



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

October 12, 2016

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: REQUEST FOR
ADDITIONAL INFORMATION REGARDING LICENSE AMENDMENT
REQUEST FOR ELECTRICAL POWER SYSTEM ALIGNMENTS FOR SHARED
SYSTEMS (CAC NOS. MF7748 AND MF7749)

Dear Mr. Henderson,

By letter dated May 26, 2016, Duke Energy, Inc., requested approval for an updated final safety analysis report (UFSAR) change for the Catawba Nuclear Station (CNS), Units 1 and 2 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16147A105). CNS proposes to add descriptions to several sections of the UFSAR to clarify how a shutdown unit supplying either its normal or emergency power source may be credited for operability of shared components supporting the operating unit.

The U.S. Nuclear Regulatory Commission staff has reviewed the licensee's submittal and determined that additional information is needed in order to complete our review. Please provide your response to the enclosed request for additional information within 30 days of the date of this letter.

If you have any questions, please call me at 301-415-3229.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael Orenak", is positioned above the typed name.

Michael D. Orenak, 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
CATAWBA NUCLEAR STATION, UNITS 1 AND 2
RELATED TO A LICENSE AMENDMENT REQUEST
TO REVISE THE UPDATED FINAL SAFETY ANALYSIS REPORT TO REFLECT
ELECTRICAL POWER SYSTEM ALIGNMENTS FOR SHARED SYSTEMS
DUKE ENERGY CAROLINAS, LLC
DOCKET NOS. 50-413 AND 50-414

By letter dated May 26, 2016, Duke Energy, Inc. (Duke, or the licensee), requested approval for an updated final safety analysis report (UFSAR) change for the Catawba Nuclear Station (CNS), Units 1 and 2 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16147A105). CNS proposes to add descriptions to several sections of the UFSAR to clarify how a shutdown unit supplying either its normal or emergency power source may be credited for operability of shared components supporting the operating unit.

The U.S. Nuclear Regulatory Commission (NRC) staff needs the following additional information to complete their review of the requested license amendment (LAR).

Request for Additional Information (RAI) 1

On page 4 of the Enclosure to the May 26, 2016, letter, the licensee states, in part:

One reason for the request is that there is a common outage configuration at CNS where one train of any of the aforementioned shared systems is aligned to a shutdown unit (i.e., MODE 5, 6 or No MODE) for required Engineered Safety Features testing, while the other train is aligned to the online unit (i.e., MODES 1 through 4). Currently, when this transfer to the shutdown unit is done to verify the applicable shared train's start off of the load sequencer, the train is declared inoperable because it does not have an operable normal and emergency power supply for the required Mode of Applicability (typically, MODE 1). The current requirement for shared systems at CNS is that operability of the shared components requires both a normal and emergency power source. Adding descriptions to the UFSAR to clarify that the shutdown unit's offsite power circuit and diesel generator (DG) may be credited for operability of shared components supporting the online unit will avoid unnecessarily declaring shared components INOPERABLE. The current licensing basis, as reflected in the UFSAR, is silent on the matter of crediting the shutdown unit's offsite power circuit and DG. Another reason for the request is that if the other shared train (the train not undergoing ESF [engineered safety features] testing) that is supporting the online unit becomes inoperable for any reason during the ESF testing, then an entry

Enclosure

into TS 3.0.3 would ultimately be the action taken. This LAR is being submitted in order to avoid this type of unnecessary TS 3.0.3 situation

It is not apparent as to what Duke means in the above statement.

- A) With the nuclear service water system (NSWS) as one of the aforementioned shared systems, please explain the above statement using the NSWS as an example. In your explanation, please identify:
- a. Which unit is shutdown;
 - b. What train is aligned to the shutdown unit;
 - c. What train is aligned to the online unit;
 - d. What ESF testing is taking place;
 - e. What transfer is taking place;
 - f. What train is starting on the load sequencer;
 - g. What train is declared inoperable because it does not have an operable normal and emergency power supply;
 - h. Why the LAR is needed based on the ESF testing scenario described;
 - i. The other shared train (the train not undergoing ESF testing) that is supporting the online unit that would cause TS 3.0.3 entry if it became INOPERABLE during testing, and;
 - j. Any other TS limiting condition for operation entries made due to an inoperable NSWS system (e.g. essential switchgear cooling, ESF room coolers, etc.).
- B) Perform a similar explanation as above for the control room area ventilation system (CRAVS) and control room area chilled water system (CRACWS).

RAI 2

The NSWS, CRAVS, CRACWS and auxiliary building filtered ventilation exhaust system have shared components between the two units. The technical specification (TS) Bases for these systems state a shutdown unit supplying its associated emergency power source cannot be credited for OPERABILITY of components supporting the operating unit.

Please explain how this requirement has been met for these systems during current and past operations where one unit has been shut down (MODES 3 through 6) for any reason including outages and the other unit is operating.

RAI 3

The licensee stated in the amendment request that several TS Bases changes will be made under the provisions of Title 10 of the *Code of Federal Regulations*, Section 50.59, to reflect how the shutdown unit offsite power circuit and DG can supply normal and emergency power to the shared components supporting the opposite unit.

- a) Does Duke plan to delete the statement that “both normal and emergency power for shared components must also be OPERABLE” from the TS Bases?

1. If yes, please:

- i. Discuss the effect on reactor safety.
- ii. Discuss further your response to the first and third No Significant Hazards Consideration Determination questions, as provided in Section 4.2 of Enclosure 1 of the LAR, since the change would affect the power supplies available to shared components that mitigate the consequences of an accident and the change would appear to reduce the OPERABILITY requirements of shared components.
- iii. Discuss the current condition that requires both normal and emergency power for shared components in current TS Bases, since this requirement was deliberately kept, in contrast to the normal definition of OPERABILITY in TS 1.1, and justify the deletion of this requirement.

RAI 4

The licensee has proposed, when crediting an offsite power circuit and DG on a shutdown unit for shared components, that the credited offsite power circuit and DG associated with the shutdown unit meet applicable TS 3.8.1 and TS 3.8.9 requirements. However, the shutdown unit may be in Mode 5 or 6 and TS 3.8.1 and TS 3.8.9 are only applicable in Modes 1 through 4. Please explain how TS 3.8.1 and 3.8.9 requirements will be imposed on an offsite power circuit and DG for a unit that is in Mode 5 or 6.

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/RA/

Michael D. Orenak, Project Manager
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ADAMS Accession No.: ML16271A075

*via email

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