

S-18
50-348/364 - CIVP
2/12/92

Staff Exh. 18

COLLECTED
USNRC

'92 MAR 13 P12:08

Bechtel Eastern Power Corporation

Engineers — Constructors

OFFICE OF SECRETARY
DUCKETING & SERVICE
BRANCH

15740 Shady Grove Road
Gaithersburg, Maryland 20877-1454
301-258-3000

JUL 21 1987



In reply refer to AP-13169

Mr. W. G. Hairston, III
Alabama Power Company
600 North 18th Street
Post Office Box 2641
Birmingham, Alabama 35291-0400

Dear Mr. Hairston:

Joseph M. Farley Nuclear Plant Units 1 & 2
Bechtel Job 7397-011
EQ Solenoid Valve Splices - Justification for
Continued Operation
Bechtel File E-91
AP-13169

In a telephone call on July 21, 1987 APCo (Mr. J. E. Garlington) requested Bechtel provide justification of continued operation for EQ solenoid valves which are deenergized to perform their accident mitigation function, and for EQ solenoid valve coil pigtail splices (terminations) located in the Main Steam Valve Room.

The requested justification for continued operation is attached.

If you have any questions or comments, please contact us.

Yours very truly,

K. C. Gandhi

K. C. Gandhi
Project Engineer

KCG/AJD/DGB:rah
Enclosures

As stated above

cc J. R. Crane, w/1
J. D. Woodard, w/1
J. E. Garlington, w/1
R. G. Berryhill, w/1

NUCLEAR REGULATORY COMMISSION

Docket No. _____ Official Exh. No. 18
 In the matter of ALABAMA Power Co.
 Staff ☒ IDOK'ED 2/1/92
 Re: _____ RECEIVED 2/1/92
 Intervenor _____ REFLECTED _____
 Cont'g Off'r _____
 Contractor _____ DATE 7-21-87
 Other _____ Witness _____
 Reporter L. E. Lee

Attachment 1 to AP-13169

Subject: Evaluation of potential deficiencies in pigtail splices (terminations) used for Safety Related Pilot Solenoid Valves in the scope of the Environmental Qualification program.

1.0 Introduction:

An evaluation has been performed to address two potential concerns. These concerns are:

- a. The safety function and associated position indication of air operated valves with pilot solenoid valves that are deenergized by the automatic actuation signal (e.g. Safety Injection, Containment Isolation, etc.) The applicable solenoid valves are listed in Appendix A.
- b. The safety function and associated position indication of air operated valves with pilot solenoid valves that are located in the main steam valve room and are energized on the automatic actuation signal (Steam Line Isolation). The applicable solenoid valves are listed in Appendix A.

2.0 Analysis

- a. Air operated valves with pilot solenoid valves that are deenergized by the automatic isolation signal.

A typical schematic of a safety related air operated valve which has its pilot solenoid deenergized following an automatic actuation signal (see Figure 1) shows that both current paths to the solenoid are interrupted. The direct path (path 1) is interrupted by the control switch contact 1A and the seal-in path (path 2) is interrupted by the contact of the automatic actuation signal (1-K605 contact 9-10, which opens). As a result no current path can be established regardless of the condition of the solenoid pigtail splices (terminations). It is noted that no other splices are present in the conduit system that contains the solenoid pigtail splices.

Since a current path cannot be established the solenoid will remain deenergized. Further, any postulated fault (e.g. short circuit) at the splice cannot affect the function of the position indication circuit since there is no potential available.

- D. Pigtail (splices/terminations) for solenoids that are energized on receipt of automatic mitigation signal and are physically located in the Main Steam Valve Room:

A typical arrangement used for providing electrical conduit and junction boxes necessary for terminating the control wiring to the environmentally qualified solenoid valves located in the main steam valve room is shown in Figure 2. The solenoid valve coil is provided with qualified pigtail conductors which in some instances may not be of sufficient length to reach the solenoid valve junction box for termination to the qualified field control wiring. It is suspected that in these cases, qualified single conductor #12 AWG (Cable Code J02, JA2) was spliced/terminated using a detail similar to Figure 3. The splice (termination) to the coil pigtail is contained in a conduit or small junction box located in the conduit run between the solenoid valve junction box and the solenoid valve body conduit entrance. As shown in Figure 2, the solenoid pigtail conductor, the pigtail splice (termination) when used, and the field control cable and terminal block terminations are enclosed in the conduit and junction box raceway system.

The design basis accident environmental and flooding effects postulated to occur in the main steam valve room are addressed in PSAR Appendix 3K.4.1.1.8 and 3K.4.1.2.7. As shown in U-416797C and U-416798B, all environmentally qualified solenoid valves in system N11, N12, and N13 which are required to be energized for accident mitigation and their associated junction boxes (condulets), conduit and fittings are located above the maximum postulated flood level of

elevation 130' 5". As shown in FSAR Appendix 3K, Figures E-1A and E2, the postulated worst case temperature and pressure transient conditions predicted for a steam or feedwater line rupture are mitigated in less than two seconds with resulting predicted steady state temperature of 212 °F and pressure of 15.8 psia.

The materials and construction of the subject splices at Farley Nuclear Plant are expected to be able to withstand the conditions previously described as discussed below.

Okonite T-95 tape is rated for continuous use at 90 °C (194 °F) and emergency use at 130 °C (266 °F). Okonite product data sheet indicates that T-95 can be used at 130 °C emergency duty for five 100 hour cycles without loss of physical and electrical integrity. The solenoid coil circuit carries less than 0.5 ampere and conductor/splice is likely to run well below 90 °C limit.

Okonite test report NQRN-3 Rev. 1 documents acceptable qualification tests performed on 5 KV in-line splices using T-95 tape for insulation and T-35 tape for jacket. Splices were subjected to LOCA/HELB temperatures in excess of 308 °F for 10 hours.

Wyle test report 77859-02 tested V-configuration splices with T-95 tape for insulation & T-35 tape for jacket with no insulation tape in the crotch. All specimens except one passed LOCA/HELB test with peak temperature of 360 °F. The failure of the specimen was attributed to likely flashover to enclosure ground due to accumulation of chemical spray at bottom of test enclosure.

3.0 Conclusion:

- a. Air operated valves with pilot solenoid valves that are deenergized by the automatic isolation signal.

The solenoid coil will remain deenergized and the position indication will function as designed on an automatic actuation signal regardless of the condition of the pigtail solenoid splice (termination).

- b. Pigtail splices (terminations) for solenoids that are energized on receipt of an automatic actuation signal and are physically located in the Main Steam Valve Room:

As indicated above, the T-95 tape has been qualified to more severe environmental temperature than anticipated to occur in the design basis condition for the main steam valve room. From qualification testing a similar V-splice conductor configuration, the only failure mode observed was due to an assumed flashover between the crotch of the splice and ground during LOCA/HELB testing where the test specimen was exposed to chemical sprays. Due to the enclosed configuration of the V-splice located in main steam valve room at Farley Nuclear Plant Units 1 and 2, and the short duration and nature of the worst case anticipated transient conditions, it is very unlikely that sufficient moisture would exist to cause a failure of the splice during accident mitigation. Therefore the required energized state of the solenoids and the function of the position indication will be maintained.

Figure 1



DELIVER CAT W/ 40-4222-7-43,
SPRING RETURN TO AUTO

	FAC	SCHEM	SOLID STATE LANTION BOX	UNDER CONTROL BOARD	TEMPERATURE CABINET	HANDOUTER	SOLID STATE PHOTO PANEL	FLUORESCENT CONTROL CABLE	DRAWING S&I ATTEN IN	START UP NUMBER	UNIT WHITC H
LINE	IV	ALSOB	NIB SHEET 1/2	MOVING RECORDING	ONES LONG	NIB REACTING	ONION SPTING	OTSE BOND	UNPROG	BE	NIB REACTING

JOB NO.

CALC. NO.

REV. NO.

SHEET

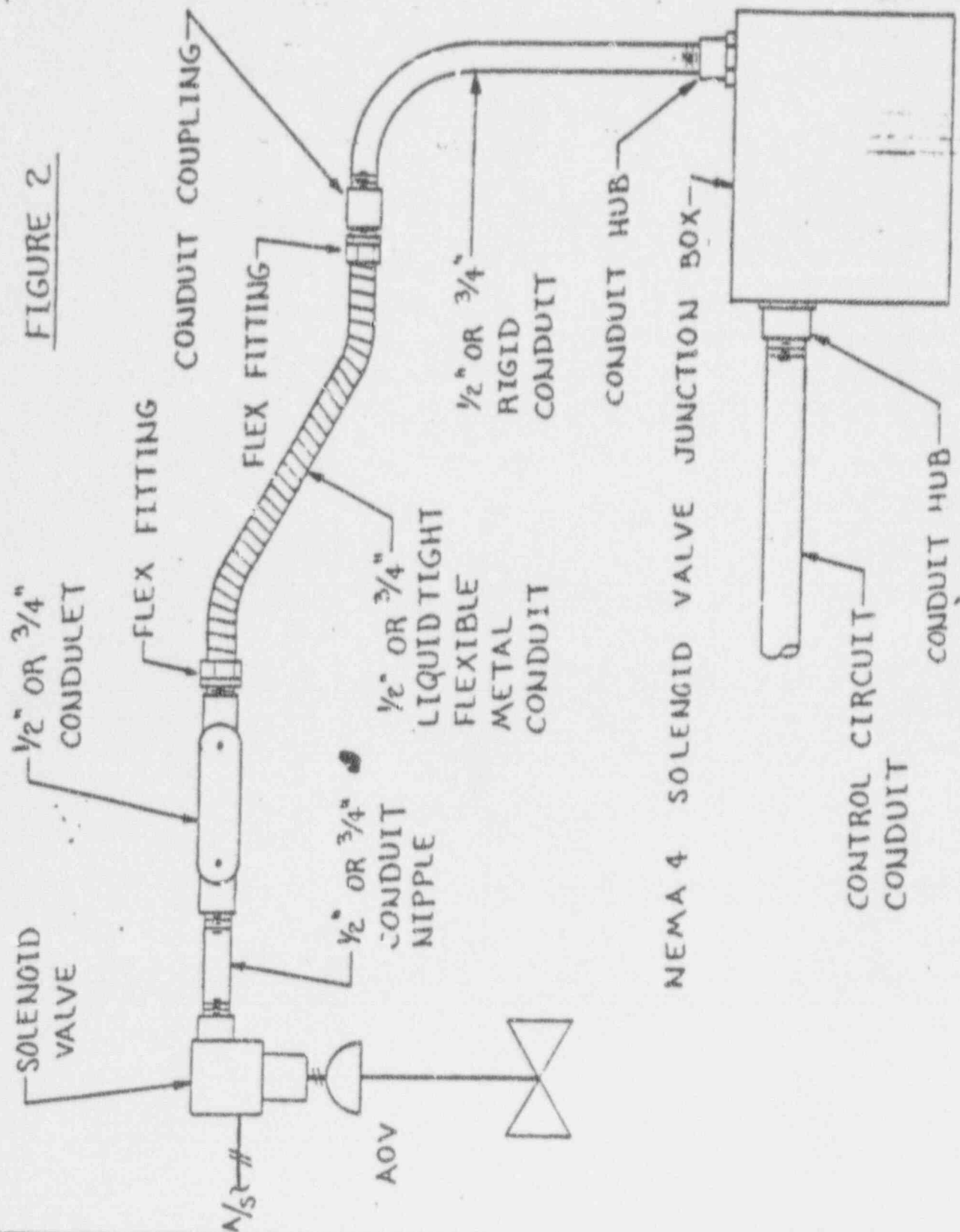
ORIGINATOR

DATE

CHECKED

DATE

FIGURE 2



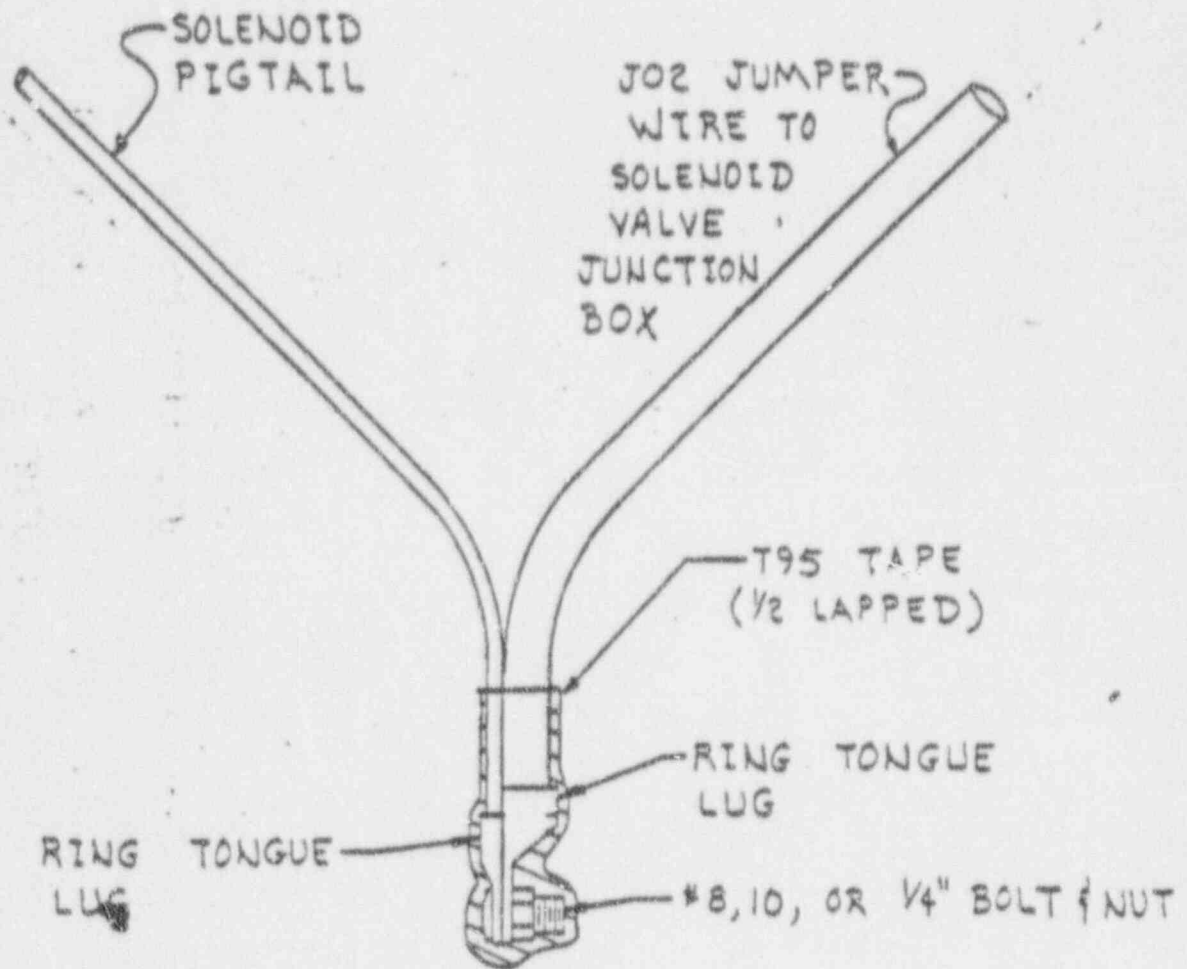


CALCULATION SHEET

SLPC-17M Rev. 5/95

JOB NO.	CALC. NO.	REV. NO.	SHEET
ORIGINATOR	DATE	CHECKED	DATE

FIGURE 3



APPEXIX A

EQ SOLENOID DATA

IF II

PLANT ID NO.	MANUFACTURER & MODEL	SERVICE	SCHEME NO	AUTO ACTUATION SIGNAL	VALVE POSITION FOLLOWING THE AUTO ACT. SIG.	SOLENOID STATUS FOLLOWING AUTO ACT. SIG.	REMARKS
		<u>REACTOR COOLANT SYSTEM - PRESSURIZER</u>					
010310V 004T	ASCO, MP031654V	PRESS RELIEF TANK TO REAC MRE-HP MTR 031V ISOLM RV 004T	1T1313	CIA	CLOSED	DEENERGIZED	
010310V 0443AA 0443AB	ASCO, MP031654V	PRESS TANK RELIEF VALVE	0T1301	HIGH PRESS TANK PRESSURE	OPEN	ENERGIZED	
010310V 0443AA 0443AB	ASCO, MP031654V	PRESS TANK RELIEF VALVE	0T1301	HIGH PRESSURIZER PRESSURE	OPEN	ENERGIZED	

NOTE: SOLENOID VALVES ENCLOSED BY A BOX ARE ENERGIZED BY THE AUTO ACTUATION SIGNAL

PLANT ID NO	MUFACTURER # MODEL	SERVICE	Serial No	AUTO ACTUATING SIGNAL	VALVE POSITION FOLLOWING THE AUTO ACT. SIF.	SOLENOID STATUS FOLLOWING AUTO ACT. SIG.	REMARKS
NICZISV Q478A Q478B	ASCO NY-206-381-2W	FRESH WATER CONTROL SYSTEM MAIN FEED WATER CONTROL VALVE FCV 4TB	PTT913	SI & FI	CLOSED	DEENERGIZED	ONE OF THE TWO SOLENOIDS REQUIRED TO BE DEENERGIZED FOR VALVE TO CLOSE BOTH COULD ENERGIZE OPENING
NICZISV Q488A Q488B	ASCO NY-206-381-2W	MAIN FEED WATER CONTROL VALVE FCV 4BB	PTT946	SI & FI	CLOSED	DEENERGIZED	— " —
NICZISV Q478A Q478B	ASCO NY-206-381-2W	MAIN FEED WATER CONTROL VALVE FCV 4TB	PTT947	SI & FI	CLOSED	DEENERGIZED	— " —
NICZISV Q477A Q477B	ASCO NY-206-381-4W	MAIN FEED WATER BYPASS VALVE FCV 4TT	PTT915	SI & FI	CLOSED	DEENERGIZED	— " —
NICZISV Q477A Q477B	ASCO NY-206-381-4W	MAIN FEED WATER BYPASS VALVE FCV 4BT	PTT916	SI & FI	CLOSED	DEENERGIZED	— " —
NICZISV Q477A Q477B	ASCO NY-206-381-4W	MAIN FEED WATER BYPASS VALVE FCV 4TT	PTT917	SI & FI	CLOSED	DEENERGIZED	— " —

FI - Feedwater Isolation Signal
(HI-HI Steam Generator Level)

PLANT ID NO.	SCHEMATIC NO.	REMARKS	SCHEMATIC NO.	STATUS	VALVE POSITION	SOLENOID	REMARKS
Q1E155V 20593	ASCO MPB331A6E	CONSTRAINTS: COMPRESSOR & PUMP	177149	CVI 4 HI RAD (P-149)	CLOSED	DEENERGIZED	
Q1E155V 10612	ASCO MPB331A6E	CT NOT BEING PUMPED ISOLATION TOWARD DAMPER BY 2059	177149	CVI 4 HI RAD (P-149)	CLOSED	DEENERGIZED	
Q1E155V 3991A	ASCO MPB331A6E	REACTOR CARRY COOLING DAMPER BY 399A	177342	CIA	CLOSED	DEENERGIZED	
Q1E155V 3991B	ASCO MPB331A6E	REACTOR CARRY COOLING DAMPER BY 399B	177342	CIA	CLOSED	DEENERGIZED	
Q1E155V 0091	ASCO MPB331A6E	MECHANICAL & ELECTRICAL CONTROL	177340	CIA	CLOSED	DEENERGIZED	
Q1E155V 01490A	ASCO SOS-301-040	ACCUMULATOR PRESS LINE ISOLATION VALVE BY 057E	177376	CIA 4 PRESSURIZED LOW LEVEL	CLOSED	DEENERGIZED	ONE OF THE TWO CONTROLS USED TO BE DEENERGIZED TO CLOSE VALVE (DASH) PERD ENERGIIZED IN VALUE
Q1E155V 01490B	ASCO SOS-301-040	ISOLATION VALVE BY 0149A	177379	CIA 4 PRESSURIZED LOW LEVEL	CLOSED	DEENERGIZED	
Q1E155V 01490C	ASCO SOS-301-040	ISOLATION VALVE BY 0149B	177379	CIA 4 PRESSURIZED LOW LEVEL	CLOSED	DEENERGIZED	
Q1E155V 01490D	ASCO SOS-301-040	ISOLATION VALVE BY 0149C	177379	CIA 4 PRESSURIZED LOW LEVEL	CLOSED	DEENERGIZED	

CVI - CMT VENTILATION ISOLATION

411

PLANT ID NO	MANUFACTURER # MODEL	SERVICE	NAME NO	AUTO ACTUATION SIGNAL	VALVE POSITION FOLLOWING THE AUTO ACT. SIG.	SOLENOID STATUS FOLLOWING AUTO ACT. SIG.	REMARKS
		<u>LIMB WASTE DISPOSAL SYSTEM</u>					
Q14115V 2776	ASCO MP036A74V	Containment Sump Discharge Valve HV 3376	177362	CIA	CLOSED	DEENERGIZED	
Q14115V 1005A 1005B	ASCO 308-381-487	Reactor Coolant Drain Tank Pump Discharge Valve LEV 1005	177208	CIA	CLOSED	DEENERGIZED	
Q14115V 7126	ASCO MP036B4V	Reactor Coolant Drain Tank Inlet HV 7126	177389	CIA	CLOSED	DEENERGIZED	
		<u>MAIN STEAM</u>					
Q14115V 3569C	ASCO MP036E36V	Main Steam Isolation Valve HV 3569A	177863	SLI	CLOSED	ENERGIZED	
Q14115V 3569B	ASCO MP036E36V	Main Steam Isolation Valve HV 3569B	177863	SLI	CLOSED	ENERGIZED	
Q14115V 3569C	ASCO MP036E36V	Main Steam Isolation Valve HV 3569C	177863	SLI	CLOSED	ENERGIZED	

SLI- STEAM LINE ISOLATION SIGNAL

PLANT ID NO	MANUFACTURER & MODEL	SERVICE	SCHEME NO	AUTO ACTUATION SIGNAL	VALVE POSITION FOLLOWING THE AUTO ACT. SIG.	SOLENOID STATUS FOLLOWING AUTO ACT. SIG.	REMARKS
		MAIN STEAM ... FONT					
QIN115W 33700C	ASCO NFB316E36V	MAIN STEAM ISOLATION VALVE HV 3370A	177047	SLI	CLOSED	ENERGIZED	
QIN115W 33700C	ASCO NFB316E36V	MAIN STEAM ISOLATION VALVE HV 3370B	177047	SLI	CLOSED	ENERGIZED	
QIN115W 33700C	ASCO NFB316E36V	MAIN STEAM ISOLATION VALVE HV 3370C	177047	SLI	CLOSED	ENERGIZED	
QIN115W 33600A	ASCO NFB316E36V	MAIN STEAM ISOLATION BYPASS VALVE HV 3360A	177044	SLI	CLOSED	DEENERGIZED	
QIN115W 33600A	ASCO NFB316E36V	MAIN STEAM ISOLATION BYPASS VALVE HV 3360B	177044	SLI	CLOSED	DEENERGIZED	
QIN115W 33600A	ASCO NFB316E36V	MAIN STEAM ISOLATION BYPASS VALVE HV 3360C	177044	SLI	CLOSED	DEENERGIZED	
QIN115W 3376A	ASCO NFB316E36V	MAIN STEAM ISOLATION BYPASS VALVE HV 3376A	177046	SLI	CLOSED	DEENERGIZED	
QIN115W 3376B	ASCO NFB316E36V	MAIN STEAM ISOLATION BYPASS VALVE HV 3376B	177046	SLI	CLOSED	DEENERGIZED	

ASCO 177044 177046

PLANT ID NO	MANUFACTURER & MODEL	SERVICE	SCHEME NO	AUTO ACTUATION SIGNAL	VALVE POSITION FOLLOWING THE STATUS FOLLOWING AUTO ACT. SIGNAL	REMARKS
QIN115V3976C	ASCO NP8320A196E	MAIN STEAM ... CONT MAIN STEAM ISOLATING DISCHARGE VALVE HV 3276C AUXILIARY FEED WATER	177146	SLT	CLOSED	DEENERGIZED
QIN23SV3228AA	ASCO NP8320A196E	TD AFW PUMP DISCHARGE HV 3228A	177590	SG LOW-LOW LEVEL & W/V ON RCP BUSES	OPEN	ENERGIZED
QIN23SV3228AB	ASCO NP8320A196E	TD AFW PUMP DISCHARGE HV 3228A	177590	(MANUAL)		ENERGIZED TO CLOSE DEENERGIZED TO MOD
QIN23SV3228BA	ASCO NP8320A196E	TD AFW PUMP DISCHARGE HV 3228B	177590	SG LOW-LOW LEVEL & W/V ON RCP BUSES	OPEN	ENERGIZED
QIN23SV3228BB	ASCO NP8320A196E	TD AFW PUMP DISCHARGE HV 3228B	177590	(MANUAL)		ENERGIZED TO CLOSE DEENERGIZED TO MOD
QIN23SV3228CA	ASCO NP8320A196E	TD AFW PUMP DISCHARGE HV 3228C	177590	SG LOW-LOW LEVEL & W/V ON RCP BUSES	OPEN	ENERGIZED
QIN23SV3228CB	ASCO NP8320A196E	TD AFW PUMP DISCHARGE HV 3228C	177590	(MANUAL)		ENERGIZED TO CLOSE DEENERGIZED TO MOD
QIN23SV3235A	ASCO NP8321A2V	STEAM TO TD AFW PUMP HV 3235A	177189	SG LOW-LOW LEVEL & W/V ON RCP BUSES	OPEN	ENERGIZED
QIN23SV3235B	ASCO NP8321A2V	STEAM TO TD AFW PUMP HV 3235B	177189	SG LOW-LOW LEVEL & W/V ON RCP BUSES	OPEN	ENERGIZED
QIN23SV3235A	ASCO NP8320A186V	STEAM TO TD AFW PUMP HV 3235A	177057	CIA	CLOSED	DEENERGIZED
QIN23SV3235B	ASCO NP8320A186V	STEAM TO TD AFW PUMP HV 3235B	177057	CIA	CLOSED	DEENERGIZED

PLANT ID NO	MANUFACTURER OF MODEL	SERVICE	SCHEM NO	AUTO ACTUATION SIGNAL	VALVE POSITION FOLLOWING THE STATUS FOLLOW AUTO ACT. SIG.	SOLENOID	REMARKS
		<u>Auxiliary Feed Water</u>					
Q1W235V 3117AC	ASCO WFS310A168	MB AFW PUMP DISCHARGE HV 3127A	W1991	VARIOUS	OPEN	ENERGIZED	ENERGIZED TO CLOSE DEENERGIZED TO MOD.
3127AB	ASCO WFS310A168	MB AFW PUMP DISCHARGE HV 3127A	W1991	(MANUAL)			
3117AC	ASCO WFS310A168	MB AFW PUMP DISCHARGE HV 3127A	W1991	VARIOUS	OPEN	ENERGIZED	
Q1W235V 3117BA	ASCO WFS310A168	MB AFW PUMP DISCHARGE HV 3127B	W1991	VARIOUS	OPEN	ENERGIZED	
3127AB	ASCO WFS310A168	MB AFW PUMP DISCHARGE HV 3127B	W1991	(MANUAL)			ENERGIZED TO CLOSE DEENERGIZED TO MOD
3117AC	ASCO WFS310A168	MB AFW PUMP DISCHARGE HV 3127B	W1991	VARIOUS	OPEN	ENERGIZED	

PLANT ID NO	MANUFACTURER & MODEL	SERVICE	ACTING NO	AUTO ACTUATION SIGNAL	VALVE POSITION FOLLOWING THE AUTO ACT. SIG.	SOLENOID STATUS FOLLOWING AUTO ACT. SIG.	REMARKS
		<u>Aux Feed Water ... Cont</u>					
Q1H23SV 317CA	ASCO NFB320A1968	MB AFW PUMP DISCHARGE RV 3177C	171791	VARIOUS	OPEN	ENERGIZED	
Q1H23SV 317CB	ASCO NFB320A1968	MB AFW PUMP DISCHARGE RV 3177C	171791	(MANUAL)			ENERGIZED TO CLOSE DEENERGIZED TO MOD.
Q1H23SV 317CC	ASCO NFB320A1748	MB AFW PUMP DISCHARGE RV 3177C	171791	VARIOUS	OPEN	ENERGIZED	
		<u>Chemical Injection System</u>					
Q1H23SV 317CA	ASCO NFB316A1748	Injection to Steam Gen RV 3177A	171793	CIA	CLOSED	DEENERGIZED	
Q1H23SV 317CB	ASCO NFB316A1748	Injection to Steam Gen RV 3177B	171793	CIA	CLOSED	DEENERGIZED	
Q1H23SV 317CC	ASCO NFB316A1748	Injection to Steam Gen RV 3177C	171793	CIA	CLOSED	DEENERGIZED	

PLANT ID NO	MANUFACTURER A MODEL	SERVICE	SCHEMATIC NO	AUTO ACTUATION SIGNAL	VALVE POSITION FOLLOWING THE STATUS, ALONG AUTO ACT. SIG. AUTO ACT. SIG.	SOLE REMARKS
		<u>SAMPLING SYSTEM</u>				
Q1P155W 3103	ASCO NP8320A184V	Passenger Liquid HV 3103	111571	CIA PEN. ROOM HI PRESSURE	CLOSED	DEENERGIZED
Q1P155W 3103	ASCO NP8320A184V	Unloader Mol. Reg HV 3103	111571	CIA PEN. ROOM HI PRESSURE	CLOSED	DEENERGIZED
Q1P155W 3106	ASCO NP8320A184V	Accumulator Sample HV 3106	111578	CIA	CLOSED	DEENERGIZED
Q1P155W 3111A	ASCO NP8320A184V	Steam Burn Blowdown HV 3111A	111585	VARIOUS	CLOSED	DEENERGIZED
Q1P155W 3111B	ASCO NP8320A184V	Steam Burn Blowdown HV 3111B	111585	VARIOUS	CLOSED	DEENERGIZED
Q1P155W 3111C	ASCO NP8320A184V	Steam Burn Blowdown HV 3111C	111585	VARIOUS	CLOSED	DEENERGIZED
Q1P155W 3180A	ASCO NP8320A184V	Steam Burn Blowdown HV 3180A	111585	VARIOUS	CLOSED	DEENERGIZED
Q1P155W 3180B	ASCO NP8320A184V	Steam Burn Blowdown HV 3180B	111585	VARIOUS	CLOSED	DEENERGIZED

PLANT ID NO	MANUFACTURER IN SYMBOL	SERVICE	SCHEMATIC NO	AUTO ACTUATION SIGNAL	VALVE POSITION FOLLOWING THE AUTO ACT. SIGNAL	SOLENOID STATUS FOLLOWING AUTO ACT. SIGNAL	REMARKS
<u>STEAMING SYSTEM, 1. CONT</u>							
Q1P195V 3100C	ASCO MP0320A1047	STEAM ARM Blowdown HV 3100C	177413	VARIOUS	CLOSED	DEENERGIZED	
Q1P195V 3101A	ASCO MP0320A1047	STEAM ARM Blowdown HV 3101A	177415	VARIOUS	CLOSED	DEENERGIZED	
Q1P195V 3101B	ASCO MP0320A1047	STEAM ARM Blowdown HV 3101B	177415	VARIOUS	CLOSED	DEENERGIZED	
Q1P195V 3101C	ASCO MP0320A1047	STEAM ARM Blowdown HV 3101C	177415	VARIOUS	CLOSED	DEENERGIZED	
Q1P195V 3101J	ASCO MP0320A1047	Press Arm Sample HV 3101J	177417	CIA & PEN. ROOM HI PRESSURE	CLOSED	DEENERGIZED	
Q1P195V 3101	ASCO MP0320A1047	Reactor Hot Leg HV 3101	177416	PEN. ROOM HI PRESSURE	CLOSED	DEENERGIZED	
Q1P195V 3102	ASCO MP0320A1047	Reactor Hot Leg HV 3102	177416	PEN. ROOM HI PRESSURE	CLOSED	DEENERGIZED	
Q1P195V 3103	ASCO MP0320A1047	Reactor Hot Leg HV 3103	177417	CIA	CLOSED	DEENERGIZED	

PLANT ID AND MANUFACTURE R MODEL	SERVICE	SCHEM NO	AUTO ACTUATION SIGNAL	VALVE POSITION FOLLOWING THE AUTO ACT. SIG	SOLENOID STATUS FOLLOWING AUTO ACT. SIG	REMARKS
01P1754 3084	<u>Component Cooling Water</u> MAG. COOL. PUMP CONTROL COOL HV 3184	177855	CIB E. HI PRESSURE	CLOSED	ENERGIZED	
01P1754 3443	ACCESS LET DOWN MR CONSTANT DOWN HV 3443	177374	CIA	CLOSED	DEENERGIZED	