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November 25, 2008

U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

ATTENTION: Document Control Desk

Duke Energy Carolinas, LLC (Duke)
McGuire Nuclear Station Units 1 and 2
Docket Nos. 50-369 and 50-370

SUBJECT: Reply to Notice of Violation EA-08-220 (NRC Inspection Report
Nos. 05000369/2008009 and 05000370/2008009)

Duke Energy Carolinas, LLC (Duke) is in receipt of the referenced NRC Inspection Report. The subject Inspection Report identified a White Finding and communicated a Notice of Violation identified as VIO 05000369, 370/2008009-01, Failure to Take Adequate Corrective Action for Implementation of Safety Related RN Strainer Backwash.

Pursuant to the provisions of 10 CFR 2.201, Duke is submitting this written response to the Notice of Violation. Even though Duke continues to believe this event was of very low safety significance, Duke does not contest the violation. Enclosure 1 describes the violation, immediate corrective actions, corrective actions to prevent recurrence, and the date when full compliance will be achieved. The commitments contained in Enclosure 1 of this letter are captured in Enclosure 2 and supersede the corrective actions identified in the License Event Report submitted October 5, 2007.

Questions or requests for additional information may be directed to Ken Ashe, at (704) 875-4535.

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xc w/ Attachments:

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Enclosure 1

McGuire Nuclear Station - Units 1 and 2
Docket Nos. 50-369, 500-370
Reply to a Notice of Violation; EA-08-220
NRC Inspection Report No. 05000369/2008009 and 05000370/2008009

Restatement of Violation EA-08-220

10 CFR 50 Appendix B Criterion XVI, Corrective Action, states that measures shall be established to assure that conditions adverse to quality, such as deficiencies, deviations, and non-conformances are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition. This requirement is implemented through the Duke Quality Assurance Program Topical Report and procedure NSD 208, Problem Identification Process.

Contrary to the above, between 2003 and August 7, 2007, the licensee failed to correct a significant condition adverse to quality related to macro-fouling of the nuclear service water (RN) strainers, in that the corrective action that was implemented failed to ensure that the design and licensing basis required capability for manual strainer backwash be maintained during accident conditions. Specifically, the 2003 plant modification that was implemented to address macro-fouling (i.e., upgrade and reclassification of the strainer backwash function to safety-related): (1) utilized non-safety-related instrument air (VI) to maintain each RN pumps strainer backwash discharge valve open, but did not provide a means to manually open (or bypass) the discharge valve to support backwash operations upon a loss of VI; and (2) did not account for the impact on timely operator response from higher strainer macro-fouling rates and expected (nuisance) strainer differential pressure alarms (without fouling) at the onset of high RN flow events (i.e., safety injection (SI) and loss of VI). As such, there was a lack of reasonable assurance that the RN system would be able to perform its safety-related function upon a SI or loss of VI event during periods of macro-fouling.

This violation is associated with a White finding for Units 1 and 2.

Reasons for the Violation

Duke Energy performed a root cause analysis of the issues described in the above violation. The root cause is documented in the McGuire Corrective Action Program, and determined that process and organizational breakdowns created the potential for plant configurations that did not support manual backwash of the RN Strainer on a loss of instrument air events.

The Root Cause of this event is that the plant configuration was changed without a total understanding of the Design and Licensing Bases of the RN System Strainer during accident conditions regarding safety vs. non-safety interactions. The configuration changes took place during the design of minor modifications in 2000 & 2001. A 10CFR50.59 was performed as

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part of the modifications but did not take into consideration that the UFSAR states that the RN Strainer would be able to manually perform backwashes during accident conditions. Prior to the modifications, valves could be manually positioned to allow backwashing. However, after the modifications were implemented, the valves required instrument air to be available for manual or automatic positioning. Instrument air is non-safety and cannot be counted on during accident conditions.

Three missed opportunities were identified for this event.

Missed Opportunity 1:

In 1993 -1994, a design change was completed without using the 10CFR50.59 process to downgrade the RN Strainers to non-safety.

Missed Opportunity 2:

An internal assessment was conducted in 1993 to assess the operational readiness and functionality of McGuire's RN system. The report identified a design deficiency with RN strainer backwash valves utilizing non-safety instrumentation. The organization did not take effective measures to address the internal assessment.

Missed Opportunity 3:

A design change was initiated in 2002 to classify the RN strainer as safety related based on the change in fouling sources (detection of Alewife fouling). The 2002 design change failed to identify the changes in RN strainer backwash valve configuration (2000/2001 modification) which created the dependence on non-safety related instrument air.

Corrective Actions Taken and the Results Achieved

The significant corrective actions taken to date include the following:

1. Installed a stainless steel macrofouling barrier at the Low Level Intake. The barrier acts as a fence to prevent alewife intrusion into the Nuclear Service Water System, and inhibits fouling mechanisms which could challenge the Nuclear Service Water strainers. Without a fouling mechanism there is no time critical action required by operations staff for RN Strainer backwash.
2. Installed Nuclear Safety Related (QA condition -1) instrumentation for the Nuclear Service Water Strainers and removed the safety injection signal from each supply valve (1RN-21A, 1RN-25B, 2RN-21A, and 2RN-25B). This instrumentation upgrade controls automatic strainer backwash and provides control room indication of strainer differential pressure. This design change provides adequate information to the operators to properly

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diagnosis abnormal strainer conditions. The safety injection signal to close the backwash supply isolation valve is not necessary to protect standby nuclear service water system inventory. This design change allows automatic backwash supply actuation during accident conditions

3. The following Procedural changes were made to optimize RN System operation:
 - To direct operations to monitor RN Strainer differential pressure via the new safety related instrumentation upon loss of Instrument Air,
 - To open the supply valves for RN Strainer backwash as needed
 - Upon loss of Instrument Air, align the "B" Train to the Standby Nuclear Service Water Pond (SNSWP)
 - Upon a Operating Basis Earthquake or greater align both "A" and "B" Trains to the SNSWP
4. Periodically monitor Lake and SNSWP environments to ensure no new macro fouling mechanism develops.
5. Backwash discharge valves 1RN-22A, 1RN-26B, 2RN-22A, and 2RN-26B were modified to allow manual operation. This action eliminates the dependence on non-safety related Instrument Air.
6. Trained personnel qualified to perform 10CFR50.59 screens or evaluations in the details of this event and provided them with tools to enhance their ability for researching the licensing basis. This minimizes the likelihood of not considering pertinent licensing basis information during the plant change process.

Corrective Actions that will be taken to Avoid Further Violations

1. Address Nuclear Service Water System strainer discharge flow design deficiencies. The Nuclear Service Water System has an identified design non conformance with the current licensing basis for the ability to backwash the RN Strainers. As a result, a License Amendment Request will be generated to resolve the non conforming condition.

Status: The proposed resolution of this will be made by updating the licensing basis by submitting a License Amendment Request prior to the conclusion of the fall 2009 refueling outage, 2EOC19.

2. Update the UFSAR, per 10 CFR 50.71(e), to incorporate the physical and procedural changes that have been made to the facility as a result of this event.

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Status: The UFSAR change package will be completed by April 30, 2009

Date when full compliance will be Achieved.

Actions identified above and captured in Enclosure 2 to this letter to address the non conforming issue associated with the Nuclear Service Water System will be completed prior to the conclusion of the fall 2009 refueling outage. (This includes submitting a clarifying License Amendment Request but does not presume approval by the NRC or implementation by Duke).

Enclosure 2

Regulatory Commitments in response to Violation EA-08-220 contained in NRC Inspection Report No. 05000369/2008009 and 05000370/2008009

Commitment	Completion Date
Update the UFSAR, per 10 CFR 50.71(e), to incorporate the physical and procedural changes that have been made to the facility as a result of this event.	<ul style="list-style-type: none">• April 30, 2009
Address Nuclear Service Water System strainer discharge flow design deficiencies. The Nuclear Service Water System has an identified design non conformance with the current licensing basis for the ability to backwash the RN Strainers. As a result, a License Amendment Request will be generated and submitted to the NRC to resolve the non conforming condition	<ul style="list-style-type: none">• Prior to the conclusion of the Fall 2009 Refueling Outage (This includes submitting a clarifying License Amendment Request but does not presume approval by the NRC or implementation by Duke).