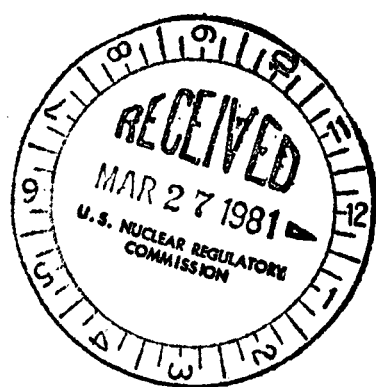


Central File

Iowa Electric Light and Power Company

March 20, 1981
LDR-81-101

LARRY D. ROOT
ASSISTANT VICE PRESIDENT
OF NUCLEAR DIVISION



Mr. James G. Keppler, Director
Office of Inspection and Enforcement
Region III
Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Re: Duane Arnold Energy Center
Subject: IE Bulletin No. 80-25, Operating Problems with Target
Rock Safety Relief Valves at BWRs (12/19/80)
File: NRC-2, Bulletin 80-25, A-101a

Dear Mr. Keppler:

In response to your letter transmitting the subject bulletin concerning problems associated with Target Rock Safety Relief Valves at BWRs, we have completed our review of the actions to be taken by licensees. The following discussion provides the requested information and actions taken at DAEC to address these NRC IE Bulletin concerns.

Action to be taken by Utilities with BWR Plants with Operating Licenses or Near-Term Operating Licenses:

Item 1 If your facility has not yet installed or changed or is presently in the process of changing to the two-stage S/R valves, initiate appropriate quality control procedures to assure inspection of the solenoid actuators for excess Loc-tite prior to operation. If the solenoid actuator manufactured by Target Rock Corporation is already installed in your facility, confirm its operability either by its operational performance (i.e., it has functioned as designed following an aging period of about 3 months in the higher temperature environment of power operating conditions) or by functional testing at full pressure during the next refueling shutdown of the facility. Include in your report the results of all attempts to operate the two-stage S/R valve(s).

Response This item does not apply to the Safety Relief Valves (SRVs) used at the DAEC. The DAEC employs a three stage, as opposed to a two stage, Safety Relief Valve.

Item 2 In the event that a S/R valve, regardless of make or model (e.g., both two or three stage), fails to function as designed, excepting for pressure setpoint requirements, and the cause of the malfunction is not clearly determined, understood, and therefore corrected, standard operating procedures shall require that the entire valve be removed from service, disassembled, inspected,

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adjusted, and pressure setpoint tested with steam for proper operation prior to returning the valve to service. These overhaul requirements shall be at least equivalent to those applicable to periodic surveillance rehabilitation requirements. Appropriate revisions to your operating procedures shall be made to include these requirements.

Response Procedures will be revised to include requirements that, in the event it fails to function as designed, excepting for pressure setpoint requirements, and the cause of the malfunction is not clearly determined, understood and corrected, the entire valve will be removed from service, disassembled, inspected, adjusted, and pressure setpoint tested with steam for proper operation prior to returning the valve to service.

Item 3 A review of your S/R valve pneumatic supply systems shall be performed to determine the potential for and magnitude of an overpressure condition. The determined overpressure potential of the pneumatic supply shall be compared with the maximum operating pressure capabilities of the solenoid actuator valves serving the S/R valves, so as to determine whether supply pressure could result in valve malfunction. Protective devices (such as relief valves) shall be installed in the proximity of the S/R valves and set to protect against supply pressure in excess of the operating pressure capabilities of the solenoid actuator device. In addition, consideration should be given to modification or replacement to reduce the sensitivity of the solenoid actuator to pneumatic supply overpressure. Further, the failure, either high or low, of the pneumatic supply system shall be annunciated to the control room operator. The annunciated supply pressure should be measured at a location as close as practicable to the S/R valves and downstream of any check valve connecting two or more pneumatic sources. Appropriate operating procedures shall be provided to guide operator response to such an occurrence of high or low supply pressure.

Response A review of the DAEC N₂ pneumatic supply system revealed that the potential for system overpressurization is remote. This is due to the design of the system which consists of a N₂ compressor as the normal supply with a backup supply from a nitrogen bank, with each of the two sources being protected from overpressurizing the N₂ system by a pressure safety valve with a setpoint of 110 psig. Additionally, a third PSV is provided on the N₂ accumulator which has the capability of relieving an overpressure condition from either source. Therefore, at least two of the PSVs are available for protection against overpressurization from either source.

The DAEC utilizes the Target Rock three stage safety-relief valves with the AVCO (Automatic Valve Company) solenoid valves. As indicated in the NRC Information Notice 80-40, dated November 7, 1980, the NRC believes that the tendency for solenoid leakage and hence

safety-relief valve opening is confined to the two-stage safety-relief valve installations.

Due to the use of the three-stage safety-relief valves and AVCO solenoid valves which are not considered to be sensitive to the overpressure conditions, the PSVs currently installed are sufficient to meet the requirements for overpressure protection to be provided in the proximity of the S/R valves as outlined in Item 3. As an added precaution, however, an annunciator will be provided which will warn the control room operators of either high or low pressure in the N₂ supply system. As required by the IE Bulletin, this annunciated pressure will be measured as close as practical to the S/R valves and downstream of the check valves connecting the two pneumatic sources.

Concurrent with implementation of the high-low pressure annunciator, operating procedures will be provided to guide the operator response to such an occurrence of high or low supply pressure.

Item 4 The results of your review in response to each of the three items above shall be provided within 90 days of the date of this bulletin. The system upgrading identified in Item 3 shall be completed within 6 months of the time that you conclude a replacement or modification would be made and the necessary parts are available; this upgrading shall be reported when completed.

Response Addition of the annunciator for high/low nitrogen system pressure as described in Item 3 above will be completed within 6 months of this response, contingent upon receipt of necessary parts. Completion of this modification will be reported as required by Item 4 above.

If there are any questions concerning this response, please contact this office.

As requested by your transmittal letter, we have estimated that approximately 60 man-hours were expended in review of material and preparation of the response required by this bulletin.

This response is true and accurate to the best of my knowledge and belief.

IOWA ELECTRIC LIGHT AND POWER COMPANY

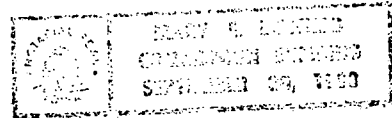
BY Larry D. Root
Larry D. Root
Assistant Vice President
Nuclear Generation

Subscribed and Sworn to Before Me
on this 20 day of March
19 81.

Mary E. Benfield
Notary Public In and For the
State of Iowa

LDR/BWR/ld

Attachment



cc: U. S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Division of Reactor Operations Inspection
Washington, DC 20555

U. S. Nuclear Regulatory Commission
c/o Document Management Branch
Washington, DC 20555

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