



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

REGION II  
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61 FORSYTH STREET, SW, SUITE 23T85  
ATLANTA, GEORGIA 30303-8931

November 20, 2007

EA-06-199

Duke Power Company LLC  
d/b/a Duke Energy Carolinas, LLC  
ATTN: Mr. Bruce H. Hamilton  
Vice President  
Oconee Nuclear Station  
7800 Rochester Highway  
Seneca, SC 29672

SUBJECT: RECONSIDERATION OF FINAL SIGNIFICANCE DETERMINATION  
ASSOCIATED WITH STANDBY SHUTDOWN FACILITY FLOOD BARRIER  
WHITE FINDING

Dear Mr. Hamilton:

As requested in your May 3, 2007, letter<sup>1</sup>, the NRC has completed reconsideration of the Final Significance Determination associated with the standby shutdown facility (SSF) White finding. The updated fragility study of the Jocassee dam that you provided in a letter dated February 5, 2007<sup>2</sup>, was carefully reviewed by the NRC staff. The NRC and your staff discussed the technical aspects of this study in a telephone conversation on June 28, 2007. At this time, both parties agreed that the seismic contribution to the Jocassee dam failure frequency was negligible.

However, the NRC staff determined that it was necessary to consider all information that was pertinent to the determination of the Jocassee dam failure frequency. As such, the staff conducted an evaluation to confirm the random or "sunny day" dam-failure frequency provided by Duke Power Company. Our evaluation used publicly available data and determined that the "sunny day" failure frequency for the Jocassee dam was more appropriately represented by 1.8 E-4/year rather than the 1.4 E-5/year estimate provided by your staff. The Jocassee dam "sunny day" failure frequency was also discussed during the June 28, 2007, telephone conversation. Given our estimated dam-failure frequency, we determined that only a one-percent probability of floods occurring in the critical flood zone (the 3.5 inch reduction in SSF flood protection) would exceed the 1E-6/year delta core damage frequency threshold for a greater-than-green inspection finding.

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<sup>1</sup> Duke letter to Dr. W. D. Travers and Mr. Jim Dyer, dated May 3, 2007; Request For NRC To Review Appeal Of Final Significance Determination For SSF Flood Barrier White Finding

<sup>2</sup> Duke letter to NRC, dated February 5, 2007; Duke Power Company LLC d/b/a Duke Energy Carolinas, LLC, Oconee Nuclear Station, Units 1,2, and 3, Docket Numbers 50-269, 50-270, and 50-280; Seismic Fragility Study

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As provided to you in our letters dated November 22, 2006<sup>3</sup>, and March 1, 2007<sup>4</sup>, the White risk determination was based on a blend of qualitative and quantitative considerations. Although the quantitative considerations contained in both of these letters provided for a risk characterization of White, the calculations were known to contain significant uncertainties. These uncertainties included the estimated failure frequency for the Jocassee dam and the predicted flood heights onsite in the event of a Jocassee dam failure. The large increase in the “sunny day” dam-failure frequency more than compensates for the uncertainties in the quantitative considerations and provides confidence that the risk is appropriately characterized as low to moderate (White).

The reconsideration requested in your letter of May 3, 2007, was conducted using the guidance in NRC Manual Chapter (MC) 0609, Appendix M, Significance Determination Process Using Qualitative Criteria. The Appendix M process confirmed that the qualitative considerations that influenced the risk determination provided to you in the November 22, 2006, and March 1, 2007, letters were still appropriate (i.e., lack of defense-in-depth and safety margin). In other words, because the SSF is the only system available to mitigate an external flood at a three-unit site, and there is no other backup system or recovery path available if it is lost, even a small degradation of the SSF flood barrier could have significant consequences for some events. Accordingly, from a risk-informed decision standpoint, the NRC’s significance determination remains low to moderate (White).

This reconsideration was conducted by a panel of NRR senior managers who independently reviewed the information developed by your staff and the NRC staff. The results have been reviewed and approved by the Director, Office of Nuclear Reactor Regulation.

The White finding was inspected and subsequently closed in NRC Supplemental Inspection Report 05000269,270,287/2007009, issued on October 12, 2007. In accordance with NRC MC 0305, Operating Reactor Assessment Program, the White finding was used in the NRC assessment process to determine Oconee’s position in the Action Matrix beginning with the third quarter of 2006 through the end of the third quarter of 2007. Because we have completed our regulatory response for this White finding, and because it will no longer be used in the assessment program, we consider this matter closed.

In your letter of May 3, 2007, you also stated that the NRC should change the appeal process such that licensees would be allowed to provide additional information during the process. The NRC staff is currently evaluating that recommendation.

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<sup>3</sup> NRC letter to Mr. Bruce Hamilton, dated November 22, 2006; Final Significance Determination For A White Finding And Notice Of Violation - (Oconee Nuclear Station - NRC Inspection Report Nos. 05000269/2006017, 05000270/2006017, AND 05000287/2006017)

<sup>4</sup> NRC letter to Mr. Bruce Hamilton, dated March 1, 2007; Response To Appeal Of Final Significance Determination For A White Finding And Denial Of Notice Of Violation (Oconee Nuclear Station – NRC Inspection Report Nos. 05000269/20070007, 05000270/2007007, And 05000287/2007007)

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Sincerely,

**/Victor McCree RA for/**

William D. Travers  
Regional Administrator

cc: G. Davenport, Safety Assurance Manager, Oconee

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Sincerely,

**/Victor McCree RA for/**

William D. Travers  
Regional Administrator

cc: G. Davenport, Safety Assurance Manager, Oconee

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Letter to Bruce H. Hamilton from William D. Travers dated November 20, 2007

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WHITE FINDING

Distribution:

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