

PROPOSED CHANGE RTS-95a TO DAEC TECHNICAL SPECIFICATIONS

I. Affected Technical Specifications

Appendix A of the Technical Specifications for the DAEC (DPR-49) provides as follows:

Table 3.2-B, "Instrumentation that Initiates or Controls the Core and Containment Cooling Systems," provides, among other trip level settings, the 4 KV emergency power system voltage relay trip level settings.

Table 4.2-B, "Minimum Test and Calibration Frequency for CSCS," provides, among other test and calibration frequencies, the test and calibration frequency for 4 KV Emergency Power System Voltage Relays.

Specification 4.8.A.1.b provides the surveillance requirement for testing the diesel-generators once per operating cycle. The test includes simulating the condition under which the diesel-generator is required and verifying that it will start and accept the emergency load within the specified time sequence.

The bases for Specification 4.8 (pages 3.8-12) includes a description of the test specified in Specification 4.8.A.1.b.

II. Proposed Changes in Technical Specifications

The licensees of DPR-49 propose the following changes in the Technical Specifications set forth in I above:

To Table 3.2-B, delete the trip level setting of 20 percent of rated voltage for the 4 KV emergency bus undervoltage relay. Replace it with a trip level setting of $20 \leq V \leq 28$ volts.

On Table 3.2-B, list the additional undervoltage relays that are proposed for the 4 KV emergency buses. Complete the columns of the Table as follows. Minimum number of operable instrument channels per trip system: 1 per 4 KV bus (7). Trip function: 4 KV emergency bus degraded voltage relay. Trip level setting: $108 \leq V \leq 111$ volts, $8.0 \leq T.D. \leq 8.5$ seconds. Number of instrument channels provided by design: 1 matrix per bus. Remarks: 1. Trips 4 KV emergency bus incoming breakers; 2. Starts diesel; 3. Permits sequencing of vital loads.

To the Notes for Table 3.2-B, add Note 7. The note should read: Four undervoltage relays with integral timers per 4 KV bus. The relay output contacts are connected to form a one-out-of-two-twice coincidence logic matrix. With one relay inoperable, operation may proceed provided that the inoperable relay is placed in the tripped condition within one hour.

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On Table 4.2-B list the proposed degraded voltage relays functional test for once/month and calibration frequency as once/operating cycle. Revise the calibration frequency for existing 4 KV relays to once/operating cycle.

To Specification 4.8.A.1.b, expand the surveillance requirement for functionally testing the diesel-generators. Add the following two sentences after the first sentence of paragraph b. The diesel-generator shall be operated for a minimum of 5 minutes. An interruption of the diesel-generator will then be simulated to demonstrate that upon subsequent reconnection, it will again accept the emergency load within the specified time sequence.

To the Bases for Specification 4.8 (page 3.8-13), expand the description of the test specified in Specification 4.8.A.1.b. Add the following two sentences after the fourth sentence of the second paragraph. After operating for a minimum of 5 minutes, an interruption of the diesel-generator will be simulated. After a load shed, the subsequent reconnection will be checked to assure that loading of the diesel-generator is again through the load sequencer in the time required.

III. Justification for Proposed Changes

Existing undervoltage relays automatically perform the required function of switching the essential buses from off-site power to the redundant diesel-generators when the monitored voltage drops below 65.6 percent of nominal voltage. These undervoltage relays are designed to function on a complete loss of off-site power.

With a cover letter dated June 2, 1977, the NRC sent Iowa Electric a copy of their document "Safety Evaluation and Statement of Staff Positions Relative to the Emergency Power Systems for Operating Reactors". Summarizing, this paper stated that whenever the off-site essential bus power sources degraded to a point where the reliability of the emergency power system was reduced, the essential buses should be transferred to the on-site power sources. The proposed changes to the Technical Specifications will bring the latter document into agreement with the three positions of the NRC paper.

The feature for automatically load shedding the essential buses at 20.2 percent of nominal voltage is retained when the loads are energized by the diesel-generators. Because this feature is retained, Position 2 requires that Technical Specifications Table 3.2-B be amended to specify a load shed setpoint having maximum and minimum limits.

Position 1 requires that a second level of voltage protection for the on-site power system be provided. As part of this requirement, Technical Specifications Table 3.2-B should be changed to include the limiting conditions for operation and the trip setpoints with maximum and minimum limits for this second level voltage protection. Table 4.2-B should be changed to include the new relays.

Position 3 requires a more extensive functional test of the diesel-generators than is presently being performed at DAEC. Thus, Technical Specification 4.8.A.1.B should be changed to include the additional steps to comply with Position 3. The Bases for Specification 4.8 (page 3.8-12) should also be amended to include the expanded test.

IV. Review Procedures

These proposed changes have been reviewed by the DAEC Operations Committee and Safety Committee which have found that these proposed changes do not involve a significant hazards consideration.