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U.S. Nuclear Regulatory Commission
Document Control Desk
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Subject: Duke Energy Corporation
Catawba Nuclear Station, Units 1 and 2
Docket Nos. 50-413 and 50-414
Technical Specification Bases Changes

Pursuant to 10CFR 50.4, please find attached changes to the Catawba Nuclear Station Technical Specification Bases. These Bases changes were made according to the provisions of 10CFR 50.59.

Any questions regarding this information should be directed to Larry Rudy, Regulatory Compliance, at (803) 831-3084.

I certify that I am a duly authorized officer of Duke Energy Corporation and that the information contained herein accurately represents changes made to the Technical Specification Bases since the previous submittal.

Dhiaa M. Jamil

Attachment

A001



U.S. Nuclear Regulatory Commission
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June 16, 2005

Re: Catawba Nuclear Station
Technical Specifications Bases

Please replace the corresponding pages in your copy of the Catawba Technical Specifications Manual as follows:

REMOVE THESE PAGES

INSERT THESE PAGES

List of Effective Pages

Page 16

Page 16

Tab 3.3.1

B 3.3.1-45 – B 3.3.1-48

B 3.3.1-45 – B 3.3.1-48

If you have any questions concerning the contents of this Technical Specification update, contact Jill Ferguson at (803) 831-3938.

Lee Keller
Manager, Regulatory Compliance

Page Number	Amendment	Revision Date
B 3.3.1-19	Revision 0	9/30/98
B 3.3.1-20	Revision 0	9/30/98
B 3.3.1-21	Revision 0	9/30/98
B 3.3.1-22	Revision 0	9/30/98
B 3.3.1-23	Revision 0	9/30/98
B 3.3.1-24	Revision 0	9/30/98
B 3.3.1-25	Revision 0	9/30/98
B 3.3.1-26	Revision 0	9/30/98
B 3.3.1-27	Revision 0	9/30/98
B 3.3.1-28	Revision 0	9/30/98
B 3.3.1-29	Revision 0	9/30/98
B 3.3.1-30	Revision 1	8/13/99
B 3.3.1-31	Revision 1	8/13/99
B 3.3.1-32	Revision 0	9/30/98
B 3.3.1-33	Revision 0	9/30/98
B 3.3.1-34	Revision 0	9/30/98
B 3.3.1-35	Revision 1	7/29/03
B 3.3.1-36	Revision 1	7/29/03
B 3.3.1-37	Revision 0	9/30/98
B 3.3.1-38	Revision 0	9/30/98
B 3.3.1-39	Revision 0	9/30/98
B 3.3.1-40	Revision 0	9/30/98
B 3.3.1-41	Revision 0	9/30/98
B 3.3.1-42	Revision 0	9/30/98
B 3.3.1-43	Revision 0	9/30/98
B 3.3.1-44	Revision 0	9/30/98
B 3.3.1-45	Revision 2	6/13/05
B 3.3.1-46	Revision 2	6/13/05
B 3.3.1-47	Revision 1	6/13/05
B 3.3.1-48	Revision 0	9/30/98
B 3.3.1-49	Revision 1	11/24/04
B 3.3.1-50	Revision 1	4/22/02

BASES

SURVEILLANCE REQUIREMENTS (continued)

condition, thus preventing inadvertent actuation. Through the semiautomatic tester, all possible logic combinations, with and without applicable permissives, are tested for each protection function. The Frequency of every 31 days on a STAGGERED TEST BASIS is adequate. It is based on industry operating experience, considering instrument reliability and operating history data.

SR 3.3.1.6

SR 3.3.1.6 is a calibration of the excore channels to the incore channels. If the measurements do not agree, the excore channels are not declared inoperable but must be calibrated to agree with the incore detector measurements. If the excore channels cannot be adjusted, the channels are declared inoperable. This Surveillance is performed to verify the $f(\Delta I)$ input to the overtemperature ΔT Function and overpower ΔT Function.

At Beginning of Cycle (BOC), the excore channels are compared to the incore detector measurements prior to exceeding 75% power. Excore detectors are adjusted as necessary. This low power surveillance satisfies the initial performance of SR 3.3.1.6 with subsequent surveillances conducted at least every 92 EFPD.

At BOC, after reaching full power steady state conditions, additional incore and excore measurements are taken at various ΔI conditions to determine the M_j factors. The M_j factors are normally only determined at BOC, but they may be changed at other points in the fuel cycle if the relationship between excore and incore measurements changes significantly.

A Note modifies SR 3.3.1.6. The Note states that this Surveillance is required only if reactor power is > 75% RTP and that 24 hours is allowed for completing the first surveillance after reaching 75% RTP.

The Frequency of 92 EFPD is adequate. It is based on industry operating experience, considering instrument reliability and operating history data for instrument drift.

SR 3.3.1.7

SR 3.3.1.7 is the performance of a COT every 92 days.

A COT is performed on each required channel to ensure the channel will

BASES

SURVEILLANCE REQUIREMENTS (continued)

perform the intended Function.

The tested portion of the loop must trip within the Allowable Values specified in Table 3.3.1-1.

The setpoint shall be left set consistent with the assumptions of the setpoint methodology.

SR 3.3.1.7 is modified by a Note that provides a 4 hour delay in the requirement to perform this Surveillance for source range instrumentation when entering MODE 3 from MODE 2. This Note allows a normal shutdown to proceed without a delay for testing in MODE 2 and for a short time in MODE 3 until the RTBs are open and SR 3.3.1.7 is no longer required to be performed. If the unit is to be in MODE 3 with the RTBs closed for > 4 hours this Surveillance must be completed within 4 hours after entry into MODE 3.

The Frequency of 92 days is justified in Reference 7.

SR 3.3.1.8

SR 3.3.1.8 is the performance of a COT as described in SR 3.3.1.7, except it is modified by a Note that this test shall include verification that the P-6, during the Intermediate Range COT, and P-10, during the Power Range COT, interlocks are in their required state for the existing unit condition. The verification is performed by visual observation of the permissive status light in the unit control room. The Frequency is modified by a Note that allows this surveillance to be satisfied if it has been performed within 92 days of the Frequencies prior to reactor startup and four hours after reducing power below P-10 and P-6. The Frequency of "prior to startup" ensures this surveillance is performed prior to critical operations and applies to the source, intermediate and power range low instrument channels. The Frequency of "4 hours after reducing power below P-10" (applicable to intermediate and power range low channels) and "4 hours after reducing power below P-6" (applicable to source range channels) allows a normal shutdown to be completed and the unit removed from the MODE of Applicability for this surveillance without a delay to perform the testing required by this surveillance. The Frequency of every 92 days thereafter applies if the plant remains in the MODE of Applicability after the initial performances of prior to reactor startup and four hours after reducing power below P-10 or P-6. The MODE of Applicability for this surveillance is < P-10 for the power range low and intermediate range channels and < P-6 for the source range channels.

BASES

SURVEILLANCE REQUIREMENTS (continued)

Once the unit is in MODE 3, this surveillance is no longer required. If power is to be maintained < P-10 or < P-6 for more than 4 hours, then the testing required by this surveillance must be performed prior to the expiration of the 4 hour limit. Four hours is a reasonable time to complete the required testing or place the unit in a MODE where this surveillance is no longer required. This test ensures that the NIS source, intermediate, and power range low channels are OPERABLE prior to taking the reactor critical and after reducing power into the applicable MODE (< P-10 or < P-6) for periods > 4 hours.

SR 3.3.1.9

SR 3.3.1.9 is the performance of a TADOT and is performed every 92 days, as justified in Reference 7.

The SR is modified by a Note that excludes verification of setpoints from the TADOT. Since this SR applies to RCP undervoltage and underfrequency relays, setpoint verification requires elaborate bench calibration and is accomplished during the CHANNEL CALIBRATION.

SR 3.3.1.10

A CHANNEL CALIBRATION is performed every 18 months, or approximately at every refueling. CHANNEL CALIBRATION is a complete check of the instrument loop, including the sensor. The test verifies that the channel responds to a measured parameter within the necessary range and accuracy.

CHANNEL CALIBRATIONS must be performed consistent with the assumptions of the setpoint methodology.

The Frequency of 18 months is based on the assumption of an 18 month calibration interval in the determination of the magnitude of equipment drift in the setpoint methodology.

SR 3.3.1.10 is modified by a Note stating that this test shall include verification that the time constants are adjusted to the prescribed values where applicable. The applicable time constants are shown in Table 3.3.1-1.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.1.11

SR 3.3.1.11 is the performance of a CHANNEL CALIBRATION, as described in SR 3.3.1.10, every 18 months. This SR is modified by two notes. Note 1 states that neutron detectors are excluded from the CHANNEL CALIBRATION. The CHANNEL CALIBRATION for the power range neutron detectors consists of a normalization of the detectors based on a power calorimetric and flux map performed above 15% RTP. The CHANNEL CALIBRATION for the source range and intermediate range neutron detectors consists of obtaining the high voltage detector plateau and discriminator curves for source range, and the high voltage detector plateau for intermediate range, evaluating those curves, and comparing the curves to the manufacturer's data. Note 2 states that this Surveillance is not required for the NIS power range detectors for entry into MODE 2 or 1, and is not required for the NIS intermediate range detectors for entry into MODE 2, because the unit must be in at least MODE 2 to perform the test for the intermediate range detectors and MODE 1 for the power range detectors. The 18 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown these components usually pass the Surveillance when performed on the 18 month Frequency.

SR 3.3.1.12

SR 3.3.1.12 is the performance of a CHANNEL CALIBRATION, as described in SR 3.3.1.10, every 18 months.

The Frequency is justified by the assumption of an 18 month calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis.

SR 3.3.1.13

SR 3.3.1.13 is the performance of a COT of RTS interlocks every 18 months.

The Frequency is based on the known reliability of the interlocks and the multichannel redundancy available, and has been shown to be acceptable through operating experience.