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10 CFR 50.90
L-2009-259
November 6, 2009

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington D.C. 20555-0001

Re: Turkey Point Unit 4
Docket No. 50-251
Issuance of Amendment Regarding Spent Fuel Boraflex Remedy
Supplement 5 to Request for a Change in Implementation Date

References:

1. Letter from Michael Kiley (FPL) to USNRC, "Implementation Date Change for License Amendments 234 and 229," L-2009-200, September 1, 2009.
2. Letter from Michael Kiley (FPL) to USNRC, "Issuance of Amendment Regarding Spent Fuel Boraflex Remedy – Supplement 4 to Request for a Change in Implementation Date," L-2009-258, November 5, 2009.
3. Westinghouse Nuclear Safety Advisory Letter NSAL-00-015, Axial Burnup Shape Reactivity Bias, November 2, 2000.

Florida Power and Light Company (FPL) submitted an application for amendment of the Unit 3 and 4 licenses in Reference 1. The application was supplemented by FPL for Unit 4 in Reference 2. This letter provides the plant-specific attachment to Westinghouse Nuclear Safety Advisory Letter NSAL-00-015 (Reference 3) for Turkey Point. The attachment was requested by the NRC staff, via email, in a request for additional information (RAI). FPL provided a response to the RAI in Reference 2 but could not submit the attachment since it is marked as Westinghouse proprietary information and FPL did not have Westinghouse permission to submit the attachment at the time. As stated in Reference 2, FPL requested an affidavit from Westinghouse in order to be able to submit the attachment, if needed by the NRC staff. The NRC Project Manager for Turkey Point notified FPL that the attachment was needed. Westinghouse has determined that the information in the attachment is no longer considered proprietary and has provided FPL with a hand-altered non-proprietary copy that is attached.

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FPL has determined that the additional information provided above does not impact the conclusions of the No Significant Hazards Consideration determination in Reference 1.

If you have any questions or require additional information, please contact Robert Tomonto at 305-246-7327.

I declare under penalty of perjury that the foregoing is true and correct.

Very truly yours,

11/6/2009

Executed on



Michael Kiley

Vice President – Turkey Point Nuclear Plant

cc: Regional Administrator, Region II, USNRC
Senior Resident Inspector, USNRC, Turkey Point Nuclear Plant
USNRC Project Manager for Turkey Point
Mr. William Passetti, Florida Department of Health

Attachment
to
FPL Letter L-2009-259

Issuance of Amendment Regarding Spent Fuel Boraflex Remedy
Supplement 5 to Request for a Change in Implementation Date

Attachment 2 to Westinghouse Letter FPL-NSBU-00-156 to FPL
3 Pages

Turkey Point Units 3 & 4

Spent Fuel Pool Region & Configuration: 2

Axial Burnup Bias Penalty:	1665
Summary of Credits:	
Presence of samarium and fission product buildup credit	200 ¹
Discrete lattice single rack cell assumption credit	500 ²
Boron letdown curve for HFP depletion credit	516 ³
Enrichment, density, dishing tolerance credit	466 ⁴
Existing delta to the k_{eff} limit	81 ⁵
Grid and sleeve credit	0 ⁶
Pool leakage credit	0 ⁷
Decay time credit	0 ⁸
WCAP-14416-NP-A axial burnup bias credit	0 ⁹
Net Balance:	<hr/> 98

Note: All units are $\times 10^5 \Delta K$.

Westinghouse Assessment of Credits

The following discussion is provided for utility use in assessing the licensing position of the credits identified (e.g., allowed by the topical, not allowed by the topical, or not discussed in the topical). This assessment is Westinghouse's perspective of the licensing position on the credits. Utilities will have to determine whether they agree with Westinghouse's perspective or establish their own position.

- ¹ On page 4 of the SER, item 9, it states that "no amount of fission product material is modeled in the fuel assembly". This is an input assumption that was noted by the NRC as "... tend to maximize the rack reactivity and are, therefore, appropriately conservative and acceptable". However, it is also noted on page 6 of the SER, sixth paragraph, that the staff does not consider it a requirement to take no credit for fission product poison material in doing the criticality analysis. Therefore, it is appropriate to consider that samarium and fission product buildup credit is acceptable and within the bounds of the WCAP as approved by the NRC.
- ² On page 11 of the SER, item 1, it states that "if axial and planar variations of fuel assembly characteristics are present, they should be explicitly addressed, including the locations of burnable absorber rods". Since the original analysis was done assuming an infinite lattice, which is conservative, it is also acceptable to do discrete modeling of the assembly. Therefore, it is appropriate to consider that discrete lattice single rack cell assumption credit is acceptable and within the bounds of the WCAP as approved by the NRC.
- ³ On page 8 of the topical, Section 4.1, second paragraph, it is noted that "a conservatively high soluble boron letdown curve is chosen to enhance the buildup of plutonium thus making the fuel assembly more reactive when stored in the spent fuel storage racks. The SER only states that appropriate fuel depletion be accounted for in the analysis. Since it was identified that a conservatively high soluble boron letdown curve would be used, then the use of a flat peak boron concentration during the depletion is an excessive conservatism that can be reduced to that allowed in the WCAP. Therefore, it is appropriate to consider that boron letdown curve for HFP depletion credit is acceptable and within the bounds of the WCAP as approved by the NRC.
- ⁴ On pages 3, 4 and 5 of the SER, it is stated that nominal values are to be used with the appropriate tolerances accounted for in the analysis. As noted in the NSAL, the previous analysis has assumed conservative values for these parameters and their tolerances. The rationale for accounting for the more realistic tolerances is also specified in the NSAL. Since the SER identifies allowances for the enrichment, density and dishing fraction tolerances, then accounting for these allowances can be used to obtain a revised uncertainty bias term (B_{uncert}). Therefore, it is appropriate to account for the allowances and the Enrichment, density, dishing tolerance credit is acceptable and within the bounds of the WCAP as approved by the NRC.
- ⁵ The existing delta to the k_{eff} limit is the difference between the k_{eff} limit of 0.95 (for no soluble boron credit) or 1.00 (for soluble boron credit) and the calculated value of k_{eff} determined on a 95/95 basis. This is margin between the analysis results and the limit and does not need to be addressed in the topical report.
- ⁶ On page 4 of the SER, item 7, it states that "no amount of material from spacer grids or spacer sleeves is modeled in the fuel assembly". This is an input assumption that was noted by the NRC as "... tend to maximize the rack reactivity and are, therefore, appropriately conservative and acceptable". It should be noted that the NRC did not state that these assumptions are required. In fact, as noted in item 1 above for the fission product assumption, the NRC later stated in the SER that "the staff does not consider this to be a requirement". Since the NRC did not state that the assumptions are requirements in Section 3.2 of the SER and in one particular case (i.e., the fission products) it was stated that the staff does not consider it a requirement, it could be construed that none of the assumptions listed in Section 3.2 of the SER are requirements. However, it is noted that there is no additional discussions on this assumption. Therefore, from a prudence standpoint, Westinghouse would assume that grid and sleeves should not be modeled as a credit if one is strictly abiding by what is allowed within the topical report.

- 7 On page 11 of the SER, item 3, it states that "the spent fuel storage racks should be assumed to be infinite in lateral extent or surrounded by a water reflector and concrete or structural material as appropriate to the design. The fuel may be assumed to be infinite in the axial dimension, or the effect of reflector on the top and bottom of the fuel may be evaluated." Since the original analysis was done assuming no pool leakage, which is conservative, it is permissible to consider pool leakage. Therefore, it is appropriate to consider that pool leakage credit is acceptable and within the bounds of the WCAP as approved by the NRC.
- 8 Decay time credit is not discussed in the topical report but has been addressed in plant specific submittal. Decay time credit is therefore acceptable. It should be noted that no decay time credit has been used in any of the margin rackups. This credit can be used as an additional margin to demonstrate acceptability and conservatism. Therefore, it is appropriate to consider decay time credit as acceptable based on licensing precedence.
- 9 WCAP-14416-NP-A axial burnup bias credit is the amount of axial burnup bias that had been applied to the original analysis. Since the axial burnup bias has been re-calculated, the original bias should be subtracted out so as not to be double accounting for this penalty. Therefore, it is appropriate to consider that WCAP-14416-NP-A axial burnup bias is acceptable.