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

May 18, 2015

Mr. Kelvin Henderson
Site Vice President
Catawba Nuclear Station
Duke Energy Carolinas, LLC
4800 Concord Road
York, NC 29745

SUBJECT: CATAWBA NUCLEAR STATION, UNITS 1 AND 2: LICENSE AMENDMENT REQUEST REGARDING NON-CONSERVATIVE TECHNICAL SPECIFICATION ALLOWABLE VALUE (TAC NOS. MF5293 AND MF5294)

Dear Mr. Henderson,

By letter dated November 24, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14330A327), Duke Energy Carolinas, LLC, submitted a license amendment request for the Catawba Nuclear Station, Units 1 and 2. The proposed amendment would revise the allowable value in the subject TSs to correct a non-conservative value.

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the submittal and determined that additional information is needed in order to complete the NRC staff's review. Enclosure 1 describes this request for additional information. In a teleconference on May 7, 2015, Duke staff agreed to a response of 60 days from the date of this letter.

If you have any questions, please call me at 301-415-2481.

Sincerely,

G. Edward Miller, Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-413 and 50-414

Enclosure: As stated

cc w/encl: Distribution via Listserv

REQUEST FOR ADDITIONAL INFORMATION REGARDING

CATAWBA NUCLEAR STATION, UNITS 1 AND 2

LICENSE AMENDMENT REQUEST

TS 3.3.2, "ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION"

TS 3.3.5, "LOSS OF POWER DIESEL GENERATOR STARTUP INSTRUMENTATION"

DOCKET NOS. 50-413 AND 50-414

By letter dated November 24, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14330A327), Duke Energy Carolinas (Duke) submitted a license amendment request for the Catawba Nuclear Station, Units 1 and 2. The proposed amendment would revise the allowable value in the subject TSs to correct a non-conservative value. In order for the NRC staff to complete its review of the relief request, the following additional information is requested.

1. RG 1.105 includes the NRC staff concern that the uncertainties assumed for instrumentation, including primary elements, were subsequently not verified or controlled through surveillance testing, qualification, or maintenance programs. Also, RG 1.105 states the NRC staff is concerned limited instrumentation drift data. In calculation CNC-1381.05-00-0017, provided as an Attachment to the letter dated January 15, 2015, (ADAMS Accession No. ML15020A018), the licensee identifies the maximum value from the last 11 monthly calibrations has been used as the relay drift (RD) value in the channel uncertainty and ultimately the application of that to the Nominal Trip Setpoint. Please provide a discussion on the following with regards to the RD uncertainty factor:

    a. Has a statistical analysis been done on the existing data to determine if a normal distribution, standard deviation and confidence level exists?

    b. Is this data consistent with the data and value provided by the manufacturer?

    c. The NRC staff requires additional information regarding how the licensee will assess the latest as-found and as-left acceptance data when performing surveillance test activities and will update the uncertainties accordingly. For example, the maximum drift value from the previous (2012) revision of the calculation is the same as the value that is used in the current calculation. Is this because the maximum value was not exceeded or additional data was not needed to be considered?

2. Section 3.0, of the license amendment request (LAR) states the revised relay settings calculation (Revision 17) includes new information provided in the latest vendor documentation for the relays. However, the referenced vendor documentation for that relay is the Instruction Bulletin, Issue E, which is dated July, 1988. Please provide the source and extent of the new vendor information for this relay that affected the changes to the uncertainty.

3. Section 3.0 states that, in Revision 16 of the calculation CNC 1381.05 0017, the corresponding tolerance for the factory calibration dial markings in the relay instruction bulletin should not have been used and was the major contributor to reducing the uncertainty for the loss of voltage relays. However, Revision 16, page 18a of the channel uncertainty calculation does not show an uncertainty factor for the factory calibration dial markings or any other factors other than those which will be used for the post-LAR channel uncertainty calculation. Clarify where the previous calculation is presented, which factors were removed from the calculation and provide a discussion on how the relay manufacturer was consulted on the issue.

4. Please confirm the following for the undervoltage relay setting:

    a. The lower analytical voltage limit for the undervoltage relay is such that none of the safety-related, normally running motors would stall when subjected to this voltage.

    b. The upper analytical limit for the undervoltage relay is such that the minimum expected voltage during loss-of-coolant accident (LOCA) start of all safety-related loads remains above this voltage.

5. The proposed time delay setting of the undervoltage relay is 10 cycles. With respect to how this value will avoid unnecessary separation of safety-related buses from offsite power. Please provide the following:

    a. A discussion of the voltage dip following a fault, lightning strike, or switching transient in the grid and whether it will cause spurious separation of safety buses from offsite power. Provide the maximum fault clearing time in the transmission system.

    b. A discussion that momentary voltage dip lasting to clear a fault in the distribution system downstream of safety-related buses will not cause separation of safety-related buses from offsite power.

6. Please provide a curve showing the minimum voltages at the 4160 V safety-related buses during the starting of LOCA loads after the safety injection signal based on the minimum switchyard voltage (based on agreement with the transmission system operator). Super-impose on this curve, the analytical and reset voltage values of the undervoltage relay settings to demonstrate that adequate margin exists so that the motors would not trip out by the undervoltage relay during a LOCA load sequencing.

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/RA/

G. Edward Miller, Project Manager
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Docket Nos. 50-413 and 50-414

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ADAMS Accession No. ML15132A773 ***Via Memo**

OFFICE	NRR/LPLI-1/PM	NRR/LPL2-1/LA	NRR/DE/EEEB/BC*	NRR/DE/EICB/BC*	NRR/LPL2-1/BC
NAME	GEMiller	SFigueroa	JZimmerman	JThorp	RPascarelli
DATE	05/13/15	05/13/15	04/21/15	03/30/15	05/18/15

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