



June 25, 2007  
L-2007-092  
10 CFR 50.46

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, D. C. 20555- 00001

Re: Turkey Point Units 3 and 4  
Docket Nos. 50-250 and 50-251  
10 CFR 50.46, "Acceptance Criteria for  
Emergency Core Cooling Systems in Light Water  
Nuclear Power Reactors" - 30-Day Special Report

By letter L-2007-082 dated May 23, 2007, Florida Power & Light (FPL) submitted the 10 CFR 50.46 Annual Report for 2006. There were no changes in Peak Clad Temperature (PCT) in the Small Break Loss of Coolant Accident (SBLOCA) or the Large Break Loss of Coolant Accident (LBLOCA) for Turkey Point Units 3 and 4 during 2006. The reported total estimated LBLOCA PCT was 2064 °F and the SBLOCA PCT was 1689 °F.


Westinghouse notified FPL via letter NF-FP-07-126 dated June 4, 2007, of a computer code error in their design basis analysis of the LBLOCA PCT for Turkey Point Units 3 and 4. Specifically, the error occurred in the HOTSPOT code. At the axial node where fuel rod burst is predicted to occur, a fuel relocation model in HOTSPOT is used to account for the likelihood that additional fuel pellet fragments above that elevation may settle into the burst region. It was discovered that the effect of fuel relocation on local linear heat rate was being calculated, but then cancelled out later in the coding. Westinghouse determined that the error has an adverse impact of +40 °F on predicted PCT. Therefore, the current Turkey Point Units 3 and 4 design basis LBLOCA PCT of 2064 °F is being changed to 2104 °F. This is still well below the 10 CFR 50.46 limit of 2200 °F.

10 CFR 50.46(a)(3)(ii) requires that licensees report within 30 days to the Commission significant changes to, or errors discovered in, the Emergency Core Cooling System (ECCS) evaluation models, or in the application of such models that affect the peak clad temperature calculation and their effect on the limiting ECCS analysis. 10 CFR 50.46 (a)(3)(i) defines a significant change or error as one which results in a calculated peak fuel cladding temperature different by more than 50 °F.

Including the impact of this error in the HOTSPOT code, the cumulative changes to the Turkey Point Units 3 and 4 LBLOCA Evaluation Model PCT is 153 °F. In accordance with 10 CFR 50.46 this issue is reportable to the NRC within 30 days. This letter meets the 30-day reporting requirement. In addition to reporting, 10 CFR 50.46 also requires that a schedule be proposed for reanalysis or for taking other actions as may be needed to show compliance with the requirements of the regulation. Including the impact of this error, Westinghouse has determined that the Turkey Point Units 3 and 4 LBLOCA design basis analysis maintains compliance with 10 CFR 50.46 requirements. Accordingly, no schedule for reanalysis is required. Nevertheless, FPL is assessing options, including reanalysis with improved methodology, to gain additional margin to the 10 CFR 50.46 criteria.

Should there be any questions, please contact James Connolly, Licensing Manager, at 305-246-6632.

Very truly yours,

A handwritten signature in black ink, appearing to read "William Jefferson, Jr.", written in a cursive style.

William Jefferson, Jr.  
Vice President  
Turkey Point Nuclear Plant

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Attachment

cc: Regional Administrator, Region II, USNRC  
Senior Resident Inspector, USNRC, Turkey Point Plant