DMB

UNION ELECTRIC COMPANY
CALLAWAY PLANT

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January 3, 1985

James G. Keppler
Regional Administrator
USNRC Region III Office
799 Roosevelt Road
Glen Ellyn, Illinois 60137

ULNRC-1007

DOCKET NUMBER 50-483
CALLAWAY PLANT UNIT 1
FACILITY OPERATING LICENSE NPF-30
SPECIAL REPORT 84-01, REV. 1
CHALLENGE TO COLD OVERPRESSURE PROTECTION SYSTEM

Dear Mr. Keppler:

The enclosed Special Report is being submitted due to changes in corrective actions as described in the Special Report transmitted August 17, 1984 via ULNRC-909.

Steven E Miltenberger
S. E. Miltenberger
Manager, Callaway Plant

WRR/RRG/drs
Enclosure

cc: Distribution attached

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SPECIAL REPORT 84-01

CHALLENGE TO COLD OVERPRESSURE PROTECTION SYSTEM

On 7/18/84 at 1835 CDT, the PORVs (Cold Overpressure Protection System) were challenged. PORVs BB-PCV-455 and BB-PCV-456 lifted while starting "B" Reactor Coolant Pump with the Reactor Coolant System (RCS) in a solid plant condition, RCS pressure at 350 psig, and steam generator secondary side water temperature higher than the RCS Cold Leg temperature.

Prior to the PORVs lifting, initial conditions were established for starting a Reactor Coolant Pump (RCP) in order to satisfy a prerequisite for procedure ETT-SF-07014, "Control Rod Drive Mechanism Timing and DRPI System Test (Cold Shutdown)," The Shift Supervisor (SS) was aware of the facts that the Steam Generator secondary water was hotter than the RCS cold legs, the Technical Specification limitation on the delta T, and the physical consequences of starting a RCP with the existing delta T. In order to satisfy the Technical Specification limitation (specification 3.4.1.4.1 which prohibits a solid plant RCP start if the delta T between the Steam Generator secondary water and the RCS Cold Leg water is greater than 50°F), the SS reviewed the wide range temperature recorder for loop "B" and found that the highest recorded temperature had not been above 170°F and that the existing temperature in the cold leg was about 120°F. Based on the above conditions the SS concluded that the plant was in compliance with the Technical Specification limitations and plant operating procedures.

The SS was concerned about the potential for a Overpressure Transient, and therefore held an extensive pre-event discussion with the personnel who were to be involved. The pre-event discussion established a limit at which the RCP would be tripped if pressure increased rapidly. This limit was set at 400 psi on the Number 1 Seal delta P instrument. Also the discussion established the need to coordinate opening of the Chemical and Volume Control System Letdown Pressure Control Valve, BG-PCV-131, along with the RCP start, thereby limiting the pressure spike.

After the discussion, RCP "B" was started at 1835 and resulted in an RCS pressure surge. In keeping with what was established in the pre-event discussions, the RCP was tripped when the Number 1 seal delta P indicated 400 psi. However, heat up and pressure increase continued during the flow coast down causing the PORVs to lift at the Cold Overpressure Protection System setpoint of 450 psig. The lifting of the PORVs, therefore, mitigated the pressure transient and no further immediate actions were taken.

Since the event, several corrective actions have been put in place to help prevent recurrence. A section has been added to the Precautions and Limitations of the associated Operating procedures to establish a pressurizer steam bubble prior to starting a RCP if the RCS temperature is cooled down greater than 20°F. by RHR/CCW without a RCP operating. Also, emphasis will be increased on solid plant operation in licensing personnel training and retraining. This training will include a "lessons learned" section related to this specific event.