

FAILURE OF SOLENOID OPERATED VALVES
TO MEET I.E. BULLETIN 79-01
ENVIRONMENTAL QUALIFICATION REQUIREMENTS

I. Introduction

During a review of Class 1E equipment pursuant to IE Bulletin 79-01, the Architect-Engineer identified a solenoid valve, ASCO model No. 8320A102, as potentially environmentally unqualified. This valve was used in the following applications in the Surry 1 and 2 and North Anna 1 containments:

Surry Unit 1: SOV-BD-100A, B and C (3 valves)
Surry Unit 2: SOV-BD-200A, B and C (3 valves)
North Anna 1: SOV-SS-100A, 101A, 102A, 104A
 SOV-SS-106A, 112A (Six valves)

In all locations, the solenoid valves will be replaced with environmentally qualified valves.

II. Surry 1 and 2 Valves

The six valves identified at Surry (3 in each unit) control the admission and venting of operating air for the containment trip valves on steam generator blowdown lines.

III. North Anna 1 and 2 Valves

The six valves identified at North Anna 1 control the admission and venting of operating air for the containment isolation trip valves for the sampling system in the following applications:

SOV-SS-100A	Pressurizer Liquid Sample
SOV-SS-101A	Pressurizer Vapor Sample
SOV-SS-102A	RCS Cold Leg Sample
SOV-SS-104A	Pressurizer Relief Tank Sample
SOV-SS-106A	RCS Hot Leg Sample
SOV-SS-112A	Steam Generator Surface Sample

These valves are normally de-energized, and only opened to obtain a sample. North Anna Unit 2 also uses 6 valves in similar applications.

IV. Probable Consequences and Status of Redundant Systems

The failure mechanism is a plastic plug which could melt and block an air port in the solenoid actuator preventing proper operation. In all applications listed above, a fully redundant outside containment isolation trip valve would have provided containment isolation in the event one or more of these valves failed. Therefore, the health and safety of the general public was not affected.

V. Corrective Action

In all cases, the environmentally unqualified valves have been or will be replaced with qualified valves. The status of this effort is as follows:

<u>Unit</u>	<u>Status</u>
Surry 1	Change-out completed
Surry 2	prior to startup
North Anna 1	First outage following receipt of replacements
North Anna 2	Change-out completed