

UNION ELECTRIC COMPANY

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DONALD F. SCHNELL
VICE PRESIDENT

April 13, 1984

MAILING ADDRESS:
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Mr. James G. Keppler
Regional Administrator
U.S. Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, IL 60137

ULNRC-799

Dear Mr. Keppler:

FINAL 10CFR50.55(e)/PART 21 REPORT NO. U-66
CONTAINMENT COOLING FAN STARTER COIL FAILURE
CALLAWAY PLANT

On November 23, 1983, Union Electric informed the NRC Region III office of a potential 10CFR50.55(e)/Part 21 deficiency concerning failure during initial testing of 120-volt DC contactor coils in Gould Motor Control Center size 5 two speed starters for Containment Cooling Fan Motors. On January 6, 1984, Union Electric filed Interim 10CFR50.55(e)/Part 21 Report No. U-66 with the NRC Region III office. A verbal extension was obtained from Mr. F. J. Jablonski, Region III on April 4, 1984, extending the due date for this response until April 19, 1984. On April 6, 1984, Union Electric confirmed that this item was reportable under the criteria of 10CFR50.55(e)/Part 21.

Gould has been contacted by our A/E, Bechtel Power Corporation, and has determined that the failure of the contactor coils is due to a possible overvoltage on a 130-volt diode incorporated in the coils. At the time of the coil failure, Containment Cooling Fan Motor Control Center voltage was approximately 6% above normal. This was due to minimal loading on the plant electrical system and is an acceptable temporary condition. The 120-volt DC contactor coils are specified to meet NEMA ICS 2.110.41 which states, "Direct current contactors shall withstand 110 percent of their rated voltage continuously without injury...". Gould has stated that the Callaway 120-volt contactor coils were designed with a 130-volt diode (8.3% overvoltage margin) and contends that the plant voltage was near the design limit of the diode on the coil and could have contributed to the failure.

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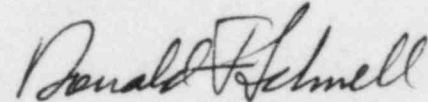
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Gould has supplied replacement coils for the Containment Cooler starters with a diode rated at 150 volts. Gould replaced the 130-volt diode with the 150-volt diode in 1979 as part of an engineering redesign on NEMA size 5, 120-volt DC starter coils. The replacement coils are currently installed and are operating properly.

Union Electric will conduct an inspection of all Gould size 5 contactor coils. All coils found to incorporate the 130-volt diode will be replaced prior to fuel load with coils that incorporate 150-volt diodes.

Regarding 10CFR50.55(e) reportability, Union Electric believes that the failure of the contactor coils could have prevented the Containment Coolers from operating in slow speed which is required for a LOCA condition. Therefore, this item is a reportable deficiency under the guidelines of 10CFR50.55(e). This is Union Electric's final report on this subject.

Very truly yours,



Donald F. Schnell

DFS/MAC/bjp

cc: B. L. Forney, NRC Region III
Richard DeYoung, Director I&E
NRC Resident Inspectors, Callaway Plant (2)
Missouri Public Service Commission