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

March 14, 1980

Docket Nos. 50-354
50-355
50-311

Public Service Electric and Gas Company
ATTN. Mr. T. J. Martin
Vice President
Engineering and Construction
80 Park Place
Newark, New Jersey 07101

Gentlemen:

The enclosed IE Information Notice No. 80-11, "Generic Problems with ASCO Valves in Nuclear Applications Including Fire Protection Systems," is provided as an early notification of a possibly significant matter. It is expected that recipients will review the information for possible applicability to their facilities. No specific action or written response is requested at this time. If further NRC evaluations so indicate, an IE Circular, Bulletin, or Generic Letter will be issued to recommend or request specific licensee actions. If you have questions regarding the matter, please contact this office.

Sincerely,

for Boyce H. Grier
Director

Enclosures:
1. IE Information Notice No. 80-11 with Attachments
2. List of Recently Issued IE Information Notices

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Engineering and Construction Department

ENCLOSURE 1

SSINS No. 6870
Accession No.:
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
WASHINGTON, D.C. 20555

IE Information Notice No. 80-11
Date: March 14, 1980

GENERIC PROBLEMS WITH ASCO VALVES IN NUCLEAR APPLICATIONS INCLUDING FIRE PROTECTION SYSTEMS

Description of Circumstances:

Attachment 1 is a Recall Notice from The Viking Corporation, dated July 16, 1979 that identifies ASCO valves used in certain Viking fire protection equipment that could fail.

Licensees should review their fire protection system components to determine if the equipment identified in the Viking Recall Notice is in their facility. If the identified equipment is installed in the fire protection system, then the modifications specified in the Recall Notice should be made and tested for proper operation. The requirements of the technical specifications or any other licensee commitment should be complied with when a fire protection system is disabled.

South Carolina Electric and Gas Company (Virgil C. Summer Nuclear Station) reported to the NRC on October 24, 1979, a potential significant deficiency regarding the effects of oil on elastomeric materials used in ASCO NP-1 solenoid valves. Specifically, these valves utilize an ethylene propylene elastomer which expands or swells when brought into contact with oils, possibly causing valve failure. For this reason, ASCO specifies these NP-1 solenoid valves for use in "oil free instrument air" systems.

Although instrument air systems are "oil free" by design, installation instructions may specify the use of thread lubricants utilizing an oil base. Thus, the potential exists for traces of this lubricant from threaded connections in the air system, in addition to traces of oil from the air compressors themselves, to come into contact with the elastomers in the solenoid valves. Degraded elastomers can cause the solenoid valve to fail by sticking, swelling closed flow paths, or rupturing causing leakage across the seat or to atmosphere. Failure of the solenoid to function properly on an active valve could prevent a system from performing its required safety function.

Some ASCO NP-1 solenoid valves are equipped with tags which state: "Important - this valve is equipped with ethylene propylene elastomers which can be attacked by oils and greases. To be used for oil-free instrument quality air. Clean pipe threads of cutting oils." Care should be taken to use approved thread lubricants which do not contain oil for the installation of these valves.

ASCO offers viton elastomers as an option for their NP-1 solenoid valves. The viton elastomers are not affected by oil or grease. Replacement kits of viton elastomers are available for the NP-1 solenoid valves from ASCO. It is recommended that ethylene propylene elastomers found in Class IE qualified ASCO NP-1 solenoid valves be replaced with the viton kits.

In addition, enclosed is a letter from EG&G (Attachment 2) dated December 26, 1979 that provides the results of an LER review of failure of solenoid valves.

This Information Notice provided information about a potential safety concern. No written response is required. If you desire additional information regarding this matter, contact the Director of the appropriate Regional Office.

Attachments:
1. Viking Corporation Recall Notice
2. EG&G Letter, Dearien to Tiller dated December 26, 1979