

GENERAL ELECTRIC

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50-373/374
50-358
NUCLEAR POWER

SYSTEMS DIVISION

CAC-68-81

MFN-150-81

August 12, 1981

Office of Inspection and Enforcement
US Nuclear Regulatory Commission
Washington, DC 20555

Attention: Victor Stello, Jr., Director

Gentlemen:

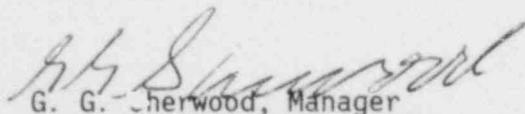
SUBJECT: REPORTABLE CONDITION
CROSBY SRV SOLENOIDS



This letter is to advise the NRC of a reportable condition per 10CFR Part 21 as reported to your office by C. A. Cameron, Manager, Safety Evaluation Programs on August 12, 1981. The condition is an incompatibility which exists between the capability of the Crosby 6x10 and 8x10 SRV solenoids to be actuated during a 340°F LOCA condition and the worst case minimum plant available power supply voltage. The condition was judged reportable on August 11, 1981.

Attached is the report of the condition including the corrective actions to be taken. General Electric will inform the utilities that are affected by the defect and will advise them of the corrective actions to be taken. The scheduled corrective action completion dates have not yet been established. The NRC will be advised of these dates when they are established.

Very truly yours,



G. G. Sherwood, Manager
Nuclear Safety and Licensing Operation

GGs:hmc/SLP516

Attachment

cc: R. T. Carlson, NRC Region I
J. P. O'Reilly, NRC Region II
J. G. Keppler, NRC Region III
V. Potapovs, NRC Region IV
R. H. Engelken, NRC Region V
V. Stello, Jr., NRC (2 extra copies)
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CROSBY SRV SOLENOID PILOT VALVE ASSEMBLY

I. Description of the Condition

An environmental qualification test was performed at Wyle Laboratories under GE contract on a Crosby SRV actuator and solenoid assembly to demonstrate compliance with IEEE-323-1974. The test identified that during the simulated 340°F, 105 psig steam LOCA condition, the solenoids required 130 VDC power to be actuated. A separate Wyle evaluation done for LaSalle showed that at least 125 VDC are required to actuate the solenoid valves for ADS application under LaSalle environmental and operating conditions. A review of the applicable GE plant D.C. power supply specification for LaSalle and other plants utilizing the Crosby SRV solenoids in question specifies that the system voltage at the bus should be between 110 VDC and 135 VDC normally with an extreme low of 105 VDC during peak loading or at the end of discharge during an emergency. Therefore, the minimum voltage available to actuate the solenoid is 105 VDC under worst case conditions, not the required 125 VDC. This incompatibility is applicable to all Crosby SRV's on the following plants:

Hanford 2
Susquehanna 1
LaSalle 1/2

Zimmer 1
TVA X-17

There are no Crosby valves in domestic operating plants. This condition is reportable under Part 21 because these valves had already been shipped to sites before the defect was found.

II. Safety Implications

The safety implication of this condition is quite clear. If, during the extremely unlikely event that a SBA LOCA is followed by loss of off-site power and the ADS signal is received due to HPCS/HPCI failure and the ADS fails due to low voltage, then serious degradation of the core cooling capability results.

III. Corrective Actions

Recent tests performed by General Electric at Crosby Valve and Gage Company have identified the necessary criteria to assure solenoid operation at a 340°F LOCA condition with a 105 VDC power supply source applied. All assemblies manufactured and/or in the field will be inspected using the stricter acceptance criteria. Those assemblies which do not meet the acceptance criteria will be replaced.

RSB:rm:hmc/857
7/16/81