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June 15, 1976

Mr. James G. Keppler, Regional Director
Directorate of Regulatory Operations - Region III
U. S. Nuclear Regulatory Commission
799 Roosevelt Road
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SUBJECT: Supplemental Report to Report Numbers 50-249/1975-10,-11, and-33: Thermal Trips of Valves 3-1402-4A and 3-1501-5A

REFERENCES:
1. Report Numbers 50-249/1975-10 and-11
2. Report Number 50-249/1975-12
3. Report Number 50-249/1975-33
4. Report Numbers 50-249/1975-42 and-42A

REPORT NUMBER: 50-249/1975-10A,-11A, and-33A

REPORT DATE: June 15, 1976

INTRODUCTION

In report numbers 50-249/1975-10,-11,-12 and-33, the station reported that motor-operated valves 3-1402-4A (Core Spray) and 3-1501-5A (LPCI) had failed to operate electrically due to tripping of the thermal overload devices. It was believed that the overload heaters were tripping because of defective valve motors, which were found to be drawing 3.5 amps (rated current or nameplate value for these motors is 2.95 amps). The station reported that the valve motor for 3-1501-5A had already been replaced, and that the 3-1402-4A valve motor would be replaced as soon as possible. Both valve motors were 440V, 2.95 amp, 15 ft-lb, 1 hp motors manufactured by the Reliance Electric Company.

CAUSE OF OCCURRENCE

After the motors had been replaced on valves 3-1402-4A and 3-1501-5A, the original valve motors were sent to the manufacturer for evaluation. The motors were visually examined and tested at rated load. No visible defects were noted, and performance of the motors under loading appeared to be entirely satisfactory. The manufacturer noted that the higher current values were normal for these motors if greater than rated voltages were used. At the same time, station personnel examined valve 3-1402-4A and found nothing that would increase the valve's torque requirements.

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CAUSE OF OCCURRENCE (Continued)

It became apparent that the valve trips were being caused by undersized overload heaters rather than defective valve motors. The present overload heater (G. E. Model CR 123L3.43A) was sized according to the motor's current rating at 440 VAC; the nameplate current value of 2.95 amps is given for that voltage. However, the station is operating these motors on a 480 VAC system. According to the manufacturer, the motors should be expected to draw between 3.5 and 3.8 amps at the higher voltage.

CORRECTIVE ACTION

As a result of these findings, all safety-related motor-operated valves on Units 2 and 3 that had motors rated at 440 VAC were checked for the adequacy of the overload heaters. Altogether, 19 valves on each unit (including 3-1402-4A and 3-1501-5A) were identified that required larger capacity overload heaters. Two modifications, M12-2-76-34 and M12-3-76-34, have been initiated to replace the overload heaters on these valves with larger units (G. E. Model CR 123 L4.20A) that are sized according to the valve motor's current rating at 480 VAC. The replacement overload heaters are presently on order.

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