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JOHN S. KEMPER
VICE-PRESIDENT
ENGINEERING AND RESEARCH

September 30, 1983

Docket Nos. 50-352
50-353

Mr. A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Request for Additional Information Regarding
Pump and Valve Operability

References: 1) Letter, A. Schwencer to E. G. Bauer, Jr.,
dated July 30, 1982
2) Telecon, J. Jackson, NRC, and J. T. Robb,
etal PECO, September 16, 1983
3) Telecon, L. Kintner, NRC Proj. Mgr., and
H. D. Honan, PECO, September 19, 1983

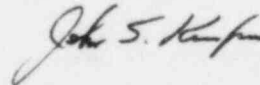
Dear Mr. Schwencer:

We are pleased to provide in the Enclosures the information requested by the Reference 1) letter regarding operability qualification of Limerick pumps and valves. As discussed in the Reference 2) telecon, qualification and installation of active pumps and valves is about 90% complete.

In accordance with the Reference 3) telecon, we understand the NRC will notify us of the items selected for PVORT audit by October 28, 1983, and that PECO will submit completed PVORT forms by November 18, 1983, for the items selected. Further we understand that the PVORT Site Audit is tentatively scheduled for December 6, 1983.

Should any additional information be required, please do not hesitate to contact us.

Very truly yours,



Enclosure

Copy to: See Attached Service List.

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PDR ADOCK 05000352
A PDR

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cc: Judge Lawrence Brenner	(w/o enclosure)
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Docket and Service Section	(w/o enclosure)

LIMERICK GENERATING STATION, UNIT 1
DOCKET NO. 50-352
PUMP & VALVE OPERABILITY REVIEW TEAM (PVORT)
EQUIPMENT LISTS

Enclosed are lists of the Limerick Unit 1 and Common, pumps and valves identified in LGS FSAR Section 3.9.3.2 and shown on LGS FSAR Tables 3.9-8 and 3.9-19.

NSSS Active Pumps and Valves are shown on Enclosure 1) which includes qualification and installation status.

Enclosure 2) is a marked-up copy of LGS FSAR Table 3.9-8, which identifies valves for which operability assurance is required as described in LGS FSAR Section 3.9.3.2b.

Enclosure 3) is the equipment list for pumps and valves which identify the package no. and components referred to on Enclosure 2).

Operability assurance of check valves is described in the last eight sentences on Page 3.9-74 of the LGS FSAR and on the top of Page 3.9-75.

Operability assurance of relief valves, in addition to the packages for relief valves and enclosure 2), is described on LGS FSAR Page 3.9-75.

For purposes of PVORT Audit, check or relief valves selected for audit should be identified by the appropriate valve ID No. on enclosure 2).

Please note that the current revision of LGS FSAR Section 3.9.3.2 and associated tables are being revised to reflect inclusion of hydrodynamic load considerations and the higher frequency range of these loads and changes in equipment identifications and components. These changes will be submitted later.

MASTER LISTING OF SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF SAFETY RELATED EQUIPMENT

PLANT NAME: LIMERICK I

DOCKET NO. 50-352

UTILITY: PECO

A/E: BECHTEL

NSSS: GE

FOR EQUIPMENT LISTED BELOW

THE SUPPLIER IS: A/E ☐, NSSS ☒, OTHER ☐. SAFETY SYSTEM & FUNCTION ARE:

EQUIPMENT					LOCATION		LOADS CONSIDERED			QUALIF. METHOD			LOWEST NAT'L FREQUENCY-			STATUS		RRS	CODES AND STANDARDS
IDENT. NO.	Type and Description	Mfrgr and Model No.	Test Report No.	Quantity	Bldg. and Elevation	Mounting	Seismic	Hydrodynamic	Req'd Input (ZPA)	Analysis	Test Frequency	Test Direction	F/B (HZ)	S/S (HZ)	V (HZ)	Qualification	Installation	REF.	
B21-F013	SRV	Target Rock Co. (2-stage) 7567F		13		P	X	X		C	MF	MA				8344	A	DRF	
B21-F022 -F028	MSIV	A & M VPF# 2964-95-2		4		P	X	X		N/A	MF	MA				8347	A	DRF	
B21-N051 thru -N054	Flow Element	GE 05D5085G.1		4		P	X	X		S & D	N/A	N/A				8343		DRF	
B32-C001	Recirc Pump & Motor	BJ 711-S-0736 GE 5K46385AR1		2		P	X	X		D	N/A	N/A				8340	A	DRF	
C11-D001	HCU	GE 761E500G001		185		F	X	X		N/A	MF	SA				8334		DRF	
C11-F009 -F182	CRD Solenoid Valve	Valcor PT# W0900-45 VPF# 6289-20(1)-4		2		P	X	X		N/A	MF	MA				8402	A	DRF	
C11-F010 -F180	CRD Vent Valve	Hammell-Dahl 522-FRR62HAZ9		2		P	X	X		N/A	MF	MA				8339	A	DRF	
C11-F011 -F181	CRD Drain Valve	Hammell-Dahl 522JRR62HAZ9		2		P	X	X		N/A	MF	MA				8339	A	DRF	
C41-A001	SLC Tank	Alpha Tank & Metal Mfg (None)	DRF C41-85	1	Reactor 283	F	X	X	0.9g	S	N/A	N/A	59	59	59	8332		DRF	ASME III
C41-A003	SLC Accumulator	Greer Hydraulics VPF# 8198-01-01		3		P	X	X		S	N/A	N/A				8333		DRF	
C41-C001	SLC Pump & Motor	Union Pump 2x3TD-60	VPF# 5517-2-2 2892-26-2	3	Reactor 283	F	X	X	0.5g	S (Assy)	SF (Motor)	MA (Motor)	>100	>100	>100	8332	A	DRF	NEMA

Mounting: F = Floor
P = PipeQualification Method: S = Static Analysis
D = Dynamic Analysis
SF = Single Frequency
MF = Multi Frequency
SA = Single Axis
MA = Multi-Axis
C = Comparison

Status: A = Complete

MASTER LISTING OF SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF SAFETY RELATED EQUIPMENT

PLANT NAME: LIMERICK I

DOCKET NO. 50-352

UTILITY: PECO

A/E: BECHTEL

NSSS: GE

FOR EQUIPMENT LISTED BELOW

THE SUPPLIER IS: A/E ☐, NSSS ☒, OTHER ☐. SAFETY SYSTEM & FUNCTION ARE:

EQUIPMENT					LOCATION		LOADS CONSIDERED			QUALIF. METHOD			LOWEST NAT'L FREQUENCY			STATUS		RRS REF.	CODES AND STANDARDS
IDENT. NO.	Type and Description	Mfr'r and Model No.	Test Report No.	Quantity	Bldg. and Elevation	Mounting	Seismic	Hydrodynamic	Req'd Input (ZPA)	Analysis	Test Frequency	Test Direction	F/B (HZ)	S/S (HZ)	V (HZ)	Qualification	Installation		
C41-F004	SLC Explosive Valve	Conax 1832-162		3		P	X	X		C	SF	MA				8333		DRF	
C41-F029	SLC Relief Valve	Crosby Valve & Gage 3/4 x 1 Style JMAK		3		P	X	X								8335	A	DRF	
E11-B001	RHR Hx	Delta Southern 53-264 REU	DRF E11-13	2	Reactor 177' to 206'	F	X	X	0.75g	S&D	N/A	N/A	14	12	25	A		DRF	ASME III
E11-C002	RHR Pump & Motor	IR/S/N 0771-78 thru 85 GE/5K6348XC53B		4		F	X	X		S&D	N/A	N/A				8343	A	DRF	
E11-F041 -F050	RHR Check Valve	A & M VPR #5226-26-7 VPR #5226-09-7		4 2		P	X	X		D	N/A	N/A				8335	A	DRF	
E11-N006 -N012	RHR Flow Orifice	Vickery Simms, Inc. MK-52		2 1		P	X	X		S	N/A	N/A				8335		DRF	
E11-N014	RHR Flow Orifice	Vickery Simms, Inc. MK-52		4		P	X	X		S	N/A	N/A				8335		DRF	
E21-C001	CS Pump & Motor	IR/S/N077H26 thru 133 GE5K6337XC122A		4		F	X	X		S&D	N/A	N/A				8343	A	DRF	
E21-F006	CS Check Valve	A & M VPR # 5226-26-7		2		P	X	X		D	N/A	N/A				8335	A	DRF	
E21-N002	LPCS Flow Orifice	Vickery Simms, Inc. MK-52		2		P	X	X		S	N/A	N/A				8335		DRF	
E32-C001 -C002	MSIV LCS Blower	GE 2CH6-041-1u		1 2		F	X	X		N/A	MF	MA				8339	A	DRF	

Mounting: F = Floor
P = Pipe

Qualification Method:

S = Static Analysis
D = Dynamic Analysis
SF = Single Frequency
MF = Multi Frequency
SA = Single Axis
MA = Multi-Axis
C = Comparison

Status: A = Complete

MASTER LISTING OF SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF SAFETY RELATED EQUIPMENT

PLANT NAME: LIMERICK 1

DOCKET NO. 50-352

UTILITY: PECO

A/E: BECHTEL

NSSS: GE

FOR EQUIPMENT LISTED BELOW

THE SUPPLIER IS: A/E ☐, NSSS ☒, OTHER ☐. SAFETY SYSTEM & FUNCTION ARE:

EQUIPMENT					LOCATION		LOADS CONSIDERED			QUALIF. METHOD			LOWEST NAT'L FREQUENCY-			STATUS		RRS	CODES AND STANDARDS
IDENT. NO.	Type and Description	Mfrgr and Model No.	Test Report No.	Quantity	Bldg. and Elevation	Mounting	Seismic	Hydrodynamic	Req'd Input (ZPA)	Analysis	Test Frequency	Test Direction	F/B (HZ)	S/S (HZ)	V (HZ)	Qualification	Installation	REF.	
E41-C001	HPCI Pump	BJ S/N701-5-0832/0833/0834/0835		1		F	X	X		D	N/A	N/A				8334	A	DRF	
E41-C002	HPCI Turbine	Terry Turbine CCS		1		F	X	X		N/A	MF	MA				8349		DRF	
E41-F005	HPCI Swing Check Valve	Anchor Darling VPF#3238-72-5		1		P	X	X		D	N/A	N/A				8335	A	DRF	
E41-F021	HPCI Stop Check Valve	A & M VPF#3052-12-1		1		P	X	X		S	N/A	N/A				8335	A	DRF	
E41-N007	HPCI Flow Orifice	Vickery Simms Mk-52		1		P	X	X		S	N/A	N/A				8335		DRF	
E51-C001	RCIC Pump	Bingham Willamette 6x6x10-1/2CP-4stage		1		F	X	X		S&D	N/A	N/A				8334	A	DRF	
E51-C002	RCIC Turbine	Terry Turbine GS2		1		F	X	X		N/A	MF	MA				8349		DRF	
E51-F001	RCIC Stop Check Valve	Anchor Darling VPF 3238-19-3		1		P	X	X		D	N/A	N/A				8335	A	DRF	
E51-F014	RCIC Swing Check Valve	Anchor Darling VPF 3238-71-3		1		P	X	X		D	N/A	N/A				8335	A	DRF	
E51-N001	RCIC Flow Orifice	Vickery Simms Mk-52		1		P	X	X		S	N/A	N/A				8335		DRF	
F18-E001	Fuel Prep Machine	GE 729E716G001		1		F	X	X		D	N/A	N/A				8338		DRF	

Mounting: F = Floor
P = Pipe

Qualification Method:

S = Static Analysis
D = Dynamic Analysis
SF = Single Frequency
MF = Multi Frequency
SA = Single Axis
MA = Multi-Axis
C = Comparison

Status: A = Complete

MASTER LISTING OF SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF SAFETY RELATED EQUIPMENT

PLANT NAME: LIMERICK 1

DOCKET NO. 50-352

UTILITY: PECO

A/E: BECHTEL

NSSS: GE

FOR EQUIPMENT LISTED BELOW

THE SUPPLIER IS: A/E ☐, NSSS ☒, OTHER ☐. SAFETY SYSTEM & FUNCTION ARE:

EQUIPMENT					LOCATION		LOADS CONSIDERED			QUALIF. METHOD			LOWEST NAT'L FREQUENCY-			STATUS		RRS	CODES AND STANDARDS
IDENT. NO.	Type and Description	Mfr's and Model No.	Test Report No.	Quantity	Bldg. and Elevation	Mounting	Seis-mic	Hydro-dyna-mic	Req'd Input (ZPA)	Anal-ysis	Test Freq-ency	Test Direc-tion	F/B (HZ)	S/S (HZ)	V (HZ)	Qual-ification	Inst-allation	RCF	
F18-E011	Gen'l Purpose Grapple	GE 148F478	DRF 139-F18-E011	3	Reactor 352	N/A	N/A	N/A	N/A	S	N/A	N/A	N/A	N/A	N/A	A		N/A	Industry Standards
F18-E012	Jib Crane	Cal Pacific Fabricating 153E707P1	DRF F18-00002	2	Reactor 352	F	X	X	0.6g	D	N/A	N/A	3.6	20	3	A		DRF	AISC
F19-E008	Dryer & Separator Sling	Cal Pacific Fabricating 767E438P3	DRF F13-9	1	Reactor 352	N/A	N/A	N/A	N/A	S	N/A	N/A	N/A	N/A	N/A	A		N/A	CMAA Spec 70
F19-E009	Head Strong-back	Cal Pacific Fabricating 767E187P2	DRF F13-00011	1	Reactor 352	N/A	X	N/A	N/A	S	N/A	N/A	N/A	N/A	N/A	A		N/A	CMAA Spec 70
F20-E002	Control Rod Grapple	GE 767E593G2	DRF 139-F20-E002	1	Reactor 352	N/A	X	N/A	N/A	S	N/A	N/A	N/A	N/A	N/A	A		N/A	Industry Standards
F21-E003	Refueling Platform	Programmed & Remote Sys 762E875P37	DRF F00-00022-1	2	Reactor 352	F	X	X	0.6g	S&D	N/A	N/A	16.5	9.5	10	A		DRF	AISC
F22-E006	In-vessel Rack	Votaw 729E269Rev11	0013	2			X			S&D	N/A	N/A				8352		DRF	
C11-F160 -F162 -F163	ARI VALVES	VALCOR-V70900-43, -45, -46		3															

Mounting: F = Floor
P = Pipe

Qualification Method:

S = Static Analysis
D = Dynamic Analysis
SF = Single Frequency
MF = Multi Frequency
SA = Single Axis
MA = Multi-Axis
C = Comparison

Status: A = Complete

TABLE 3.9-8

(Page 1 of 23)

ASME CODE CLASS 1, 2, 3 VALVES TO BE INSERVICE TESTED(1)

DYNAMIC QUALIF. PACKAGE No	UNIT 1 OR COMMON VALVE ID NO.	CORRESP UNIT 2 VALVE ID NO. (IF APPLIC)	TYPE(2)	SERVICE	SECTION XI	ASME
					CATEGORY PER 1WV-2000	CODE CLASS(3)
	A. MAIN STEAM					
D-105	HV-01-108	HV-01-208	6 in. M.O. gate	Main steam to offgas recom- biner preheater and feed pump turbine HP steam supply	A	2
D-105	HV-10-109	HV-01-209	6 in. M.O. gate	Main steam to condenser hotwell steam spargers	A	2
D-105	HV-01-111	HV-01-211	8 in. M.O. gate	Main steam to steam seal evaporator	A	2
D-99	HV-01-150	HV-02-250	4 in. M.O. gate	Main steam to air ejector	A	2
	B. EMERGENCY SERVICE WATER (ESW)					
D-121	HV-11-011 A,B	-	20 in. M.O. butterfly	ESW to RHRSW return header	B	3*
D-121	HV-11-015 A,B	-	20 in. M.O. butterfly	ESW to RHRSW return header	B	3*
	11-0001 A,B,C,D	-	20 in. check	ESW pump discharge	C	3*
	11-0064 A,B	-	20 in. check	ESW to RHRSW return header	C	3*
	11-0065 A,B	-	20 in. check	ESW to RHRSW return header	C	3*
D-93	HV-11-105	HV-11-205	4 in. M.O. gate	ESW to turbine encl cooling water HX	B	3
D-93	HV-11-107	HV-11-207	4 in. M.O. gate	ESW to turbine encl cooling water HX	B	3
D-125	HV-11-131 A,B,C,D	HV-11-231 A,B,C,D	6 in. M.O. ^{GLOBE STOP} check	ESW to diesel-generator HX	B,C	3*
D-93	HV-11-132 A,B,C,D	HV-11-232 A,B,C,D	6 in. M.O. gate	ESW leaving diesel-generator HX	E	3*
D-125	HV-11-133 A,B,C,D	HV-11-233 A,B,C,D	6 in. M.O. ^{GLOBE STOP} check	ESW to diesel-generator HX	B,C	3*
D-93	HV-11-134 A,B,C,D	HV-11-234 A,B,C,D	6 in. M.O. gate	ESW leaving diesel-generator HX	E	3*
	11-1005 A,B,C,D	11-2005 A,B,C,D	6 in. hand globe	ESW leaving diesel-generator HX	E	3
D-80	HV-11-041	-	8 in. A.O. gate	To ESW from loop A equipment	B	3*
D-78	HV-11-042	-	3 in. A.O. gate	To ESW from HPCI pump room cooler	B	3*

TABLE 3.9-8 (Cont'd)

(Page 2 of 23)

DYNAMIC QUALIF PACKAGE NO.	UNIT 1 OR COMMON VALVE ID NO.	CORRESP UNIT 2 VALVE ID NO. (IF APPLIC)	TYPE(2)	SERVICE	SECTION XI CATEGORY PER IWR-2000		ASME CODE CLASS(3)	
					B		3*	
D-78	HV-11-043	-	3 in. A.O. gate	From HPCI pump room cooler to service water	B		3*	
D-80	HV-11-044	-	8 in. A.O. gate	To ESW from loop B equipment	B		3*	
D-79	HV-11-051 A,B	-	6 in. A.O. gate	From control structure chiller to service water	B		3*	
D-79	HV-11-052 A,B	-	6 in. A.O. gate	To ESW from control structure chiller	B		3*	
D-56	TV-C-11-053 A,B	-	6 in. A.O. globe	From ESW to control structure chiller	B		3*	
D-80	HV-11-054 A,B	-	6 in. A.O. gate	To ESW from control structure chiller	B		3*	
D-80	HV-11-055 A,B	-	6 in. A.O. gate	From control structure chiller to service water	B		3*	
D-80	HV-11-071	-	8 in. A.O. gate	To ESW from loop A equipment	B		3*	
D-78	HV-11-072	-	3 in. A.O. gate	To ESW from HPCI pump room cooler	B		3*	
D-78	HV-11-073	-	3 in. A.O. gate	From HPCI pump room cooler to service water	B		3*	
D-80	HV-11-074	-	8 in. A.O. gate	To ESW from loop B equipment	B		3*	
	11-0029	-	8 in. check	To service water from loop A equipment	C		3	
	11-0031 A,B	-	6 in. hand gate	From ESW to control structure chiller	B		3	
	11-0032 A,B	-	6 in. check	From ESW to control structure chiller	C		3*	
	11-0033 A,B	-	6 in. check	From service water to control structure chiller	C		3	
	11-0034 A,B	-	6 in. hand gate	From service water to control structure chiller	B		3	
	11-0035	-	3 in. check	From HPCI pump room cooler to service water	C		3	

TABLE 3.9-8 (Cont'd)

(Page 3 of 23)

DYNAMIC QUALIF PACKAGE No	UNIT 1 OR COMMON VALVE ID NO.	CORRESP UNIT 2 VALVE ID NO. (IF APPLIC)	TYPE(s)	SERVICE	SECTION XI CATEGORY PER IWR-2000	ASME CODE CLASS(3)
	11-0062	-	3 in. check	From service water to HPCI pump room cooler	C	3*
	11-0069	-	3 in. check	From ESW to HPCI pump room cooler	C	3*
D-124	HV-11-101 A,B,C,D,E,F G,H	HV-11-201 A,B,C,D,E,F, G,H	2 in. A.O. globe	Cooling water inlet to core spray pump room coolers	B	3*
D-83	HV-11-103 A,B	HV-11-203 A,B	3 in. A.O. globe	Cooling water inlet to HPCI pump room cooler	B	3*
D-78	HV-11-104 A,B,C,D,E,F, G,H	HV-11-204 A,B,C,D,E,F, G,H	4 in. A.O. gate	Cooling water inlet to RHB pump room cooler	B	3*
D-124	HV-11-106 A,B	HV-11-206 A,B	2 in. A.O. globe	Cooling water inlet to BCIC pump room cooler	B	3*
D-80	HV-11-121	HV-11-221	8 in. A.O. gate	To service water from loop A equipment	B	3*
D-80	HV-11-123	HV-11-223	8 in. A.O. gate	To service water from loop A equipment	B	3*
D-81	HV-11-124	HV-11-224	10 in. A.O. gate	ESW to reactor encl cooling water HX	B	3
D-80	HV-11-125	HV-11-225	8 in. A.O. gate	To service water from loop B equipment	B	3*
D-80	HV-11-126	HV-11-226	8 in. A.O. gate	To service water from loop B equipment	B	3*
D-81	HV-11-127	HV-11-227	10 in. A.O. gate	ESW from reactor encl cooling water HX	B	3*
D-81	HV-11-128	HV-11-228	10 in. A.O. gate	ESW to reactor encl cooling water HX	B	3
	11-1003	11-2003	4 in. check	ESW to turbine encl cooling water HX	C	3
	11-1007	11-2007	8 in. check	ESW to loop A equipment	C	3*
	11-1009	11-2009	8 in. check	ESW to loop B equipment	C	3*
	11-1011	11-2011	8 in. check	From service water to loop A equipment	C	3*

TABLE 3.9-8 (Cont'd)

(Page 4 of 23)

DYNAMIC QUALIF. PACKAGE NO.	UNIT 1 OR COMMON VALVE ID NO.	CORRESP UNIT 2 VALVE ID NO. (IF APPLIC)	TYPE(?)	SERVICE	SECTION XI CATEGORY PER ASME IHW-2000 CODE CLASS(?)	
					C	3*
	11-1012	11-2012	8 in. check	From service water to loop B equipment	C	3*
	11-1043	11-2043	10 in. check	ESW to reactor encl cooling water HX	C	3
	11-1044	11-2044	10 in. check	ESW from reactor encl cooling water HX	C	3
D-79	HV-11-046	-	6 in. A.O. gate	To ESW from loop A equipment	B	3*
D-79	HV-11-047	-	6 in. A.O. gate	To ESW from loop B equipment	B	3*
D-124	HV-11-048	-	2 in. A.O. globe	From RCIC pump room coolers to service water	B	3*
D-124	HV-11-049	-	2 in. A.O. globe	From RCIC pump room coolers to ESW	B	3*
D-197	PSV-11-051A,B	-	1"x1/2" RELIEF	ESW DRAIN TO DRW	B	3*
D-80	HV-11-076	-	6 in. A.O. gate	To ESW from loop A equipment	B	3*
D-80	HV-11-077	-	6 in. A.O. gate	To ESW from loop B equipment	B	3*
D-124	HV-11-078	-	2 in. A.O. globe	From RCIC pump room coolers to service water	B	3*
D-124	HV-11-079	-	2 in. A.O. globe	From RCIC pump room coolers to ESW	B	3*
	11-0030	-	8 in. check	To service water from loop B equipment	C	3
	11-0036	-	2 in. check	From RCIC pump room coolers to service water	C	3
	11-0039	-	2 in. check	From ESW to RCIC pump room coolers	C	3*
	11-0063	-	2 in. check	From service water to RCIC pump room coolers	C	3*
	C. RHR SERVICE WATER					
	12-0001 A,B,C,D	-	20 in. check	RHR service water pump discharge	C	3*
	12-0030	-	6 in. check	Schuylkill River makeup to spray pond	C	3*

TABLE 3.9-8 (Cont'd)

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DYNAMIC QUALIF. PACKAGE NO.	UNIT 1 OR COMMON VALVE ID NO.	CORRESP UNIT 2 VALVE ID NO. (IF APPLIC)	TYPE(s)	SERVICE	SECTION XI	ASME
					CATEGORY PER IWR-2000	CCDE CLASS(s)
	12-0031	-	6 in. check	Schuylkill River makeup to spray pond	C	3*
	12-1009	12-2009	4 in. check	RHR service water from turbine encl cooling water HX	B	3
D-121	HV-12-017 A,B	-	20 in. M.O. butterfly	RHR service water to cooling tower intertie	B	3*
D-121	HV-12-031 A,B,C,D	-	30 in. M.O. butterfly	RHR service water to spray network bypass	B	3*
D-121	HV-12-032 A,B,C,D	-	30 in. M.O. butterfly	RHR service water to spray network	B	3*
D-121	HV-12-034 A,B	-	30 in. M.O. butterfly	RHR service water to spray network intertie	B	3*
D-93	HV-12-110	HV-12-210	4 in. M.O. gate	RHR service water from turbine enclosure cooling water HX	C	3
D-121	HV-12-111	HV-12-211	30 in. M.O. butterfly	RHR service water to cooling tower	B	3*
D-121	HV-12-112	HV-12-212	36 in. M.O. butterfly	From cooling tower to wet pit	B	3*
D-121	HV-12-113	HV-12-213	30 in. M.O. butterfly	RHR service water to cooling tower	B	3*
D-121	HV-12-114	HV-12-214	36 in. M.O. butterfly	From cooling tower to wet pit	B	3*
<u>D. REACTOR ENCLOSURE COOLING WATER (RECWL)</u>						
	13-1072	13-2072	3 in. check	From RECWL to reactor recirc pump seal and motor oil coolers	C	2
	13-1073	13-2073	3 in. check	To ESW from reactor recirc pump seal and motor oil coolers	C	2
D-93	HV-13-106	HV-13-206	4 in. M.O. gate	Cooling water to reactor recirc pump seal and motor oil coolers, containment isolation	A	2*

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TABLE 3.9-8 (Cont'd)

DYNAMIC QUALIFICATION No.	UNIT 1 OR COMMON VALVE ID NO.	CORRESPONDING VALVE ID NO.	TYPE	SERVICE		SECTION XI CATEGORY PER 10V-2000	CLASS
				TYPE	SERVICE		
D-93	HV-13-107	HV-13-207	4 in. M.O. gate		Cooling water from reactor recirc pump seal and motor oil coolers, containment isolation	A	2*
D-92	HV-13-108	HV-13-208	3 in. M.O. gate		From RECW to reactor recirc pump seal and motor oil coolers	B	2
D-92	HV-13-109	HV-13-209	3 in. M.O. gate		From ESW to reactor recirc pump seal and motor oil coolers	B	2
D-92	HV-13-110	HV-13-210	3 in. M.O. gate		To ESW from reactor recirc pump seal and motor oil coolers	B	2
D-92	HV-13-111	HV-13-211	3 in. M.O. gate		To RECW from reactor recirc pump seal and motor oil coolers	B	2
E. MSIV LEAKAGE CONTROL SYSTEM							
D-123	HV-40-1F001	HV-40-2F001	2 in. M.O. globe		MSIV leakage control suction, containment isolation	A	1*
	HV-40-1F002	HV-40-2F002	2 in. M.O. globe		MSIV leakage control heater inlet	B	2*
	HV-40-1F003	HV-40-2F003	2 in. M.O. globe		MSIV leakage control heater outlet	B	2*
	HV-40-1F006	HV-40-2F006	2 in. M.O. globe		MSIV leakage control exhaust blower inlet	B	2*
	HV-40-1F007	HV-40-2F007	2 in. M.O. globe		MSIV leakage control exhaust blower inlet	B	2*
	HV-40-1F008	HV-40-2F008	2 in. M.O. globe		MSIV leakage control discharge to SGTS	B	2*
D-123	HV-40-1F009	HV-40-2F009	2 in. M.O. globe		MSIV leakage control discharge to SGTS	B	2*
	40-1F010	40-2F010	1 in. check		Drain line from low pressure manifold	C	2*
	40-1F011	40-2F011	1 in. check		Drain line from low pressure manifold	C	2*

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TABLE 3.9-8 (Cont'd)

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SECTION XI
CATEGORY PER
1WV-2000 CLASSDYNAMIC QUALITY
PACKAGE NO.UNIT 1 OR COMMON
VALVE ID NO.CORRESP UNIT 2 VALVE
ID NO. (IF APPLIC)

TYPE(s)

SERVICE

F. NUCLEAR BOILER

D-116	HV-41-1F032 A,B	HV-41-2F032 A,B	24 in. M.O. check	Feedwater outboard containment isolation	A,C	2
D-102	HV-41-110		16 in. M.O. gate	Isolates feedwater line to cond. sys bypass		
D-106	HV-41-109 A,B	HV-41-209 A,B	16 in. M.O. gate	Feedwater startup recirc line	A	2
D-103	HV-41-1F074 A,B		24 in. M.O. gate	Feedwater isolation		
D-86	HV-41-1F074 A,B	HV-41-2F074 A,B	24 in. A.O. check	Feedwater outboard containment isolation	A,C	2
	41-1F010 A,B	41-2F010 A,B	24 in. check	Feedwater inboard containment isolation	A,C	1
D-124	HV-41-1F084	HV-41-2F084	1 in. A.O. globe	Main steam sample line inboard containment isolation	A	1*
D-124	HV-41-1F085	HV-41-2F085	1 in. A.O. globe	Main steam sample line outboard containment isolation	A	1*
D-123	HV-41-1F001	HV-41-2F001	2 in. M.O. globe	Reactor head vent line isolation	A	1
D-123	HV-41-1F002	HV-41-2F002	2 in. M.O. globe	Reactor head vent line isolation	A	1
D-123	HV-41-1F005	HV-41-2F005	2 in. M.O. globe	Reactor head vent to steam line C	B	1
	PSV-41-1F013 A,B,C,D,E, F,G,H,J,K,L,M,N,S(*)	PSV-41-2F013 A,B,C,D,E, F,G,H,J,K,L,M,N,S(*)	6 in. x 10" A.O. relief	Main steam relief valve	A,C	1*
D-136	PSV-41-1F037 A,B,C,D,E, F,G,H,J,K,L,M,N,S	PSV-41-2F037 A,B,C,D,E, F,G,H,J,K,L,M,N,S	6 in. relief	MSRV discharge line vacuum breaker	C	3*
	HV-41-1F022 A,B,C,D(*)	HV-41-2F022 A,B,C,D(*)	26 A.O. globe	Main steam line inboard containment isolation	A	1*
	HV-41-1F028 A,B,C,D(*)	HV-41-2F028 A,B,C,D(*)	26 in. A.O. globe	Main steam line outboard containment isolation	A	1*
D-104	HV-41-1F016	HV-41-2F016	3 in. M.O. gate	Steam line drain inboard containment isolation	A	1
D-104	HV-41-1F019	HV-41-2F019	3 in. M.O. gate	Steam line drain outboard containment isolation	A	1
	41-1016	41-2016	4 in. hand globe	RWCU bypass line, containment isolation	A	1
D-154	PSV-41-112		3/4" x 3/4" RELIEF	RWCU ALT. FEED WATER FILL		

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TABLE 3.9-8 (Cont'd)

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DYNAMIC QUALIF. PACKAGE NO.	UNIT 1 OR COMMON VALVE ID NO.	CORRESP UNIT 2 VALVE ID NO. (IF APPLIC)	TYPE(2)	SERVICE	SECTION XI ASME CATEGORY PER CODE INV-2000 CLASS	
D-123	41-1017	41-2017	4 in. hand globe	RWCU bypass line, containment isolation	A	1
	HV-41-130A,B	HV-41-250 A,B	1-1/2 in. M.O. Globe	SAFEGUARD PIPING Fill Sys.		
D-197	HV-41-133 A,B	HV-41-233 A,B	1-1/2 in. M.O. globe	Fill system injection to feedwater line	A	2*
	PSV-41-134A,B		1x2" RELIEF	SAFEGUARD PIPING Fill Sys.		
D-104	41-1032 A,B	41-2032 A,B	1-1/2 in. check	Fill system injection to feedwater line	B,C	2*
	HV-41-142		3 in. M.O. GATE	MAIN STEAM DRAIN		
D-104	41-1033 A,B	41-2033 A,B	1-1/2 in. check	Fill system injection to feedwater line	B,C	2*
	HV-41-143		3 in. M.O. GATE	MAIN STEAM DRAIN		
	41-1F036 A,B,C,D,E,F,G, H,J,K,L,M,N,S	41-2F036 A,B,C,D,E,F,G, H,J,K,L,M,N,S	1 in. check	Air inlet to MSRV operator accumulator	C	3*
G. REACTOR RECIRCULATION PUMP						
	HV-43-1F023 A, (*)	HV-43-2F023 A, B (*)	28 in. M.O. globe	Reactor recirc pump suction	B	1
	HV-43-1F031 A, B (*)	HV-43-2F031 A, B (*)	28 in. M.O. globe	Reactor recirc pump discharge	B	1
D-124	HV-43-1F019	HV-43-2F019	1 in. A.O. globe	Reactor recirc sample line, containment isolation	A	1*
D-124	HV-43-1F020	HV-43-2F020	1 in. A.O. globe	Reactor recirc sample line, containment isolation	A	1*
	43-1004 A,B	43-2004 A,B	1 in. check	Reactor recirc pump seal purge, inboard containment isolation	A,C	1*
	XV-43-103 A,B	XV-43-203 A,B	1 in. excess flow check	Reactor recirc pump seal purge, outboard containment isolation	A,C	
H. REACTOR WATER CLEANUP (RWCU)						
D-118	HV-44-1F001	HV-44-2F001	6 in. M.O. globe	RWCU inboard containment isolation	A	1*
D-118	HV-44-1F004	HV-44-2F004	6 in. M.O. globe	RWCU outboard containment isolation	A	1*
D-25	HV-44-1F039	HV-44-2F039	4 in. A.O. check	RWCU return line	A,C	2*
	HV-44-1F040	HV-44-2F040	6 in. M.O. gate	RWCU pump suction line	A	2
	HV-44-1F042	HV-44-2F042	4 in. M.O. globe	RWCU return line	B	3

TABLE 3.9-8 (Cont'd)

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DYNAMIC QUALIF. PACKAGE No.	UNIT 1 OR COMMON VALVE ID NO.	CORRESP UNIT 2 VALVE ID NO. (IF APPLIC)	TYPE(2)	SERVICE	SECTION XI CATEGORY PER 10V-2000	ASME CODE CLASS(3)
<u>I. CONTROL ROD DRIVE HYDRAULIC</u>						
	XV-47-1F010(*)	XV-47-2F010(*)	1 in. A.O. globe	Scram discharge volume vent line	B	2*
	XV-47-1F011(*)	XV-47-2F011(*)	2 in. A.O. globe	Scram discharge volume drain line	B	2*
	PSV-47-1P0(*)	PSV-47-2P012(*)	3/4 in. x 1" relief	Scram discharge volume pressure relief	C	2*
<u>J. STANDBY LIQUID CONTROL (SLC)</u>						
	XV-48-1F004 A,B(*)	HV-48-2F004 A,B(*)	1-1/2 in. explosive shear	SLC pump discharge	D	2*
D-123	HV-48-1F006 A,B	HV-48-2F006	2 in. M.O. stop check globe	SLC outboard containment isolation	A	1*
	48-1P007	48-2F007	1-1/2 in. check	SLC inboard containment isolation	A,C	1*
	48-1F033 A,B	48-2F033 A,B	1-1/2 in. check	SLC pump discharge	C	2*
<u>K. REACTOR CORE ISOLATION COOLING (RCIC)</u>						
	49-1F001(*)	49-2F001(*)	8 in. stop check	RCIC turbine exhaust to suppression pool, containment isolation	A,C	2*
D-123	HV-49-1F002	HV-49-2F002	2 in. M.O. stop check globe	RCIC vacuum pump discharge, containment isolation	A	2*
D-115	HV-49-1F007	HV-49-2F007	3 in. M.O. globe	RCIC steam supply inboard containment isolation	A	1*
D-115	HV-49-1F008	HV-49-2F008	3 in. M.O. globe	RCIC steam supply outboard containment isolation	A	1*
D-95	HV-49-1F010	HV-49-2F010	6 in. M.O. gate	RCIC pump suction from condensate storage tank	B	2*
D-107	HV-49-1F012	HV-49-2F012	6 in. M.O. gate	RCIC pump discharge	B	2*
D-107	HV-49-1F013	HV-49-2F013	6 in. M.O. gate	RCIC injection to feedwater line	A	2*

TABLE 3.9-8 (Cont'd)

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DYNAMIC QUALIF. PACKAGE No.	UNIT 1 OR COMMON VALVE ID NO.	CORRESP UNIT 2 VALVE ID NO. (IF APPLIC)	TYPE(?)	SERVICE	SECTION XI	
					CATEGORY PER 1HV-2000	ASME CODE CLASS(?)
D-113 (Static Pull Test)	HV-49-1F019(*)	HV-49-2F019(*)	2 in. M.O. globe	ECIC pump discharge minimum flow recirc, containment isolation	A	2*
D-113	HV-49-1F022	HV-49-2F022	4 in. M.O. globe	ECIC pump discharge recirc to condensate storage tank	B	2
	49-1F023	49-2F023	4 in. check	ECIC pump discharge recirc to condensate storage tank	C	2
D-124	HV-49-1F025	HV-49-2F025	1 in. A.O. globe	Steam supply line condensate drain to main condenser	B	2
D-124	HV-49-1F026	HV-49-2F026	1 in. A.O. globe	Steam supply line condensate drain to main condenser	B	2
D-95	HV-49-1F029	HV-49-2F029	6 in. M.O. gate	ECIC pump suction from suppres- sion pool, containment isolation	A	2*
D-95	HV-49-1F031	HV-49-2F031	6 in. M.O. gate	ECIC pump suction from sup- pression pool, containment isolation	A	2
	49-1032	49-2032	1-1/2 in. check	Fill system supply to ECIC pump discharge line	B,C	2*
	49-1033	49-2033	1-1/2 in. check	Fill system supply to ECIC pump discharge line	B,C	2*
	LV-49-1F054	LV-49-2F054	1 in. A.O. globe	Steam supply line drain pot level control	B	2
D-94	HV-49-1F060	HV-49-2F060	⁸ / ₁₀ in. M.O. gate	ECIC turbine exhaust to sup- pression pool, containment isolation	A	2
D-123	HV-49-1F076	HV-49-2F076	1-1/2 in. M.O. globe	Steam supply line isolation valve bypass	A	1*
D-89	HV-49-1F080	HV-49-2F080	3 in. M.O. gate	ECIC turbine exhaust vacuum breaker, containment isolation	A	2*
D-89	HV-49-1F084	HV-49-2F084	3 in. M.O. gate	ECIC turbine exhaust vacuum breaker, containment isolation	A	2*
	49-1F011	49-2F011	6 in. check	ECIC pump suction from condensate storage tank	C	2*
	49-1F014(*)	49-2F014(*)	6 in. check	ECIC pump discharge	C	2*

TABLE 3.9-8 (Cont'd)

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DYNAMIC QUALIFY PACKAGE NO.	UNIT 1 OR COMMON VALVE ID NO.	CORRESP UNIT 2 VALVE ID NO. (IF APPLIC)	TYPE	SERVICE	SECTION XI CATEGORY FFR CODE	
					14V-2000	CLASS
	49-1F021	49-2F021	2 in. check	RCIC pump discharge minimum flow recirculation	C	2*
	49-1F030	49-2F030	6 in. check	RCIC pump suction from suppression pool	C	2*
	49-1F054	49-2F064	2 in. check	Condensate transfer system supply to RCIC pump discharge line	C	2*
	49-1F065	49-2F065	2 in. check	Condensate transfer system supply to RCIC pump discharge line	C	2*
	49-1F058	49-2F058	3 in. check	RCIC turbine exhaust vacuum breaker	C	2*
	49-1F081	49-2F081	3 in. check	RCIC turbine exhaust vacuum breaker	C	2*
	49-1017	49-2017	3 in. check	RCIC turbine exhaust vacuum breaker	C	2*
	49-1018	49-2018	3 in. check	RCIC turbine exhaust vacuum breaker	C	2*
	1. RCIC PUMP TURBINE					
D-124	HV-50-1F004	HV-50-2F004	1 in. A.O. globe	RCIC barometric condenser discharge to radwaste	A	2*
D-124	HV-50-1F005	HV-50-2F005	1 in. A.O. globe	RCIC barometric condenser discharge to radwaste	B	2*
D-123	HV-50-1F046	HV-50-2F046	2 in. M.O. globe	Cooling water supply line to RCIC barometric condenser	B	2*
D-113	HV-50-1F045	HV-50-2F045	6 in. M.O. globe	Steam supply to RCIC turbine	B	2*
SEE RCIC PUMP TURBINE QUANTIFICATION PACKAGE (NESS)	HV-50-112	HV-50-212	4 in. M.O. globe	RCIC turbine throttle valve	B	2*
	HV-50-113	HV-50-213	4 in. E.H. globe	RCIC turbine governing valve	B	2*
	LV-50-110	LV-50-210	1 in. A.O. globe	RCIC turbine exhaust drain pot level control	B	2

TABLE 3.9-8 (Cont'd)

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DYNAMIC QUALITY PACKAGE NO.	UNIT 1 OR COMMON VALVE ID NO.	COMPRESSOR UNIT 2 VALVE ID NO. (IF APPLIC)	TYPE(s)	SERVICE	SECTION XI CATEGORY PER IWB-2000	ASME CODE CLASS(s)
D-72	PCV-50-1P015	PCV-50-2F015	1 in. gate, pressure-reducing regulator	Cooling water supply line to ECIC barometric condenser	B	2*
	PSE-50-1D001	* PSE-50-2D001	Rupture disk	ECIC turbine exhaust	D	2
	PSE-50-1D002	PSE-50-2D002	Rupture disk	ECIC turbine exhaust	D	2
	M. RESIDUAL HEAT REMOVAL (RHR)					
D-98	HV-51-1F003 A,B	HV-51-2F003 A,B	18 in. M.O. gate	EHR HX discharge	B	2*
D-91	HV-51-1F004 A,B,C,D	HV-51-2F004 A,B,C,D	24 in. M.O. gate	EHR pump suction from suppression pool, containment isolation	A	2*
D-91	HV-51-1F006 A,B	HV-51-2F006 A,B	20 in. M.O. gate	EHR pump suction from shutdown cooling line	B	2*
D-96	HV-51-1F007 A,B,C,D	HV-51-2F007 A,B,C,D	4 in. M.O. gate	EHR pump discharge minimum flow recirc to suppression pool	B	2*
D-101	HV-51-1F008	HV-51-2F008	20 in. M.O. gate	EHR shutdown cooling suction line, outboard containment isolation	A	1*
D-101	HV-51-1F009	HV-51-2F009	20 in. M.O. gate	EHR shutdown cooling suction line, inboard containment isolation	A	1*
D-110	HV-51-1F010 A,B	HV-51-2F010 A,B	18 in. M.O. globe	LPCI pump full flow recirculation to suppression chamber	B	2*
D-96	HV-51-1F011 A,B	HV-51-2F011 A,B	4 in. M.O. gate	EHR HX condensate discharge to suppression chamber	B	2*
D-98	HV-51-1F014 A,B	HV-51-2F014 A,B	20 in. M.O. gate	EHR inlet to EHR HX	B	3*
D-117*	HV-51-1F015 A,B(*)	HV-51-2F015 A,B(*)	12 in. M.O. globe	EHR shutdown cooling return, outboard containment isolation	A	1*
D-98*	HV-51-1F016 A,B(*)	HV-51-2F016 A,B(*)	16 in. M.O. gate	Supply line to drywell spray	B	2*
D-102*	HV-51-1F017 A,B,C,D(*)	HV-51-2F017 A,B,C,D(*)	12 in. M.O. gate	LPCI injection outboard containment isolation	A	1*

* PACKAGE FOR
STATIC FULL TEST

TABLE 3.9-8 (Cont'd)

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DYNAMIC QUALIF. PACKAGE NO.	UNIT 1 OR COMMON VALVE ID NO.	CORRESP UNIT 2 VALVE ID NO. (IF APPLIC)	TYPE(2)	SERVICE	SECTION XI CATEGORY PER ASME IWB-2000 CODE CLASS(3)	
	51-1F019	51-2F019				
D-98*	HV-51-1F021 A,B(4)	HV-51-2F021 A,B(4)	6 in. check	Head spray line inside containment	C	1
D-100	HV-51-1F022	HV-51-2F022	16 in. M.O. gate	Drywell spray, containment isolation	A	2*
D-117	HV-51-1F023	HV-51-2F023	6 in. M.O. gate	Head spray inboard containment isolation	A	1*
D-110	HV-51-1F024 A,B	HV-51-2F024 A,B	6 in. M.O. globe	Head spray outboard containment isolation	A	2*
D-96	HV-51-1F026 A,B	HV-51-2F026 A,B	18 in. M.O. globe	Suppression pool cooling return line	B	2*
D-102*	HV-51-1F027 A,B(4)	HV-51-2F027 A,B(4)	4 in. M.O. gate	EHR HX condensate discharge to BCIC	B	2
	51-1F031 A,B,C,D	51-2F031 A,B,C,D	6 in. M.O. globe	Suppression chamber spray, containment isolation	A	2*
D-96	HV-51-1F040	HV-51-2F040	18 in. check	EHR pump discharge	C	2*
	HV-51-1F041 A,B,C,D(4)	HV-51-2F041 A,B,C,D(4)	4 in. M.O. gate	EHR HX discharge to liquid radwaste	B	2*
	51-1F046 A,B,C,D	HV-51-2F046 A,B,C,D	12 in. A.O. check	LPCI injection inboard containment isolation	A,C	1*
D-98	HV-51-1F047 A,B	HV-51-2F047 A,B	4 in. check	EHR pump discharge minimum flow recirc to suppression pool	C	2*
D-60	HV-C-51-1F048 A,B	HV-C-51-2F048 A,B	18 in. M.O. gate	EHR HX inlet from EHR pump	B	2*
D-96	HV-51-1F049	HV-51-2F049	18 in. M.O. butterfly	EHR HX bypass line	B	2*
	HV-51-1F050 A,B(4)	HV-51-2F050 A,B(4)	4 in. M.O. gate	EHR HX discharge to liquid radwaste	B	2*
	FV-C-51-1F051 A,B	FV-C-51-2F051 A,B	12 in. A.O. check	EHR shutdown cooling return, inboard containment isolation	A,C	1*
D-111	HV-51-1F052 A,B	HV-51-2F052 A,B	6 in. A.O. globe	HPCI steam inlet to EHR HX	B	2
D-56	LV-C-51-1F053 A,B	LV-C-51-2F053 A,B	10 in. M.O. globe	HPCI steam isolation to EHR HX	B	2*
			3 in. A.O. globe	EHR HX condensate level control	B	2

* PACKAGE FOR
STATIC PULL TEST

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TABLE 3.9-8 (Cont'd)

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SECTION XI
CATEGORY PER CC
1WV-2000 CLASS

<u>DYNAMIC QUALITY PACKAGE NO.</u>	<u>UNIT 1 OR COMMON VALVE ID NO.</u>	<u>CORRESP UNIT 2 VALVE ID NO. (IF APPLIC)</u>	<u>TYPE(2)</u>	<u>SERVICE</u>		
	51-1F054 A,B	51-2F054 A,B	4 in. check	RHR HX discharge to RCIC	C	2
	PSV-51-1F055 A,B	PSV-51-2F055 A,B	6 in. x 10" relief	RHR pump discharge to HX, overpressure relief	C	2
	51-1F067 A,B	51-2F067 A,B	20 in. hand gate	LPCI pump suction from shutdown cooling line	B	2
D-110	HV-51-1F068 A,B	HV-51-2F068 A,B	20 in. M.O. globe	RHRSW discharge from RHR HX	B	3
D-98	HV-51-1F073	HV-51-2F073	18 in. M.O. gate	RHRSW intertie to RHR	B	3
D-124	HV-51-1F074	HV-51-2F074	1 in. A.O. globe	RHRSW intertie line drain to radwaste	B	3
D-98	HV-51-1F075	HV-51-2F075	18 in. M.O. gate	RHRSW intertie to RHR	B	2
	51-1F078	51-2F078	18 in. check	RHRSW intertie to RHR	C	2
2 D-124	HV-51-1F079 A,B	HV-51-2F079 A,B	1 in. A.O. globe	Sample line from RHR HX discharge	B	2
2 D-124	HV-51-1F080 A,B	HV-51-2F080 A,B	1 in. A.O. globe	Sample line from RHR HX discharge	B	2
	51-1F089 A,B,C,D	51-2F089 A,B,C,D	4 in. check	Fill system supply to LPCI injection lines	C	2
	51-1F090 A,B,C,D	51-2F090 A,B,C,D	4 in. check	Fill system supply to LPCI injection lines	C	2
	HV-C-51-1F103 A,B	HV-C-51-2F103 A,B	1 in. M.O. globe	RHR HX noncondensables vent line	B	2
	HV-C-51-1F104 A,B	HV-C-51-2F104 A,B	1 in. M.O. globe	RHR HX noncondensables vent line	B	2
	HV-C-51-103 A,B	HV-C-51-203 A,B	8 in. A.O. globe	RHR HX discharge valve bypass line	B	2
D-96	HV-51-105 A,B	HV-51-205 A,B	4 in. M.O. gate	LPCI pump discharge minimum flow recirc to suppression pool, out- board containment isolation	A	2*
D-98	HV-51-125 A,B	HV-51-225 A,B	18 in. M.O. gate	Suppression pool cooling return, containment isolation	A	2*
D-90	HV-51-130	HV-51-230	6 in. M.O. gate	RHR vacuum breaker line to suppression chamber, containment isolation	A	2*

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TABLE 3.9-8 (Cont'd)

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DYNAMIC QUALITY PACKAGE NO.	UNIT 1 OR COMMON VALVE ID NO.	CORRESP UNIT 2 VALVE ID NO. (IF APPLIC)	TYPE(2)	SERVICE	SECTION XI CATEGORY PER 10V-2000	AS CC CLASS
D-90	HV-51-131	HV-51-231	6 in. M.O. gate	RHR vacuum breaker line to suppression chamber, containment isolation	A	2
D-124	HV-51-142 A, B, C, D	HV-51-242 A, B, C, D	1 in. A.O. globe	Equalizer line on LPCI injection inboard containment isolation valve	A	1
D-124	HV-51-151 A, B	HV-51-251 A, B	1-1/2 in. A.O. gate	Equalizer line on shutdown cooling return line inboard containment isolation valve	A	1
	HV-51-153 A, B	HV-51-253 A, B	1-1/2 in. M.O. globe	HPCI steam isolation to RHR HX	B	2*
	HV-C-51-154 A, B	HV-C-51-254 A, B	6 in. M.O. globe	HPCI steam inlet to RHR IX	C	2
	PSV-51-101 A, B	PSV-51-201 A, B	6 in. x 6" relief	Vacuum breaker on RHR relief valve discharge line	C	2*
	PSV-51-106 A, B	PSV-51-206 A, B	3/4 in. x 1" relief	RHR HX overpressure relief	C	2*
	HV-51-182 A, B	HV-51-282 A, B	22 in. M.O. gate	RHR intertie between LPCI and RHR HX	B	2
	51-1007	51-2007	16 in. hand gate	From FPCC to RHR shutdown cooling suction line	B	2*
	51-1023	51-2023	16 in. hand gate	From RHR HX discharge to FPCC	B	2*
	51-1032 A, B	51-2032 A, B	4 in. check	Condensate transfer system supply to RHR shutdown cooling return line	C	2*
	51-1033 A, B	51-2033 A, B	4 in. check	Condensate transfer system supply to RHR shutdown cooling return line		
	51-1115 A, B, C, D	51-2115 A, B, C, D	1-1/2 in. check	Fill system supply to RHR pump discharge line	B, C	2*
D-124	51-1116 A, B, C, D HV-51-156 A, B HV-51-157 A, B HV-51-158 A, B	51-2116 A, B, C, D	1-1/2 in. check 2 in. A.O. GLOBE	Fill system supply to RHR pump discharge line RHR HT XCHG Fill PIPING ISOLATION	B, C	2*

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TABLE 3.9-8 (Cont'd)

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DYNAMIC QUALIF. PACKAGE No.	UNIT 1 OR COMMON VALVE ID NO.	CORRESP UNIT 2 VALVE ID NO. (IF APPLIC)	TYPE(*)	SERVICE	SECTION XI CATEGORY PER CO	AS 1WV-2000 CLASS
	N. CORE SPRAY					
D-91*	HV-52-1F001 A,B,C,D(*)	HV-52-2F001 A,B,C,D(*)	16 in. M.O. gate	Core spray pump suction from suppression pool, containment isolation	A	2*
	52-1F002 A,B,C,D	52-2F002 A,B,C,D	14 in. hand gate	Core spray pump suction from condensate storage tank	B	2*
	52-1F003 A,B,C,D	52-2F003 A,B,C,D	12 in. check	Core spray pump discharge	C	2*
D-106	52-1F004 A,B	52-2F004 A,B	12 in. M.O. gate	Core spray injection line	B	2*
D-102*	HV-52-1F005(*)	HV-52-2F005(*) 12 in. M.O. gate		Core spray injection, outboard containment isolation	A	1*
	HV-52-1F006 A,B(*)	HV-52-2F006 A,B(*)	12 in. A.O. check	Core spray injection, inboard containment isolation	A,C	1*
D-109	HV-52-1F015 A,B	HV-52-2F015 A,B	10 in. M.O. globe	Core spray pump full flow recirculation to suppression chamber, containment isolation	A	2*
	52-1F029 A,B	52-2F029 A,B	2 in. check	Condensate transfer system to core supply spray injection line	C	2*
	52-1F030 A,B	52-2F030 A,B	2 in. check	Condensate transfer system to core supply spray injection line	C	2*
D-126	HV-52-1F031 A,B	HV-52-2F031 A,B	4 in. M.O. globe	Core spray pump minimum flow recirculation to suppression chamber, containment isolation	A	2*
	52-1F036 A,B,C,D	52-2F036 A,B,C,D	3 in. check	Core spray pump minimum flow recirculation to suppression chamber	C	2*
D-102*	HV-52-1F037(*)	HV-52-2F037(*)	12 in. M.O. gate	Core spray injection line	B	2*
D-124	HV-52-1F039 A,B	HV-52-2F039 A,B	1 in. A.O. globe	Equalizer line on core spray injection inboard containment isolation valve	A	1
D-84	HV-52-108	HV-52-208	12 in. A.O. check	Core spray injection, outboard containment isolation	A,C	1*

* PACKAGE FOR
STATIC PULL TEST

TABLE 3.9-8 (Cont'd)

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DYNAMIC QUALIF PACKAGE No.	UNIT 1 OR COMMON VALVE ID NO.	CORRESP UNIT 2 VALVE ID NO. (IF APPLIC)	TYPE	SERVICE	SECTION XI CATEGORY PER 10CFR-2000	ASME CODE CLASS
D-90	HV-52-127	HV-52-227	6 in. M.O. gate	Suppression pool cleanup pump suction, containment isolation	A	2*
D-90	HV-52-128	HV-52-228	6 in. M.O. gate	Suppression pool cleanup pump suction, containment isolation	A	2*
	52-1048 A,B	52-2048 A,B	1-1/2 in. check	Safeguard piping fill pump suction	B,C	2*
	52-1045 A,B	52-2045 A,B	1-1/2 in. check	Fill system to core spray pump discharge line	B,C	2*
	52-1046 A,B	52-2046 A,B	1-1/2 in. check	Fill system to core spray pump discharge line	B,C	2*
D-123	52-1051 A,B	52-2051 A,B	1-1/2 in. check	Safeguard piping fill pump discharge	B,C	2*
	HV-52-139		1 in. M.O. globe	CORE SPRAY - SUPP. POOL LEVEL INSTR, CONTAINMENT ISOLATION		
	O. FUEL POOL COOLING AND CLEANUP (FPCC)					
	53-1006	53-2006	16 in. hand gate	From skimmer surge tank to RHR	B	3X
	53-1007	53-2007	10 in. hand gate	From skimmer surge tank to FPCC pump suction	B	3X
	53-1024 A,B	53-2024 A,B	12 in. hand globe	RHR to spent fuel pool	B	3X
	53-1093	53-2093	2 in. hand globe	Makeup water supply from ESW to spent fuel pool	B	3X
	53-1094	53-2094	2 in. hand globe	Makeup water supply from ESW to spent fuel pool	B	3X
	P. HIGH PRESSURE COOLANT INJECTION (HPCI)					
D-108	HV-55-1P001	HV-55-2F001	12 in. M.O. gate	HPCI turbine steam supply	B	2*
D-112	HV-55-1P002	HV-55-2F002	10 in. M.O. globe	HPCI steam supply, inboard containment isolation	A	1*
D-112	HV-55-1P003	HV-55-2F003	10 in. M.O. globe	HPCI steam supply, outboard containment isolation	A	1*
D-94	HV-55-1P004	HV-55-2F004	16 in. M.O. gate	HPCI pump suction from condensate storage	B	2*

Not
Applicable

TABLE 3.9-8 (Cont'd)

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DYNAMIC QUALIF. PACKAGE No.	UNIT 1 OR COMMON VALVE ID NO.	CORRESP UNIT 2 VALVE ID NO. (IF APPLIC)	TYPE(2)	SERVICE	SECTION XI CATEGORY PER ASME IWB-2000 CCDE CLASS(3)	
	55-1F005(4)	55-2F005(4)	14 in. check	HPCI pump discharge	C	2*
D-108	HV-55-1F006	HV-55-2F006	12 in. M.O. gate	HPCI pump discharge to core spray	B	2*
D-108	HV-55-1F007	HV-55-2F007	14 in. M.O. gate	HPCI pump discharge	B	2*
D-114	HV-55-1F008	HV-55-2F008	10 in. M.O. globe	HPCI pump discharge recirculation to suppression pool or condensate storage tank	B	2*
	55-1F009	55-2F009	10 in. check	HPCI pump discharge recirculation to suppression pool or condensate storage tank	C	2
D-105	HV-55-1F105		8 in. M.O. GATE	HPCI PUMP DISCHARGE TO FEED WATER		
D-108	HV-55-1F011	HV-55-2F011	10 in. M.O. gate	HPCI pump discharge recirculation to condensate storage tank	B	2*
D-113 (STATIC FULL TEST)	HV-55-1F012(4)	HV-55-2F012(4)	4 in. M.O. globe	HPCI pump discharge minimum flow recirc to suppression pool, containment isolation	A	2*
	55-1F019	55-2F019	16 in. check	HPCI pump suction from condensate storage tank	B	2
	55-1F021(4)	55-2F021(4)	21 in. stop check	HPCI turbine exhaust to suppression pool, containment isolation	A, C	2*
D-124	HV-55-1F028	HV-55-2F028	1 in. A.O. globe	Steam supply line condensate drain to main condenser	B	2
D-124	HV-55-1F029	HV-55-2F029	1 in. A.O. globe	Steam supply line condensate drain to main condenser	B	2
D-122	HV-55-1F041	HV-55-2F041	16 in. M.O. butterfly	HPCI pump suction from supp- ression pool, containment isolation	A	2*
D-94	HV-55-1F042	HV-55-2F042	16 in. M.O. gate	HPCI pump suction from supp- ression pool, containment isolation	A	2*
	55-1F045	55-2F045	16 in. check	HPCI pump suction from suppression pool	C	2*
	55-1F046	55-2F046	4 in. check	HPCI pump discharge minimum flow recirculation to suppression pool	C	2*

TABLE 3.9-8 (Cont'd)

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DYNAMIC QUALIF. PACKAGE No.	UNIT 1 OR COMMON VALVE ID NO.	CORRESP UNIT 2 VALVE ID NO. (IF APPLIC)	TYPE(?)	SERVICE	SECTION XI CATEGORY PER 10CFR-2000	ASME CODE CLASS(?)
D-107	HV-55-1F071	HV-55-2F071	4 in. M.O. gate	HPCI pump discharge recirculation to suppression pool, containment isolation	A	3*
D-94	HV-55-1F072	HV-55-2F072	12 in. M.O. gate	HPCI turbine exhaust to suppression pool, containment isolation	A	2*
	55-1F077	55-2F077	2 in. check	Condensate transfer system supply to HPCI pump discharge line	C	2*
	55-1F078	55-2F078	2 in. check	Condensate transfer system supply to HPCI pump discharge line	C	2*
	55-1F080	55-2F080	4 in. check	HPCI turbine exhaust vacuum breaker	C	2*
D-90	HV-55-1F093	HV-55-2F093	4 in. M.O. gate	HPCI turbine exhaust vacuum breaker, containment isolation	A	2*
	55-1F094	55-2F094	4 in. check	HPCI turbine exhaust vacuum breaker	C	2*
D-90	HV-55-1F095	HV-55-2F095	4 in. M.O. gate	HPCI turbine exhaust vacuum breaker, containment isolation	A	2*
D-123	HV-55-1F100	HV-55-2F100	1-1/2 in. M.O. globe	Steam supply line isolation valve bypass	A	1*
	55-1048	55-2048	1-1/2 in. check	Fill system supply to HPCI pump discharge line	B,C	2*
	55-1049	55-2049	1-1/2 in. check	Fill system supply to HPCI pump discharge line	B,C	2*
	55-1025	55-2025	4 in. check	HPCI turbine exhaust vacuum breaker	C	2*
	55-1026	55-2026	4 in. check	HPCI turbine exhaust vacuum breaker	C	2*
D-123	{ HV-55-120 HV-55-121 Q. HPCI PUMP TURBINE		2 in. M.O. globe	HPCI INSTR. - ISOLATION VALVES		
D-124	HV-56-1F025	HV-56-2F025	1 in. A.O. globe	HPCI barometric condenser discharge to radwaste	B	2*

TABLE 3.9-8 (Cont'd)

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DYNAMIC QUALIF. PACKAGE No.	UNIT 1 OR COMMON VALVE ID NO.	CORRESP UNIT 2 VALVE ID NO. (IF APPLIC)	TYPE(2)	SERVICE	SECTION XI CATEGORY PER 10W-2000	ASME CODE CLASS(3)
D-124	HV-56-1P026	HV-56-2P026	1 in. A.O. globe	HPCI barometric condenser discharge to radwaste	B	2*
D-72	PCV-56-1P035	PCV-56-2P035	2 in. gate, pressure-reducing regulator	Cooling water supply line to HPCI barometric condenser	B	2*
D-124	HV-56-1P059	HV-56-2P059	2 in. M.O. globe	Cooling water supply line to HPCI barometric condenser	B	2*
SEE HPCI PUMP TURBINE QUALIFICATION (NSSS)	FV-56-111	FV-56-211	10 in. E.H., multi-valve steam chest with 5 venturi-type valves	HPCI turbine control valve	B	2*
	FV-56-112	FV-56-212	10 in. E.H., inverted corner body	HPCI turbine stop valve	B	2*
	PSE-56-1D003	PSE-56-2D003	Rupture disk	HPCI turbine exhaust	D	2
	PSE-56-1D004	PSE-56-2D004	Rupture disk	HPCI turbine exhaust	D	2
R. CONTAINMENT ATMOSPHERIC CONTROL						
	HV-57-103 DELETED	HV-57-203	18 in. M.O. butterfly	Discharge from suppression chamber to SGTS, containment isolation	A	2*
D-88	HV-57-104	HV-57-204	18 in. A.O. butterfly	Discharge from suppression chamber to SGTS, containment isolation	A	2*
D-123	HV-57-105	HV-57-205	2 in. M.O. globe	Discharge from suppression chamber to equipment compartment exhaust, containment isolation	A	2*
D-119	HV-57-109		6 in. M.O. butterfly			
D-123	HV-57-111	HV-57-211	2 in. M.O. globe	Discharge from drywell to equipment compartment exhaust, containment isolation	A	2*
D-120	HV-57-112		18" M.O. butterfly	CONT. ISOLATION		
	HV-57-113 DELETED	HV-57-213	24 in. M.O. butterfly	Discharge from drywell to SGTS, containment isolation	A	2*
D-88	HV-57-114	HV-57-214	24 in. A.O. butterfly	Discharge from drywell to SGTS, containment isolation	A	2*
D-120	HV-57-115		24 in. M.O. butterfly	CONT. ISOLATION		
D-123	HV-57-116	HV-57-216	1-1/2 in. globe	Service air inlet to primary containment, isolation	A	2*
D-124	{ HV-57-117 HV-57-118 }		2 in. A.O. globe	EQUIP. COMPARTMENT EXHAUST FILTER DUCT - CONT. ISOL		

TABLE 3.9-8 (Cont'd)

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DYNAMIC QUALIF. PACKAGE NO.	UNIT 1 OR COMMON VALVE ID NO.	CORRESP UNIT 2 VALVE ID NO. (IF APPLIC)	TYPE(2)	SERVICE	SECTION XI CATEGORY FER LWV-2000	ASME CODE CLASS(3)
D-87	HV-57-121	HV-57-221	6 in. A.O. butterfly	Service air inlet to primary containment, isolation	A	2*
	HV-57-122 DELETED	HV-57-222				
D-88	HV-57-123	HV-57-223	24 in. M.O. butterfly	Drywell purge inlet, contain-ment isolation	A	2*
D-88	HV-57-124	HV-57-224	24 in. A.O. butterfly	Drywell purge inlet, contain-ment isolation	A	2*
D-120	HV-57-125 135	HV-57-225	24 in. A.O. butterfly	Suppression chamber purge inlet, containment isolation	A	2*
D-87	HV-57-126 131	HV-57-226	24 in. M.O. butterfly	Suppression chamber purge inlet, containment isolation	A	2*
D-120	HV-57-147		6 in. A.O. butterfly	Prevents recombiner short-circuiting	B	2*
D-54	SV-57-132	SV-57-232	24 in. M.O. Butterfly	CONT. ISOLATION.		
			1 in. S.O. gate	Drywell atmosphere sample, containment isolation	A	2*
D-54	SV-57-133	SV-57-233	1 in. S.O. gate	Drywell atmosphere sample, containment isolation	A	2*
D-54	SV-57-134	SV-57-234	1 in. S.O. gate	Drywell atmosphere sample, containment isolation	A	2*
D-135	PSV-57-137 A,B,C,D	PSV-57-237 A,2,C,D	1 in. S.O. gate	Drywell atmosphere sample, containment isolation	A	2*
D-54	SV-57-141	SV-57-241	24 in. check	Primary containment vacuum relief	A	2*
D-54	SV-57-142	SV-57-242	1/2 in. S.O. gate	Suppression chamber atmosphere sample, containment isolation	A	2*
D-54	SV-57-143	SV-57-243	1/2 in. S.O. gate	Drywell atmosphere sample, containment isolation	A	2*
D-54	SV-57-144	SV-57-244	1/2 in. S.O. gate	Drywell atmosphere sample, containment isolation	A	2*
D-54	SV-57-145	SV-57-245	1/2 in. S.O. gate	Drywell atmosphere sample, containment isolation	A	2*
D-54	SV-57-150	SV-57-250	1/2 in. S.O. gate	Drywell purge exhaust sample, containment isolation	A	2*
			1 in. S.O. gate	Sample return to drywell, containment isolation	A	2*

TABLE 3.9-8 (Cont'd)

(Page 22 of 23)

DYNAMIC QUALIF. PACKAGE NO.	UNIT 1 OR COMMON VALVE ID NO.	CORRESP UNIT 2 VALVE ID NO. (IF APPLIC)	TYPE(2)	SERVICE	SECTION XI CATEGORY PER IWR-2000	ASME CODE CLASS(3)
D-54	SV-57-159	SV-57-259	1 in. S.O. gate	Sample return to drywell,	A	2*
D-127	HV-57-160A,B	.	6 in. M.O. gate	containment isolation		
D-119	HV-57-161	HV-57-261	4 in. M.O. butterfly	ISOLATES LIQUID N ₂ FROM PURGE SYS. Post-LOCA recombiner inlet from drywell	A	2*
D-119	HV-57-162	HV-57-262	6 in. M.O. butterfly	Post-LOCA recombiner outlet to suppression chamber	A	2*
D-119	HV-57-163	HV-57-263	4 in. M.O. butterfly	Post-LOCA recombiner inlet from drywell	A	2*
D-119	HV-57-164	HV-57-264	6 in. M.O. butterfly	Post-LOCA recombiner outlet to suppression chamber	A	2*
D-123	HV-57-168 A,B	HV-57-268 A,B	1-1/2 in. M.O. globe	Post-LOCA recombiner water feed from RHR	B	2*
D-54	SV-57-181	SV-57-281	1 in. S.O. gate	Suppression chamber atmosphere sample, containment isolation	A	2*
	SV-57-183	SV-57-283	1 in. S.O. gate	Suppression chamber atmosphere sample, containment isolation	A	2*
	SV-57-184	SV-57-284	1/2 in. S.O. gate	Suppression chamber atmosphere sample, containment isolation	A	2*
	SV-57-185	SV-57-285	1/2 in. S.O. gate	Suppression chamber purge exhaust sample, containment isolation	A	2*
	SV-57-186	SV-57-286	1/2 in. S.O. gate	Suppression chamber atmosphere sample, containment isolation	A	2*
	SV-57-190	SV-57-290	1 in. S.O. gate	Sample return to suppression chamber, containment isolation	A	2*
	SV-57-191	SV-57-291	2 in. S.O. gate	Sample return to suppression chamber, containment isolation	A	2*
D-54	SV-57-195	SV-57-295	1/2 in. S.O. gate	Drywell atmosphere sample, containment isolation	A	2*
	57-1068 A,B	57-2068 A,B	1 in. check	Service air inlet to primary containment, isolation	A	2*

TABLE 3.9-8 (Cont'd)

(Page 23 of 23)

DYNAMIC QUALITY PACKAGE NO.	UNIT 1 OR COMMON VALVE ID NO.	CORRESP UNIT 2 VALVE ID NO. (IF APPLIC)	TYPE(2)	SERVICE	SECTION XI CATEGORY PER 10V-2000	ASME CODE CLASS(3)
<u>S. LIQUID RADWASTE COLLECTION</u>						
D-82	HV-61-110	HV-61-210	4 in. A.O. gate	Drywell floor drain to collection tank, containment isolation	A	2*
D-77	HV-61-111	HV-61-211	4 in. A.O. gate	Drywell floor drain to collection tank, containment isolation	A	2*
D-82	HV-61-130	HV-61-230	4 in. A.O. gate	Drywell equipment drain to collection tank, containment isolation	A	2*
D-79	HV-61-131	HV-61-231	4 in. A.O. gate	Drywell equipment drain to collection tank, containment isolation	A	2*
D-123	{ HV-61-102 HV-61-112 HV-61-132 }		1 1/2 in. M.O. GLOBE	Drywell drain sys. INSTEAD OF ISOLATION		
<u>T. DRYWELL CHILLED WATER</u>						
D-90c	HV-87-122	HV-87-222	8 in. M.O. gate	Drywell chilled water containment isolation	A	2*
	HV-87-123	HV-87-223	8 in. M.O. gate	Drywell chilled water containment isolation	A	2*
	HV-87-128	HV-87-228	8 in. M.O. gate	Drywell chilled water containment isolation	A	2*
D-90c	HV-87-129	HV-87-229	8 in. M.O. gate	Drywell chilled water containment isolation	A	2*

(1) Refer to Section 3.9.6 for description of test program.

(2) Designations for valve operators are as follows:

- M.O. - motor operated
- A.O. - air operated
- S.O. - solenoid operated
- E.H. - electro-hydraulic

(3) Valves which are designated as active are identified by an asterisk following the ASME code classification. Active valves must perform a mechanical motion while accomplishing a safety function.

(4) Valve is seismically active and supplied by the NSSS vendor (see Table 3.9-19).

ENCLOSURE 3

MASTER LISTING OF SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF SAFETY RELATED EQUIPMENT

PLANT NAME: LIMERICK GEN STA.

DOCKET NO: 50 352

UTILITY: PHILADELPHIA ELECTRIC CO

A/E: BECHTEL POWER CORP

NSSS: GE

EQUIPMENT TYPE: Pumps/Motors

THE SUPPLIER IS: A/E ☒, NSSS ☐, OTHER ☐.

SHEET 1 OF 2

IDENT NO.	EQUIPMENT				LOCATION		LOADS CONSIDERED			QUALIFICATION METHOD			LOWEST NATURAL FREQUENCY			STATUS		RRS REF	CODES AND STANDARD
	TYPE AND DESCRIPTION	MANUFACTURER AND MODEL NO	TEST REPORT NO	QUANTITY & START-UP SYSTEM	BUILDING AND ELEVATION	MOUNTING	SEISMIC	OTHER DYNAMIC	REQ'D INPUT (ZPA)	ANALYSIS	TEST FREQUENCY	TEST DIRECTION	F/B (HZ)	S/S (HZ)	V (HZ)	QUALIFICATION	INSTALLATION		
2a	Emergency Service Water Motors	General Electric 5K6336-C348A	8031-E-0088-102-2 McDonald No. BR-501	2 54A	Spray Pond Pump House EL. 268'	DR	X		H:0.31; V:0.23	S			46.5	46.5	49.2	A	A	8031-G-14 APP. 1-20, 107, 109	IEEE 344-75
2b	Emergency Service Water Pumps	Byron-Jackson 24 KsL	8031-H-012-14-4 Byron-Jackson No. DC-1100	2 54A	Spray Pond Pump House EL. 268'	CF	X		H:0.31; V:0.23	S ₂ D			23.93	23.93	68.0	A	A	8031-G-14 APP. 1-20, 107, 109	IEEE 344-75
3a	RHR Service Water Pump Motors	General Electric 5K6337-C183A	8031-E-0088-102-2 McDonald No. BR-500	2 16A	Spray Pond Pump House EL. 268'	DR	X		H:0.31; V:0.23	S			43	43	45	A	A	8031-G-14 APP. 1-20, 107, 109	IEEE 344-75
3b	RHR Service Water Pumps	Byron-Jackson 28 KsL	8031-H-012-14-4 Byron-Jackson DC-1101	2 16A	Spray Pond Pump House EL. 268'	CF	X		H:0.31; V:0.23	S ₂ D			27	27	72.5	A	A	8031-G-14 APP. 1-20, 107, 109	IEEE 344-75
8a	Diesel Oil Transfer Pump	Crane-Deming 45N, Size 15	8031-H-079-20-3-BC McDonald No. BR-143	4 23B	Diesel Oil Transfer Area	Mounted Inside Tank-1527	X		H:0.15; V:0.10	D			5.0	8.0	27.0	A	A	8031-G-14 APP. 1-61 A Pgs. A1, A2	NRC Reg. Go 1.61 IEEE 375
8b	Diesel Oil Transfer Pump Motors	Crane-Deming 1457 CV	8031-H-079-24-2 West Inghouse No. 'G' 19774	4 23B	Diesel Oil Transfer Area	Mounted Outside Tank-1527	X		H:0.15; V:0.10; Peak Accel.	S			<33.0	<33.0	<33.0	A	A	8031-G-14 APP. A Pgs. A1, A2	NRC Reg. Go 1.61 IEEE 344-75
73a	Safeguard Piping Fillet Pumps	Rayward Tyler Pump Co. Type 113	8031-H-164-27-3 ER McDonald No. BR-817 EPG Calc. No. 0-0711	2 63A	Reactor Bldg. EL. 177'-0"	CF	X	H	0.4g	S			40.0	40.0	40.0	A	A	8031-G-19 APP. F-124, 133, 281	ASME BAPV Code Sect. AISC Manual IEEE 344-75

MASTER LISTING OF SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF SAFETY RELATED EQUIPMENT

PLANT NAME: TUMERICK GEN STA DOCKET NO: 50352 UTILITY: PHILADELPHIA ELECTRIC CO A/E: BECHTEL POWER CORP NSSS: GE

EQUIPMENT TYPE: Pumps/Motors

THE SUPPLIER IS: A/E ☒, NSSS ☐, OTHER ☐, SHEET 2 OF 2

EQUIPMENT NO.	EQUIPMENT				LOCATION		LOADS CONSIDERED			QUALIFICATION METHOD			LOWEST NATURAL FREQUENCY			STATUS		HRS	CODES AND STANDARD
	TYPE AND DESCRIPTION	MANUFACTURER AND MODEL NO.	TEST REPORT NO.	QUANTITY & START-UP SYSTEM	BUILDING AND ELEVATION	MOUNTING	SEISMIC	OTHER DYNAMIC	REQ'D INPUT (ZPA)	ANALYSIS	TEST FREQUENCY	TEST DIRECTION	F/B (HZ)	S/S (HZ)	V (HZ)	QUALIFICATION	INSTALLATION		
73b	Safeguard Piping Full Pump Motors	Westinghouse 36-4 Frame-1861	6031 H-164-36-4 Westinghouse Bo. 00-27559 1000 Cale. Bo. 0-073-1	2 63A	Reactor Bldg. EL. 177'	CF	X	H	0.4g	S			181.0	181.0	181.0	A	A	ASME B&PV Code Sect. III Div. 1, 1981, 1983, 1984	
139	Control Rods, Cooled Water Circulation Pumps	Ingersoll Rand 6x11 WS		2 301	Control Structure EL. 200' - 0"	Flue Mounted										C	A	ASME B&PV Code Sect. III Div. 1, 1981, 1983, 1984	

MASTER LISTING OF SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF SAFETY RELATED EQUIPMENT

PLANT NAME: LIMERICK GEN STA.

DOCKET NO: 50-352

UTILITY: PHILADELPHIA ELECTRIC CO

A/E: BECHTEL POWER CORP

NSSS: GE

EQUIPMENT TYPE: Valves

THE SUPPLIER IS: A/E ☒, NSSS ☐, OTHER ☐.

SHEET ____ OF ____

INT. NO.	EQUIPMENT				LOCATION		LOADS CONSIDERED			QUALIFICATION METHOD			LOWEST NATURAL FREQUENCY			STATUS		RRS	CODES AND STANDARD	
	TYPE AND DESCRIPTION	MANUFACTURER AND MODEL NO	TEST REPORT NO.	QUANTITY & START-UP SYSTEM	BUILDING AND ELEVATION	MOUNTING	SEISMIC	OTHER DYNAMIC	REQ'D INPUT (ZPA)	ANALYSIS	TEST FREQUENCY	TEST DIRECTION	F/B (HZ)	S/S (HZ)	V (HZ)	QUALIFICATION	INSTALLATION	REF		
54	Quality Assured Solenoid	Target Rock 76EE	8031-H-245-94-16-95-1 American Environments Co. No. SIR-49581-16-3)-93-1 (IRC No. 2302)	61 271C, 273C, 130E, 132E, 1301, 159A, 259A	Reactor Bldg. Fls. 177'-269'	IM	X	H	5.92g Max. 'g' Value		SF	SD	58.4	58.4	58.4	A	A	Piping Response Calc. Nos. R3653 & R4653	IEEE 344-75	
34	Excess Flow Check Valves	Harotta EVL161C	8031-H-231-36-1 Harotta No. ER- EVL161D EQG Calc. No. D-84-1 & D-134-2 (test) 8031-H-231-35-1 Harotta No. DA-281314 9001(analytical)	110 800,831 64A,62A 64B,64D 50C,49C 61A,51A 52C,61B 64C,55A, 83C	Reactor Bldg. Fl. 177'-269'	IM	X	H	8.86g Max. 'g' Value	S	HF	HD	Test 33 Analysis 287	33	287	33	A	A	Piping Response	IEEE 344-75
72	Nuclear Pressure Regulator	Target Rock 77RB	8031-H-241-20-1 American Environments No. SIR-49581-6 8031-H-241-1B-1 Target Rock No. 2312 & Fast-Alert Tech. No. 88604-9	2 50B 52B	Reactor Enclosure Fl. 177'	DM	X	H	5.23g Max. 'g' (RM)		HF	HD	51.2	51.2	51.2	A	A	Piping Response	IEEE 344-75	

MASTER LISTING OF SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF SAFETY RELATED EQUIPMENT

PLANT NAME: LIMERICK GEN STA DOCKET NO: 50352 UTILITY: PHILADELPHIA ELECTRIC CO A/E: BECHTEL POWER CORP NSSS: GE

EQUIPMENT TYPE: Relief Valves

THE SUPPLIER IS: A/E <input checked="" type="checkbox"/> , NSSS <input type="checkbox"/> , OTHER <input type="checkbox"/>															SHEET <input type="checkbox"/> OF <input type="checkbox"/>														
EQUIPMENT NO	EQUIPMENT				LOCATION		LOADS CONSIDERED			QUALIFICATION METHOD			LODEST NATURAL FREQUENCY			STATUS		RRS	CODES AND STANDARD										
	TYPE AND DESCRIPTION	MANUFACTURER AND MODEL NO	TEST REPORT NO.	QUANTITY & START-UP SYSTEM	BUILDING AND ELEVATION	MOORING	SEIS MIC	OTHER DYNAMIC	REQ'D INPUT (ZPA)	ANALYSIS	TEST FREQUENCY	TEST DIRECTION	F B (HZ)	S S (HZ)	V (HZ)	QUALIFICATION	INST. ALLATION												
31	Pressure Relief Valves	Amberg 107-11	8031-M-204BA-56-2 (5021-0-1, 2)	4 29A 50A	Reactor Bldg. E1-217*	PM	X		S/S: 1.2g P/B: 598 V: 988	S	33		33	33	33	A	A	8031-M 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100											
65	Nuclear Safety & Relief Valves	J.E. Lemmon 107-11, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100	8031-M-204BA-34-1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100	9 50B, A 59A, G 51A 52B, A	Reactor Bldg. E1-217*	PM	X	II	5.18 "g" Max. Value	S	103		103	103	103	103	A	A	8031-M 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100										
66	Nuclear Safety & Relief Valves	J.E. Lemmon 107-11, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100	8031-M-204BA-56-2 (5021-0-1, 2) 50A 52A 51A 59A	5 50A 52A 51A 59A	Reactor Bldg. E1-217*	PM	X	II	5.18 "g" Max. Value		514		514	514	514	A	A	8031-M 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100											
67	Nuclear Safety & Relief Valves	Crosby Valve & Gate Co. 107-11, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100	8031-M-204BA-99-1 (5021-0-1, 2) 49B 49A 49C	2 49B 49A 49C	Reactor Bldg. E1-217*	PM	X	II	5.18 "g" Max. Value	S	551		551	551	551	A	A	8031-M 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100											
68	HR Heat Exchanger Relief Valves	Crosby Valve & Gate Co. 107-11, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100	8031-M-204BA-101-1	2 49B 49A 49C	Reactor Bldg. E1-217*	PM	X	II	5.18 "g" Max. Value	S	60.3		60.3	60.3	60.3	60.3	B	A	8031-M 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100										

THE SUPPLIER IS: A/E ☒, NSSS ☐, OTHER ☐, SHEET 1 OF 1

MASTER LISTING OF SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF SAFETY RELATED EQUIPMENT

PLANT NAME: THORP GEN STA.

DOCKET NO: 50 352

UTILITY: PHILADELPHIA ELECTRIC CO

A/E: BECHTEL POWER CORP

NSSS: GE

EQUIPMENT TYPE: Relief Valves

THE SUPPLIER IS: A/E ☐, NSSS ☐, OTHER ☐.

SHEET ____ OF ____

IDENT NO.	EQUIPMENT				LOCATION		LOADS CONSIDERED			QUALIFICATION METHOD			LOWEST NATURAL FREQUENCY			STATUS		RRS REF	CODES AND STANDARD
	TYPE AND DESCRIPTION	MANUFACTURER AND MODEL NO.	TEST REPORT NO.	QUANTITY & START-UP SYSTEM	BUILDING AND ELEVATION	MOUNTING	SEIS-MIC	OTHER DYN-MIC	REQ'D INPUT (ZPA)	ANALYSIS	TEST FREQUENCY	TEST DIRECTION	F/B (HZ)	S/S (HZ)	V (HZ)	QUALIFICATION	INSTALLATION		
74a	Cooling Suction Line Thermal Relief Valve	Crosby Valve & Cage Co. HUB-S-SPL	8031 H-2048B-110-1 (EC-858) EQG Calc. No. D-74-1	1 49D	Reactor Bldg. (Drywell) EL. 246'-11"	PH	X	H	5/5:8.68 7/8:5.0g 9/1:1.76g Max. "g" Value	S			306	306		A	A	8031-C-19, Sec. 7 8031 H-204- Sec. 4, 10	See Ident. No. 67
74b	Spray Line Thermal Relief Valve	Crosby Valve & Cage Co. HUB-S-SPL	8031 H-2048B-111-1 (EC-843) EQG Calc. No. D-74-1	1 49D 49G	Reactor Bldg. (Drywell) EL. 238'	PH	X	H	5.1g Max. "g" Value	S			306	306		A	A	8031-C-19, Sec. 7 8031 H-204B Sec. 4, 10	See Ident. No. 67
154	Nuclear Safety Relief Valve	Crosby Valve & Cage Co. PSV-41-112 PSV-41-212	8031 H-2048B-113-2 (EC-871) EQG Calc. No. D-154-1	1 45A	Reactor Bldg. EL. 257	PH	X	H	5.1g Max. "g" Value	S			161	161	161	A	A	8031-C-19, Sec. 7 8031 H-204B Sec. 4, 10	See Ident. No. 67
197	Nuclear Safety & Relief Valves	Crosby Valve & Cage Co. P61-F1024A P61-F1024B EL1-F031 EL2-F017	8031 H-204C-14-1 (EC-636), -15-1 (EC-631), -16-1 (EC-650) EQG Calc. No. D-197-1	7	Reactor Bldg. ELS-228'-4", 227'-4", 226'-4", 284'-7", 264'-10", 264'-8" Control Rm. ELS-206'-9" 208'-1/2"	PH	X	H	6.0g Max. "g" Value	S			199	199	199	A	D	Spec. TVA-500-78 8031 H-204C, 8031-G-19	See Ident. No. 67
135	Primary Containment Vacuum Relief Valves	Anderson, Greenwood & Co. PSV-57-137A/D		4	Containment	PH	X	H								B			
136	PSV Vacuum Relief Valves	Anderson, Greenwood & Co. PSV-41-11017 A, B, C, D, E, F, G, H, I, K, L, M, N & S		14	Containment	PH	X	H								F			

MASTER LISTING OF SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF SAFETY RELATED EQUIPMENT

PLANT NAME: LIMERICK GEN STA. DOCKET NO: 50-352 UTILITY: PHILADELPHIA ELECTRIC CO A/E: BECHTEL POWER CORP NSSS: GE

EQUIPMENT TYPE: Control Valves

SHEET 1 OF 2

THE SUPPLIER IS: A/E ☒, NSSS ☐, OTHER ☐.

IDENT NO.	EQUIPMENT				LOCATION		LOADS CONSIDERED			QUALIFICATION METHOD			LOWEST NATURAL FREQUENCY			STATUS		RRS REF	CODES AND STANDARD
	TYPE AND DESCRIPTION	MANUFACTURER AND MODEL NO	TEST REPORT NO.	QUANTITY & START-UP SYSTEM	BUILDING AND ELEVATION	ROUTING	SEISMIC	OTHER DYNAMIC	REQ'D INPUT (ZPA)	ANALYSIS	TEST FREQUENCY	TEST DIRECTION	F/B (HZ)	S/S (HZ)	V (HZ)	QUALIFICATION	INSTALLATION		
56A	Control Valves	Harsco-Flan 90-20771 (Valve) Harsco-Flan (Actuator) SHB-000	Limitorque Report No. B-0115 Limitorque Report No. 1124, 1084	1	Reactor Bldg. EL: 153'	1M	X	H	4.176g Max. 'g' Level at Actuator	S (Valve) SF (Actuator)		SD	Actuator 36 Valve > 100	47	66	A	B	Piping Response	ASME BNPV Code Sec. III, Part 354-75 IEEE 382-80 (App'd to 56A-L)
56B	Control Valves	Harsco-Flan 90-20771 Limitorque SHB-000	Limitorque No. B-0115 Harsco-Flan No. 1124, 1086	4	Reactor Bldg. EL: 177' & 201'	1M	X	H	0.629 g Max. 'g' Level at Actuator	S (Valve) SF (Actuator)		SD	Actuator 36 Valve 96	36	66	A	B	Piping Response	
56C	Control Valves	Harsco-Flan 90-4 Limitorque SHB-00	Limitorque Report No. B-0115 Harsco-Flan No. 1124, 1126	2	Reactor Bldg. EL: 201'	1M	X	H	1.113g Max. 'g' Level at Actuator	S (Valve) SF (Actuator)		SD	Valve: 95 Actuator: 180	100	180	A	B	Piping Response	
56D	Control Valves	Harsco-Flan 18-20771	Harsco-Flan No. 1071 1124	2	Reactor Bldg. EL: 177'	1M	X	H	9.930g Max. 'g' Level at Actuator	S			> 100	> 100		A	B	Piping Response	
56E	Control Valves	Harsco-Flan 18-4 (Valve)	Harsco-Flan Report No. 1098 1124	2	Reactor Bldg. EL: 204'	1M	X	H	1.246g Max. 'g' Level at Actuator	S			83	100		A	B	Piping Response	See Ident. No. 56A
56F	Control Valve	Harsco-Flan 90-20771	Harsco-Flan Report No. 1103, 1124	2	Turbine Area EL: 200'	1M	X	H	4.325g Max. 'g' Level at Actuator	S			> 100	> 100		A	A	Piping Response	See Ident. No. 56A
56G	Control Valve	Harsco-Flan 90-20385	Harsco-Flan No. 1100, 1124	2	Turbine Area EL: 212'	1M	X	H	1.329 Max. 'g' Level at Actuator	S			> 100	> 100		A	A	Piping Response	See Ident. No. 56A

MASTER LISTING OF SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF SAFETY RELATED EQUIPMENT

PLANT NAME: LIMERICK GEN STA

DOCKET NO: 50 352

UTILITY: PHILADELPHIA ELECTRIC CO

A/E: BECHTEL POWER CORP

NSSS: GE

EQUIPMENT TYPE: Control Valves

THE SUPPLIER IS: A/E ☒, NSSS ☐, OTHER ☐.

SHEET 2 OF 2

IDENT NO.	EQUIPMENT				LOCATION		LOADS CONSIDERED			QUALIFICATION METHOD			LOWEST NATURAL FREQUENCY			STATUS		RHS REF	CODES AND STANDARD
	TYPE AND DESCRIPTION	MANUFACTURER AND MODEL NO	TEST REPORT NO.	QUANTITY & START-UP SYSTEM	BUILDING AND ELEVATION	MOUNTING	SEIS-MIC	OTHER DYN-MIC	REQ'D INPUT (ZPA)	ANALYSIS	TEST FREQUENCY	TEST DIRECTION	F/B (HZ)	S/S (HZ)	V (HZ)	QUALIFICATION	INSTALLATION		
56H	Control Valves	Masonellan 90-80185	Masonellan No. 1105, 1124	2	Turbine Area EL. 304'	LM	X	H	2.139g Max. 'g' Level at Actuator	S			100	100	---	A	A	Piping Response	See Ident. No. 56A
56I	Control Valves	Masonellan 90-80185	Masonellan Report No. 1105, 1124	2	Turbine Area EL. 304'	LM	X	H	3.642 Max. 'g' Level at Actuator	S			100	100	---	A	A	Piping Response	See Ident. No. 56A
56J	Control Valves	Masonellan 38-506411	Masonellan Report No. 1126, 1124	2	Reactor Area EL. 201'	LM	X	H	5.689g Max. 'g' Level at Actuator	S			83	100	---	A	B	Piping Response	See Ident. No. 56A
56K	Solenoid Valves	ASCO 14330A187E	RIS Report No. 528-1122-3	4	Reactor Area EL. 177', 201'	LM	X	H	9.930g Max. 'g' Level at Actuator		SF	SD	Actuator 42	31	62	A	B	Piping Response	See Ident. No. 56A
56L	Controller	Liufforque M-Electronic 10A	Liufforque Report No. B-0415	2	Reactor Bldg. EL. 201'	CM	X	H	3.133g Max. 'g' Level		SF	SD	36	42	66	A	A	Piping Response	See Ident. No. 56A
60	Butterfly Valves	Fisher Controls 7720 Liufforque MIB 0-25	Fisher Controls No. 75-501 AED NAV. No. 5720, 5770, 5771, 5-6167-5 LOCKHEED No. 3521-4811 VVE Report No. 43059-02 EPG Calc. C-G 060	2 49A	Reactor Bldg. EL. 217'	LM	X	H	5.136g Bufforn C Level from In-Line Analysis	S Valve	SF (Actuator)	SD	(Actuator) 33 Valve 39.3	33	39.3	A	A	Piping Response	ASME Code Sec. III Subsec. III, NC, ND

MASTER LISTING OF SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF SAFETY RELATED EQUIPMENT

PLANT NAME: LIMERICK GEN STA.

DOCKET NO: 50352

UTILITY: PHILADELPHIA ELECTRIC CO

A/E: BECHTEL POWER CORP

NSSS: GE

EQUIPMENT TYPE: Air Operated Valves

THE SUPPLIER IS: A/E ☒, NSSS ☐, OTHER ☐,

SHEET 1 OF 4

IDENT NO.	EQUIPMENT				LOCATION		LOADS CONSIDERED			QUALIFICATION METHOD			LOWEST NATURAL FREQUENCY			STATUS		RRS REF	CODES AND STANDARDS
	TYPE AND DESCRIPTION	MANUFACTURER AND MODEL NO.	TEST REPORT NO.	QUANTITY & START-UP SYSTEM	BUILDING AND ELEVATION	MOUNTING	SEISMIC	OTHER DYNAMIC	REQ'D INPUT (ZPA)	ANALYSIS	TEST FREQUENCY	TEST DIRECTION	F/B (HZ)	S/S (HZ)	V (HZ)	QUALIFICATION	INSTALLATION		
7	4" Air Operated C.S. Gate Valves	Anchor Darling (valve) Miller (actuator) P-102A, B.5, B.6	8031-P-102A-186-2 Anast. Lab No. 80.259 (Analysis), 8031-P-361-2-2 NTS No. 528-1122-4 (Test)	1 69D	Reactor Building El. 201'	Line Mounted (LM) on pipe	X	H	4.331g	S (valve)	SF (actuator)	SD (actuator)	Valve 54.2 Actuator 95	54.2 15.0	54.2 100	A	A	Piping Response Calc. No. 1638 PI-43 -5/72 ASME BAFV Code Section III, Subsec. No. 19 w/summer 1971 Addenda IEEE 382-80	
8	3" & 4" Air Operated S.S. Gate Valves	Velan (valve) Kieley Mueller (actuator) P-102C, 9.26, 9.25, 9.43, 9.25	8031-P-102C-181-1 Velan No. SR-6584, 8031-P-102C-151-2 Velan No. R-6348, 8031-P-361-5-1 NTS No. 528-1122-2	12 34D 11A 54D	Reactor Building EIS-192', 181', and 179'	LM	X	H	3.811g	S (valve)	SF (actuator)	SD	Valve 53.54 Actuator 55	47.4 26	47.4 80	A	A	Piping Response Calc. No. 588-1652, PI-21 -59/71 See Ident. No. 77	
9a	4" Air Operated C.S. Gate Valves	Velan (valve) Kieley Mueller (actuator) P-102C, B.7, B.8	8031-P-102C-151-2 Velan No. SR-6348, 8031-P-102C-181-1 Velan No. SR-6584, 8031-P-361-5-1 NTS No. 528-1122-2	1 54A 69A	Reactor Building El-208'	LM	X	H	5.42g	S (valve)	SF (actuator)	SD	Valve 53.54 Actuator 55	47.4 26	47.4 80	A	A	Piping Response Calc. No. 588-1635, PI-43 -52/71 See Ident. No. 77	
9b	6" Air Operated C.S. Gate Valves	Velan (valve) Invar (actuator)	8031-P-102C-181-1, JS Invar No. SR-6348	4 54A 69A	Control Structure El-207', 201', and 201'	LM	X	H	4.66g	S (valve)	SF (actuator)	SD	Valve 32.7	33.2	33.2	A	A	Piping Response Calc. No. 588-1635, PI-43 -52/71 See Ident. No. 77	

PLANT NAME:	DOCKET NO:	A/E:	NSS:
UMERICK GEN STA	50 359	PHILADELPHIA ELECTRIC CO	BECHTEL POWER CORP

EQUIPMENT TYPE:

THE SUPPLIER IS: A/E ☐ K ☐ N, NSS ☐, OTHER ☐.

SHEET 2 OF 4

IDENT NO.	EQUIPMENT				LOCATION		LOADS CONSIDERED		QUALIFICATION METHOD			LOWEST NATURAL FREQUENCY			STATUS		RRS	CODES AND STANDARD
	TYPE AND DESCRIPTION	MANUFACTURER AND MODEL NO	TEST REPORT NO	QUANTITY & START-UP SYSTEM	BUILDING AND ELEVATION	HOURS TESTING	SEIS MIC	OTHER DYNAMIC	REQ'D INPUT (T/A)	ANALYSIS	TEST FREQ. CYCLES	F/B (HZ)	S/S (HZ)	V (HZ)	QUALIFICATION	INST. ALLIGATION		
9b (continued)		P-102C, Irron No. 9, 31, 9, 32	8031-P-361 4-1 NTS No. 528-1122-1	4	Control Structure 81.5-201*, 200*, 707*	DM	X	H	4, 69g Max., g at Actuator	S (valve) (actuator)	SD (actuator)	Valve: 33.2 Actuator: 15	33.2 80	80	A	A	Piping Response Calc., PI-21 -11/74	ASME BAPP Code Sec. I Subsec. NC 1 w/Summer 1971 Bo., ASME BPA 1864 EE-382-80 PI-21 Reg.-Guide 1 -11/74
9c	6" Air Operated C.S. Gate Valves	Velton Valve Invert. Actuator P-102C, 9, 44, 9, 45	8031-P-102C-181-1 Velton No. 54A SR-6585, 8031-P-361 4-1 NTS No. 528-1122-1	4 303 54A 11A	Reactor Building EL-202*	DM	X	H	3, 968g Max., g Level at Actuator	S (valve) (actuator)	SD (actuator)	Valve: 40.0 Actuator: 15	40.0 80	80	A	A	Piping Response Calc., PI-21 -60/1	See Ident. No. 80a
9d	10" Air Operated C.S. Gate Valves	Velton Valve Invert. Actuator P-102C, 9, 41, 9, 42	8031-P-106C-181-1, 25, Velton No. 54A SR-6586, 8031-P-361 4-1 NTS No. 528-1122-1	3 11A 54A	Reactor Building EL-202*	DM	X	H	4, 0g Max., g Level at Actuator	S (valve) (actuator)	SD (actuator)	Valve: 36.0 Actuator: 15	36.0 80	80	A	A	Piping Response Calc., PI-21 -62/2	See Ident. No. 80a
9e	4" Air Operated S.S. Gate Valves	Velton Valve Keyed GunHer (Actuator) P-106C, 8, 1, 8, 2	8031-P-106C-62-1 Velton No. 54A SR-6548, 8031-P-361 5-1 NTS No. 528-1122-1	2 69D	Reactor Building PL-202*	DM	X	H	4, 268g Max., g Level at Actuator	S (valve) (actuator)	SD (actuator)	Valve: 43.55 Actuator: 55	43.55 76	80	A	A	Piping Response Calc., Bo., Summer 1971 SEM-1665 PI-21 -62/2	ASME BAPP Code Sec. III, s/Addenda i Summer 1971 IEEE 382-80 Reg.-Guide 1-48

PLANT NAME:	LIMBRICK GEN STA	DOCKET NO:	50 352	UTILITY:	PHILADELPHIA ELECTRIC CO	A/E:	BECHTEL POWER CORP	NSSS:	GE
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PLANT NAME: LIMERICK GEN STA.

DOCKET NO: 50-357

UTILITY: PHILADELPHIA ELECTRIC CO

A/E: BECHTEL POWER CORP.

N555 6E

EQUIPMENT TYPE: ATR OFF-PAID VALVES

EQUIPMENT TYPE: AIR OPERATED VALVES

THE SUPPLIER IS: A/E ☐ N. ☐ NSSS ☐ OTHER ☐

SHEET 3 OF 4

IDENT NO.	EQUIPMENT			LOCATION		LOADS CONSIDERED		QUALIFICATION METHOD			LOWEST NATURAL FREQUENCY				STATUS		RRS	CODES AND STANDARD	
	TYPE AND DESCRIPTION	MANUFACTURER AND MODEL NO.	TEST REPORT NO.	QUANTITY & START-UP SYSTEM	BUILDING AND ELEVATION	MOORING	SEIS MIC	OTHER DYNAMIC	REQ'D INPUT (ZPA)	ANALYSIS	TEST FREQUENCY	TEST DIRECTION	F/B (HZ)	S/S (HZ)	V (HZ)	QUALIFICATION			INSTALLATION
83	3" Air Operated C.S. Globe Valves	Anchor Bunting Valve (actuator)	8031-P-102A 190-2 Annu-C Lab 80, 80, 251 8031-P-361 -2-2, 815 No. 528-1122	2 340 34F	Reactor Building EL-178*	LN	X	H	2.62g Max "g" Level at Actuator	S (Value)	SF (actuator)	SD	Value: 48.3 Actuator 95	48.3	48.3		A	A	Piping Response No. 80a See 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000
84	12" Air Assisted S.S. Check Valves	Anchor Bunting Valve (actuator)	8031-P-102A -105-2, Fip. Gate, Bo. 84-1 Bo.																

MASTER LISTING OF SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF SAFETY RELATED EQUIPMENT

PLANT NAME: LIMERICK GEN SIA DOCKET NO: 50352 UTILITY: PHILADELPHIA ELECTRIC CO A/E: BECHTEL POWER CORP NSSS: GE

EQUIPMENT TYPE: Air Operated Valves

THE SUPPLIER IS: A/E ☒, NSSS ☐, OTHER ☐ SHEET 4 OF 4

IDENT NO	EQUIPMENT				LOCATION		LOADS CONSIDERED			QUALIFICATION METHOD			LOWEST NATURAL FREQUENCY			STATUS		RRS	CODES AND STANDARD
	TYPE AND DESCRIPTION	MANUFACTURER AND MODEL NO	TEST REPORT NO.	QUANT-ITY & START-UP SYSTEM	BUILDING AND ELEVATION	MOON-ITING	SEIS-MIC	OTHER DYNA-MIC	REQ'D INPUT (ZPA)	ANALYSIS	TEST FREQUENCY	TEST DIRECTION	F/B (HZ)	S/S (HZ)	V (HZ)	QUALIFICATION	INST ALLIGATION		
886	2 1/2" Air Operated C.S. Globe Butterfly Valves	Globe Valve Rockwell Int'l Valve Fisher Actuator P-155, Item 1-1	8031-P-114A-187-1 (PEL-TR-83-13), 99-2, 106-1 (PEL-TR-83-2), NTS-528-0951	3 73A	Reactor Building ELS-298*, 265* & 271	LM	X	H	4.50g	S (Globe)	SP (actuator)	SD	Valve: 273.8 Actuator: 17	94.3	86.2		A	A	Piping Response See Ident. No. 87
126a	1" Air Operated Globe Valves	Rockwell Int'l Valve Fisher Actuator	8031-P-114A-186-1 (Rockwell No. 528, 5A-693604, 1-62-4 Report No. 79-2, 8031-P-361-1, 528-112-89)	13 508, 528, 498	Reactor Building ELS-191*, 186*, 177*, 182*, 203* and 192*	LM	X	H	4.5g	S (Globe)	SP (actuator)	SD	Valve: 53.0 Actuator: 42	53.0	53.0		A	A	Piping Response ASME B31.1 See, 111, Div. 1, 1980 IEEE-323-74 -382-80 Reg. Guide 1
126b	2" Air Operated C.S. Globe Valves	Rockwell Int'l Valve Fisher Actuator	8031-P-114A-187-1 (Rockwell No. 528, 5A-693604, 1-62-4 Report No. 79-2, 8031-P-361-1, 528-112-89)	18 16A, 34B, 34A, 34I	Reactor Building ELS-192*, 185*, 191*, 280*, 210*, 203*, 283* and 217*	LM	X	H	4.5g	S	SP	SD	Valve: 45.0 Actuator: 42	45.0	44.0		A	A	Piping Response See Ident. No. 126a
126c	1" Air Operated C.S. Globe Valves	Rockwell Int'l Valve Fisher Actuator	8031-P-114A-188-1 (Rockwell No. 528, 5A-693604, 1-62-4 Report No. 79-2, 8031-P-361-1, 528-112-89)	15 78P, 51A, 49C, 25A, 64B, 83A,	Reactor Building ELS-298*, 293*, 296*, 242*, 266*, 265*, 255*, 221*, 281*, 307*, 305* and 295*	LM	X	H	4.5g	S	SP	SD	Valve: 53.0 Actuator: 42	53.0	53.0		A	A	Piping Response See Ident. No. 126a
126d	1 1/2" Air Operated Globe Valves	Rockwell Int'l Valve Fisher Actuator	8031-P-114A-190-1 (Rockwell No. 528, 5A-693604, 1-62-4 Report No. 79-2, 8031-P-361-1, 528-112-89)	2 49C	Reactor Building ELS-264* and 258*	LM	X	H	4.5g	S	SP	SD	Valve: 37.0 Actuator: 42	37.0	31	62	A	A	Piping Response See Ident. No. 126a

MASTER LISTING OF SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF SAFETY RELATED EQUIPMENT

PLANT NAME: LIMERICK GEN STA.

DOCKET NO: 50-352

UTILITY: PHILADELPHIA ELECTRIC CO

A/E: BECHTEL POWER CORP

NSSS: GE

EQUIPMENT TYPE: MOTOR OPERATED VALVES

THE SUPPLIER IS: A/E ☒, NSSS ☐, OTHER ☐.

SHEET 1 OF 15

IDENT NO.	EQUIPMENT				LOCATION		LOADS CONSIDERED			QUALIFICATION METHOD			LOWEST NATURAL FREQUENCY			STATUS		RRS REF	CODES AND STANDARD
	TYPE AND DESCRIPTION	MANUFACTURER AND MODEL NO.	TEST REPORT NO.	QUANTITY & START-UP SYSTEM	BUILDING AND ELEVATION	MOUNTING	SEIS-MIC	OTHER DYN-MIC	REQ'D INPUT (ZPA)	ANALYSIS	TEST FREQUENCY	TEST DIRECTION	F/B (HZ)	S/S (HZ)	V (HZ)	QUALIFICATION	INSTALLATION		
89	3" H.O. C.S. Gate Valves	Anchor Barling (Valve) Limitorque (Actuator) P-102A, 5.23, 5.24 H.O. Limitorque SM8-000-2.	Anchor Barling No. R1573-1, Anamet Labs No. 80.756, Limitorque Nos. B-0115, B-0085	2 50A 50B	Reactor Building EL208'	Line Mounted IM	X	H	MAX. "g" AT Actuator 5.59g	S (Valve)	SF (Actuator)	SD	Valve 62.2 Actuator 36	62.2 36	62.2 36	A	A	Piping Response Calc. No. 8-30-1885, 1-22-60/1	Reg Guide 1.43 IEEE 364-71, 382-72, 382-80 ASME B & PV Code Sec 111 1971
90A	4" H.O. C.S. Gate Valves	Anchor Barling (Valve) Limitorque (Actuator) P-102A, 5.21, 5.22 H.O. Limitorque SM8-000-2	Anchor Barling No. R1573-1, Anamet Labs No. 80.255, Limitorque Nos. B-0115.	2 52A 52B	Reactor Building EL208'	IM	X	H	MAX. "g" Level AT Actuator 4.763g	S (Valve)	SF (Actuator)	SD	Valve 52.6 Actuator 36	52.6 36	52.6 36	A	A	Piping Response Calc. No. 8-30-1885, 1-24-51/1	See Package No. 89
90B	6" H.O. C.S. Gate Valves	Anchor Barling (Valve) Limitorque (Actuator) H.O. Limitorque SM8-000-2 P-102A, 5.13, 5.14, 5.27, 5.28	Anchor Barling No. R1573-1, Anamet Labs No. 80.258, Limitorque Nos. B-0115.	4 59E	Reactor Building Passageway EL178, 180, 211, 218	IM	X	H	MAX. "g" Level AT Actuator 9.019 g's	S (Valve)	SF (Actuator)	SD	Valve 89.9 Actuator 36	89.9 36	89.9 36	A	A	Piping Response Calc. No. 8-30-1885, 1-10-78/2	See Package No. 89
90C	8" H.O. C.S. Gate Valves	Anchor Barling (Valve) Limitorque (Actuator) H.O. Limitorque SM8-000-5 P-102-A, 5.25, 5.26	Anchor Barling No. R1573-1, Anamet Labs No. 80.252, Limitorque Nos. B-0115.	4 60C	Reactor Building EL212	IM	X	H	MAX. "g" Level AT Actuator 5.67 g's	S (Valve)	SF (Actuator)	SD	Valve 53 Actuator 36	53 36	53 36	A	A	Piping Response Calc. No. 8-30-1885, 1-42-63/0	See Package No. 89

MASTER LISTING OF SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF SAFETY RELATED EQUIPMENT

PLANT NAME: LIMERICK GEN STA.

DOCKET NO: 50-352

UTILITY: PHILADELPHIA ELECTRIC CO

A/E: BECHTEL POWER CORP

NSSS: GE.

EQUIPMENT TYPE: MOTOR OPERATED VALVES

THE SUPPLIER IS: A/E ☒, NSSS ☐, OTHER ☐.

SHEET 2 OF 15

IDENT NO.	EQUIPMENT				LOCATION		LOADS CONSIDERED			QUALIFICATION METHOD			LOWEST NATURAL FREQUENCY			STATUS		RRS REF	CODES AND STANDARD
	TYPE AND DESCRIPTION	MANUFACTURER AND MODEL NO	TEST REPORT NO.	QUANTITY & START-UP SYSTEM	BUILDING AND ELEVATION	MOUNTING	SEISMIC	OTHER DYNAMIC	REQ'D INPUT (ZPA)	ANALYSIS	TEST FREQUENCY	TEST DIRECTION	F/B (HZ)	S/S (HZ)	V (HZ)	QUALIFICATION	INSTALLATION		
91A	20" H.O. C.S. Gate Valves	Anchor Boring (Valve Limitorque (Actuator) H.O. Limitorque SHB-0-15 P-102B 5.1, 5.2	Anmet Labs No. 80.310 Limitorque No. B-0115	2 49A	Reactor Building E1185	IM	X	H		S (Valve)	SF (Actuator)	SD	Valve > 20.1 Actuator > 100	> 20.1 > 100	> 20.1 > 100	B	A		See Package No. 89
91B	24" H.O. C.S. Gate Valves	Anchor Boring (Valve Limitorque (Actuator) H.O. Limitorque SHB-0-15 P-103A, 3.5, 3.6	Anmet Lab No. 80.317, Limitorque No. B-0115	4 49A	Reactor Building E1192	IM	X	H		S (Valve)	SF (Actuator)	SD	Valve > 21.4 Actuator > 100	> 21.4 > 100	> 21.4 > 100	B	A		See Package No. 89
92	3" H.O. C.S. Gate Valves	Velan Engineering (Valve) Limitorque (Actuator) H.O. Limitorque SHB-0-7 ₂ P-102C 5.15, 5.16	Velan No. P9-3486-N1 (5.16) Velan (No. SR-6582, Limitorque No. B-0115	4 14A 54A	Reactor Building E1244, 242	IM	X	H	5.42g ¹ s (Max. 1g ¹ s level at Actuator	S (Valve)	SF (Actuator)	SD	Valve > 40 Actuator > 100	> 40 > 100	> 40 > 100	A	A	Piping Response SK-M-1720/1 P1-07 5211	See Package No. 89
93A	4" H.O. C.S. Gate Valves	Velan Engineering (Valve) Limitorque (Actuator) H.O. Limitorque SHB-0-7 ₂ P-102C 5.19, 5.20, 6.14-6.17 H.O. Limitorque SHB-0-7 ₂	Velan No. P9-3486-N1 (5.16) Velan (No. SR-6581, Limitorque No. B-0115	5 14A 11A 54A	Reactor Building E1-211, 214	IM	X	H	5.442g ¹ s (Max. 1g ¹ s level at Actuator	S (Valve)	SF (Actuator)	SD	Valve > 40 Actuator > 100	> 40 > 100	> 40 > 100	A	A	Piping Response SK-M-1720 P1-07 52/1	See Package No. 89

MASTER LISTING OF SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF SAFETY RELATED EQUIPMENT

PLANT NAME: LIMERICK GEN STA

DOCKET NO: 50-352

UTILITY: PHILADELPHIA ELECTRIC CO

A/E: BECHTEL POWER CORP

NSSS: GE

EQUIPMENT TYPE: MOTOR OPERATED VALVES

THE SUPPLIER IS: A/E ☒, NSSS ☐, OTHER ☐.

SHEET 3 OF 15

IDENT NO.	EQUIPMENT				LOCATION		LOADS CONSIDERED			QUALIFICATION METHOD			LOWEST NATURAL FREQUENCY			STATUS		RRS REF	CODES AND STANDARD
	TYPE AND DESCRIPTION	MANUFACTURER AND MODEL NO.	TEST REPORT NO.	QUANTITY & START-UP SYSTEM	BUILDING AND ELEVATION	MOUNTING	SEISMIC	OTHER DYNAMIC	REQ'D INPUT (ZPA)	ANALYSIS	TEST FREQUENCY	TEST DIRECTION	F/B (HZ)	S/S (HZ)	V (HZ)	QUALIFICATION	INSTALLATION		
938	6" H.O. C.S. Gate Valves	Velan Engineering (Valve) Limitorque (Actuator) P-107C, 6.18, 6.19 H.O. Limitorque SMB-0-7 ₂	Velan No. P9-3586-N1 (5.16), Velan SE-6587 Limitorque No. B-0115	8 54A	Diesel Generator Building E1214	IM	X	H	1.138E+3 Max. X Level at Actuator	S (Valve)	SF (Actuator)	SD	Valve > 40 Actuator > 100	> 40 > 100	> 40 > 100	A	A	Piping Response SE H 6758 E1-21 54/5	See Package No. 89
D-95A	8" H.O. C.S. Gate Valves	Anchor Darling (Valve) Limitorque (Actuator) P-103, 3.7, 3.8 H.O. Limitorque SMB-0-5	Anchor No. 80.318 Limitorque No. B-0115	1 50B	Reactor Building E1208	IM	X	H		S (Valve)	SF (Actuator)	SD	Valve > 29.89 Actuator > 100	> 29.89 > 100	> 29.89 > 100	A	A		See Package No. 89
D-94B	12" H.O. C.S. Gate Valves	Anchor Darling (Valve) Limitorque (Actuator) P-101, 3.9, 3.10 H.O. Limitorque SMB-0-7 ₂	1 Anchor No. 80.319 Limitorque No. B-0115	1 52B	Reactor Building E1208	IM	X	H		S (Valve)	SF (Actuator)	SD	Valve > 23 Actuator > 100	> 23 > 100	> 23 > 100	A	A		See Package No. 89
D-94C	16" H.O. C.S. Gate Valves	Anchor Darling (Valve) Limitorque (Actuator) P-102B, 5.5, 5.6 H.O. Limitorque SMB-0-15	Anchor No. 80.311 Limitorque No. B-0115	1 52A	Reactor Building E1182	IM	X	H		S (Valve)	SF (Actuator)	SD	Valve > 41.6 Actuator > 100	> 41.6 > 100	> 41.6 > 100	A	A		See Package No. 89

MASTER LISTING OF SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF SAFETY RELATED EQUIPMENT

PLANT NAME: LIMERICK GEN STA.

DOCKET NO: 50-352

UTILITY: PHILADELPHIA ELECTRIC CO

A/E: BECHTEL POWER CORP

NSSS: G.E.

EQUIPMENT TYPE: MOTOR OPERATED VALVES

THE SUPPLIER IS: A/E ☒, NSSS ☐, OTHER ☐.

SHEET 4 OF 15

IDENT NO.	EQUIPMENT				LOCATION		LOADS CONSIDERED			QUALIFICATION METHOD			LOWEST NATURAL FREQUENCY			STATUS		RRS REF	CODES AND STANDARD
	TYPE AND DESCRIPTION	MANUFACTURER AND MODEL NO.	TEST REPORT NO.	QUANTITY & START-UP SYSTEM	BUILDING AND ELEVATION	MOUNTING	SEISMIC	OTHER DYNAMIC	REQ'D INPUT (ZFA)	ANALYSIS	TEST FREQUENCY	TEST DIRECTION	F/B (HZ)	S/S (HZ)	V (HZ)	QUALIFICATION	INSTALLATION		
D-94B	16" H.O. C.S. Gate Valves	Anchor Boring (Valve) L1mitorque (Actuator) P-103A, 3.1, 3.2 U.O. L1mitorque SBB-0-15	Anchor No. 90-316 L1mitorque No. B-0115	1 52A	Reactor Building 1E192'	1M	X	H		S (Valve)	SF (Actuator)	SD	Valve: >41.6 Actuator: >100	>41.6 >100	>41.6 >100	A	A		See Package No. 89
D-95	6" H.O. C.S. Gate Valves	Velan Engineering (Valve) L1mitorque (Actuator) P-10 C.S. 5.2-5.12 U.O. L1mitorque SBB-0-7 1/2	Velan No. P9-3486-N1 (5.8) Velan No. SR-6587 L1mitorque No. B-0115	3 50A	Reactor Building 1E187', 181' & 192'	1M	X	H	6.27kg Max. 1/8" Level at Actuator	S (Valve)	SF (Actuator)	SD	Valve: 39.81 Actuator: >100	39.81 >100	39.81 >100	A	A	Piping Response SR-N-1644 P1-22-52/1	See Package No. 89
D-96	4" H.O. C.S. Gate Valves	Velan Engineering (Valve) L1mitorque (Actuator) P-102C, 4.5, 4.6, 7.3, 7.4 H.O. L1mitorque SBB-0-10 SBB-0-7 1/2	Velan No. P-3486-N1 (4.6) Velan No. SR-6581 L1mitorque No. B-0115	12 49A 49B	Reactor Building 1E207', 209', 193', 180', 178'	1M	X	H	5.35g Max. 1/8" Level at Actuator	S (Valve)	SF (Actuator)	SD	Valve: 39.5 Actuator: >100	39.5 >100	39.5 >100	A	A	Piping Response SR-N-1525 P1-10-69/1	See Package No. 89
D-98A	18" H.O. C.S. Gate Valves	Anchor Boring (Valve) L1mitorque (Actuator) P-102B, 4.3, 4.4 U.O. L1mitorque SBB-2-40	Anchor Boring No. R1573-3 Anchor L1mitorque No. 81.109 L1mitorque No. B-0115	5 49A 49B	Reactor Building 1E198', 201', 206', 220', 198'	1M	X	H		S (Valve)	SF (Actuator)	SD	Valve: 23.5 Actuator: >100	23.5 >100	23.5 >100	A	A		See Package No. 89

MASTER LISTING OF SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF SAFETY RELATED EQUIPMENT

PLANT NAME: LIMERICK GEN STA. DOCKET NO: 50-352 UTILITY: PHILADELPHIA ELECTRIC CO A/E: BECHTEL POWER CORP NSSS: G.E.

EQUIPMENT TYPE: MOTOR OPERATED VALVES

THE SUPPLIER IS: A/E ☒, NSSS ☐, OTHER ☐.

SHEET 5 OF 15

IDENT NO.	EQUIPMENT				LOCATION		LOADS CONSIDERED			QUALIFICATION METHOD			LOWEST NATURAL FREQUENCY			STATUS		RRS	CODES AND STANDARD
	TYPE AND DESCRIPTION	MANUFACTURER AND MODEL NO	TEST REPORT NO.	QUANTITY & START-UP SYSTEM	BUILDING AND ELEVATION	ROUTING	SEISMIC	OTHER DYNAMIC	REQ'D INPUT (ZPA)	ANALYSIS	TEST FREQUENCY	TEST DIRECTION	F/B (HZ)	S/S (HZ)	V (HZ)	QUALIFICATION	INSTALLATION	REF	
D-98B	18" H.O. C.S. Gate Valves	Anchor Darling (Valve) Limitorque (Actuator) P-1078, 21.3, 21.4 H.O. Limitorque SMB-0-10	Anchor Darling No. R1573-3 Anaset Labs No. 80.312 Limitorque No. B-0115	1 16A	Reactor Building El.205	1M	X	H		S (Valve)	SF (Actuator)	SD	Valve: 31.8 Actuator: > 100	31.8 > 100	31.8 > 100	A	A		See Package No. 89
D-98C	20" H.O. C.S. Gate Valves	Anchor Darling (Valve) Limitorque (Actuator) P-1078, 21.05, 21.06 H.O. Limitorque SMB-0-10	Anchor Darling No. R1573-3 Anaset Labs No. 80.312 Limitorque No. B-0115	2 16A	Reactor Building El.204	1M	X	H		S (Valve)	SF (Actuator)	SD	Valve: 34.4 Actuator: > 100	34.4 > 100	34.4 > 100	A	A		See Package No. 89
D-98D	18" H.O. C.S. Gate Valves	Anchor Darling (Valve) Limitorque (Actuator) P-103A, 2.3, 2.4 H.O. Limitorque SMB-2-40	Anchor Darling No. R1573-3 Anaset Labs No. 80.315 Limitorque No. B-0115	2 49A	Reactor Building El.219	1M	X	H		S (Valve)	SF (Actuator)	SD	Valve: 27.2 Actuator: > 100	27.2 > 100	27.2 > 100	A	A		See Package No. 89
D-99	4" H.O. C.S. Gate Valves	Velan Engineering (Valve) Limitorque (Actuator) P-105B, 4.27, 4.28 H.O. Limitorque	Velan No. P9-3241-N (4.28), Limitorque No. SE-6579 Limitorque No. B-0115	2 83A	Chain System Tunnel El.263	1M	X	H	P. 207R's Max. R Level at Actuator	S (Valve)	SF (Actuator)	SD	Valve: 750 Actuator: > 100	750 > 100	750 > 100	A	A	Piping Response SE-B 1105 1-01 2/7/80	See Package No. 89

MASTER LISTING OF SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF SAFETY RELATED EQUIPMENT

PLANT NAME: LIMERICK GEN STA.

DOCKET NO: 50.352

UTILITY: PHILADELPHIA ELECTRIC CO

A/E: BECHTEL POWER CORP

NSSS: GE

EQUIPMENT TYPE: MOTOR OPERATED VALVES

THE SUPPLIER IS: A/E ☒, NSSS ☐, OTHER ☐.

SHEET 6 OF 15

IDENT NO.	EQUIPMENT				LOCATION		LOADS CONSIDERED			QUALIFICATION METHOD			LOWEST NATURAL FREQUENCY			STATUS		RRS	CODES AND STANDARD
	TYPE AND DESCRIPTION	MANUFACTURER AND MODEL NO	TEST REPORT NO	QUANTITY & START-UP SYSTEM	BUILDING AND ELEVATION	MOUNTING	SEIS MIC	OTHER DYN MIC	REQ'D INPUT (ZPA)	ANALYSIS	TEST FREQUENCY	TEST DIRECTION	F/B (HZ)	S/S (HZ)	V (HZ)	QUALIFICATION	INSTALLATION		
D-100	6" H.O. C.S. Gate Valves	Velan Engineering (Valve) Limitorque (Actuator) P-1078, 4.7, 4.8 H.O. Limitorque SHB-0-25	Velan No. SR-6568 Limitorque No. B-0115	1 490	Reactor Building EL317	IM	X	H	5.28g _r Max. 'g' Level at Actuator	S (Valve) SF (Actuator)	SD	Valve: >56 Actuator: >100	>56	>100	>100	A	A	Piping Response SK-N 1550 1-10-09/0	See Package No. 89
D-101	20" H.O. C.S. Gate Valves	Velan Engineering (Valve) Limitorque (Actuator) P-1078, 4.13, 4.16 H.O. Limitorque SHB-3-60	Velan No. SR-6569 Limitorque No. B-0115	2 490	Reactor Building EL245, 252	IM	X	H		S (Valve) SF (Actuator)	SD	Valve: >60 Actuator: >97	>60	>97	>97	A	A		IEEE 382-80 ASME CODE Sec III, 1971
D-102	18" H.O. C.S. Gate Valves	Anchor Darling (Valve) Limitorque (Actuator) P-1098, 2.5, 2.6 H.O. Limitorque SM6-2-60	Anchor Darling No. R1573-12 Anomet Labs No. 80.305 Limitorque No. B-0115	1 45A	Reactor Building EL266	IM	X	H	5.07g _r Max. 'g' Level at Actuator	S (Valve) SF (Actuator)	SD	Valve: 72.6 Actuator: >100	72.9	>100	>100	A	A	Piping Response SK-N 1615 1-15-51/2	IEEE CODE 1.4 IEEE 344-71 IEEE 382-72 ASME B & IV CODE Sec III
D-103	24x20x24" H.O. C.S. Gate Valves	Anchor Darling (Valve) Limitorque (Actuator) P-105A-2.1, 2.2 H.O. Limitorque SM6-3-150	Anomet Lab No. 80.308 Limitorque Nos. B-0115 B-0085	2 45A	Drywell Bldg 167 EL288	IM	X	H		S (Valve) SF (Actuator)	SD	Valve: 56 Actuator: 97	56	97	97	A	A		See Package No. 102

MASTER LISTING OF SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF SAFETY RELATED EQUIPMENT

PLANT NAME: LIMERICK GEN STA DOCKET NO: 50-352 UTILITY: PHILADELPHIA ELECTRIC CO A/E: BECHTEL POWER CORP NSSS: GE

EQUIPMENT TYPE: MOTOR OPERATED VALVES

THE SUPPLIER IS: A/E ☒, NSSS ☐, OTHER ☐

SHEET 1 OF 1

IDENT NO.	EQUIPMENT			LOCATION		LOADS CONSIDERED			QUALIFICATION METHOD			LOWEST NATURAL FREQUENCY			STATUS		RBS	CODES AND STANDARD	
	TYPE AND DESCRIPTION	MANUFACTURER AND MODEL NO	TEST REPORT NO.	QUANTITY & START-UP SYSTEM	BUILDING AND ELEVATION	MOORING	SEIS MIC	OTHER DYNAMIC	REQ'D INPUT (ZPA)	ANALYSIS	TEST FREQUENCY	TEST DIRECTION	F/B (HZ)	S/S (HZ)	V (HZ)	QUALIFICATION			INSTRUMENTATION
D-105A	3" H.O. C.S. Gate Valves	Velan Engineering (Valve) Limtorque (Actuator) P-104B, 27.1, 27.2 H.O. Limtorque SSB-00-10	Velan No. SR-648B, Velan No. P-324.1 H (1.4) Limtorque No. B-0115	2 BA B B	Main Steam Tunnel EL267, 261	LN	X	H	5.2g Max. *g Level at Actuator	S (Valve) SF (Actuator or)	SF (Actuator or)	SD	Valve: 137 Actuator: 180	137	137	A	A	Piping Response Calc. No. 1746 F1-01-5/10	See Package No. 102
D-105B	3" H.O. C.S. Gate Valves	Velan Engineering (Valve) Limtorque (Actuator) P-109B, 1.1, 1.4 H.O. Limtorque SSB-0-7 ₅ and -0-10	Velan No. P-324.1 H (1.4) Velan No. SR-659A, Limtorque No. B-0115	2 BA B B	Primary Containment EL267	LN	X	H	4.43g Max. *g Level at Actuator	S (Valve) SF (Actuator or)	SF (Actuator or)	SD	Valve: 104.4 Actuator: >100	104.4	104.4	A	A	Piping Response Calc. No. 1878 SR H 1-01-05 F2	See Package No. 102
D-105A	6" H.O. C.S. Gate Valves	Velan Engineering (Valve) Limtorque (Actuator) P-106B, 4.23, 4.26 H.O. Limtorque SSB-0	Velan No. SR-6589 Limtorque No. B-0115	2 BA B	Main Steam Tunnel EL261 Turbine Area EL263	LN	X	H	4.06g Max. *g Level at Actuator	S (Valve) SF (Actuator or)	SF (Actuator or)	SD	Valve: 71 Actuator: >100	71	71	A	A	Piping Response Calc. No. 1504 SR H 1-01-276	See Package No. 89
D-105B	8" H.O. C.S. Gate Valves	Velan Engineering (Valve) Limtorque (Actuator) P-105B, 6.25, 6.26 H.O. Limtorque SSB-0	Velan No. SR-6588 Limtorque No. B-0115	1 BA B	Turbine Area EL256	LN	X	H	4.97g Max. *g Level at Actuator	S (Valve) SF (Actuator or)	SF (Actuator or)	SD	Valve: 78 Actuator: >100	78	78	A	A	Piping Response Calc. No. 1500 SR H 1-01-276	See Package No. 89

MASTER LISTING OF SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF SAFETY RELATED EQUIPMENT

PLANT NAME: LIMERICK GEN STA DOCKET NO: 50 352 UTILITY: PHILADELPHIA ELECTRIC CO A/E: BECHTEL POWER CORP NSSS: GE

EQUIPMENT TYPE: MOTOR OPERATED VALVES

THE SUPPLIER IS: A/E ☐, NSSS ☐, OTHER ☐

SHEET 8 OF 15

IDENT NO.	EQUIPMENT			LOCATION		LOADS CONSIDERED			QUALIFICATION METHOD			LOWEST NATURAL FREQUENCY			STATUS		RHS	CODES AND STANDARD	
	TYPE AND DESCRIPTION	MANUFACTURER AND MODEL NO.	TEST REPORT NO.	OUTLET-ITY & START-UP SYSTEM	BUILDING AND ELEVATION	FOUNDING	SEIS-MIC	OTHER DYNAMIC	REQ'D INPUT (ZPA)	ANALYSIS	TEST FREQUENCY	TEST DIRECTION	F/B (HZ)	S/S (HZ)	V (HZ)	QUALIFICATION			INST. ALLOCATION
106A	12" H.O., C.S. Gate Valves	Velan Engineering (Valve) Limitorque (Actuator) P-106B, 4.1, 4.2, B-0085	Velan No. P9-3241-N (4.2), Velan No. SR-6590, Limitorque No. B-0115	2 45A 51A	Reactor Building PB-297	1H	X	H		S (Valve)	SF (Actuator)	SD	Valve: > 59 Actuator: 97	> 59	> 59	> 59	A	A	See Package No., 89
D-106B	16" H.O., C.S. Gate Valves	Velan Engineering (Valve) Limitorque (Actuator) P-106B, 3.15, 3.16, 3.18, 3.19, 3.20, Limitorque SHB-2	Velan No. P9-3241-N (4.2), Velan No. SR-6590, Limitorque (Actuator) P-106B, 3.15, 3.16, 3.18, 3.19, 3.20, Limitorque SHB-2	2 45A 51A	Reactor Building PB-297	1H	X	H	5.86g _r Max. g _r Level 1 at Actuator	S (Valve)	SF (Actuator)	SD	Valve: > 55.5 Actuator: > 100	> 65.5	> 65.5	> 65.5	A	A	See Package No., 89
D-107A	16" H.O., C.S. Gate Valves	Velan Engineering (Valve) Limitorque (Actuator) P-106B, 3.17, 3.18, 3.19, 3.20, Limitorque SHB-0-75	Velan No. P9-3241-N (3.10), Velan No. SR-6591, Limitorque P-106B, 3.17, 3.18, 3.19, 3.20, Limitorque SHB-0-75	1 50A	Reactor Building PB-298	1H	X	H	5.32g _r Max. g _r Level 1 at Actuator	S (Valve)	SF (Actuator)	SD	Valve: > 100 Actuator: > 100	> 100	> 100	> 100	A	A	See Package No., 89
D-107B	16" H.O., C.S. Gate Valves	Velan Engineering (Valve) Limitorque (Actuator) P-106B, 3.9, 3.10, 3.11, 3.12, 3.13, 3.14, 3.15, 3.16, 3.17, 3.18, 3.19, 3.20, Limitorque SHB-0-40	Velan No. P9-3241-N (3.10), Velan No. SR-6589, Limitorque (Actuator) P-106B, 3.9, 3.10, 3.11, 3.12, 3.13, 3.14, 3.15, 3.16, 3.17, 3.18, 3.19, 3.20, Limitorque SHB-0-40	2 50A 52A	Reactor Building PB-295, 295	1H	X	H	5.88g _r Max. g _r Level 1 at Actuator	S (Valve)	SF (Actuator)	SD	Valve: > 71 Actuator: > 100	> 71	> 71	> 71	A	A	See Package No., 89

MASTER LISTING OF SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF SAFETY RELATED EQUIPMENT

PLANT NAME: LIMERICK GEN STA DOCKET NO: 50-352 UTILITY: PHILADELPHIA ELECTRIC CO A/E: BECHTEL POWER CORP NSSS: GE

EQUIPMENT TYPE: MOTOR OPERATED VALVES

THE SUPPLIER IS: A/E ☒, NSSS ☐, OTHER ☐ SHEET 9 OF 15

IDENT NO.	EQUIPMENT				LOCATION		LOADS CONSIDERED			QUALIFICATION METHOD			LOWEST NATURAL FREQUENCY			STATUS		RRS	CODES AND STANDARD
	TYPE AND DESCRIPTION	MANUFACTURER AND MODEL NO	TEST REPORT NO.	QUANTITY & START-UP SYSTEM	BUILDING AND ELEVATION	FOUNDING	SEIS-MIC	OTHER DYNAMIC	REQ'D INPUT (ZPA)	ANALYSIS	TEST FREQUENCY	TEST DIRECTION	F/B (HZ)	S/S (HZ)	V (HZ)	QUALIFICATION	INSTALLATION		
D-108A	10" H.O. C.S. Gate Valves	Velan Engineering (Valve) Limitorque (Actuator) P-1068, 3.27, 3.28 H.O. Limitorque SM-1.40	Velan No. P-3261-N (3.26), Velan No. SR-6590, Limitorque No. B-0115	1 5/2A	Reactor Building EE-201	EH	X	H	3.79 kg/in Max. "g" level at Actuator	S (Valve)	SF (Actuator)	SD	Valve: > 78 Actuator: > 100	> 78	> 78	A	A	Piping Response Calc. No. SR-H-1597 1-20-251	See Package 108A
D-108B	12" H.O. C.S. Gate Valves	Velan Engineering (Valve) Limitorque (Actuator) P-1068, 3.24, 3.22, 3.25, 3.26 H.O. Limitorque SM-2.3	Velan No. P-3261-N (3.26), Velan No. SR-6590, Limitorque No. B-0115	2	Reactor Building EE-186, 281	EH	X	H	3.94 kg/in Max. "g" level at Actuator	S (Valve)	SF (Actuator)	SD	Valve: 60 Actuator: 97	60	97	A	A	Piping Response Calc. No. SR-H-1597 1-20-251	See Package 108A

PLANT NAME:	LIMERICK GEN STA.	DOCKET NO:	50-352	UTILITY:	PHILADELPHIA ELECTRIC CO	A/E:	BECHTEL POWER CORP	NSSS:	GE
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DOCKET NO: 50-352

PLANT NAME: LIMERICK GEN ST/4

NSS: GE.

EQUIPMENT TYPE:

SAFETY OF THERMAL VALVES

THE SUPPLIER IS: A/E ☒ X, NSS ☐, OTHER ☐.

SHEET 10 OF 15

IDENT NO.	EQUIPMENT				LOCATION		LOADS CONSIDERED			QUALIFICATION METHOD			LOWEST NATURAL FREQUENCY			STATUS		RHS	CODES AND STANDARD
	TYPE AND DESCRIPTION	MANUFACTURER AND MODEL NO	TEST REPORT NO	QUANTITY & START-UP SYSTEM	BUILDING AND ELEVATION	MOUNTING	SEISMIC	OTHER DYNAMIC	% O'D INPUT (ZPA)	ANALYSIS	TEST FREQUENCY	TEST DIRECTION	F/B (HZ)	S/S (HZ)	V (HZ)	DUALIFICATION	INSTALLATION		
D-108C	14" M.O., C.S., Gate Valve	Achlar Pneumatic (valve) No. 80-269, F-102A, 3-23, SR 6578, Limit torque Actuator	Wellan No. P9-324-N (3-26), Velan No. SR 6578, Limit torque Actuator	1 52A	Reactor Building EL-203*	IM	X	H	3,606 lbf, 6 g Level at Actuator	S (valve)	SP actuator	SD	Valve 60 actuator 97	60 97	60 97	A	A	Piping Response Calc., No. SR-M-1597 P1-24 52/1 Piping Response Calc., No. SR-M-1572 P1-20 54/2	See Fig. No. 108A
D-109	10" M.O., C.S., Check Valve	Achlar Pneumatic (valve) No. 80-269, F-102A, 3-23, SR 6578, Limit torque Actuator	Wellan No. P9-324-N (3-26), Velan No. SR 6578, Limit torque Actuator	2 52B	Reactor Building EL-217*	IM	X	H	3,894 lbf, 6 g Level at Actuator	S (valve)	SP actuator	SD	Valve 30, 30 Actuator ≥ 100	30, 30 ≥ 100	30, 30 ≥ 100	A	A	IEEE 302-80 ASME B31V Code Sec. 211	See Fig. No. 109A
D-110-A	18" M.O., C.S., Check Valve	Achlar Pneumatic (valve) No. 80-269, F-102A, 16, 1, 16, 2 M.O. Limit torque SHB-3-150	Anchor Dorling No. R1573-2, Anmet Labs No. 80-269, Limit torque Actuator	4 49A 16A	Reactor Building EL-227*	IM	X	H	S (valve)	S (valve)	SP actuator	SD	Valve 30 actuator 97	30 97	30 97	A	A	See Fig. No. 109	
D-110-B	20" M.O., C.S., Check Valve	Achlar Pneumatic (valve) No. 80-269, F-102A, 17, 1, 17, 2 M.O. Limit torque SHB-4-150	Anchor Dorling No. R1573-2, Anmet Labs No. 80-269, Limit torque Actuator	2 49A 16A	Reactor Building EL-203*	IM	X	H	1,354 lbf, 6 g Level at Actuator	S (valve)	SP actuator	SD	Valve 27, 2 actuator 70	27, 2 70	27, 2 70	A	A	See Fig. No. 109	

MASTER LISTING OF SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF SAFETY RELATED EQUIPMENT

PLANT NAME: LIMERICK GEN STA.

DOCKET NO: 50-352

UTILITY: PHILADELPHIA ELECTRIC CO

A/E: BECHTEL POWER CORP

NSSS: GE

EQUIPMENT TYPE:

PIPING DELTA VALVES

THE SUPPLIER IS: A/E ☒, NSSS ☐, OTHER ☐.

SHEET 11 OF 15

IDENT NO.	EQUIPMENT				LOCATION		LOADS CONSIDERED			QUALIFICATION METHOD			LOWEST NATURAL FREQUENCY			STATUS		RRS	CODES AND STANDARD
	TYPE AND DESCRIPTION	MANUFACTURER AND MODEL NO	TEST REPORT NO.	QUANTITY & START-UP SYSTEM	BUILDING AND ELEVATION	MOUNTING	SEISMIC	OTHER DYNAMIC	REQ'D INPUT (ZPA)	ANALYSIS	TEST FREQUENCY	TEST DIRECTION	F/B (HZ)	S/S (HZ)	V (HZ)	QUALIFICATION	INSTALLATION	REF	
D-111	10" M.O. C.S. Globe Valve	Anchor Darling (valve) Limitorque (actuator) P-104C, 6.7, 6.8 M.O. Limitorque SMB-3-80	Anchor Darling No. R1573-B Anamet Lab. No. 80.206 Limitorque Nos. B-0115 & B-0085	2 49B	Reactor Building EL-236'	IM	X	H	4.985g Max. 'g' Level at Actuator	S (valve)	SF actuator	SD	Valve 51.27 actuator 97	51.27 > 100	51.27 > 100	A	A	Piping Response Calc. No. SE-M -1527 P1-10 -12/1	Reg. Guide 1.4: ASME B&PV Code Section III, 1974 APP. 344-71, 382-72
D-112	10" M.O. C.S. Globe Valve	Anchor Darling (valve) Limitorque P-104C, 21.1-21.4 M.O. Limitorque SMB-4-150	Anchor Darling No. R1573-9, Anamet Lab. No. 80.207, Limitorque No. B-0115	2 52B	Primary Containment EL-246' Reactor Building EL-245	IM	X	H	5.825g Max. 'g' Level at Actuator	S (valve)	SF actuator	SD	Valve 34.41 actuator 70	34.41 70	34.41 74	A	A	See Pkg. No. 109	
D-113-A	4" M.O. C.S. Globe Valve	Anchor Darling (valve) Limitorque (actuator) P-104C, 5.7, 5.8 M.O. Limitorque SMB-0-10	Anamet Lab. No. 81.205, Limitorque No. B-0115	2 50A 50B	Reactor Building EL-203'	IM	X	H	1.28g Max. 'g' Level at Actuator	S (valve)	SF actuator	SD	Valve 42.0 actuator >100	42.0 >100	42.0 >100	A	A	Piping Response Calc. No. SE-M -1641 P1-24 -54/1	See Pkg. No. 111
D-113B	6" M.O. C.S. Globe Valve	Anchor Darling (valve) Limitorque (actuator) P-104C, 5.11, 5.12 M.O. Limitorque SMB-1-60	Anamet Lab. No. 81.203, Limitorque No. B-0115	1 50A 50B	Reactor Building EL-180'	IM	X	H	1.147g Max. 'g' Level at Actuator	S (valve)	SF actuator	SD	Valve 48.94 actuator >100	48.94 >100	48.94 >100	A	A	Piping Response Calc. No. SE-M -1566 P1-22 -51/1	See Pkg. No. 111

MASTER LISTING OF SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF SAFETY RELATED EQUIPMENT

PLANT NAME: LIMERICK GEN STA

DOCKET NO: 50-352

UTILITY: PHILADELPHIA ELECTRIC CO

A/E: BECHTEL POWER CORP

NSSS: G.E.

EQUIPMENT TYPE: FOR OTHER VALUES

THE SUPPLIER IS: A/E ☒, NSSS ☐, OTHER ☐.

SHEET 12 OF 15

IDENT NO.	EQUIPMENT				LOCATION		LOADS CONSIDERED			QUALIFICATION METHOD			LOWEST NATURAL FREQUENCY			STATUS		RRS REF	CODES AND STANDARD
	TYPE AND DESCRIPTION	MANUFACTURER AND MODEL NO	TEST REPORT NO.	QUANTITY & START-UP SYSTEM	BUILDING AND ELEVATION	MOUNTING	SEISMIC	OTHER DYNAMIC	REQ'D INPUT (ZPA)	ANALYSIS	TEST FREQUENCY	TEST DIRECTION	F/B (HZ)	S/S (HZ)	V (HZ)	QUALIFICATION	INSTALLATION		
D-114	10" M.O. C.S. Globe Valve	Anchor Darling (valve) Limitorque (actuator) P-104C, 5.9, 5.10 M.O. Limitorque SNB-3-150	Anchor Darling No. R-1573-7, Anamet Lab. No. 81.204, Limitorque Nos. 8-0115 & 8-0085	1 152A	Reactor Building EL-203'	IM	X	H	2.128g Max. 'g' Level at Actuator	S (valve)	SF actuator	SD	Valve 59.4 actuator 97	59.4 97	59.4 97	A	A	Piping Response SK-M -1598 PI-24 -55/1	See Pkg. No. 111
D-115	3" M.O. C.S. Globe Valve	Anchor Darling (valve) Limitorque (actuator) P-104c, 22.1-22.4 M.O. Limitorque SNB-0-10	Anamet Lab. No. 81.208, Limitorque No. 8-0115	2 50B	Reactor Building EL-244'	IM	X	H	1.511g Max. 'g' Level at Actuator	S (valve)	SF actuator	SD	Valve 36.76 actuator >100	36.76 >100	36.76 >100	A	A	Piping Response Calc. No. SK-M -1566 PI-22 -51/1	See Pkg. No. 111
D-116	24" M.O. Stop Check Valve	Atwood (Valve) Limitorque (Actuator) P-104A, 9.1, 9.2 M.O. Limitorque SNB-0-10	Atwood & Morrill No. 202-12782, Limitorque No. 8-0115 BPG Calc. No. D-116-1	2 45A	Reactor Building EL-288'	IM	X	H	3.0g Max. 'g' Level at Actuator	S (valve)	SF actuator	SD	Valve 52 actuator >100	52 >100	52 >100	A	A	Piping Response SK-M -1555 I-15 -51/2	See Pkg. No. 111
D-117	6" M.O. S.S. Globe Valve	Anchor Darling (valve) Limitorque (actuator) P-104 11.1, 11.2 M.O. Limitorque SNB-1-40	Anchor Darling No. R1573-11, Anamet Lab. No. 80.241, Limitorque No. 8-0115	1 49D	Reactor Building EL-244'	IM	X	H	2.71g's Max. 'g' Level at Actuator	S (valve)	SF actuator	SD	Valve 45.3 actuator >135	45.3 >135	45.3 >135	A	A	Piping Response Calc. No. SK-M -1534 PI-10 -99/1	See Pkg. No. 111
D-118	6" M.O. S.S. Globe Valve	Anchor Darling (valve) Limitorque (actuator) P-107A, 16.2, 16.4 M.O. Limitorque SNB-2-60	Anamet Lab. No. 80.245 Limitorque No. 8-0115	2 61B	Reactor Building EL-297'	IM	X	H		S (valve)	SF actuator	SD	Valve 42.8 actuator >100	42.8 >100	42.8 >100	A	A		ASME B&PV Code Sec. 111-71 1172 382-80 382-72, 344-71 344-74

MASTER LISTING OF SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF SAFETY RELATED EQUIPMENT

PLANT NAME: LIMERICK GEN STA.

DOCKET NO: 50-352

UTILITY: PHILADELPHIA ELECTRIC CO

A/E: BECHTEL POWER CORP

NSSS: GE

EQUIPMENT TYPE: MOTOR OPERATED VALVES

THE SUPPLIER IS: A/E ☒, NSSS ☐, OTHER ☐.

SHEET 13 OF 15

IDENT NO.	EQUIPMENT				LOCATION		LOADS CONSIDERED			QUALIFICATION METHOD			LOWEST NATURAL FREQUENCY			STATUS		RRS REF	CODES AND STANDARD
	TYPE AND DESCRIPTION	MANUFACTURER AND MODEL NO	TEST REPORT NO	QUANTITY & START-UP SYSTEM	BUILDING AND ELEVATION	MOUNTING	SEISMIC	OTHER DYNAMIC	REQ'D INPUT (ZPA)	ANALYSIS	TEST FREQUENCY	TEST DIRECTION	F/B (HZ)	S/S (HZ)	V (HZ)	QUALIFICATION	INSTALLATION		
-119A	6" M.O. C.S. Butterfly Valve	Flow Corp. (valve) Limitorque (actuator) P-144, 1.3 SSB-00-10-B2BC	Patel Nos. PEI-TR-83-29, PEI-TR-83-15 Limitorque No. B-0115	3 73B	Reactor Building 03-223'	IM	X	H	4.28g Max. 'g' Levelat Actuato	S (valve)	SF actuator	SD	Valve 100 actuator 89	100	100	A	A	Piping Response Calc. No. DE-B 6403 11-341 52/2	ASME B61V Code Sec. III Div. IEEE 382-80 IEEE 344-75
-119B	4" M.O. C.S. Butterfly Valve	Flow Corp. (valve) Limitorque (actuator) P-144, 1.5 SSB-00-40-B1BC	Patel Nos. PEI-TR-83-29, PEI-TR-83-16, Limitorque No. B-0115	1 73B	Reactor Building 03-302' 03-340'	IM	X	H	3.875g Max. 'g' Levelat Actuato	S (valve)	SF actuator	SD	Valve 130 actuator 87	87	90	A	A	Piping Response Calc. No. SE-B -6243 11-34 59/3	See 119A
-120A	18" M.O. C.S. Butterfly Valve	Flow Corp. (valve) Limitorque (actuator) P-144A, 1.9 SSB-1-60-B5BC	Wyle Lab. No. 46823-1, Patel No. PEI-TR-83-14	1 73A	Reactor Building 03-221'	IM	X	H	2.527g's (RIM)	S (valve)	SF actuator	SD	Valve 100	100	100	B	A	Piping Response Calc. No. SE-B -1726 11-34 52/2	See Pkg. No. 89
-120B	24" M.O. C.S. Butterfly Valve	Flow Corp. (valve) Limitorque (actuator) P-144A, 1.1 SSB-2-60/B5BC	Wyle Lab. No. 46823-1, Patel No. PEI-TR-83-13	3 73A 16A 54A	Reactor Building 03-298' 03-303' 03-245'	IM	X	H	4.48g's (RIM)	S (valve)	SF actuator	SD	Valve 85.5	85.5	97	B	A	Piping Response Calc. No. DE-B 1277 52/2	See Pkg. No. 89
-121A	30" M.O. C.S. Butterfly Valve	HBF Valve/ Limitorque (actuator) P-119, 5.2, 5.3	DAS No. B1F/N7992 -DES 81-2, Dynatech 481F No. 1259, Limitorque/ AERO NAV No. 5-6167-5	12 16A	Spray Pond Pumphouse 03-255'	IM	X		1.516g Max. 'g' Levelat Actuato	S (valve)	SF actuator	SD	Valve 100 actuator 33	100	100	A	A	Piping Response Calc. No. SE-B -6181 1-09 57/3	See Pkg. No. 89
-121B	36" M.O. C.S. Butterfly Valve	HBF Valve/ Limitorque (actuator) P-119A, 5.4, 5.5 M.O. Limitorque SSB-0-25-B5BC	See Ident. No. 121A	2 16A	Spray Pond Pumphouse 03-215'	IM	X		1.09g Max. 'g' Levelat Actuato	S (valve)	SF actuator	SD	Valve 100 actuator 33	100	100	A	A	Piping Response Calc. No. SE-B -6180 1-09-7 57/3	See Pkg. No. 89

MASTER LISTING OF SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF SAFETY RELATED EQUIPMENT

PLANT NAME: LIMERICK GEN STA. DOCKET NO: 50-352 UTILITY: PHILADELPHIA ELECTRIC CO A/E: BECHTEL POWER CORP NSSS: GE

EQUIPMENT TYPE:

FROM CERTIFIED VALUES

THE SUPPLIER IS: A/E ☒ , NSSS ☐ , OTHER ☐ ,

SHEET 16 OF 15

IDENT NO.	EQUIPMENT			LOCATION		LOADS CONSIDERED			QUALIFICATION METHOD			LOWEST NATURAL FREQUENCY				STATUS		HRS	CODES AND STANDARD
	TYPE AND DESCRIPTION	MANUFACTURER AND MODEL NO	TEST REPORT NO.	QUANT-ITY & START-UP SYSTEM	BUILDING AND ELEVATION	FOUND-ING	SEIS-MIC	OTHER DYNA-MIC	REQ'D INPUT (ZPA)	ANAL-YSIS	TEST FREQ-QUENCY	TEST DUREC-TION	S/B (HZ)	S/S (HZ)	V (HZ)	QUAL-IFICA-TION	INST-ALLA-TION		
D-121C	20" H.O. C.S. Butterfly Valve	BIF Valve/ Limiting (actuator) P-119A, 5.1, 5.6, 5.7, 5.8, 5.9, 6.0, 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, 7.0, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 8.0, 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9, 9.0, 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7, 9.8, 9.9, 10.0, 10.1, 10.2, 10.3, 10.4, 10.5, 10.6, 10.7, 10.8, 10.9, 11.0, 11.1, 11.2, 11.3, 11.4, 11.5, 11.6, 11.7, 11.8, 11.9, 12.0, 12.1, 12.2, 12.3, 12.4, 12.5, 12.6, 12.7, 12.8, 12.9, 13.0, 13.1, 13.2, 13.3, 13.4, 13.5, 13.6, 13.7, 13.8, 13.9, 14.0, 14.1, 14.2, 14.3, 14.4, 14.5, 14.6, 14.7, 14.8, 14.9, 15.0, 15.1, 15.2, 15.3, 15.4, 15.5, 15.6, 15.7, 15.8, 15.9, 16.0, 16.1, 16.2, 16.3, 16.4, 16.5, 16.6, 16.7, 16.8, 16.9, 17.0, 17.1, 17.2, 17.3, 17.4, 17.5, 17.6, 17.7, 17.8, 17.9, 18.0, 18.1, 18.2, 18.3, 18.4, 18.5, 18.6, 18.7, 18.8, 18.9, 19.0, 19.1, 19.2, 19.3, 19.4, 19.5, 19.6, 19.7, 19.8, 19.9, 20.0, 20.1, 20.2, 20.3, 20.4, 20.5, 20.6, 20.7, 20.8, 20.9, 21.0, 21.1, 21.2, 21.3, 21.4, 21.5, 21.6, 21.7, 21.8, 21.9, 22.0, 22.1, 22.2, 22.3, 22.4, 22.5, 22.6, 22.7, 22.8, 22.9, 23.0, 23.1, 23.2, 23.3, 23.4, 23.5, 23.6, 23.7, 23.8, 23.9, 24.0, 24.1, 24.2, 24.3, 24.4, 24.5, 24.6, 24.7, 24.8, 24.9, 25.0, 25.1, 25.2, 25.3, 25.4, 25.5, 25.6, 25.7, 25.8, 25.9, 26.0, 26.1, 26.2, 26.3, 26.4, 26.5, 26.6, 26.7, 26.8, 26.9, 27.0, 27.1, 27.2, 27.3, 27.4, 27.5, 27.6, 27.7, 27.8, 27.9, 28.0, 28.1, 28.2, 28.3, 28.4, 28.5, 28.6, 28.7, 28.8, 28.9, 29.0, 29.1, 29.2, 29.3, 29.4, 29.5, 29.6, 29.7, 29.8, 29.9, 30.0, 30.1, 30.2, 30.3, 30.4, 30.5, 30.6, 30.7, 30.8, 30.9, 31.0, 31.1, 31.2, 31.3, 31.4, 31.5, 31.6, 31.7, 31.8, 31.9, 32.0, 32.1, 32.2, 32.3, 32.4, 32.5, 32.6, 32.7, 32.8, 32.9, 33.0, 33.1, 33.2, 33.3, 33.4, 33.5, 33.6, 33.7, 33.8, 33.9, 34.0, 34.1, 34.2, 34.3, 34.4, 34.5, 34.6, 34.7, 34.8, 34.9, 35.0, 35.1, 35.2, 35.3, 35.4, 35.5, 35.6, 35.7, 35.8, 35.9, 36.0, 36.1, 36.2, 36.3, 36.4, 36.5, 36.6, 36.7, 36.8, 36.9, 37.0, 37.1, 37.2, 37.3, 37.4, 37.5, 37.6, 37.7, 37.8, 37.9, 38.0, 38.1, 38.2, 38.3, 38.4, 38.5, 38.6, 38.7, 38.8, 38.9, 39.0, 39.1, 39.2, 39.3, 39.4, 39.5, 39.6, 39.7, 39.8, 39.9, 40.0, 40.1, 40.2, 40.3, 40.4, 40.5, 40.6, 40.7, 40.8, 40.9, 41.0, 41.1, 41.2, 41.3, 41.4, 41.5, 41.6, 41.7, 41.8, 41.9, 42.0, 42.1, 42.2, 42.3, 42.4, 42.5, 42.6, 42.7, 42.8, 42.9, 43.0, 43.1, 43.2, 43.3, 43.4, 43.5, 43.6, 43.7, 43.8, 43.9, 44.0, 44.1, 44.2, 44.3, 44.4, 44.5, 44.6, 44.7, 44.8, 44.9, 45.0, 45.1, 45.2, 45.3, 45.4, 45.5, 45.6, 45.7, 45.8, 45.9, 46.0, 46.1, 46.2, 46.3, 46.4, 46.5, 46.6, 46.7, 46.8, 46.9, 47.0, 47.1, 47.2, 47.3, 47.4, 47.5, 47.6, 47.7, 47.8, 47.9, 48.0, 48.1, 48.2, 48.3, 48.4, 48.5, 48.6, 48.7, 48.8, 48.9, 49.0, 49.1, 49.2, 49.3, 49.4, 49.5, 49.6, 49.7, 49.8, 49.9, 50.0, 50.1, 50.2, 50.3, 50.4, 50.5, 50.6, 50.7, 50.8, 50.9, 51.0, 51.1, 51.2, 51.3, 51.4, 51.5, 51.6, 51.7, 51.8, 51.9, 52.0, 52.1, 52.2, 52.3, 52.4, 52.5, 52.6, 52.7, 52.8, 52.9, 53.0, 53.1, 53.2, 53.3, 53.4, 53.5, 53.6, 53.7, 53.8, 53.9, 54.0, 54.1, 54.2, 54.3, 54.4, 54.5, 54.6, 54.7, 54.8, 54.9, 55.0, 55.1, 55.2, 55.3, 55.4, 55.5, 55.6, 55.7, 55.8, 55.9, 56.0, 56.1, 56.2, 56.3, 56.4, 56.5, 56.6, 56.7, 56.8, 56.9, 57.0, 57.1, 57.2, 57.3, 57.4, 57.5, 57.6, 57.7, 57.8, 57.9, 58.0, 58.1, 58.2, 58.3, 58.4, 58.5, 58.6, 58.7, 58.8, 58.9, 59.0, 59.1, 59.2, 59.3, 59.4, 59.5, 59.6, 59.7, 59.8, 59.9, 60.0, 60.1, 60.2, 60.3, 60.4, 60.5, 60.6, 60.7, 60.8, 60.9, 61.0, 61.1, 61.2, 61.3, 61.4, 61.5, 61.6, 61.7, 61.8, 61.9, 62.0, 62.1, 62.2, 62.3, 62.4, 62.5, 62.6, 62.7, 62.8, 62.9, 63.0, 63.1, 63.2, 63.3, 63.4, 63.5, 63.6, 63.7, 63.8, 63.9, 64.0, 64.1, 64.2, 64.3, 64.4, 64.5, 64.6, 64.7, 64.8, 64.9, 65.0, 65.1, 65.2, 65.3, 65.4, 65.5, 65.6, 65.7, 65.8, 65.9, 66.0, 66.1, 66.2, 66.3, 66.4, 66.5, 66.6, 66.7, 66.8, 66.9, 67.0, 67.1, 67.2, 67.3, 67.4, 67.5, 67.6, 67.7, 67.8, 67.9, 68.0, 68.1, 68.2, 68.3, 68.4, 68.5, 68.6, 68.7, 68.8, 68.9, 69.0, 69.1, 69.2, 69.3, 69.4, 69.5, 69.6, 69.7, 69.8, 69.9, 70.0, 70.1, 70.2, 70.3, 70.4, 70.5, 70.6, 70.7, 70.8, 70.9, 71.0, 71.1, 71.2, 71.3, 71.4, 71.5, 71.6, 71.7, 71.8, 71.9, 72.0, 72.1, 72.2, 72.3, 72.4, 72.5, 72.6, 72.7, 72.8, 72.9, 73.0, 73.1, 73.2, 73.3, 73.4, 73.5, 73.6, 73.7, 73.8, 73.9, 74.0, 74.1, 74.2, 74.3, 74.4, 74.5, 74.6, 74.7, 74.8, 74.9, 75.0, 75.1, 75.2, 75.3, 75.4, 75.5, 75.6, 75.7, 75.8, 75.9, 76.0, 76.1, 76.2, 76.3, 76.4, 76.5, 76.6, 76.7, 76.8, 76.9, 77.0, 77.1, 77.2, 77.3, 77.4, 77.5, 77.6, 77.7, 77.8, 77.9, 78.0, 78.1, 78.2, 78.3, 78.4, 78.5, 78.6, 78.7, 78.8, 78.9, 79.0, 79.1, 79.2, 79.3, 79.4, 79.5, 79.6, 79.7, 79.8, 79.9, 80.0, 80.1, 80.2, 80.3, 80.4, 80.5, 80.6, 80.7, 80.8, 80.9, 81.0, 81.1, 81.2, 81.3, 81.4, 81.5, 81.6, 81.7, 81.8, 81.9, 82.0, 82.1, 82.2, 82.3, 82.4, 82.5, 82.6, 82.7, 82.8, 82.9, 83.0, 83.1, 83.2, 83.3, 83.4, 83.5, 83.6, 83.7, 83.8, 83.9, 84.0, 84.1, 84.2, 84.3, 84.4, 84.5, 84.6, 84.7, 84.8, 84.9, 85.0, 85.1, 85.2, 85.3, 85.4, 85.5, 85.6, 85.7, 85.8, 85.9, 86.0, 86.1, 86.2, 86.3, 86.4, 86.5, 86.6, 86.7, 86.8, 86.9, 87.0, 87.1, 87.2, 87.3, 87.4, 87.5, 87.6, 87.7, 87.8, 87.9, 88.0, 88.1, 88.2, 88.3, 88.4, 88.5, 88.6, 88.7, 88.8, 88.9, 89.0, 89.1, 89.2, 89.3, 89.4, 89.5, 89.6, 89.7, 89.8, 89.9, 90.0, 90.1, 90.2, 90.3, 90.4, 90.5, 90.6, 90.7, 90.8, 90.9, 91.0, 91.1, 91.2, 91.3, 91.4, 91.5, 91.6, 91.7, 91.8, 91.9, 92.0, 92.1, 92.2, 92.3, 92.4, 92.5, 92.6, 92.7, 92.8, 92.9, 93.0, 93.1, 93.2, 93.3, 93.4, 93.5, 93.6, 93.7, 93.8, 93.9, 94.0, 94.1, 94.2, 94.3, 94.4, 94.5, 94.6, 94.7, 94.8, 94.9, 95.0, 95.1, 95.2, 95.3, 95.4, 95.5, 95.6, 95.7, 95.8, 95.9, 96.0, 96.1, 96.2, 96.3, 96.4, 96.5, 96.6, 96.7, 96.8, 96.9, 97.0, 97.1, 97.2, 97.3, 97.4, 97.5, 97.6, 97.7, 97.8, 97.9, 98.0, 98.1, 98.2, 98.3, 98.4, 98.5, 98.6, 98.7, 98.8, 98.9, 99.0, 99.1, 99.2, 99.3, 99.4, 99.5, 99.6, 99.7, 99.8, 99.9, 100.0, 100.1, 100.2, 100.3, 100.4, 100.5, 100.6, 100.7, 100.8, 100.9, 101.0, 101.1, 101.2, 101.3, 101.4, 101.5, 101.6, 101.7, 101.8, 101.9, 102.0, 102.1, 102.2, 102.3, 102.4, 102.5, 102.6, 102.7, 102.8, 102.9, 103.0, 103.1, 103.2, 103.3, 103.4, 103.5, 103.6, 103.7, 103.8, 103.9, 104.0, 104.1, 104.2, 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147.2, 147.3, 147.4, 147.5, 147.6, 147.7, 147.8, 147.9, 148.0, 148.1, 148.2, 148.3, 148.4, 148.5, 148.6, 148.7, 148.8, 148.9, 149.0, 149.1, 149.2, 149.3, 149.4, 149.5, 149.6, 149.7, 149.8, 149.9, 150.0, 150.1, 150.2, 150.3, 150.4, 150.5, 150.6, 150.7, 150.8, 150.9, 151.0, 151.1, 151.2, 151.3, 151.4, 151.5, 151.6, 151.7, 151.8, 151.9, 152.0, 152.1, 152.2, 152.3, 152.4, 152.5, 152.6, 152.7, 152.8, 152.9, 153.0, 153.1, 153.2, 153.3, 153.4, 153.5, 153.6, 153.7, 153.8, 153.9, 154.0, 154.1, 154.2, 154.3, 154.4, 154.5, 154.6, 154.7, 154.8, 154.9, 155.0, 155.1, 155.2, 155.3, 155.4, 155.5, 155.6, 155.7, 155.8, 155.9, 156.0, 156.1, 156.2, 156.3, 156.4, 156.5, 156.6, 156.7, 156.8, 156.9, 157.0, 157.1, 157.2, 157.3, 157.4, 157.5, 157.6, 157.7, 157.8, 157.9, 158.0, 158.1, 158.2, 158.3, 158.4, 158.5, 158.6, 158.7, 158.8, 158.9, 159.0, 159.1, 159.2, 159.3, 159.4, 159.5, 159.6, 159.7, 159.8, 159.9, 160.0, 160.1, 160.2, 160.3, 160.4, 160.5, 160.6, 160.7, 160.8, 160.9, 161.0, 161.1, 161.2, 161.3, 161.4, 161.5, 161.6, 161.7, 161.8, 161.9, 162.0, 162.1, 162.2, 162.3, 162.4, 162.5, 162.6, 162.7, 162.8, 162.9, 163.0, 163.1, 163.2, 163.3, 163.4, 163.5, 163.6, 163.7, 163.8, 163.9, 164.0, 164.1, 164.2, 164.3, 164.4, 164.5, 164.6, 164.7, 164.8, 164.9, 165.0, 165.1, 165.2, 165.3, 165.4, 165.5, 165.6, 165.7, 165.8, 165.9, 166.0, 166.1, 166.2, 166.3, 166.4, 166.5, 166.6, 166.7, 166.8, 166.9, 167.0, 167.1, 167.2, 167.3, 167.4																	

MASTER LISTING OF SEISMIC AND DYNAMIC QUALIFICATION SUMMARY AND STATUS OF SAFETY RELATED EQUIPMENT

PLANT NAME: LIMERICK GEN STA.

DOCKET NO: 50-352

UTILITY: PHILADELPHIA ELECTRIC CO

A/E: BECHTEL POWER CORP

NSSS: G.E.

EQUIPMENT TYPE:

MAJOR OPERATED VALVES

THE SUPPLIER IS: A/E ☒, NSSS ☐, OTHER ☐.

SHEET 15 OF 1

IDENT NO.	EQUIPMENT				LOCATION		LOADS CONSIDERED			QUALIFICATION METHOD			LOWEST NATURAL FREQUENCY			STATUS		RRS REF	CODES AND STANDARDS
	TYPE AND DESCRIPTION	MANUFACTURER AND MODEL NO	TEST REPORT NO	QUANTITY & START-UP SYSTEM	BUILDING AND ELEVATION	MOUNTING	SEISMIC	OTHER DYNAMIC	REQ'D INPUT (ZPA)	ANALYSIS	TEST FREQUENCY	TEST DIRECTION	F/B (HZ)	S/S (HZ)	V (HZ)	QUALIFICATION	INSTALLATION		
D-123D	1" M.O. C.S. Globe Valve	Rockwell Int. (valve) Limitorque (actuator) P-114A 9.31, 9.34 SSB-000-2	Rockwell No. SA-496716, Limitorque Nos. B-0115 & B-0085	1	Reactor Building Elc-217'	IM	X	H		S (valve)	SP actuator	SD	Valve 100 Actuator 100	100 100	100 100	A	A		See Item No. 123A
D-123E	1 1/2" M.O. C.S. Globe Valve	Rockwell Int. (valve) Limitorque (actuator) P-114A, 16.9, 16.10 SSB-000-5	Rockwell No. SA-496717, Limitorque Nos. B-0115 & B-0085	2 45A, B	Reactor Building Elc-283'	IM	X	H		S (valve)	SP actuator	SD	Valve 100 Actuator 100	100 100	100 100	A	A		See Item No. 123A
D-125	6" M.O. C.S. Globe Valve	Anchor Darling (valve) Limitorque (actuator) P-102A, 25.1, 25.2 SSB-0-2 1/2	Anamet Labs. No. 80.254, Limitorque No. B-0115	8 54A	Diesel Generator Elc-219'	IM	X	H		S (valve)	SP actuator	SD	Valve 17.3 Actuator 100	17.3 100	17.3 100	A	A		ASME B&PV Co. Sec. III 1971 IEEE 344-75 Exg. Guide 1
D-126	4" M.O. C.S. Globe Valve	Anchor Darling (valve) Limitorque (actuator) P-102A, 18.1, 18.2 SSB-0-5	Anamet Labs. No. 80.253, Limitorque No. B-0115	2 51A	Reactor Building Elc-207'	IM	X	H		S (valve)	SP actuator	SD	Valve 29.1 Actuator 100	29.1 100	29.1 100	A	A		ASME B&PV Co. Sec. III IEEE 344-75 382-80
D-127	6" M.O. C.S. Gate Valve	Velan Engineering (valve) Limitorque (actuator) P-102C, 6.20, 6.21 H.O. Limitorque SSB-00	Velan No. P9-1486 MI (5.16) Velan No. SR-6580, Limitorque No. B-0115	2 74A	Reactor Bldg. Elc-241'	IM	X	H	5.274 Max. 'g' Level 1st Actuator	S (valve)	SP actuator	SD	Valve 56 Actuator 100	56 100	56 100	A	A	Piping Response Code No. SF-11 P1-18 5271	ASME B&PV Co. Sec. III 1971 IEEE 344-71 382-72