

From: Thompson, Jon
Sent: Thursday, April 14, 2011 2:46 PM
To: Leisure, Mike
Subject: RAIs for GL 2008-01

By letters dated October 13, 2008 (ADAMS Accession No. ML082900490), February 3, 2009 (ADAMS Accession No. ML090370415), January 6, 2010 (ADAMS Accession No. ML100200272), and December 14, 2010 (ADAMS Accession No. ML103500133), Duke Energy Carolinas, LLC (the licensee), submitted information in response to Generic Letter (GL) 2008-01 "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems," for McGuire Units 1 and 2.

On the basis of the provided information, the NRC staff has concluded that additional information is required from the licensee in order for the NRC staff to determine that the licensee has acceptably demonstrated "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 request for additional information is attached below.

The NRC staff is sending this letter by email to expedite response, but this request will be sent by formal letter as well.

OFFICE OF NUCLEAR REACTOR REGULATION
REQUEST FOR ADDITIONAL INFORMATION
FOR GENERIC LETTER 2008-01 "MANAGING GAS ACCUMULATION
IN EMERGENCY CORE COOLING, DECAY HEAT REMOVAL,
AND CONTAINMENT SPRAY SYSTEMS"
DUKE ENERGY CAROLINAS, LLC
MCGUIRE NUCLEAR STATION, UNITS 1 AND 2
DOCKET NOS: 50-369 AND 50-370

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 2. At the June 2nd, 2010 public meeting (Meeting Summary at ADAMS Accession No. ML101650201) and in Reference 3, NRC and industry agreed on various void criteria including the Froude numbers required to credit dynamic venting.

Reference 2 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)."

The NRC staff has the following questions:

1. Please provide justification for crediting dynamic venting with Froude numbers between 0.55 and 0.8.
2. Please clarify if Ultrasonic Test (UT) is used at McGuire 1 and 2 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, October 13, 2008 (ADAMS Accession No. ML082900490).
- 2 "Guidance To NRC/NRR/DSS/SRXB Reviewers for Writing TI Suggestions for the Region Inspections," December 6, 2010 (ADAMS Accession No. ML103400347).
- 3 Lyon, Warren, "Interim Clean Section 1 4 (3)," e-mail to James Riley, NEI, June 7, 2010, (ADAMS Accession No. ML102090074).