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Alabama Power

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Gen. 1193

Justification for Continued Operation-
Energized Solenoid Valves In
Subject Environmental Qualification Scope
Date July 21, 1987

To Mr. J. D. Woodard

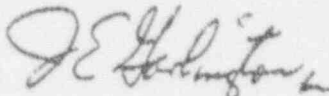
From W. G. Hairston, III
At Vice President,
Nuclear Generation

Enclosed is a justification for continued operation (JCO) developed by Nuclear Support to assist FNP in their evaluation of splices utilized in certain environmentally qualified (EQ) solenoid valves. Also enclosed (and referenced in the Nuclear Support input) is input from Bechtel regarding:

- (1) solenoid valves which are deenergized to perform their accident mitigation function, and
- (2) EQ solenoid valve coil pigtail splices (terminations) located in the Main Steam Valve Room.

The Bechtel assumptions regarding the configuration of the conduit and junction box are believed to be an accurate reflection of the as built condition; however, FNP should evaluate their agreement with walkdown results.

A copy of this letter should be placed in the Environmental Qualification Central File under ASCO Solenoid Valve.


W. G. Hairston, III

WGH,III/JAR:dst-D60

Enclosure

cc: Mr. D. N. Morey
Mr. J. E. Garlington
Mr. D. H. Jones
Mr. K. C. Ganchi
File: A-5001 IEB 79-018

NUCLEAR REGULATORY COMMISSION

Docket No. _____ Official Exh. No. 19
In the matter of ALABAMA POWER CO.
Staff IDENTIFIED 2/18/92
Applicant _____ RECEIVED 2/12/92
Intervenor _____ REJECTED _____
Director's Office _____
Contractor _____ DATE 7-21-87
Other _____ Witness _____
Reporter L. Estep

JCO For Energized Solenoid Valves In Environmental Qualification Scope

1. K1(2)B31SV0444 BA, BB Pressurizer PORV
 445 AA, AB

The pressurizer PORVs are normally closed and minimize the potential opening of the pressurizer safety valves in the event of certain accident scenarios. The FNP accident analyses do not take credit for operation of the PORVs (reference APCo letter to NRC dated 6-23-82) and primary system overpressure protection is provided by the safety valves. The use of the Safety Valves precludes exceeding the RCS safety limit as defined in the Technical Specifications. In addition, it should be noted that the Technical Specifications permit continued operation with both PORVs isolated by block valves with their power removed. Furthermore, Technical Specifications even require positive isolation of PORV vent path should the PORV be inoperable. Since the safety function can be satisfied by the safety valves alone, continued operation is justified.

2. Q1(2)N11SV3369 AC, BC, CC Main Steam Isolation Valves (MSIV)
 3370 AC, BC, CC

The main steam isolation valves are normally open during power operation. The safety function of the MSIVs is to close to isolate main steam such that accident analysis assumptions are satisfied. In the event of an HELB in the main steam valve room, the ESF actuation system would initiate MSIV closure. As discussed by Bechtel letter AP-13169 the environmental conditions seen by the circuits in question are not expected to produce failures which would interrupt power necessary to close the MSIVs. It should be noted that MSIV closure occurs relatively early in the transients of concern. If the worst case fault in the circuit to the solenoid valve is postulated after MSIV closure, the fault would be of no concern because the MSIV mechanical design precludes the valve from reopening in a manner that would unisolate a faulted steam generator while the intact steam generators are pressurized. The safety function of these valves is therefore achieved with the energization of the valves.

The specific concern for this JCO is the environmental qualification of the electrical cable splice between the solenoid valve and junction box. Given the raceway system configuration, the subject splices are capable of withstanding the expected Main Steam Valve Room environment and will thus be able to function per original design during a steam line or feedwater break accident. In addition, any such exposure would only be for a short period of time. The basis for utilizing the above information as a part of this justification is contained in the enclosed Bechtel letter AP-13169 dated July 21, 1987. Since the safety function is not jeopardized and is satisfied, continued operation is justified.

3. Q1(2)M12SV3235 A, B Turbine Driven Auxiliary Feedwater
Pump Main Steam Admission Valves

The turbine driven auxiliary feedwater pump main steam admission valves are normally closed except during pump operation when the solenoid valves are required to be energized. The safety function of these valves is therefore achieved with the energization of the valves. The specific concern for this JCO is the environmental qualification of the electrical cable splice between the solenoid valve and junction box. Given the raceway system configuration, the subject splices are capable of withstanding the expected Main Steam Valve Room environment and will thus be able to function per original design during a steam line or feedwater break accident. In addition, any such exposure would only be for a short period of time. The basis for utilizing the waikdown information as a part of this justification is contained in the enclosed Bechtel letter AP-13169 dated July 21, 1987. Since the safety function is not jeopardized and is satisfied, continued operation is justified.

4. Q1(2)N235V3227 AA, BA, CA, AC, BC, CC Auxiliary Feedwater Control Valves
3228 AA, B CA

The purpose of these valves is to control auxiliary feedwater flow to the steam generators during normal and accident conditions. The safety function is for these valves to open and supply water to the steam generator during accident conditions. On a loss of air these valves fail to the open position. The safety function of these valves is therefore achieved with the energization of the valves. The specific concern for this JCO is the environmental qualification of the electrical cable splice between the solenoid valve and junction box. Given the raceway system configuration, the subject splices are capable of withstanding the expected Main Steam Valve Room environment and will thus be able to function per original design during a steam line or feedwater break accident. In addition, any such exposure would only be for a short period of time. The basis for utilizing the walkdown information as a part of this justification is contained in the enclosed Bechtel letter AP-13169 dated July 21, 1987. Since the safety function is not jeopardized and is satisfied, continued operation is justified.

5. Q1(2)P17SV3184 Component Cooling Water (CCW) to RCP Thermal Barrier

The CCW to RCP Thermal Barrier valve is normally open and protects the reactor coolant pump seal from high temperature primary system water. A diverse method of protecting the RCP seals is by utilizing CVCS seal injection. The safety function of HV 3184 is to close for containment isolation upon a Phase B Containment Isolation signal. A Phase B signal also isolates instrument air to containment. By design, normal loss of instrument air due to bleeding will depressurize the instrument air system inside containment. HV 3184 will close upon loss of instrument air even with its solenoid valve deenergized. Valve closure occurs without operator action. Therefore, since valve closure of HV 3184 occurs upon receipt of a Phase B signal, the safety function is satisfied and continued operation is justified.