Commonwealth Edison
1400 Opus Place
Downers Grove, Illinois 60515

June 30, 1992

Dr. Thomas E. Murley, Director
Office of Nuclear Reactor Regulation
Nuclear Regulatory Commission
Washington, D.C. 20555

Attn: Document Control Desk

Subject: Dresden Nuclear Power Station Units 2 and 3
Second-Level Undervoltage (Degraded Voltage)
Setpoints for 4 kV Safety Buses
NRC Docket Nos. 50-237 and 50-249

Reference: (a) M. Richter memo to T. Murley, dated March 3, 1992.

Dear Dr. Murley:

As stated in the Reference (a) memo, Commonwealth Edison (CECo) determined new second-level undervoltage (degraded voltage) setpoints for the station's 4 kV safety buses as a result of the Electrical Distribution System Functional Inspection (EDSFI) at Dresden Station. A summary of the degraded voltage issue for Dresden Station was presented to the NRC Staff in Reference (a).

Dresden's original calculations showed that there was a direct linear relationship between ambient temperature and pick up voltage for the 27N relay. During the development of similar setpoints for Quad Cities Station, new information became available from the relay manufacturer that showed Dresden's original calculations improperly accounted for the affect of ambient temperature on relay accuracy. It was established that there is an inverse relationship between temperature rise and pickup voltage for the 27N relay with harmonic filters.

As a result of this discovery, the setpoints mentioned in Reference (a) needed to be slightly increased (15 volt increase at the 4 kV level for Dresden Unit 2, Division I; 14 volt increase at the 4kV level for Dresden Unit 3, Division I). The previous setpoints (Reference (a) were 3820 volts on Unit 2 and 3870 volts on Unit 3. The revision to the setpoint calculations did not affect any other equipment on Division II for both Dresden Unit 2 and Unit 3.

CECo performed an operability determination to evaluate the effects of the setpoint changes on equipment operability. CECo instructed the A/E (Sargent & Lundy) to use T&ME in the setpoint calculation. This updated setpoint methodology includes tolerances for all circuit elements, relay settings, and test equipment. This setpoint methodology utilized manufacturer published tolerances, which are typically twice the actual values. The original relay setpoint tolerances in the existing Technical Specifications included only the tolerance associated with the undervoltage relay. Using this approach, the lowest possible trip values for Units 2 and 3 were determined to be above the critical voltage values for Division I on both Units; thus, all operability concerns were addressed.

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In order to reestablish the margin associated with CECo's current upgraded setpoint methodology, Dresden Station reset the setpoints on the Division I second level undervoltage relays (to 3835 volts for Unit 2 Division I and 3884 volts for Unit 3 Division I). This action was completed on June 9, 1992.

Please contact this office should further information be required.

Sincerely,

Peter L. Piet
Nuclear Licensing Administrator

cc: A.B. Davis, Regional Administrator - RIII
B.L. Siegel, NRR Project Manager
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W.G. Rogers, Senior Resident Inspector - Dresden

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