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ATTN: Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Duke Energy Carolinas, LLC (Duke Energy)
Oconee Nuclear Station (ONS), Unit No. 3
Docket Nos. 50-287
Renewed License No DPR-55

Subject: Special Report in accordance with Selected Licensee Commitment (SLC) 16.7.4, "Hydrogen Analyzers"

Oconee Nuclear Station is submitting this Special Report regarding the inoperability of one Hydrogen Analyzer channel on Unit 3. Selected Licensee Commitment (SLC) 16.7.4, Condition C requires that if one Hydrogen Analyzer channel is inoperable for greater than 30 days, a Special Report shall be prepared and submitted within 14 days of entering the condition. The report provides the preplanned alternate method of monitoring, the cause of the inoperability, and addresses restoration of the channel.

The information required by this Special Report is included as an attachment.

This letter contains no new regulatory commitments.

If you have any questions regarding this submittal, please contact David Haile, Oconee Regulatory Affairs at 864-873-4742.

Sincerely,

Scott L. Batson, Vice President,
Oconee Nuclear Station

Attachment: Oconee Nuclear Station Unit 3 Special Report per SLC 16.7.4, Condition C

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NRR

cc:

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Attachment
Oconee Nuclear Station, Unit 3
Special Report per SLC 16.7.4, (Condition C)

Reporting Requirement:

Oconee Nuclear Station (ONS) Selected Licensee Commitment (SLC) 16.7.4, "Hydrogen Analyzers," is applicable in Modes 1,2, and 3. Condition C of the SLC addresses the circumstance of having one Hydrogen Analyzer channel inoperable for greater than 30 days or two channels inoperable for greater than 72 hours. When either of these scenarios occur, a Special Report is required to be prepared and submitted within 14 days. The report is to outline a preplanned alternate method of monitoring, the cause of the inoperability, and the plans and schedule for restoring the channel(s).

Background

The Hydrogen Analyzers provide a means to detect high hydrogen concentration conditions in containment during accident conditions. Hydrogen Analyzers serve as Regulatory Guide 1.97, Category 3 instrumentation and are used to assess the degree of core damage following a severe accident. They can also confirm if an ignition of hydrogen has occurred. Two channels ensure that no single failure impedes having the necessary information to determine if high hydrogen concentrations are present.

Description of Condition:

SLC 16.7.4, Condition A was entered on 6/1/15 at 09:49 am, to allow the performance of a scheduled functional check on the Unit 3, A train Hydrogen Analyzer. The results were unsatisfactory, which required that Condition A remain active during troubleshooting and corrective maintenance. The efforts to achieve final restoration of the channel were completed just beyond the 30 day action time limit. Exceeding the 30 day period requires this report to be issued in accordance with Condition C of the SLC.

Cause of the Non-functional Monitor

Troubleshooting determined that the cause of the unsatisfactory functional check was that a shorted electrical conductor supplying the hotbox heater created a hole in the secondary side manifold tubing. This leak prevented the analyzer from performing properly.

Preplanned Alternate Method of Monitoring

The pre-planned alternate method for monitoring Reactor Building hydrogen concentrations is to obtain discrete samples for manual analysis.

During times when information regarding Reactor Building Hydrogen concentration would be needed, the Technical Support Center (TSC) will initiate a request (via the Operational Support Center) for Radiation Protection (RP) to obtain a grab sample from the applicable Reactor Building process radiation monitor sample line. The sample is given to Chemistry for analysis and the results (% of H_2) are provided back to the TSC.

This method has been reviewed and determined to provide adequate information for the decision making processes that would use hydrogen concentration as an input.

Plans and Schedule for Restoring Functionality

Repair/replacement of the damaged electrical conductor, manifold tubing, and maintenance activities performed on various other components, culminated in successful functional testing and return to service of the Unit 3, Channel A, Hydrogen Analyzer at 10:45 am on July 2, 2015.