

FAILURE OF THE OPERATING MECHANISM TO FULLY OPEN THE CORE FLOOD LINE ISOLATION VALVE CF-1

On April 5, 1973, an inspection of the core flood isolation valve CF-1 revealed that it was not in the fully open position although all indications in the control room showed the valve to be open. When the valve was cycled electrically, it opened approximately two inches of the 14 inch travel and could not be opened further manually. The station superintendent was notified, and he verbally reported the incident to Region II Regulatory Operations office in Atlanta, Georgia.

The CF isolation valves are 14 inch Walworth Company cast steel, pressure seal globe valves, serial number C-43202.

Consequently, during unit shutdown, the valve was disassembled. It was discovered that the stem nut locknut had freed itself, allowing the stem nut to travel up the motor drive sleeve instead of the stem traveling up the stem nut. The limit switches which provide open and closed position indication to the control room operate from the motor drive sleeve through gears. Therefore, when the motor operated and the motor drive sleeve rotated, the stem nut moved instead of the stem, causing the limit switches to relay false position indication.

As a result of this incident, an external limit switch has been installed on each core flood isolation valves which will provide position indication independent of the internal limit switch on the limit torque operator.

The other core flood isolation valve and ES valves have been checked to ensure their locknuts were properly secured. As a result of this inspection, it was found that the stem nut locknut on valve LP-18, a Walworth Company Sn. No. C-43201, 10 inch gate valve, had also backed off. The locknuts on both CF-1 and LP-18 were retightened and properly secured.