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DUKE POWER

November 16, 1994

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Subject: Catawba Nuclear Station, Units 1 and 2
Docket Nos. 50-413 and 50-414
Proposed Technical Specifications Changes (TS Table 3.3-4)
4 kV Bus Undervoltage Trip Setpoint and Allowable Value Changes
Supplementary Information Requested by NRC

Reference: Letter from D.L. Rehn to NRC, same subject, dated August 25, 1994

Gentlemen:

Pursuant to the telephone conversation between NRC and Duke Power Company personnel on November 15, 1994 concerning the reference letter, please find attached the following supplementary information in support of the proposed technical specifications changes:

Nuclear Station Modification (NSM) CN-11320/00, implemented December 2, 1993 for Unit 1, and NSM CN-21320/00, implemented March 5, 1993 for Unit 2, replaced and reset the second level (degraded) voltage relays in response to the Self-Initiated Technical Audit (SITA) and Electrical Distribution System Functional Inspection (EDSFI) findings. The replacement relays are characterized by a narrower tolerance band and better pickup-to-dropout ratio. The minimum required steady state voltage, which ensures adequate voltage is available at the terminals of safety loads at all AC voltage levels, establishes the analytical limit for the safety system. The degraded voltage relays were set such that the accuracy of the potential transformer and tolerances in the relay and calibrating instruments were considered when reflected to the 4.16 kV buses.

The degraded voltage trip timing relay was set to provide a time delay of a limited duration such that the permanently connected safety equipment will not be damaged, but will allow corrective operator action prior to separating the 4.16 kV essential switchgear from its normal offsite power source. A setting of ten (10) minutes will allow sufficient time for any possible corrective action without damaging the equipment for voltages below the degraded voltage

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dropout setpoint but above the loss of voltage (diesel start) dropout setpoint (84.1 % of bus nominal voltage).

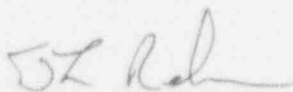
The degraded voltage alarm timer was set to provide a time delay of a duration that establishes the existence of a sustained degraded voltage condition. The minimum time delay is longer than any safety motor starting transient and the maximum time delay is less than any safety motor thermal damage curve. The setpoint, including accuracy, is within the minimum and maximum limits. The setpoint is five (5) seconds.

The loss of voltage relay dropout setpoint was selected such that its dropout was above the 80% start and accelerate voltage of 4.16 kV essential motors. Loss of voltage should be sensed as soon as practical to permit system separation and connection to the emergency diesel generators. Since the loss of voltage relay setpoint is based on the assumptions that a voltage below 3500 volts (on the 4.16 kV bus) is indicative of loss of normal bus voltage, no change was required to its dropout setpoint. The allowable value was revised to include all possible errors (calculation, calibrations, PTs, relay).

Duke Power Company is forwarding a copy of this letter to the appropriate South Carolina state official.

Should there be any questions concerning this amendment request or should additional information be required, please call L.J. Rudy at (803) 831-3084.

Very truly yours,



D.L. Rehn

LJR/s

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xc:

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