



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
631 PARK AVENUE
KING OF PRUSSIA, PENNSYLVANIA 19406

Docket No. 50-220

SEP 10 1979

Niagara Mohawk Power Corporation
ATTN: Mr. R. R. Schneider
Vice-President
Electric Operations
300 Erie Boulevard West
Syracuse, New York 13202

Gentlemen:

The enclosed 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,

Robert T. Quinn
for Boyce H. Grier
Director

Enclosures:

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

cc w/encls:

- T. E. Lempges, General Superintendent, Nuclear Generation
- T. J. Perkins, Station Superintendent
- C. L. Stuart, Operations Supervisor
- E. B. Thomas, Jr., Esquire
- A. Z. Roisman, Natural Resources Defense Council

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ENCLOSURE 1

Accession No: 7908200385
SSINS No. 6830

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

IE Circular No. 79-18
Date: September 10, 1979
Page 1 of 2

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 valves, the requirements for proper amounts of insulation are similarly applicable to the two-stage Target Rock safety-relief valves.

The second potential problem was recently experienced at the Hatch facility. The licensee event report indicated that improper assembly of the modified design two-stage valve resulted in preventing the air actuator to function.

During the changeover to modify these valves from the previous three-stage type to the current two-stage design, two valves were inadvertently reassembled with the air-actuator angularly displaced. This misalignment restricted the air flow via the air inlet port thereby preventing the safety-relief valve from functioning in the air actuation mode. The misalignment was noted and corrected prior to the return of the reactor to operations.

Recommended Actions for BWR Licensee's Consideration:

All holders of operating licenses for BWR facilities employing Target Rock safety-relief valves should be aware of the potential problems described above. It is recommended that this matter be reviewed at your facility in the following respects:

1. Verify that the installed Target Rock safety-relief valves include the silicone-nomex diaphragms which have the superior time-temperature-environment characteristics and that these diaphragms are periodically replaced in accordance with the most conservative recommendations of the reactor vendor or valve manufacturer.
2. Verify that the thermal insulation on the valve is installed in accordance with the valve manufacturer's recommendation.
3. Verify that procedures are adequate to assure proper assembly of the air actuator, pilot and main disk in accordance with the vendor's installation instructions for the two-stage valve.

This Circular is being forwarded for information to all BWR facilities with construction permits and to all other power reactor facilities with an operating license or construction permit. No written response to this Circular is required. If you need additional information regarding this matter, contact the Director of the appropriate NRC Regional Office.



ENCLOSURE 2

IE Circular No. 79-18
Date: September 10, 1979
Page 1 of 2

LISTING OF IE CIRCULARS ISSUED IN
LAST SIX MONTHS

Circular No.	Subject	First Date of Issue	Issued To
79-03	Inadequate Guard Training/Qualification and Falsified Training Records	2/23/79	All Holders of and Applicants for Special Nuclear Material Licenses in Safeguards Group I
79-04	Loose Locking Nut on Limitorque Valve Operators	3/16/79	All Power Reactor Facilities with an OL or CP
79-05	Moisture Leakage in Stranded Wire Conductors	3/20/79	All Power Reactor Facilities with an OL or CP
79-06	Failure to Use Syringe and Bottle Shields in Nuclear Medicine	4/19/79	All Holders of Medical Licenses Except Teletherapy Licenses
79-07	Unexpected Speed Increase of Reactor Recirculation MG Set Resulted in Reactor Power Increase	5/2/79	All BWR Power Reactor Facilities with an OL or CP
79-08	Attempted Extortion-Low Enriched Uranium	5/18/79	All Fuel Facilities and Licensed Reactors
79-09	Occurrences of Split or Punctured Regulator Diaphragms in Certain Self-Contained Breathing Apparatus	6/22/79	All Materials Priority I, Fuel Cycle and Operating Reactor Licensees



LISTING OF IE CIRCULARS ISSUED IN
LAST SIX MONTHS

Circular No.	Subject	First Date of Issue	Issued to
79-10	Pipefittings Manufactured from Unacceptable Material	6/26/79	All Power Reactor Facilities with an OL or CP
79-11	Design/Construction Interface Problem	6/27/79	All Applicants for, and Holders of CPs
79-12	Potential Diesel Generator Turbo-charger Problem	6/28/79	All Power Reactor Facilities with an OL or CP
79-13	Replacement of Diesel Fire Pump Starting Contactors	7/16/79	All Power Reactor Facilities with an OL or CP
79-14	Unauthorized Procurement and Distribution of Xenon-133	7/16/79	All Medical Licensees except Teletherapy Medical Licensees, and all Licensed Radiopharmaceutical Suppliers
79-15	Bursting of High Pressure Hose and Malfunction of Relief Valve "O" Ring in Certain Self-Contained Breathing Apparatus	8/8/79	All Materials Priority I, Fuel Cycle and Operating Power Reactor Licensees
79-16	Excessive Radiation Exposures to Members Of The General Public And A Radiographer	8/16/79	All Radiography Licensees
79-17	Contact Problem in SB-12 Switches on General Electric Metalclad Circuit Breakers	8/14/79	All Power Reactor Licensees with an OL or CP

