August 15, 2008

Mr. Dave Baxter
Vice President, Oconee Site
Duke Energy Carolinas, LLC
7800 Rochester Highway
Seneca, SC 29672

SUBJECT: INFORMATION REQUEST PURSUANT TO 10 CFR 50.54(f) RELATED TO EXTERNAL FLOODING, INCLUDING FAILURE OF THE JOCASSEE DAM, AT OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3, (TAC NOS. MD8224, MD8225, AND MD8226)

Dear Mr. Baxter:

This letter is being issued in accordance with the U.S. Nuclear Regulatory Commission's (NRC's) regulation in Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Section 50.54(f). Pursuant to this regulation, you are required to provide further information regarding the consequences of external flooding, including failure of the Jocassee Dam, to enable us to determine whether the Oconee Nuclear Station, Units 1, 2, and 3 (Oconee) licenses should be modified, suspended, or revoked.

After the resolution of the inspection finding on the breached Standby Shutdown Facility (SSF) flood barrier, the NRC has further reviewed the facts and circumstances regarding overall adequacy of the flood protection of Oconee given the Jocassee Hydro Project, Dam Failure Inundation Study (Inundation Study, item 6 in the Enclosure. Specifically, the NRC is seeking information to determine whether unfavorable physical characteristics of the site exist relative to a Jocassee Dam failure, and whether Oconee lacks appropriate and adequate compensating engineering safeguards for such an event.

We note that Section 3.1 of the Oconee Updated Final Safety Analysis Report (UFSAR) states, "The principal design criteria for Oconee 1, 2 and 3 were developed in consideration of the seventy General Design Criteria for Nuclear Power Plant Construction Permits proposed by the AEC [Atomic Energy Commission] in a proposed rule-making published in 10CFR Part 50 in the Federal Register of July 11, 1967." Furthermore, Section 3.1.2 of the UFSAR, "Criterion 2 – Performance Standards (Category A)," states, "Those systems and components of reactor facilities which are essential to the prevention of accidents which could affect public health and safety or to mitigation of their consequences shall be designed, fabricated and erected to performance standards that will enable the facility to withstand, without loss of the capability to protect the public, the additional forces that might be imposed by natural phenomena such as earthquakes, tornadoes, flooding conditions, winds, ice, and other local site effects." The current UFSAR discusses 5-foot walls that are used for flood protection at the SSF. However, it does not include the effects of a Jocassee Dam failure, nor does it include the flood protection features to mitigate the consequences of such an event. We further note that in the mid-1990's, the UFSAR was revised removing the reference to the Jocassee Dam failure and postulated wave height of 4.7 feet in the yard at the Oconee site.

In addition to the UFSAR, the NRC staff has reviewed a number of other documents relevant to flooding due to failure of the Jocassee Dam (see Enclosure). From this review, the NRC staff concluded that you relied on the 5-foot walls constructed around the two ground-level entrances

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to the SSF to provide sufficient protection against floods. However, the Inundation Study predicted that a failure of the Jocassee Dam could result in a flood height of 12.5 to 16.8 feet above grade.

Therefore, the NRC staff seeks additional information regarding external flooding of the Oconee site, including the consequences of a Jocassee Dam failure. Pursuant to Section 161c, 161o, 182, and 186 of the Atomic Energy Act of 1954, as amended, and the Commission's regulations in 10 CFR 50.54(f), in order for the Commission to determine whether the licenses for Oconee should be modified, suspended, or revoked, you are required to provide information within 45 calendar days of receiving this letter that will demonstrate that the three Oconee units can be safely shut down and maintained in a safe shutdown condition, and that the two spent fuel pools can be maintained in a safe condition, in the event of external flooding, including a Jocassee Dam failure.

In your response, you shall address the following specific issues:

1) Explain the bounding external flood hazard at Oconee and the basis for excluding consideration of other external flood hazards, such as those described in the Inundation Study, as the bounding case.

2) Provide your assessment of the Inundation Study and why it does or does not represent the expected flood height following a Jocassee Dam failure.

3) Describe in detail the nuclear safety implications of floods that render unavailable the SSF and associated support equipment with a concurrent loss of all Alternating Current power.

In answering these questions, please take appropriate measures in the development and handling of information regarding this issue, including consideration of the provisions of 10 CFR 2.390(d)(1). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

We recommend that your staff meet with the NRC staff within three weeks to discuss these issues and questions in order to ensure that your responses will have sufficient level of detail for the NRC staff to make an appropriate determination regarding this matter. If you have any questions on this matter, please contact Senior Project Manager, Leonard N. Olshan, of my staff at 301-415-1419.

Sincerely,

/RA/

Joseph G. Giitter, Director
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-269, 50-270, and 50-287
Enclosure:
Documents Reviewed Related to Failure of
the Jocassee Dam at Oconee Nuclear Station,
Units 1, 2, and 3

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OFFICE	NRR/LPL2-1/PM	NRR/LPL2-1/LA	OE	OGC	DE	NRR/ADES	RII/DRP/D
NAME	LOlshan	MOBrien	CCarpenter	MSimon NLO	PHiland	JGrobe	LWert
DATE	06/26/2008	06/25/2008	7/3/08	8/7/08	6/27/08	8/14/08	7/16/08
OFFICE	NRR/DRA/DD	NRR/LPL2-2/BC	NRR/DORL/DD	NRR/DORL/D	NRR/AD		NRR/DORL/D
NAME	MCunningham	MWong	TMcGinty	JGiitter	BBoger		JGiitter
DATE	6/27/08	7/8/08	7/14/08	7/15/08	8/14/08		8/15/08

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LETTER FROM: J. GIITER
TO: D. BAXTER
SUBJECT: INFORMATION REQUEST PURSUANT TO 10 CFR 50.54(f) RELATED TO EXTERNAL FLOODING, INCLUDING FAILURE OF THE JOCASSEE DAM, AT OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3

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DOCUMENTS REVIEWED RELATED TO FAILURE OF THE JOCASSEE DAM AT OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3

1. "Safety Evaluation of the Oconee Nuclear Power Station, Units 2 and 3, Duke Power Company," dated July 6, 1973
2. Letter from Robert W. Reid, NRC, to William O. Parker, Jr., dated October 29, 1979
3. Letter from J. F. Stolz, NRC, to H. B. Tucker, dated April 28, 1983 (transmit NRC staff Safety Evaluation Report of the Oconee Standby Shutdown Facility)
4. NSAC-60, "Oconee PRA, A Probabilistic Risk Assessment of Oconee Unit 3," Vol. 4, cosponsored by the Nuclear Safety Analysis Center and Duke Power Company, dated June 1984
5. Duke internal memorandum from R. E. Harris to D. B. Coyle, "FSAR Section 9.6, Standby Shutdown Facility," dated June 11, 1992
6. Jocassee Hydro Project, Dam Failure Inundation Study," Federal Energy Regulatory Commission (FERC) Project No. 2503, dated December 10, 1992
7. Duke internal memorandum from R. W. McAuler, Jr. to file, "Oconee Nuclear Station, Jocassee Dam Failure Inundation Studies, File No.: OS-203," dated December 14, 1993
8. Letter from Albert F. Gibson, NRC, to J. W. Hampton, Duke, "Notice of Violation and Notice of Deviation (NRC Inspection Report Nos. 50-269/93-25, 50-270/93-25, and 50-287/93-25)," dated February 11, 1994
9. Letter from J. W. Hampton, Duke, dated March 14, 1994
10. Duke internal memorandum from P. C. Gurley to Tracey A. Saville, "Revision to FSAR, 9.0 Standby Shutdown Facility, Section 9.6.3.1 System Descriptions, Structure, Section 9.6.4.7 Flooding Review, Deletion of References to Jocassee Dam Failure, 10 CFR 50.59 Evaluation," dated May 31, 1994
11. Duke internal memorandum from K. W. Sandal to S. G. Benesole, "Oconee Nuclear Station, Units 1, 2, and 3, FSAR Change to Address SSF External Flood Protection Features, 10 CFR 50.59 Evaluation, File: OS-192.6," dated June 2, 1994
12. Duke internal memorandum from P. T. Farish to file, "Oconee Nuclear Station, Seismic PRA Analysis – Jocassee Dam Flooding Factors, File: OS-203," dated December 16, 1994
13. Letter from Albert F. Gibson, NRC, to J. W. Hampton, Duke, "Notice of Violation (NRC Inspection Report Nos. 50-269/94-31, 50-270/94-31, and 50-287/94-31," dated December 19, 1994
14. "Oconee Nuclear Station IPEEE Submittal Report," Duke Power Company, dated December 21, 1995
15. Letter from David E. LaBarge, NRC, to W. R. McCollum, Jr., "Oconee Nuclear Station, Units 1, 2, and 3 Re: Review of Individual Plant Examination of External Events (TAC Nos. M83649, M83650, and M83651)," dated March 15, 2000
16. Letter from Bruce H. Hamilton, Duke, to NRC, "Seismic Fragility Study," dated February 5, 2007
17. Letter from Bruce H. Hamilton, Duke, to W. D. Travers, NRC, "Request for NRC to Review Appeal of Final Significance Determination for SSF Flood Barrier White Finding," dated May 3, 2007
18. Letter from William D. Travers, NRC, to Bruce H. Hamilton, "Reconsideration of Final Significance Determination Associated with Standby Shutdown Facility Flood Barrier White Finding," dated November 20, 2007

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ENCLOSURE