Exelon.
Nuclear

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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 License Amendment Request Regarding the Use of Neutron Absorbing Inserts in Unit 2 Spent Fuel Pool Storage Racks

References:

1. Letter from P. R. Simpson (Exelon Generation Company, LLC) to U.S. NRC, "License Amendment Regarding the Use of Neutron Absorbing Inserts in Unit 2 Spent Fuel Pool Storage Racks," dated October 5, 2009
2. Letter from C. S. Goodwin (U.S. NRC) to C. G. Pardee (Exelon Nuclear), "LaSalle County Station, Units 1 and 2 – Request for Additional Information Related to License Amendment Request Regarding the Use of Neutron Absorbing Inserts in Unit 2 Spent Fuel Pool Storage Racks (TAC Nos. ME2376 and ME2377)," dated April 26, 2010
3. Email from C. S. Goodwin (U.S. NRC) to K. M. Nicely (Exelon Generation Company, LLC), "LaSalle NETCO Insert Question," dated June 2, 2010 (ADAMS Accession Number ML101540001)

In Reference 1, Exelon Generation Company, LLC (EGC) requested an amendment to Facility Operating License Nos. NPF-11 and NPF-18 for LaSalle County Station (LSCS), Units 1 and 2, respectively. The proposed change revises Technical Specifications (TS) Section 4.3.1, "Criticality," to address a non-conservative TS. Specifically, the proposed change addresses the Boraflex degradation issue in the Unit 2 spent fuel storage racks by revising TS Section 4.3.1 to allow the use of NETCO-SNAP-IN® rack inserts in Unit 2 spent fuel storage rack cells as a replacement for the neutron absorbing properties of the existing Boraflex panels.

The NRC requested additional information to complete the review of the proposed license amendment in References 2 and 3. In response to these requests, EGC is providing the attached information. Specifically, Attachment 1 provides responses to NRC Requests 3, 4, 6, 7, 13, 15, 29, 30, 31, and 33 from Reference 2. Responses to the remaining NRC Requests are provided in Attachment 3.

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NRR

Some of the information in Attachments 3 and 5 is proprietary to AREVA NP Inc., and is supported by affidavits signed by AREVA NP Inc. The affidavits, provided in Attachments 4 and 6, set forth the basis on which the information may be withheld from public disclosure by the NRC and addresses with specificity the considerations listed in paragraph (b)(4) of 10 CFR 2.390, "Public inspections, exemptions, requests for withholding." Accordingly, it is requested that the information be withheld from public disclosure in accordance with 10 CFR 2.390. A non-proprietary version of the information contained in Attachment 3 is also provided in Attachment 4. The CASMO-4 Version 2.05.09 User's Manual provided in Attachment 5 is being provided for information only, and not for NRC review. Attachment 5 has been classified as proprietary in its entirety, so a non-proprietary version of Attachment 5 is not being provided.

EGC has reviewed the information supporting a finding of no significant hazards consideration, and the environmental consideration, that were previously provided to the NRC in Attachment 1 of 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. In addition, the additional information provided in this submittal does not affect the bases for concluding that neither an environmental impact statement nor an environmental assessment needs to be prepared in connection with the proposed amendment.

There are no regulatory commitments contained in this letter. Should you have any questions concerning this letter, please contact Mr. Kenneth M. Nicely at (630) 657-2803.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 10th day of June 2010.

Respectfully,

Patrick R. Simpson
Manager – Licensing

Attachments:

1. Response to Request for Additional Information
2. Revised Markup of Proposed Technical Specifications Page
3. AREVA NP Inc. Report No. ANP-2843Q1P, "LaSalle Unit 2 Nuclear Power Station Spent Fuel Storage Pool Criticality Safety Analysis with Neutron Absorbing Inserts and Without Boraflex – RAIs," Revision 0 (PROPRIETARY INFORMATION)
4. AREVA NP Inc. Affidavit and Non-Proprietary Version of Attachment 3
5. CASMO-4 Version 2.05.09 User's Manual
6. AREVA NP Inc. Affidavit for Withholding CASMO-4 Version 2.05.09 User's Manual

cc: NRC Regional Administrator, Region III
NRC Senior Resident Inspector – LaSalle County Station
Illinois Emergency Management Agency – Division of Nuclear Safety

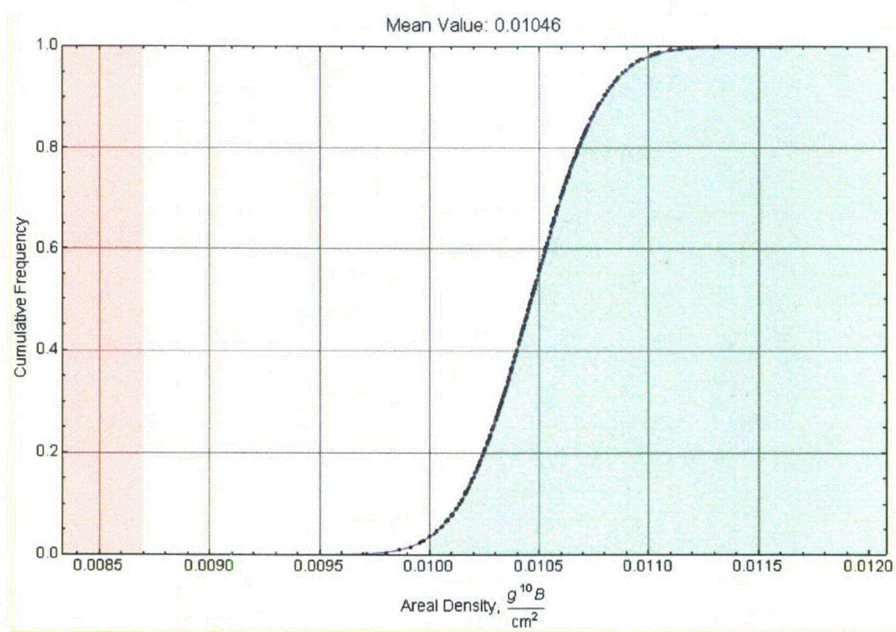
ATTACHMENT 1
Response to Request for Additional Information

<u>NRC Request 3</u>

Text from Attachment 1, Section 3.3.2, "Areal Density of Boron," notes that lower limit for the areal density of boron (B) in the Rio Tinto Alcan composite is 0.0087 g Boron-10 per centimeter squared ($^{10}B/cm^2$). What is the uncertainty associated with the measurements used to confirm that the "manufacturing insert quality assurance testing lower limit for areal density" is met? Describe how the areal density assumed in the analysis accounts for the measurement uncertainty.

<u>Response</u>

The uncertainty associated with the neutron attenuation testing varies between 0.0003 and 0.0009 g $^{10}B/cm^2$. This measurement uncertainty is taken into account, at a 95% confidence level, when determining the acceptability of a given coupon test result. Individual tested coupons must exceed the 0.0087 g $^{10}B/cm^2$ limit with this uncertainty subtracted from the measured value. Additionally, an analysis is performed on the coupon population's areal density to ensure that the 95/95 limit of the production batch exceeds the minimum specified areal density value of 0.0087 g $^{10}B/cm^2$. Production batches encompass all inserts made from the same stock of raw material. The following plot shows the LaSalle County Station (LSCS) insert test coupons measured to date imposed upon a cumulative normal distribution function having the same mean (0.01046 g $^{10}B/cm^2$) and standard deviation (0.00026 g $^{10}B/cm^2$) as the population of test coupons. The red region to the left represents the region of the plot that falls below the minimum certified value. The population reflected in the plot consists of 394 samples and has a minimum value of 0.0097 g $^{10}B/cm^2$ and an uncertainty on the mean of 0.000013 g $^{10}B/cm^2$. With 95% confidence, 95% of the population of measurements falls within the green area of the plot with a minimum 95/95 value of 0.0100 g $^{10}B/cm^2$. It can be seen that the population is well in excess of the minimum certified value for the LSCS inserts. This methodology is to be applied to all inserts produced for LSCS to insure appropriate margin to criticality.



NRC Request 4

Text from Attachment 1, Section 3.4.2, "Mechanical Wear," notes that mechanical wear may occur. The text further states that minimal material loss is expected, but does not quantify how much material may be lost. Loss of material due to wear may occur in multiple, adjacent locations at the same time. Consequently, the increase in the effective multiplication factor (k_{eff}) may not be bounded by the loss of a single insert, which is evaluated in the criticality analysis.

Provide estimates for how much the ^{10}B areal density may be reduced locally by mechanical wear. If appropriate, modify the criticality analysis to consider this additional potential failure mechanism.

Response

Based upon an average as-built insert thickness of 0.067" and an average as-built areal density of 0.0104 g $^{10}B/cm^2$, the calculated areal density "boron worth" of a 1 mil surface layer is:

0.001"/0.067" * 0.0104 g $^{10}B/cm^2$ = 0.00016 g $^{10}B/cm^2$ per mil of surface.

In response to NRC Request 3, it was stated that the minimum 95/95 value of the insert material was 0.0100 g $^{10}B/cm^2$. This suggests a margin of 0.0013 g $^{10}B/cm^2$ above the minimum value. With this margin, the inserts could withstand a uniform reduction in thickness of 8 mils.

Manufacturing experience with the inserts has shown that handling accidents and other environmental damage lead to scratches and surface imperfections locally along the insert length. However, there has been no sign of uniform wear in either the demonstration prototype testing of the material or during manufacturing. Local effects have been accounted for in the criticality analysis by conservatively assuming that an entire insert is missing from a cell.

As the clearance between fuel and insert is verified by go/no-go gauges for all fuel likely to come in contact with the insert "wall" during placement, it is unlikely that a significant fraction of those events would result in any contact leading to uniform degradation of the insert face. Tests with drag gauges in cells that have an insert installed have shown no resistance from contact with the inserts and, therefore, no means of generating additional wear. Additionally, the procedure governing insert installation requires each cell containing an insert to be drag tested prior to the cell being placed in operation. The following is an excerpt from the procedure.

> 4.4 Drag Testing
>
> After the installation of the required inserts has been completed, drag testing is to be performed in the affected cells. These tests will establish, from a mechanical standpoint, the continued viability of the cells as fuel storage locations. Further, these tests are meant to establish the expected drag forces and interferences (if any) that will be encountered during the storage of irradiated fuel.
>
> Drag testing is to be performed with the fuel rack manufacturing drag gauge set to an external dimension of 5.87" square.

The drag gauge will be inserted into the specified storage cell, as a fuel bundle would, until it is either resting on the floor of the storage rack or the monohoist can advance no further. The gauge is then to be removed from the cell until it is completely free of the racks. While the gauge is moving, the load on the monohoist shall be recorded for later examination.

At the discretion of the test engineer, this test sequence may be performed several times for a given storage cell, but, at a minimum, it will be performed twice for each cell in which a NETCO-SNAP-IN™ has been installed. If additional tests are performed, record observations on a separate data sheet and attach to this procedure.

The following table specifies the values to be recorded. For each cell the following criteria apply:

1) Drag Test (Test Gauge Insertion):

   For each cell, full insertion of the gauge constitutes a successful test.

2) Drag Test (Test Gauge Withdrawal):

   a) For each cell, the maximum recorded load on the monohoist should be no more than 225 lbs. above the hanging weight.

   b) For each cell, visually verify that the rack insert has remained in place following withdrawal of the gauge.

No uniform wear is expected over the lifetime of the inserts and there is sufficient margin to the minimum specified areal density value of 0.0087 g $^{10}B/cm^2$ to mitigate any unexpected wear effects that might occur prior to detection.

NRC Request 6

Text from Attachment 1, Section 3.9, "Rio Tinto Alcan Composite Surveillance Program," describes the proposed surveillance program. Describe how the surveillance program will detect loss of ^{10}B due to mechanical wear (e.g. due to friction as assemblies are inserted and withdrawn) and/or erosion of material (e.g. due to water flow) from the inserts. Describe the measurement uncertainty and acceptance criteria. Describe also how the surveillance program is factored into the criticality analysis.

Response

As discussed in the response to NRC Request 4, no uniform mechanical wear is expected over the lifetime of the inserts, and there is sufficient margin to the minimum specified areal density to mitigate unexpected wear effects that might occur prior to detection. However, to address unexpected uniform wear, Exelon Generation Company, LLC (EGC) plans to include a full insert surveillance program as part of the Rio Tinto Alcan Composite Surveillance Program described in Section 3.9 of Attachment 1 to the license amendment request. As documented in

Attachment 7 to the license amendment request, EGC made a regulatory commitment to implement the Rio Tinto Alcan Composite Surveillance Program to ensure that the performance requirements of the Rio Tinto Alcan composite in the NETCO-SNAP-IN® rack inserts are met over the lifetime of the spent fuel storage racks with the rack inserts installed.

A region of high duty spent fuel storage rack cell locations will be identified for surveillance activity. These locations will be monitored for fuel insertion and removal events to ensure that their service bounds that of the general population of storage locations. Once every 10 years, an insert will be removed from this region and will be inspected for thickness along its length in a minimum of 10 locations. This collection of measurements will then be compared with the as-built thickness measurements of the removed insert to determine whether it has sustained uniform wear over its service life.

EGC has reviewed records of bundle insertion/removal events that have occurred since installation of the existing Boraflex racks in 1989. In more than 20 years of operation, the most used cell locations have experienced less than 20 insertion/removal events that could lead to mechanical wear. As stated in response to NRC Request 4, the inserts could withstand a uniform reduction in thickness of 8 mils. Therefore, given the low number of insertion/removal events and the amount of uniform wear that could be accommodated, the 10 year frequency for the inspection described above is appropriate.

Loss of material through erosion can be determined during the planned dimensional evaluation of the coupons as part of the coupon surveillance program described in Section 3.9 of Attachment 1 of the license amendment request. The coupons will be exposed to more open water flow than the in-service inserts; therefore, erosion based on the coupons will be conservative relative to insert erosion. Additionally, neutron attenuation testing of the coupons will indicate any deviation of the material from the as-manufactured areal density due to such erosion. Acceptance criteria is based upon ensuring that any variations in the material dimensions, composition, or neutronic properties, due to the service environment, do not cause the material to fall below the minimum as-analyzed areal density in the criticality analysis. Detailed acceptance criteria for the coupons are listed on page 23 of Attachment 1 to the license amendment request.

NRC Request 7

Text from Attachment 1, Section 4.1, "Applicable Regulatory Requirements/Criteria," describes the applicable regulatory requirements and criteria. Noticeably absent from the list is GDC-5, "Sharing of Structures, Systems, and Components." Considering that fuel from either unit may be stored in either spent fuel storage pool, it would seem appropriate to include consideration of GDC-5. Additionally, the applicable regulatory requirements of *Title 10 of the Code of Federal Regulation* (10 CFR) Section 50.68, "Criticality accident requirements," extend beyond 10 CFR 50.68(b)(4).

Provide the logic addressing compliance with GDC-5 and a commitment to meet the other requirements of 10 CFR 50.68, including the 5 weight percent (wt percent) uranium-235 (^{235}U) maximum nominal enrichment specified in 10 CFR 50.68(b)(7).

Response

GDC-5 requires that structures, systems, and components important to safety shall not be shared among nuclear power units unless it can be shown that such sharing will not significantly impair their ability to perform their safety functions. The LSCS Unit 1 and Unit 2 spent fuel pools are connected by a double-gated transfer canal, and the potential exists that assemblies may be moved between the two spent fuel pools. The criticality analysis that supports the use of NETCO-SNAP-IN® rack inserts assumes a less reactive assembly than was assumed for the existing analyses. The proposed change to Technical Specifications (TS) Section 4.3.1 limits the reactivity of fuel assemblies to be stored in both spent fuel pools to this lower reactivity limit. In addition, all assemblies currently stored in both the Unit 1 and Unit 2 spent fuel pools already meet this lower reactivity limit. Therefore, continued compliance with GDC-5 will be maintained since the sharing of fuel assemblies will not significantly impair the ability of the spent fuel pools to perform their safety functions.

10 CFR 50.68(a) requires licensees to comply with either 10 CFR 70.24, "Criticality accident requirements," or 10 CFR 50.68(b). As required by 10 CFR 50.68(b)(8), Section 9.1 of the LSCS Updated Final Safety Analysis Report (UFSAR) contains a statement that LSCS must comply with 10 CFR 50.68(b). 10 CFR 50.68(b)(7) requires that the maximum nominal U-235 enrichment of the fresh fuel assemblies be limited to 5.0 percent by weight. Consequently, LSCS currently complies with, and will continue to comply with, the 5.0 weight percent U-235 maximum nominal enrichment limitation specified in 10 CFR 50.68(b)(7).

NRC Request 13

ANP-2843(P) (proprietary), Table 2.1, Section 4. This part of Table 2.1 provides zone-dependent maximum in-rack k_∞ values. Use of this table with zone-dependent k_∞ values creates the potential for an abnormal condition that has not yet been analyzed in ANP-2843(P). What will be the impact on maximum in-rack k_∞ value if the zone 3 limit is erroneously applied to a zone 1 lattice for a group of fuel assemblies?

Evaluate this additional abnormal condition or justify not doing so.

Response

Section 4 of Table 2.1, "Criticality Safety Limitations for ATRIUM-10 Fuel Assemblies Stored in the LaSalle Unit 2 Nuclear Power Station Spent Fuel Pool," of ANP-2843(P) provides design criteria for new fuel assemblies to be brought on site. These design criteria must be misapplied in both the fuel assembly design and manufacturing phases for the scenario described to occur and potentially result in an assembly exceeding the proposed TS 4.3.1 limitations for the spent fuel pool. Fuel assembly design and manufacturing is quality controlled by the fuel vendor under their NRC-approved Quality Assurance Program. Each design is rigorously scrutinized during this process, and subsequently subjected to additional review and approval by EGC's Nuclear Fuels organization under EGC's Quality Assurance Program. EGC has not identified any instances of a boiling water reactor fuel assembly being placed into service with this type of design and manufacturing error in the commercial nuclear power industry.

However, consideration of this condition concludes that even if an assembly with a design and manufacturing error of this nature is placed into operation, the proposed TS 4.3.1 limits for the spent fuel pool would not be exceeded. A fresh fuel assembly has a far lower reactivity than the reference bounding assembly reactivity assumed in ANP-2843(P) due to the gadolinium loading. Consequently, a fresh fuel assembly could be safely placed in the spent fuel pool. Additionally, once the assembly was utilized in power operations, it would be recognized within the first few days of operation as being errant, and plans for handling it would be developed well before it was discharged back to the spent fuel pool. The incorrect fuel design would be detected through greater than expected local power range monitor (LPRM) response and thermal limits (e.g., maximum average planar linear heat generation rate (MAPLHGR) and linear heat generation rate (LHGR)) in the area of the core containing the incorrect fuel assembly.

NRC Request 15

ANP-2843(P) (proprietary), Section 4.2, first paragraph. As is stated in this paragraph, the analysis assumes the Boraflex has been replaced with water. The gaps in the Boraflex may not be filled with water. To cover these areas, it may be more appropriate to replace the Boraflex with void, which may yield higher in-rack k_∞ values.

Evaluate the impact of replacing the Boraflex with void rather than water or justify not doing so.

Additionally, if Boraflex was utilized on the rack module perimeter locations, it was probably held in place by a steel "wrapper." It is not clear whether or not the steel wrapper is modeled. If it was not modeled, this modeling simplification should be described and justified. If it was modeled, the manufacturing tolerances on the Boraflex cavity dimensions and on the wrapper thickness, and width should be included in the uncertainty analysis.

Response

The spent fuel storage pool rack modules in the LSCS Unit 2 spent fuel storage pool are built from stainless steel boxes, sheets of Boraflex, and stainless steel wrapper plates. Each rack module is composed of stainless steel boxes with sheets of Boraflex captured between face adjacent boxes. The boxes are welded together with six pairs of fusion welds spaced axially along the length of the box. There is a narrow sheet of stainless steel welded to one of the two adjacent box walls at the base of the Boraflex sheet to maintain the Boraflex sheet position axially (i.e., the Boraflex sheet does not cover the full length of the stainless steel box). Between adjacent rack modules, each Boraflex sheet is held in place by a stainless steel wrapper plate that is intermittently welded to the outside wall of the stainless steel box.

The Boraflex sheets in the LSCS Unit 2 spent fuel storage pool are unsealed. Therefore, gas or voids generated by degrading Boraflex is free to migrate towards the edges of the Boraflex sheet and subsequently rise to the surface of the spent fuel storage pool. The void is replaced by water. It is common to see bubbles rising to the surface of the spent fuel storage pool when looking down from above. Consequently, replacing the Boraflex with water in the analysis in ANP-2843(P) represents the physical situation in the spent fuel storage pool.

The stainless steel wrapper plates are not modeled in the criticality analysis in ANP-2843(P). This is a conservative model of the spent fuel storage pool. The iron in the stainless steel has a higher neutron absorption cross-section per unit volume than water. Consequently, replacing the wrapper plate with water in the criticality analysis results in the calculated spent fuel pool reactivity being higher than the actual condition.

NRC Request 29

In ANP 2843(P) (proprietary), Section 6.8 it states, "The assembly enrichment and gadolinia limitations defined in Table 2.1 will be applied to all future ATRIUM-10 fuel assemblies that are built for LaSalle Unit 1 and Unit 2." How is this requirement captured and controlled in the LaSalle TS?

Response

The proposed TS change contained in Attachment 2 of the license amendment request adds the reactivity limitations for all future ATRIUM-10 fuel assemblies that are built for LSCS Units 1 and 2 to the TS as proposed TS 4.3.1.1.d. The reactivity limitations in the proposed TS change are consistent with Item 4 in Table 2.1 of ANP-2843(P). The reactivity limits provided in the proposed TS change are based on evaluation of lattices with the enrichment and gadolinia limitations from Item 3 in Table 2.1 of ANP-2843(P).

NRC Request 30

ANP-2843(P) (proprietary), Section 6.9 addresses inaccessible storage locations. Is it credible that the spent fuel pool configuration might change, making previously inaccessible cells, which will not have inserts, accessible? If so, the lack of inserts might be overlooked for multiple adjacent cells and fuel erroneously stored there.

Confirm that such spent fuel pool configuration changes are not credible or incorporate into the analysis an abnormal condition wherein multiple assemblies are stored in cells without inserts.

Response

EGC does not anticipate recovery of inaccessible storage locations due to the physical interferences with other plant equipment that exist. Spent fuel pool configuration changes, such as recovering previously inaccessible cells, are made in accordance with the design change process. If a spent fuel pool configuration change is made to make previously inaccessible cells that do not have inserts accessible, inserts would be installed to comply with the proposed TS Section 4.3.1.1.c (e.g., the TS change that requires installation of inserts in spent fuel storage rack cells prior to loading fuel assemblies in cells that cannot otherwise maintain the requirements of TS Section 4.3.1.1.a). In addition, compliance with the interface requirements of proposed TS Section 4.3.1.1.e, as discussed in response to NRC Request 33, would also be required.

NRC Request 31

ANP-2843(P) (proprietary), Section 6.9, second paragraph, last sentence – The existence of accessible empty cell locations without an insert creates the potential for erroneous placement of fuel assemblies in multiple unpoisoned locations. Confirm that this configuration is acceptable only for inaccessible storage locations.

Response

Section 6.9 of ANP-2843(P) specifically addresses the configuration of inaccessible fuel storage rack cells in the spent fuel pool that contain neither an insert nor a fuel assembly. As indicated in the text, these locations "are physically inaccessible primarily due to crane interference with piping above the fuel storage racks." The interference is such that neither a fuel assembly nor an insert can be placed into the fuel storage rack cell. All locations in the spent fuel storage pool that a fuel assembly can be placed in will contain an insert.

NRC Request 33

In ANP-2843(P) (proprietary), Section 6.10 it states, *"Exelon commits to expand the placement of inserts into one row and one column of the adjacent region as necessary to completely surround all assemblies that are part of the insert region with four wings of the NETCO-SNAP-IN inserts."* How is this requirement captured and controlled in the LSCS TS?

Response

This requirement was identified as a regulatory commitment in Attachment 7 of the license amendment request. EGC proposes to add a new TS requirement, 4.3.1.1.e, which states:

e. For Unit 2 only, at the interface between a non-insert rack module and an insert rack module of the spent fuel pool, the placement of inserts will be expanded one row and one column into the non-insert rack module as necessary to completely surround all assemblies in the insert rack module with four wings of an insert.

A revised markup of TS Section 4.3.1.1 is provided in Attachment 2.

ATTACHMENT 2
Revised Markup of Proposed Technical Specifications Page

LaSalle County Station, Units 1 and 2

Facility Operating License Nos. NPF-11 and NPF-18

REVISED TECHNICAL SPECIFICATIONS PAGE

4.0-2

4.0 DESIGN FEATURES (continued)

4.3 Fuel Storage

4.3.1 Criticality

4.3.1.1 The spent fuel storage racks are designed and shall be maintained with:

a. $k_{eff} \leq 0.95$ if fully flooded with unborated water, which includes an allowance for uncertainties as described in Section 9.1.2 of the UFSAR; and

b. A nominal 6.26 inch center to center distance between fuel assemblies placed in the storage racks.

c. For Unit 2 only, a neutron absorbing rack insert shall be installed in spent fuel storage rack cells prior to loading fuel assemblies in cells that cannot otherwise maintain the requirements of 4.3.1.1.a.

d. Fuel assemblies shall have a maximum k-infinity of 0.9185 for all lattices in the top of the assembly, a maximum k-infinity of 0.8869 for all lattices in the intermediate portion of the assembly, and a maximum k-infinity of 0.8843 for all lattices in the bottom of the assembly as determined at 4°C in the normal spent fuel pool in-rack configuration. The bottom, intermediate, and top zones are between 0"-96", 96"-126", and greater than 126" above the bottom of the active fuel.

e. For Unit 2 only, at the interface between a non-insert rack module and an insert rack module of the spent fuel pool, the placement of inserts will be expanded one row and one column into the non-insert rack module as necessary to completely surround all assemblies in the insert rack module with four wings of an insert.

4.3.2 Drainage

The spent fuel storage pool is designed and shall be maintained to prevent inadvertent draining of the pool below elevation 819 ft.

4.3.3 Capacity

The spent fuel storage pool is designed and shall be maintained with a storage capacity limited to no more than 3986 fuel assemblies for Unit 1 and 4078 fuel assemblies for Unit 2.

ATTACHMENT 4

AREVA NP Inc. Affidavit and Non-Proprietary Version of Attachment 3

AFFIDAVIT

STATE OF WASHINGTON)
) ss.
COUNTY OF BENTON)

1. My name is Alan B. Meginnis. I am Manager, Product Licensing, for AREVA NP Inc. and as such I am authorized to execute this Affidavit.

2. I am familiar with the criteria applied by AREVA NP to determine whether certain AREVA NP information is proprietary. I am familiar with the policies established by AREVA NP to ensure the proper application of these criteria.

3. I am familiar with the AREVA NP information contained in the report ANP-2843Q1P Revision 0, entitled, "LaSalle Unit 2 Nuclear Power Station Spent Fuel Storage Pool Criticality Safety Analysis with Neutron Absorbing Inserts and Without Boraflex - RAIs," dated June 2010 and referred to herein as "Document." Information contained in this Document has been classified by AREVA NP as proprietary in accordance with the policies established by AREVA NP for the control and protection of proprietary and confidential information.

4. This Document contains information of a proprietary and confidential nature and is of the type customarily held in confidence by AREVA NP and not made available to the public. Based on my experience, I am aware that other companies regard information of the kind contained in this Document as proprietary and confidential.

5. This Document has been made available to the U.S. Nuclear Regulatory Commission in confidence with the request that the information contained in this Document be withheld from public disclosure. The request for withholding of proprietary information is made in accordance with 10 CFR 2.390. The information for which withholding from disclosure is

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.

SUBSCRIBED before me this 8th day of June, 2010.

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

SUSAN K. MCCOY
COMMISSION EXPIRES
NOTARY
PUBLIC
01-10-12
STATE OF WASHINGTON