

Bruce Hamilton

Vice President, Nuclear Operations Nuclear Generation

Duke Energy Corporation 526 South Church Street Charlotte, NC 28202

Mailing Address: P. O. Box 1006 EC07H , Charlotte, NC 28201-1006

704-382-3877

Bruce.Hamilton@duke-energy.com

March 10, 2010

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

Subject: Duke Energy Carolinas, LLC (Duke Energy)

McGuire Nuclear Station, Units 1 and 2 Docket Nos. 50-369 and 50-370

Response to Request for Additional Information Regarding Amendment to Technical Specification 3.8.1, "AC Sources-Operating," Revised Surveillance Requirements (TAC Nos. ME0231 and ME0232)

By letter dated December 1, 2008, Duke Energy submitted a license amendment request (LAR) to correct a non-conservative condition by revising McGuire Technical Specification Surveillance Requirement 3.8.1.4 to increase the minimum required amount of fuel oil for the Emergency Diesel Generators (EDG) fuel oil day tank from 120 gallons to approximately 160 gallons or 39 inches of fuel oil as read on the local gauge used to perform the surveillance.

By letters dated July 30 and December 2, 2009, Duke Energy submitted responses to the NRC staff's requests for additional information pertaining to this LAR.

On January 12, 2010, The NRC staff electronically requested additional information regarding this LAR. The attachment to this letter provides the requested additional information.

Please direct any questions you may have in this matter to P. T. Vu at (980) 875-4302.

Very truly yours,

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Bruce H. Hamilton

Attachment

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XC:

L. A. Reyes Administrator, Region II U.S. Nuclear Regulatory Commission Sam Nunn Atlanta Federal Center 61 Forsyth Street, Suite 23T85 Atlanta, GA 30303

J. H. Thompson (addressee only) NRC Project Manager U.S. Nuclear Regulatory Commission Mail Stop O-8 G9A Washington, DC 20555-0001

J. B. Brady NRC Senior Resident Inspector McGuire Nuclear Station

B. O. Hall, Senior Chief Division of Environmental Health, Radiation Protection Section North Carolina Department of Environmental and Natural Resources 1645 Mail Service Center Raleigh, NC 27699-1645 U.S. Nuclear Regulatory Commission March 10, 2010 Page 3

Bruce H. Hamilton affirms that he is the person who subscribed his name to the foregoing statement, and that all the matters and facts set forth herein are true and correct to the best of his knowledge.

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Bruce H. Hamilton, Vice President, Nuclear Operations

Ì Subscribed and sworn to me: ____ Daté <u>____</u>, Notary Public 5 cm

My commission expires:

Attachment

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Response to Request for Additional Information

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Response to Request for Additional Information (RAI)

RAI Question:

The license amendment request, dated December 1, 2008, states that the EDG day tank will contain at least 160 gallons of fuel oil, intended to be adequate for approximately 30 minutes of EDG operation at 100% load which allows for an orderly shutdown of the engine if make-up to the day tank becomes unavailable. Provide details of supporting documentation/procedures including timelines that clearly define the process of orderly shutdown that may be required during an event coupled with failure of a single fuel oil transfer pump.

Response:

The response is divided into two parts for two separate operating conditions of the EDG:

- 1. For the operating condition in which the EDG is operating during an emergency event, the EDG will operate until fuel from the day tank is depleted and the EDG will shut down upon loss of fuel. The failure of a single fuel oil transfer pump is also considered a single failure of the EDGs.
- 2. For the operating condition in which the EDG is not operating during an emergency event, the response is different than described above. As testing times constitute the vast majority of EDG run time, the failure of a transfer pump is more likely to occur during testing. When this happens, an orderly shutdown would be performed. The EDGs are also used during electrical system power supply re-alignment and this condition is also addressed by the response procedures which allow for an orderly shutdown. The following scenario of a failure of a transfer pump during an EDG surveillance test describes how an orderly shutdown would be accomplished.

While the EDG is operating at or close to full load, the transfer pump fails in some manner. There is no annunciation of the failure. The EDG continues to operate, and the day tank level decreases to the low alarm set point at which point the local annunciator alarms. The control room annunciator also alarms in response to the local annunciator. The operator at the local panel sees the alarm and reads the alarm response procedure located at the local panel. The alarm response procedure lets the operator know that the transfer pump has failed to re-fill the day tank and that the EDG will shutdown in approximately 30 minutes from the time of low level alarm. The procedure then gives guidance to respond to the imminent loss of the EDG. If being operated for a test only, the test procedure in use will be the means to begin the orderly shutdown. The orderly shutdown also extends the time the EDG can run with a failed transfer pump because fuel consumption is also reduced as EDG load is reduced.

If the EDG is operating and carrying the electrical bus during an electrical power supply re-alignment when the postulated transfer pump failure occurs, the receipt of the alarms will be the same as described above. The response to the alarms directs the operator to swap operating equipment to the opposite train, complete the electrical re-alignment and secure the EDG. The EDG can run significantly longer than 30 minutes before fuel is depleted in the day tank since the EDG will not be loaded to 100% load during power supply re-alignment. During power supply re-alignment, the load on the bus is typically less than 1000 kW (which is one-quarter of the EDG's full load capacity). With this low load, there is ample time for the operator to complete the equipment swap, bus re-alignment, and orderly shutdown of the EDG prior to running out of fuel in the day tank.