UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

February 23, 2011

Mr. Preston Gillespie
Site Vice President
Oconee Nuclear Station
Duke Energy Carolinas, LLC
7800 Rochester Highway
Seneca, SC 29672

SUBJECT: OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3, GENERIC LETTER 2008-01, "MANAGING GAS ACCUMULATION IN EMERGENCY CORE COOLING, DECAY HEAT REMOVAL, AND CONTAINMENT SPRAY SYSTEMS," REQUEST FOR ADDITIONAL INFORMATION (RAI) (TAC NOS. MD7852, MD7853, AND MD7854)

Dear Mr. Gillespie:

Generic Letter (GL) 2008-01, "Managing Gas Accumulation In Emergency Core Cooling, Decay Heat Removal, And Containment Spray Systems," requests licensees to submit information to demonstrate that the emergency core cooling, decay heat removal, and containment spray systems are in compliance with the applicable regulatory requirements, and that suitable design, operational, and testing control measures are in place for maintaining this compliance.

The Nuclear Regulatory Commission (NRC) has concluded that additional information is required to demonstrate that the subject systems are in compliance with the current licensing and design bases and applicable regulatory requirements, and that suitable design, operational, and testing control measures are in place for maintaining this compliance as stated in GL 2008-01. The NRC staff's RAI is enclosed. Unless otherwise agreed to, please submit all responses to these RAI questions within 30 days.

If you have any questions, please call me at 301-415-1345.

Sincerely,

John Stang, Senior 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:
RAI

cc w/encl: Distribution via Listserv

REQUEST FOR ADDITIONAL INFORMATION (RAI)

GENERIC LETTER (GL) 2008-01, "MANAGING GAS ACCUMULATION IN EMERGENCY CORE COOLING, DECAY HEAT REMOVAL, AND CONTAINMENT SPRAY SYSTEMS"

OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3

There have been several public meetings with Nuclear Energy Institute (NEI) and industry on the topic of GL 2008-01 "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Contain Spray Systems." The U.S. Nuclear Regulatory Commission (NRC) staff has continued to update its guidance to inspectors as new information becomes available; the most recent revision is Reference 3. At a June 2, 2010, public meeting (Meeting Summary, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML101650201)) and in Reference 4, the NRC and industry agreed on various void criteria including the Froude numbers required to credit dynamic venting.

Reference 3, Section 1.4.3 states, "At $N_{FR} \leq 0.65$, some gas may be transported and if $N_{FR} \geq 2.0$, all gas will be carried out of a pipe with the flowing water. Time to clear gas from a pipe for $0.8 < N_{FR} < 2.0$ is a function of flow rate. Dynamic venting may not be assumed effective for $N_{FR} < 0.8$. Time to clear gas as a function of time will be addressed in a later revision of this document when we have received and evaluated test data that supports clearance behavior."

Reference 1 states, "Dynamic venting is credited (Froude number of > 0.55 for horizontal piping runs and >1.0 for vertical piping runs)."

Reference 2 clarifies this by stating, "The criterion used was derived from WCAP-16631-NP." Reference 2 went on to say, "It is also recognized that gas may be removed from piping at lower Froude numbers if given sufficient duration. As ongoing validation, Post Dynamic Flush Ultrasonic Test (UTs) and/or Program Monitoring UTs are conducted at numerous points on the subject systems to verify the dynamically flushed piping remains sufficiently full."

RAI 1: Please provide justification for crediting dynamic venting with Froude numbers between 0.55 and 0.8.

RAI 2: Please verify the statement that UT is used to verify that dynamically flushed piping remains sufficiently full with respect to such areas as vertical U-tube heat exchangers and valve internal configurations where UT cannot be used if dynamic flushing involves these locations. If dynamic flushing is not used for these areas, then describe how they are determined to be sufficiently full.

REFERENCES

1. Harrall, T., "Duke Energy Carolinas, LLC (Duke); Oconee Nuclear Station, Units 1, 2 & 3, Docket Nos. 50-269, 50-270, 50-287; McGuire Nuclear Station, Units 1 & 2, Docket Nos. 50-369, 50-370; Catawba Nuclear Station, Units 1 & 2, Docket Nos. 50-413, 50-414; Generic Letter 2008-01, 9-Month Response," Letter to Document Control Desk, NRC,

from Vice President, Plant Support, Duke Energy Carolinas, LLC, , October 13, 2008 (ADAMS Accession No. ML082900490).

2. Baxter, Dave, "Generic Letter 2008-01 RAI Response," Letter from Vice President Oconee Nuclear Station, September 24, 2010 (ADAMS Accession No. ML102720395).

3. "Guidance To NRC/NRR/DSS/SRXB Reviewers for Writing TI Suggestions for the Region Inspections," December 6, 2010 (ADAMS Accession No. ML103400347).

4. Lyon, Warren, "Interim Clean Section 1 4 (3)," e-mail to James Riley, NEI, June 7, 2010 (ADAMS Accession No. ML102090074).

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