

DMB

UNION ELECTRIC COMPANY  
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ST. LOUIS, MISSOURI

DONALD F. SCHNELL  
VICE PRESIDENT

May 26, 1984

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

ULNRC- 831

Dear Mr. Keppler:

AMENDMENT TO FINAL 10CFR50.55(e)/PART 21 REPORT U-70  
EMERGENCY DIESEL GENERATOR KEEPWARM LUBE OIL PUMP  
CALLAWAY PLANT

Ref: ULNRC-780, 3/28/84

The referenced letter contained our final 10CFR50.55(e) report regarding the failure of emergency diesel generator keepwarm lube oil pump PKJ03B that occurred on January 18, 1984. The failure was attributed to reduced clearances between the pump rotor and casing caused by misalignment of pump components. The failed pump was repaired with a new rotor and checked for proper alignment.

On May 4, 1984 we notified NRC Region III that pump PKJ03B had failed again, after approximately 2 weeks running time. The pump manufacturer, Crane-Deming, was requested to examine the failed pump and determine the failure mechanism. Results of the Crane-Deming inspection and investigation are inconclusive and allude to causes external to their control and contractual responsibility (pump nozzle loads). Colt Industries, the manufacturer of the engine and skid on which the pump is mounted, does not concur with the Crane-Deming findings.

After evaluating all of the information available, Union Electric believes the pump failures were the result of insufficient operating clearances, although there is not conclusive evidence as to the specific cause. Possible causes are differential thermal expansion of rotor and casing, nozzle loads, hydraulic shock loads or very small metal chips found in the piping. To alleviate any effect of these potential conditions, Crane-Deming has increased the rotor to casing clearances in the PKJ03B pump. Pump flow capacity with the increased clearances has not been reduced below system requirements. Since the keepwarm pump (PKJ03A) on the "A" emergency diesel generator has run satisfactorily since initial startup (over 3500 hours), we do not believe this deficiency is generic and have not modified the "A" pump. It should be noted that the rotor end clearance was increased substantially on the "A" pump before initial startup because it did not rotate freely by hand. Vibration

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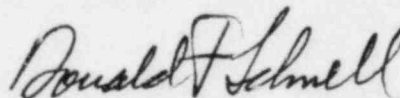
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signature readings have been taken periodically since pump PKJ03B was repaired and put back in service, and no adverse trends have been observed.

The above information is provided as a supplement to the referenced final report to inform you of this additional failure and our corrective action. We will continue to monitor the operating experience of these pumps and report any additional pertinent information that is developed. It is our judgment that the present keepwarm pumps, as installed, do not compromise the safe shutdown capability of the plant.

Very truly yours,



Donald F. Schnell

JJM/JJS/RPW/sla

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