



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION III  
799 ROOSEVELT ROAD  
GLEN ELLYN, ILLINOIS 60137

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SEP 10 1979

Docket No. 50-409

Dairyland Power Cooperative  
ATTN: Mr. F. W. Linder  
General Manager  
2615 East Avenue - South  
La Crosse, WI 54601

Gentlemen:

The enclosed IE Circular No. 79-18 is forwarded to you for information. No written response is required. Should you have any questions related to your understanding of the recommendations on this matter, please contact this office.

Sincerely,

*James G. Keppler*  
James G. Keppler  
Director

Enclosures:

1. IE Circular No. 79-18
2. List of IE Circulars  
Issued in the Last  
Six Months

cc w/encl:

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION AND ENFORCEMENT  
WASHINGTON, D.C. 20555

September 10, 1979

IE Circular No. 79-18

PROPER INSTALLATION OF TARGET ROCK SAFETY-RELIEF VALVES

Description of Circumstances:

As a result of NRC monitoring of operating experiences involving the Target Rock safety-relief valve, two potential problems have been identified. One potential problem is that the performance of the valve has been found to be impaired by either excessive or insufficient insulation around the valve body when installed in its service environment. The other potential problem is that improper assembly of the modified valve can result in inoperability of the remote air actuator.

The Target Rock safety-relief valve is a dual purpose valve in that overpressure response is provided by pilot valve action and automatic depressurization (ADS) is provided by a remote air actuator. Valve operation has been found to be affected by the amount of insulation placed around the valve body. A previous IE Bulletin No. 76-06 was issued on July 21, 1976 as a result of operating experiences where excessive insulation was installed on the valve. The excessive insulation caused excessive heat to be retained producing a higher temperature environment for the elastomeric diaphragm which resulted in accelerated deterioration of the elastomer. Failure of the elastomeric diaphragm, makes the valve inoperable in the power-operation mode (i.e. manual and ADS). Subsequently, a silicone-nomex diaphragm was developed by the manufacturer to provide a longer life in high temperature environments. In addition, the IE Bulletin explicitly required that insulation be installed in accordance with the manufacturer's recommendations.

A recent licensee event report from the Monticello facility identified a potential problem resulting from insufficient insulation (i.e. just opposite of the condition addressed by IE Bulletin 76-06). During the performance of special testing of the response to safety-relief valve operation, a valve was discovered to be exceeding its design delay time for opening. Subsequent inspection and testing of the valve revealed that insufficient insulation may cause condensation to accumulate in the pressure venting ports which then results in delaying the opening of the main disk. This slower response time is significant with respect to primary system overpressure and similar transient response analyses. Although the reported event at Monticello involved the three-stage Target Rock safety-relief valve, the design and installation of insulation are similarly applicable valves.

The second potential problem was recent. The licensee event report indicated that design two-stage valve resulted in prev

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