

July 9, 2009

LICENSEE: DUKE ENERGY CAROLINAS, LLC  
FACILITY: OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3 (Oconee)  
SUBJECT: SUMMARY OF CLOSED JUNE 11, 2009, MEETING TO DISCUSS  
EXTERNAL FLOODING AT OCONEE (TAC NOS. MD8224, MD8225, AND  
MD8226)

On June 11, 2009, a closed management meeting was held between the U.S. Nuclear Regulatory Commission (NRC) staff and representatives of Duke Energy Carolinas, LLC (Duke, the licensee) at NRC Headquarters. The purpose of the meeting was to continue a dialogue with the licensee on the resolution of external flooding issues, including a flood caused by the potential failure of the Jocassee Dam, at Oconee. The meeting was closed to the public because the topic of discussion was security-related information.

The licensee presented information on the schedule for the resolution of the external flooding issues at Oconee. In addition, the licensee discussed the key parameters for the Jocassee Dam that would be varied in the planned sensitivity analysis and the role of realistic conservatism in the external flooding inundation study for the Oconee site. A copy of the licensee's slides is available under Agencywide Documents Access and Management System (ADAMS) Accession No. ML091620117. Enclosed is a list of meeting attendees.

### **Milestone Schedule**

The licensee presented a schedule for the completion of the inundation study for the resolution of the external flooding issues at Oconee. The licensee stated that it was a "best estimate," schedule, and may be subject to change. The schedule indicated that the inundation study and a corrective action plan would be completed by November 2009.

The NRC staff recommended that the schedule include appropriate milestones for meetings with the NRC staff for discussions on the inundation study results, in addition to the regularly scheduled phone calls and monthly meetings. The NRC staff also questioned the licensee on the status of updating the Oconee licensing basis concerning external flooding. The licensee indicated it had not completed the schedule for the update, but continue to work on this issue.

## **Key Parameters**

The licensee stated that it was considering varying the following key parameters in addition to other parameters in the sensitivity analysis for the Jocassee Dam:

- Breach bottom elevation
- Breach bottom width
- Breach side slope
- Breach progression
- Time to failure

The licensee stated selection of the parameters to be varied and the degree of variability of the parameters will be technically justified based on industry experience and input from industry experts.

## **Role of Realistic Conservatism**

The licensee stated that the plans for evaluating the failure of the Jocassee Dam will be done using realistic conservatism. The licensee stated that it will rely on industry experience and experts to help in evaluating the dam failure and performing the inundation studies. The licensee indicated that all parameters to be chosen will be well-established and to the extent practical, be the worst-case parameters.

The NRC staff questioned the licensee about the meaning of the term, “realistic conservatism,” and cautioned about its appropriate use on this issue, and stated that the licensee should focus on using sound science and judgment in selecting key parameters, and performing the inundation study and sensitivity analysis. The NRC staff questioned the value of the elevation of water in the Jocassee Reservoir that was used in the inundation study. The licensee stated the elevation was 1110 feet mean sea level (MSL) which is the Federal Energy Regulatory Commission’s license limit for the Jocassee Dam. The NRC staff raised concerns that the elevation of water in the Jocassee Reservoir may be higher than 1110 feet MSL during a probable maximum precipitation event. The licensee stated that the elevation of water in the Jocassee Reservoir would be justified in the inundation analyses.

The NRC staff recommended using sound engineering judgment in performing all analyses and that the licensee focus its effort on determining the impact of a Jocassee Dam’s failure on the Oconee site, rather than how the dam might fail. Further, the NRC staff recommended that Duke perform bounding case analyses, where possible. The licensee indicated that a severe worst case scenario failure of the Jocassee Dam (i.e., total failure of the dam within minutes) had been analyzed and the inundation results at the Oconee site were unacceptable. The licensee stated that those parameters were very unrealistic and would not be used in the final analysis.

**Closing**

In closing, the licensee stated that they were working to resolve the external flooding issue associated with the potential failure of the Jocassee Dam in a timely manner and looked forward to meeting with the NRC staff at the Oconee site on Monday, June 15, 2009.

Please direct any inquiries to me at 301-415-1345, or John.Stang@nrc.gov.

Sincerely,

*/RA/*

John Stang, Project Manager  
Plant Licensing Branch II-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-269, 50-270, and 50-287

Enclosure:  
List of Attendees

**Closing**

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Plant Licensing Branch II-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-269, 50-270, and 50-287

Enclosure:  
List of Attendees

DISTRIBUTION:

NON-PUBLIC	LPL 2-1 Branch Reading	RidsAcrsAcnw_MailCTR Resource	K. Sexton, OGC
D. Skeen, NRR	RidsNrrDorlLpl2-1 Resource	RidsNrrLAMO'Brien Resource	K. Manoly, NRR
RidsOgcRp Resource	RidsRgn2MailCenter Resource	A. Howe, NRR	A. Boland, NRR
J. Grobe, NRR	J. Giitter, NRR	JAdams, EDO RII	JArce, NRR
CTucci, NRR	G. Wilson, NRR	J. Vail, NRR	M. Khanna, NRR
M, Galloway, NRR	M. Franovich, NRR		

ADAMS Accession No. PKG ML091620675 Meeting Summary ML091620669 Handouts ML091620117 NRR-106

OFFICE	DORL/LPL2-1/PM	DORL/LPL2-1/LA	DORL/LPL2-1/BC	DORL/LPL2-1/PM
NAME	JStang	MO'Brien (SRohrer for)	MWong	JStang (by e-mail)
DATE	6/19/09	6/15 /09	7/09/09	7/09/09

OFFICIAL RECORD COPY

ATTENDEES AT THE CLOSED JUNE 11, 2009, MEETING WITH DUKE ENERGY CAROLINAS, LLC (DUKE), TO DISCUSS EXTERNAL FLOODING ISSUES AT THE OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3

NRC

J. Grobe  
J. Giitter  
J. Stang  
R. Raione  
G. Wilson  
M. Khanna  
K. Sexton  
K. Manoly  
M. Galloway  
M. Franovich  
M. Wong  
A. Howe  
A. Boland  
D. Skeen  
R. Carroll\*  
J. Bartley\*

DUKE

D. Baxter  
R. Freudenberger  
T. Brown  
J. Thomas  
D. Cummings  
R. Glover  
J. Whittaker  
S. Batson

FERC

K. Fearon\*  
D. Capka\*  
D. Mahoney\*  
R. Pool\*

\*Participated by phone

Enclosure