TELA

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

December 19, 1978

Docket No. 50-317
50-318

Baltimore Gas and Electric Company
ATTN: Mr. A. E. Lundvall, Jr.
Vice President, Supply
P. O. Box 1475
Baltimore, Maryland 21203

Gentlemen:

The enclosed Bulletin 78-14 is forwarded to you for information. No written response is required. If you desire additional information regarding this matter, please contact this office.

Sincerely,

Robert T. Carlson for
Boyce H. Grier
Director

Enclosures:
1. IE Bulletin 78-14
2. List of IE Bulletins
Issued in 1978

cc w/encls:
R. M. Douglass, Manager, Quality Assurance
L. B. Russell, Chief Engineer
W. Gibson, General Supervisor, Operations QA
R. C. L. Olson, Senior Engineer

Q

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

IE Bulletin No. 78-14
Date: December 19, 1978

DETERIORATION OF BUNA-N COMPONENTS IN ASCO SOLENOIDS

Description of Circumstances:

Following a reactor scram at the Monticello Nuclear Power Station on July 27, 1978, one control rod was determined to have a slow scram insertion time. While measuring the average control rod scram insertion times (as required by Technical Specifications), the same control rod failed to scram. Subsequent investigation revealed that a Buna-N disc in the scram pilot valve solenoid core assembly had fractured. Small pieces of the Buna-N material wedged between the core assembly and the valve pilot body. This prevented proper movement of the core assembly (plunger), and thus prevented the valve from properly venting control air from the scram valves. A similar event occurred during scram testing on June 5, 1978. On both occasions the control rod failed to scram during control rod surveillance testing. In these instances, had a scram occurred during normal operation of the reactor, the affected rods would have inserted by action of the backup scram solenoid valves.

The reactor was placed in cold shutdown on July 28, 1978. All of the scram pilot solenoid valves and scram backup valves were disassembled and inspected. Six additional fractured Buna-N discs were found, all in scram pilot solenoid valves. Northern States Power Company replaced the plunger Buna-N discs in all 242 scram pilot valves and the 2 backup scram valves.

In addition to the Monticello failures, similar events were recently reported from the Big Rock Point and Pilgrim facilities. At Big Rock Point, two failures were experienced in October while at Pilgrim one failure was found in July and two in December. All of these failures were encountered during surveillance testing.

General Electric had previously issued Service Information Letters, SIL 128 (March 31, 1975) and SIL 128 Revision I (January 30, 1976), addressing the deterioration through natural aging of Buna-N components in CRD scram pilot valves. These letters recommended that a maintenance program be adopted which replaced certain Buna-N components in scram pilot valves on a regularly scheduled basis. However, the Buna-N discs