4: LaSalle Unit 2 LPRM Specific Decay
Constants (continued)**

String #	LPRM	Level	λ
15	96S00500	C	-0.104087
15	96S00500	D	-0.140608
16	02S41549	A	-0.027717
16	02S41549	B	-0.050442
16	02S41549	C	-0.032585
16	02S41549	D	-0.030494
17	M5421	A	-0.113823
17	M5421	B	-0.111249
17	M5421	C	-0.113705
17	M5421	D	-0.125022
18	03s61366	A	0.006946
18	03s61366	B	0.004340
18	03s61366	C	0.033430
18	03s61366	D	-0.051786
19	02S41545	A	-0.021139
19	02S41545	B	-0.073859
19	02S41545	C	-0.044153
19	02S41545	D	-0.013193
20	00s10717	A	-0.118184
20	00s10717	B	-0.124194
20	00s10717	C	-0.149457
20	00s10717	D	-0.161501
21	96S00497	A	-0.091203
21	96S00497	B	-0.101009
21	96S00497	C	-0.113382
21	96S00497	D	-0.101506
22	00s10720	B	-0.117029
22	00s10720	C	-0.125709
22	00s10720	D	-0.146380
23	02S41550	A	-0.028797
23	02S41550	B	-0.090929

LaSalle LPRM Calibration Extension – AREVA Responses to NRC Follow-up
Request for Additional Information, Non-Proprietary

**Table 4: LaSalle Unit 2 LPRM Specific Decay
Constants (continued)**

String #	LPRM	Level	λ
23	02S41550	C	-0.057405
23	02S41550	D	-0.039269
24	04s82831	A	0.033380
24	04s82831	B	-0.100000
24	04s82831	C	-0.001072
24	04s82831	D	-0.100000
25	99s06337	A	-0.095995
25	99s06337	B	-0.092305
25	99s06337	C	-0.075206
25	99s06337	D	-0.123675
26	02S41551	A	-0.043874
26	02S41551	B	-0.067674
26	02S41551	C	-0.047748
26	02S41551	D	-0.028564
27	96S00498	A	-0.112542
27	96S00498	B	-0.119067
27	96S00498	C	-0.095677
27	96S00498	D	-0.130485
28	00s10718	A	-0.121753
28	00s10718	B	-0.130258
28	00s10718	C	-0.135660
28	00s10718	D	-0.154431
29	02S41554	A	-0.032403
29	02S41554	B	-0.055617
29	02S41554	C	-0.060775
29	02S41554	D	-0.015547
30	00s10722	A	-0.127022
30	00s10722	B	-0.127304
30	00s10722	C	-0.136776
30	00s10722	D	-0.162451
31	04s82828	A	0.009691

LaSalle LPRM Calibration Extension – AREVA Responses to NRC Follow-up
Request for Additional Information, Non-Proprietary

Table 4: LaSalle Unit 2 LPRM Specific Decay Constants (continued)

String #	LPRM	Level	λ
31	04s82828	B	0.177377
31	04s82828	C	-0.022257
31	04s82828	D	-0.047554
32	04s82832	A	0.018973
32	04s82832	B	-0.100000
32	04s82832	C	-0.019143
32	04s82832	D	0.049807
33	02S41552	A	-0.025781
33	02S41552	B	-0.058490
33	02S41552	C	-0.006415
33	02S41552	D	-0.028016
34	00s10716	A	-0.125433
34	00s10716	B	-0.126516
34	00s10716	C	-0.142778
34	00s10716	D	-0.138240
35	96S00496	A	-0.096850
35	96S00496	B	-0.115608
35	96S00496	C	-0.108348
35	96S00496	D	-0.104640
36	04s82830	A	-0.061452
36	04s82830	B	-0.043099
36	04s82830	C	-0.100000
36	04s82830	D	0.015944
37	00s10721	A	-0.128472
37	00s10721	B	-0.137537
37	00s10721	C	-0.146516
37	00s10721	D	-0.172771
38	M5420	A	-0.116923
38	M5420	B	-0.094671
38	M5420	C	-0.092715
38	M5420	D	-0.063357

LaSalle LPRM Calibration Extension – AREVA Responses to NRC Follow-up
Request for Additional Information, Non-Proprietary

**Table 4: LaSalle Unit 2 LPRM Specific Decay
Constants (continued)**

String #	LPRM	Level	λ
39	04s82824	A	-0.062507
39	04s82824	B	-0.100000
39	04s82824	C	-0.100000
39	04s82824	D	0.002216
40	02S41546	A	-0.021861
40	02S41546	B	-0.098940
40	02S41546	C	-0.063741
40	02S41546	D	-0.035127
41	02S41543	A	-0.028083
41	02S41543	B	-0.086842
41	02S41543	C	-0.039777
41	02S41543	D	-0.058729
42	02S41540	A	-0.035301
42	02S41540	B	-0.094364
42	02S41540	C	-0.060642
42	02S41540	D	-0.030513
43	96S00499	A	-0.147633
43	96S00499	B	-0.096561
43	96S00499	C	-0.080596
43	96S00499	D	-0.007621