APPLICATION FOR OSHPD SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY	
APPLICATION #:	OSP – 0408 – 10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☒ New ☐ Renewal

Manufacturer Information

Manufacturer: Thomson Power Systems

Manufacturer's Technical Representative: Norm Schmidt

Mailing Address: 9087A - 198th Street Langley, BC V1M 3B1 Canada

Telephone: (604) 888-0110 Email: NSchmidt@ThomsonPS.com

Product Information

Product Name: Thomson Electrical Switchgears

Product Type: ICS Automatic Transfer Switch & Bypass, Low Voltage ACB switchgear, Medium Voltage VCB switchgear

Product Model Number: See attached
(List all unique product identification numbers and/or part numbers)

General Description: ATS: Provide automatic transfer of power from utility power to emergency power. Bypass: Provide Power in the event of ATS failure. LV and MV Switchgears: Control and protect utility and emergency power.

Mounting Description: Rigid Floor Mounted

Applicant Information

Applicant Company Name: The VMC Group

Contact Person: John Giuliano, PE

Mailing Address: 113 Main Street Bloomingdale NJ 07403

Telephone: (973) 838-1780 Email: john.giuliano@thevmcgroup.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2013.

Signature of Applicant: Joel P Giuliano Date: 11/6/14

Title: President Company Name: The VMC Group

California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)

Company Name: The VMC Group

Name: Ken Tarlow, SE California License Number: SE2851

Mailing Address: 113 Main Street Bloomingdale NJ 07403

Telephone: (973) 838-1780 Email: ken.tarlow@thevmcgroup.com

Supports and Attachments Preapproval

☐ Supports and attachments are preapproved under OPM-
(Separate application for OSHPD Preapproval of Manufacturer's Certification (OPM) of Supports and attachments is required)

☒ Supports and attachments are not preapproved

Certification Method

☒ Testing in accordance with: ☒ ICC-ES AC156

☐ Other (Please Specify):

Testing Laboratory

Company Name: PEER, Richmond Field Station, University of California at Berkeley

Contact Name: Wesley Neighbor

Mailing Address: 1301 S. 46th Street Richmond CA 94804-4698

Telephone: (510) 665-3409 Email: wdn@berkeley.edu

Seismic Parameters

Design in accordance with ASCE 7-10 Chapter 13: ☒ Yes ☐ No

Design Basis of Equipment or Components (F_p/W_p) = 1.5

S_{DS} (Design spectral response acceleration at short period, g) = 2.0

a_p (In-structure equipment or component amplification factor) = 2.5

R_p (Equipment or component response modification factor) = 6.0

Ω_0 (System overstrength factor) = 2.5

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1.0

Equipment or Component Natural Frequencies (Hz) = See attached

Overall dimensions and weight (or range thereof) = See attached

Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15: ☐ Yes ☒ No

Design Basis of Equipment or Components (V/W) =

S_{DS} (Design spectral response acceleration at short period, g) =

S_{D1} (Design spectral response acceleration at 1 second period, g) =

R (Response modification coefficient) =

Ω_0 (System overstrength factor) =

C_d (Deflection amplification factor) =

I_p (Importance factor) = 1.5

Height to Center of Gravity above base =

Equipment or Component Natural Frequencies (Hz) =

Overall dimensions and weight (or range thereof) =

Tank(s) designed in accordance with ASME BPVC, 2010: ☐ Yes ☒ No

List of Attachments Supporting Special Seismic Certification

☒ Test Report(s) ☒ Drawings ☐ Calculations ☒ Manufacturer's Catalog

☒ Other(s) (Please Specify): UUT, Certified Product and Certified Sub Component Matrices

OSHPD Approval (For Office Use Only) – **Approval Expires on December 31, 2019**

Signature: Date: December 5, 2014

Print Name: Timothy J. Piland Title: SSE

Special Seismic Certification Valid Up to : S_{DS} (g) = 2.0 z/h = 1

Condition of Approval (if applicable):

Table 1A - ICS ATS & Bypass (sys2k)

Product	Model	Amps	Voltage	Enclosure			Breaker / Mechanism				Max Dimesions			Weight [lbs]	UUT
				Mfr	NEMA Rating	Material	Mfr	Qty	Poles	Model	Height [in]	Width [in]	Depth [in]		
ATS (ICS, 30cycle)															
ATS	TS880	800 - 2000	120V - 600V	Thomson	1,2,12	A60 STEEL	Square D	F/M - 2	2, 3 pole	See Table 1C	91.625	36	42	1350	UUT 1
ATS	TS880	800 - 2000	120V - 600V	Thomson	1,2,12	A60 STEEL	Square D	F/M - 2	4 pole	See Table 1C	91.625	36	42	1600	INTERPOLATED
ATS	TS880	2500 - 3000	120V - 600V	Thomson	1,2,12	A60 STEEL	Square D	F/M - 2	2, 3 pole	See Table 1C	91.625	36	60	1750	INTERPOLATED
ATS	TS880	2500 - 3000	120V - 600V	Thomson	1,2,12	A60 STEEL	Square D	F/M - 2	4 pole	See Table 1C	91.625	36	60	1950	INTERPOLATED
ATS	TS880	4000	120V - 600V	Thomson	1,2,12	A60 STEEL	Square D	F/M - 2	2, 3 pole	See Table 1C	91.625	48	72	2480	INTERPOLATED
ATS	TS880	4000	120V - 600V	Thomson	1,2,12	A60 STEEL	Square D	F/M - 2	4 pole	See Table 1C	91.625	48	72	2740	INTERPOLATED
ATS	TS880	800 - 2000	120V - 600V	Thomson	3R	A60 STEEL	Square D	F/M - 2	2, 3 pole	See Table 1C	92.563	36	54	1650	INTERPOLATED
ATS	TS880	800 - 2000	120V - 600V	Thomson	3R	A60 STEEL	Square D	F/M - 2	4 pole	See Table 1C	92.563	36	54	1800	INTERPOLATED
ATS	TS880	2500 - 3000	120V - 600V	Thomson	3R	A60 STEEL	Square D	F/M - 2	2, 3 pole	See Table 1C	92.563	36	60	2000	INTERPOLATED
ATS	TS880	2500 - 3000	120V - 600V	Thomson	3R	A60 STEEL	Square D	F/M - 2	4 pole	See Table 1C	92.563	36	60	2200	INTERPOLATED
ATS	TS880	4000	120V - 600V	Thomson	3R	A60 STEEL	Square D	F/M - 2	2, 3 pole	See Table 1C	92.563	48	72	2670	INTERPOLATED
ATS	TS880	4000	120V - 600V	Thomson	3R	A60 STEEL	Square D	F/M - 2	4 pole	See Table 1C	92.563	48	72	2930	INTERPOLATED
IBS	TS880	800 - 2000	120V - 600V	Thomson	1,2,12	A60 STEEL	Square D	F/M - 2 , D/O - 2	2, 3 pole	See Table 1C	91.625	72	66	3590	UUT 2
IBS	TS880	800 - 2000	120V - 600V	Thomson	1,2,12	A60 STEEL	Square D	F/M - 2 , D/O - 2	4 pole	See Table 1C	91.625	72	66	3580	INTERPOLATED
IBS	TS880	2500 - 3000	120V - 600V	Thomson	1,2,12	A60 STEEL	Square D	F/M - 2 , D/O - 2	2, 3 pole	See Table 1C	91.625	72	66	4090	INTERPOLATED
IBS	TS880	2500 - 3000	120V - 600V	Thomson	1,2,12	A60 STEEL	Square D	F/M - 2 , D/O - 2	4 pole	See Table 1C	91.625	72	66	4340	INTERPOLATED
IBS	TS880	4000	120V - 600V	Thomson	1,2,12	A60 STEEL	Square D	F/M - 2 , D/O - 2	2, 3 pole	See Table 1C	91.625	96	90	8500	INTERPOLATED
IBS	TS880	4000	120V - 600V	Thomson	1,2,12	A60 STEEL	Square D	F/M - 2 , D/O - 2	4 pole	See Table 1C	91.625	96	90	9000	INTERPOLATED
IBS	TS880	800 - 2000	120V - 600V	Thomson	3R	A60 STEEL	Square D	F/M - 2 , D/O - 2	2, 3 pole	See Table 1C	92.563	72	72	3500	INTERPOLATED
IBS	TS880	800 - 2000	120V - 600V	Thomson	3R	A60 STEEL	Square D	F/M - 2 , D/O - 2	4 pole	See Table 1C	92.563	72	72	4000	INTERPOLATED
IBS	TS880	2500 - 3000	120V - 600V	Thomson	3R	A60 STEEL	Square D	F/M - 2 , D/O - 2	2, 3 pole	See Table 1C	92.563	72	72	5000	INTERPOLATED
IBS	TS880	2500 - 3000	120V - 600V	Thomson	3R	A60 STEEL	Square D	F/M - 2 , D/O - 2	4 pole	See Table 1C	92.563	72	72	5500	INTERPOLATED
IBS	TS880	4000	120V - 600V	Thomson	3R	A60 STEEL	Square D	F/M - 2 , D/O - 2	2, 3 pole	See Table 1C	92.563	96	90	9500	INTERPOLATED
IBS	TS880	4000	120V - 600V	Thomson	3R	A60 STEEL	Square D	F/M - 2 , D/O - 2	4 pole	See Table 1C	92.563	96	90	10570	UUT 3

F/M - Fixed Mount and D/O - Draw Out

IBS Systems include the ATS

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Table 1B - ICS ATS & Bypass (sys2k) Enclosure

NEMA Rating	Amp Range	Const.	Material	Thickness	Installation Method	Weight [lbs]	UUT
ATS (ICS, 30cycle)							
NEMA 1, 2, 12	800-2000	Bolted Assembly	A60 STEEL	12 gauge	Rigid Floor Mount	623	UUT 1 & 2
NEMA 1, 2, 12	2500-3000	Bolted Assembly	A60 STEEL	12gauge	Rigid Floor Mount	758	INTERPOLATED
NEMA 1, 2, 12	4000	Bolted Assembly	A60 STEEL	12guage	Rigid Floor Mount	977	INTERPOLATED
NEMA 3R	800-2000	Bolted Assembly	A60 STEEL	12guage	Rigid Floor Mount	862	INTERPOLATED
NEMA 3R	2500-3000	Bolted Assembly	A60 STEEL	12guage	Rigid Floor Mount	895	INTERPOLATED
NEMA 3R	4000	Bolted Assembly	A60 STEEL	14guage	Rigid Floor Mount	1160	INTERPOLATED
DOUBLESIDED BYPASS (ICS, 30cycle)							
NEMA 1, 2, 12	800-2000	Bolted Assembly	A60 STEEL	12 gauge	Rigid Floor Mount	1440	UUT 2
NEMA 1, 2, 12	2500-3000	Bolted Assembly	A60 STEEL	12guage	Rigid Floor Mount	1440	INTERPOLATED
NEMA 1, 2, 12	4000	Bolted Assembly	A60 STEEL	12guage	Rigid Floor Mount	2500	INTERPOLATED
NEMA 3R	800-2000	Bolted Assembly	A60 STEEL	12guage	Rigid Floor Mount	1515	INTERPOLATED
NEMA 3R	2500-3000	Bolted Assembly	A60 STEEL	12guage	Rigid Floor Mount	1476	INTERPOLATED
NEMA 3R	4000	Bolted Assembly	A60 STEEL	14guage	Rigid Floor Mount	3000	UUT 3

All enclosure base channels are made of 3/16" thick CRS Plate Steel and are manufactured by Thomson Power Systems

Table 1C - ICS ATS & Bypass (sys2k) Breaker / Mechanism

Amps	Volts	Poles	Model	Transition Type	Weight [lbs]	UUT
Fixed Mount (F/M) Breakers						
800 - 2000	120V - 600V	2,3	NW08-20 3P	Open and Closed Transition Transfer Switch	126	UUT 1 & 2
800 - 2000	120V - 600V	4	NW08-20 4P	Open and Closed Transition Transfer Switch	164	INTERPOLATED
2500 - 3000	120V - 600V	2,3	NW25-30 3P	Open and Closed Transition Transfer Switch	153	INTERPOLATED
2500 - 3000	120V - 600V	4	NW25-30 4P	Open and Closed Transition Transfer Switch	199	INTERPOLATED
4000	120V - 600V	2,3	NW40 3P	Open and Closed Transition Transfer Switch	279	INTERPOLATED
4000	120V - 600V	4	NW40 4P	Open and Closed Transition Transfer Switch	363	UUT 3
Draw Out (D/O) Breakers						
800 - 2000	120V - 600V	2,3	NW08-20 3P	Open and Closed Transition Transfer Switch	223	UUT 2
800 - 2000	120V - 600V	4	NW08-20 4P	Open and Closed Transition Transfer Switch	280	INTERPOLATED
2500 - 3000	120V - 600V	2,3	NW25-30 3P	Open and Closed Transition Transfer Switch	277	INTERPOLATED
2500 - 3000	120V - 600V	4	NW25-30 4P	Open and Closed Transition Transfer Switch	348	INTERPOLATED
4000	120V - 600V	2,3	NW40 3P	Open and Closed Transition Transfer Switch	557	INTERPOLATED
4000	120V - 600V	4	NW40 4P	Open and Closed Transition Transfer Switch	697	UUT 3

Table 1D - ICS ATS & Bypass (sys2k) Switch Type

Mfr	Description	Model	Weight (lbs)	UUT
SquareD	Mech Interlock	S48612	3	UUT 1, 2 & 3

Table 1E - ICS ATS & Bypass (sys2k) Control

Model	Function	Mfr	Weight [lbs]	UUT
TSC800	PLC	Thomson	2	UUT 1
TSC900	PLC	Thomson	1	UUT 2
TSC80e	PLC	Thomson	1	UUT 3
ACCUVIM-L	METER	CCUENERG	1	UUT 1
ESS25	SYNC CHECK	Thomson	1	UUT 1
MPC-ETN	COMM.	Thomson	0.5	UUT 1
CT221	CT	AMRAN	3	UUT 1
MODEL 125	CT	ITI	3	UUT 2
9070T	PT	SQUARE D	6 - 12	UUT 1, 2 & 3
DRP	POWER SUPPLY	MEAN WELL	2.5	UUT 1
PS5R	POWER SUPPLY	IDEC	2	UUT 2 & 3

All subcomponents listed within this table are manufactured in an ISO-9001 certified facility

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Table 2A - LV ACB Switchgear (sys2k)

Product	Model	Amps	Voltage	Enclosure			Breaker / Mechanism				Max Dimesions			Weight [lbs]	UUT
				Mfr	NEMA Rating	Material	Mfr	Qty	Poles	Model	Height [in]	Width [in]	Depth [in]		
LV SWITCHGEAR (Square D & C-H)															
LV ACB GCS	S2200-2400	800	120V - 600V	Thomson	NEMA 1, 2, 12	See Table 2B	S-D & C-H	S-D 1, C-H 1	2,3 pole	See Table 2C	91.625	30	42	1490	UUT 4
LV SWITCHGEAR (Square D)															
LV ACB GCS	S2200-2400	800	120V - 600V	Thomson	NEMA 1, 2, 12	See Table 2B	Square D	1 - 2	2,3 pole	See Table 2C	91.625	36	66	1900	INTERPOLATED
LV ACB GCS	S2200-2400	800	120V - 600V	Thomson	NEMA 1, 2, 12	See Table 2B	Square D	1 - 2	4 pole	See Table 2C	91.625	36	66	1950	INTERPOLATED
LV ACB GCS	S2200-2400	2000	120V - 600V	Thomson	NEMA 1, 2, 12	See Table 2B	Square D	1	2,3 pole	See Table 2C	91.625	36	66	2000	INTERPOLATED
LV ACB GCS	S2200-2400	2000	120V - 600V	Thomson	NEMA 1, 2, 12	See Table 2B	Square D	1	4 pole	See Table 2C	91.625	36	66	2100	INTERPOLATED
LV ACB GCS	S2200-2400	4000	120V - 600V	Thomson	NEMA 1, 2, 12	See Table 2B	Square D	1	2,3 pole	See Table 2C	91.625	48	72	3000	INTERPOLATED
LV ACB GCS	S2200-2400	4000	120V - 600V	Thomson	NEMA 1, 2, 12	See Table 2B	Square D	1	4 pole	See Table 2C	91.625	48	78	3200	INTERPOLATED
LV ACB GCS	S2200-2400	6000	120V - 600V	Thomson	NEMA 1, 2, 12	See Table 2B	Square D	1	2,3 pole	See Table 2C	91.625	48	72	4000	INTERPOLATED
LV ACB GCS	S2200-2400	6000	120V - 600V	Thomson	NEMA 1, 2, 12	See Table 2B	Square D	1	4 pole	See Table 2C	91.625	48	78	4500	INTERPOLATED
LV ACB GCS	S2200-2400	800	120V - 600V	Thomson	NEMA 3R	See Table 2B	Square D	1 - 2	2,3 pole	See Table 2C	92.563	36	72	2100	INTERPOLATED
LV ACB GCS	S2200-2400	800	120V - 600V	Thomson	NEMA 3R	See Table 2B	Square D	1 - 2	4 pole	See Table 2C	92.563	36	72	2150	INTERPOLATED
LV ACB GCS	S2200-2400	2000	120V - 600V	Thomson	NEMA 3R	See Table 2B	Square D	1	2,3 pole	See Table 2C	92.563	36	72	2200	INTERPOLATED
LV ACB GCS	S2200-2400	2000	120V - 600V	Thomson	NEMA 3R	See Table 2B	Square D	1	4 pole	See Table 2C	92.563	36	72	2300	INTERPOLATED
LV ACB GCS	S2200-2400	4000	120V - 600V	Thomson	NEMA 3R	See Table 2B	Square D	1	2,3 pole	See Table 2C	92.563	48	78	3200	INTERPOLATED
LV ACB GCS	S2200-2400	4000	120V - 600V	Thomson	NEMA 3R	See Table 2B	Square D	1	4 pole	See Table 2C	92.563	48	90	3400	INTERPOLATED
LV ACB GCS	S2200-2400	6000	120V - 600V	Thomson	NEMA 3R	See Table 2B	Square D	1	2,3 pole	See Table 2C	92.563	48	78	4200	INTERPOLATED
LV ACB GCS	S2200-2400	6000	120V - 600V	Thomson	NEMA 3R	See Table 2B	Square D	1	4 pole	See Table 2C	92.563	48	90	4700	INTERPOLATED
LV SWITCHGEAR (Cutler Hammer)															
LV ACB GCS	S2200-2400	800	120V - 600V	Thomson	NEMA 1, 2, 12	See Table 2B	Cutler Hammer	1 - 2	2,3 pole	See Table 2C	91.625	36	66	2000	INTERPOLATED
LV ACB GCS	S2200-2400	800	120V - 600V	Thomson	NEMA 1, 2, 12	See Table 2B	Cutler Hammer	1 - 2	4 pole	See Table 2C	91.625	36	66	2075	INTERPOLATED
LV ACB GCS	S2200-2400	2000	120V - 600V	Thomson	NEMA 1, 2, 12	See Table 2B	Cutler Hammer	1	2,3 pole	See Table 2C	91.625	36	66	2100	INTERPOLATED
LV ACB GCS	S2200-2400	2000	120V - 600V	Thomson	NEMA 1, 2, 12	See Table 2B	Cutler Hammer	1	4 pole	See Table 2C	91.625	36	66	2175	INTERPOLATED
LV ACB GCS	S2200-2400	4000	120V - 600V	Thomson	NEMA 1, 2, 12	See Table 2B	Cutler Hammer	1	2,3 pole	See Table 2C	91.625	48	72	3100	INTERPOLATED
LV ACB GCS	S2200-2400	4000	120V - 600V	Thomson	NEMA 1, 2, 12	See Table 2B	Cutler Hammer	1	4 pole	See Table 2C	91.625	48	78	3300	INTERPOLATED
LV ACB GCS	S2200-2400	6000	120V - 600V	Thomson	NEMA 1, 2, 12	See Table 2B	Cutler Hammer	1	2,3 pole	See Table 2C	91.625	48	72	4100	INTERPOLATED
LV ACB GCS	S2200-2400	6000	120V - 600V	Thomson	NEMA 1, 2, 12	See Table 2B	Cutler Hammer	1	4 pole	See Table 2C	91.625	48	78	4600	INTERPOLATED
LV ACB GCS	S2200-2400	800	120V - 600V	Thomson	NEMA 3R	See Table 2B	Cutler Hammer	1 - 2	2,3 pole	See Table 2C	92.563	36	72	2200	INTERPOLATED
LV ACB GCS	S2200-2400	800	120V - 600V	Thomson	NEMA 3R	See Table 2B	Cutler Hammer	1 - 2	4 pole	See Table 2C	92.563	36	72	2300	INTERPOLATED
LV ACB GCS	S2200-2400	2000	120V - 600V	Thomson	NEMA 3R	See Table 2B	Cutler Hammer	1	2,3 pole	See Table 2C	92.563	36	72	2400	INTERPOLATED
LV ACB GCS	S2200-2400	2000	120V - 600V	Thomson	NEMA 3R	See Table 2B	Cutler Hammer	1	4 pole	See Table 2C	92.563	36	72	2500	INTERPOLATED
LV ACB GCS	S2200-2400	4000	120V - 600V	Thomson	NEMA 3R	See Table 2B	Cutler Hammer	1	2,3 pole	See Table 2C	92.563	48	78	3400	INTERPOLATED
LV ACB GCS	S2200-2400	4000	120V - 600V	Thomson	NEMA 3R	See Table 2B	Cutler Hammer	1	4 pole	See Table 2C	92.563	56	90	3600	INTERPOLATED
LV ACB GCS	S2200-2400	6000	120V - 600V	Thomson	NEMA 3R	See Table 2B	Cutler Hammer	1	2,3 pole	See Table 2C	92.563	48	78	4200	INTERPOLATED
LV ACB GCS	S2200-2400	6000	120V - 600V	Thomson	NEMA 3R	See Table 2B	Cutler Hammer	1	4 pole	See Table 2C	92.563	56	90	4800	INTERPOLATED
LV SWITCHGEAR (Square D & C-H)															
LV ACB GCS	S2200-2400	4000	120V - 600V	Thomson	NEMA 3R	See Table 2B	S-D & C-H	S-D 1, C-H 1	4 pole	See Table 2C	92.563	56	90	4960	UUT 5

Table 2B - LV Switchgear (sys2k) Enclosure

NEMA Rating	Amp Range	Const.	Material	Thickness	Installation Method	Weight [lbs]	UUT
NEMA 1,2,12	800	Bolted Assembly	A60 STEEL	12 Gauge	Rigid Floor Mount	877	UUT 4
NEMA 1,2,12	2000	Bolted Assembly	A60 STEEL	12 Gauge	Rigid Floor Mount	877	INTERPOLATED
NEMA 1,2,12	4000	Bolted Assembly	A60 STEEL	12 Gauge	Rigid Floor Mount	1034	INTERPOLATED
NEMA 1,2,12	6000	Bolted Assembly	A60 STEEL	12 Gauge	Rigid Floor Mount	1034	INTERPOLATED
NEMA 3R	800	Bolted Assembly	A60 STEEL	12 Gauge	Rigid Floor Mount	986	INTERPOLATED
NEMA 3R	2000	Bolted Assembly	A60 STEEL	12 Gauge	Rigid Floor Mount	986	INTERPOLATED
NEMA 3R	4000	Bolted Assembly	A60 STEEL	12 Gauge	Rigid Floor Mount	1165	UUT 5
NEMA 3R	6000	Bolted Assembly	A60 STEEL	12 Gauge	Rigid Floor Mount	1165	EXTRAPOLATED

All enclosure base channels are made of 3/16" thick CRS Plate Steel and are manufactured by Thomson Power Systems

Table 2C - LV ACB Switchgear (sys2k) Breaker / Mechanism

Amps	Volts	Poles	Model	Transition Type	Weight [lbs]	UUT
Square D Draw Out (D/O) Breakers						
800 - 2000	120V - 600V	2,3	NW08-20 3P	Electrically Operated Drawout	223	UUT 4
800 - 2000	120V - 600V	4	NW08-20 4P	Electrically Operated Drawout	280	INTERPOLATED
2500 - 3000	120V - 600V	2,3	NW25-30 3P	Electrically Operated Drawout	277	INTERPOLATED
2500 - 3000	120V - 600V	4	NW25-30 4P	Electrically Operated Drawout	348	INTERPOLATED
4000	120V - 600V	2,3	NW40 3P	Electrically Operated Drawout	557	INTERPOLATED
4000	120V - 600V	4	NW40 4P	Electrically Operated Drawout	697	UUT 5
Cutler Hammer Draw Out (D/O) Breakers						
800 - 3200	120V - 600V	2,3	Magnum Std Frame	Electrically Operated Drawout	312	UUT 4
800 - 3200	120V - 600V	4	Magnum Std Frame	Electrically Operated Drawout	396	INTERPOLATED
4000 - 6000	120V - 600V	2,3	Magnum Dbl Wide Frame	Electrically Operated Drawout	555	INTERPOLATED
4000 - 6000	120V - 600V	4	Magnum Dbl Wide Frame	Electrically Operated Drawout	707	UUT 5

Table 2D - LV Switchgear (sys2k) Switch Type

Mfr	Description	Model	Weight	UUT
SquareD	Electrically Oper.	See Table 2C	See Table 2C	UUT 4 & 5
Cutler Hammer	Electrically Oper.	See Table 2C	See Table 2C	UUT 4 & 5

Table 2E - ICS ATS & Bypass (sys2k) Control

Model	Function	Mfr	ISO	Weight [lbs]	UUT
PT100	PT	AMRAN	YES	7.75	UUT5
MODEL 465	PT	ITI	YES	7.75	UUT5
9070T	PT	SQUARE D	YES	6 - 12	UUT5
MODEL 120	CT	ITI	YES	11	UUT4
MODEL 126	CT	ITI	YES	5.5	UUT5
MODEL 785	CT	ITI	YES	58	UUT5
AGC 200 Series	PLC	DEIF	YES	5	UUT4
IOM 200	ANALOG I/O	DEIF	YES	1	UUT4
CPT-DIN	TRANSDUCER	CARLO GAVAZZI	YES	0.5	UUT4
100 SERIES	ENET SWITCH	N-TRON	YES	0.6	UUT5
PS5R	POWER SUPPLY	IDEC	YES	2	UUT5
PSM SERIES	POWER SUPPLY	RHINO	YES	1	UUT5
RX3I	PLC	GE Fanuc	YES	5	UUT5
QUICKPANEL	HMI	GE Fanuc	YES	10.5	UUT5

All subcomponents listed within this table are manufactured in an ISO-9001 certified facility

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Table 3A - MV VCB Switchgear (sys2k)

Product	Model	Amps	Voltage	Enclosure			Breaker / Mechanism				Max Dimesions			Weight [lbs]	UUT
				Mfr	NEMA Rating	Material	Mfr	Qty	Poles	Model	Height [in]	Width [in]	Depth [in]		
MV VCB SWITCHGEAR (Square-D)															
MV VCB GCS	S2200-2400	1200A	2400V - 15000V	Thomson	NEMA 1, 2, 12	See Table 3B	Square D	AUX-2	3 Pole	See Table 3C	95.13	36	91	2870	EXTRAPOLATED
MV VCB GCS	S2200-2400	1200A	2400V - 15000V	Thomson	NEMA 1, 2, 12	See Table 3B	Square D	AUX-2	3 Pole	See Table 3C	95.13	36	91	2920	EXTRAPOLATED
MV VCB GCS	S2200-2400	1200A	2400V - 15000V	Thomson	NEMA 1, 2, 12	See Table 3B	Square D	AUX-1, 1200A-1	3 Pole	See Table 3C	95.13	36	91	3480	UUT 6
MV VCB GCS	S2200-2400	1200A	2400V - 15000V	Thomson	NEMA 1, 2, 12	See Table 3B	Square D	AUX-1, 1200A-1	3 Pole	See Table 3C	95.13	36	91	3230	INTERPOLATED
MV VCB GCS	S2200-2400	1200A	2400V - 15000V	Thomson	NEMA 1, 2, 12	See Table 3B	Square D	AUX-1, 1200A-1	3 Pole	See Table 3C	95.13	36	91	3230	INTERPOLATED
MV VCB GCS	S2200-2400	1200A	2400V - 15000V	Thomson	NEMA 1, 2, 12	See Table 3B	Square D	AUX-1, 1200A-1	3 Pole	See Table 3C	95.13	36	91	3230	INTERPOLATED
MV VCB GCS	S2200-2400	1200A	2400V - 15000V	Thomson	NEMA 1, 2, 12	See Table 3B	Square D	1200A-2	3 Pole	See Table 3C	95.13	36	91	3470	INTERPOLATED
MV VCB GCS	S2200-2400	1200A	2400V - 15000V	Thomson	NEMA 1, 2, 12	See Table 3B	Square D	1200A-2	3 Pole	See Table 3C	95.13	36	91	3470	INTERPOLATED
MV VCB GCS	S2200-2400	2000A	2400V - 15000V	Thomson	NEMA 1, 2, 12	See Table 3B	Square D	AUX-1, 2000A-1	3 Pole	See Table 3C	95.13	36	91	3560	INTERPOLATED
MV VCB GCS	S2200-2400	2000A	2400V - 15000V	Thomson	NEMA 1, 2, 12	See Table 3B	Square D	AUX-1, 2000A-1	3 Pole	See Table 3C	95.13	36	91	3560	INTERPOLATED
MV VCB GCS	S2200-2400	2000A	2400V - 15000V	Thomson	NEMA 1, 2, 12	See Table 3B	Square D	2000A-2	3 Pole	See Table 3C	95.13	36	91	4070	INTERPOLATED
MV VCB GCS	S2200-2400	1200A	2400V - 15000V	Thomson	NEMA 3R	See Table 3B	Square D	AUX-2	3 Pole	See Table 3C	100.75	42	100	3580	INTERPOLATED
MV VCB GCS	S2200-2400	1200A	2400V - 15000V	Thomson	NEMA 3R	See Table 3B	Square D	AUX-2	3 Pole	See Table 3C	100.75	42	100	3580	INTERPOLATED
MV VCB GCS	S2200-2400	1200A	2400V - 15000V	Thomson	NEMA 3R	See Table 3B	Square D	AUX-1, 1200A-1	3 Pole	See Table 3C	100.75	42	100	3900	INTERPOLATED
MV VCB GCS	S2200-2400	1200A	2400V - 15000V	Thomson	NEMA 3R	See Table 3B	Square D	AUX-1, 1200A-1	3 Pole	See Table 3C	100.75	42	100	3900	INTERPOLATED
MV VCB GCS	S2200-2400	1200A	2400V - 15000V	Thomson	NEMA 3R	See Table 3B	Square D	AUX-1, 1200A-1	3 Pole	See Table 3C	100.75	42	100	3900	INTERPOLATED
MV VCB GCS	S2200-2400	1200A	2400V - 15000V	Thomson	NEMA 3R	See Table 3B	Square D	1200A-2	3 Pole	See Table 3C	100.75	42	100	3900	INTERPOLATED
MV VCB GCS	S2200-2400	1200A	2400V - 15000V	Thomson	NEMA 3R	See Table 3B	Square D	1200A-2	3 Pole	See Table 3C	100.75	42	100	4140	INTERPOLATED
MV VCB GCS	S2200-2400	1200A	2400V - 15000V	Thomson	NEMA 3R	See Table 3B	Square D	AUX-1, 2000A-1	3 Pole	See Table 3C	100.75	42	100	4140	INTERPOLATED
MV VCB GCS	S2200-2400	2000A	2400V - 15000V	Thomson	NEMA 3R	See Table 3B	Square D	AUX-1, 2000A-1	3 Pole	See Table 3C	100.75	42	100	4470	INTERPOLATED
MV VCB GCS	S2200-2400	2000A	2400V - 15000V	Thomson	NEMA 3R	See Table 3B	Square D	AUX-1, 2000A-1	3 Pole	See Table 3C	100.75	42	100	4470	UUT 7
MV VCB GCS	S2200-2400	2000A	2400V - 15000V	Thomson	NEMA 3R	See Table 3B	Square D	2000A-2	3 Pole	See Table 3C	100.75	42	100	4680	EXTRAPOLATED
MV VCB SWITCHGEAR (Cutler-Hammer)															
MV VCB GCS	S2200-2400	1200A	2400V - 15000V	Thomson	NEMA 1, 2, 12	See Table 3B	Cutler Hammer	AUX-2	3 Pole	See Table 3C	96.625	36	96	2790	EXTRAPOLATED
MV VCB GCS	S2200-2400	1200A	2400V - 15000V	Thomson	NEMA 1, 2, 12	See Table 3B	Cutler Hammer	AUX-2	3 Pole	See Table 3C	96.625	36	96	2840	EXTRAPOLATED
MV VCB GCS	S2200-2400	1200A	2400V - 15000V	Thomson	NEMA 1, 2, 12	See Table 3B	Cutler Hammer	AUX-1, 1200A-1	3 Pole	See Table 3C	96.625	36	96	2870	UUT 8
MV VCB GCS	S2200-2400	1200A	2400V - 15000V	Thomson	NEMA 1, 2, 12	See Table 3B	Cutler Hammer	AUX-1, 1200A-1	3 Pole	See Table 3C	96.625	36	96	2870	INTERPOLATED
MV VCB GCS	S2200-2400	1200A	2400V - 15000V	Thomson	NEMA 1, 2, 12	See Table 3B	Cutler Hammer	AUX-1, 1200A-1	3 Pole	See Table 3C	96.625	36	96	2900	INTERPOLATED
MV VCB GCS	S2200-2400	1200A	2400V - 15000V	Thomson	NEMA 1, 2, 12	See Table 3B	Cutler Hammer	AUX-1, 1200A-1	3 Pole	See Table 3C	96.625	36	96	2900	INTERPOLATED
MV VCB GCS	S2200-2400	1200A	2400V - 15000V	Thomson	NEMA 1, 2, 12	See Table 3B	Cutler Hammer	1200A-2	3 Pole	See Table 3C	96.625	36	96	2930	INTERPOLATED
MV VCB GCS	S2200-2400	1200A	2400V - 15000V	Thomson	NEMA 1, 2, 12	See Table 3B	Cutler Hammer	1200A-2	3 Pole	See Table 3C	96.625	36	96	2970	INTERPOLATED
MV VCB GCS	S2200-2400	2000A	2400V - 15000V	Thomson	NEMA 1, 2, 12	See Table 3B	Cutler Hammer	AUX-1, 2000A-1	3 Pole	See Table 3C	96.625	36	96	2940	INTERPOLATED
MV VCB GCS	S2200-2400	2000A	2400V - 15000V	Thomson	NEMA 1, 2, 12	See Table 3B	Cutler Hammer	AUX-1, 2000A-1	3 Pole	See Table 3C	96.625	36	96	2940	INTERPOLATED
MV VCB GCS	S2200-2400	2000A	2400V - 15000V	Thomson	NEMA 1, 2, 12	See Table 3B	Cutler Hammer	2000A-2	3 Pole	See Table 3C	96.625	36	96	3040	INTERPOLATED
MV VCB GCS	S2200-2400	1200A	2400V - 15000V	Thomson	NEMA 3R	See Table 3B	Cutler Hammer	AUX-2	3 Pole	See Table 3C	101.63	42.25	93	3990	INTERPOLATED
MV VCB GCS	S2200-2400	1200A	2400V - 15000V	Thomson	NEMA 3R	See Table 3B	Cutler Hammer	AUX-2	3 Pole	See Table 3C	101.63	42.25	93	4040	INTERPOLATED
MV VCB GCS	S2200-2400	1200A	2400V - 15000V	Thomson	NEMA 3R	See Table 3B	Cutler Hammer	AUX-1, 1200A-1	3 Pole	See Table 3C	101.63	42.25	93	4060	INTERPOLATED
MV VCB GCS	S2200-2400	1200A	2400V - 15000V	Thomson	NEMA 3R	See Table 3B	Cutler Hammer	AUX-1, 1200A-1	3 Pole	See Table 3C	101.63	42.25	93	4060	INTERPOLATED
MV VCB GCS	S2200-2400	1200A	2400V - 15000V	Thomson	NEMA 3R	See Table 3B	Cutler Hammer	AUX-1, 1200A-1	3 Pole	See Table 3C	101.63	42.25	93	4110	INTERPOLATED
MV VCB GCS	S2200-2400	1200A	2400V - 15000V	Thomson	NEMA 3R	See Table 3B	Cutler Hammer	1200A-2	3 Pole	See Table 3C	101.63	42.25	93	4110	INTERPOLATED
MV VCB GCS	S2200-2400	1200A	2400V - 15000V	Thomson	NEMA 3R	See Table 3B	Cutler Hammer	1200A-2	3 Pole	See Table 3C	101.63	42.25	93	4130	INTERPOLATED
MV VCB GCS	S2200-2400	1200A	2400V - 15000V	Thomson	NEMA 3R	See Table 3B	Cutler Hammer	AUX-1, 2000A-1	3 Pole	See Table 3C	101.63	42.25	93	4170	INTERPOLATED
MV VCB GCS	S2200-2400	2000A	2400V - 15000V	Thomson	NEMA 3R	See Table 3B	Cutler Hammer	AUX-1, 2000A-1	3 Pole	See Table 3C	101.63	42.25	93	4140	INTERPOLATED
MV VCB GCS	S2200-2400	2000A	2400V - 15000V	Thomson	NEMA 3R	See Table 3B	Cutler Hammer	AUX-1, 2000A-1	3 Pole	See Table 3C	101.63	42.25	93	4140	UUT 9
MV VCB GCS	S2200-2400	2000A	2400V - 15000V	Thomson	NEMA 3R	See Table 3B	Cutler Hammer	2000A-2	3 Pole	See Table 3C	101.63	42.25	93	4250	EXTRAPOLATED

AUX-2 - Indicates there is no Breaker in the cell but there are 2 Auxiliary Compartments which may provide for a control power transformer or a set of Potential Transformers

AUX-1, 1200A - Indicates that there is provision for one 1200 amp Breaker and one Auxiliary Compartment for Transformers.

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Table 3B - MV VCB Switchgear (sys2k) Enclosure

NEMA Rating	Amp Range	Const.	Material	Thickness	Install Method	Weight [lbs]	UUT
NEMA 1,2,12	1200A	Bolted Assembly	A60 Steel	12 - 14 Gauge	Rigid Floor Mount	2000	UUT 6
NEMA 1,2,12	2000A	Bolted Assembly	A60 Steel	12 - 14 Gauge	Rigid Floor Mount	2500	UUT 7
NEMA 3R	1200A	Bolted Assembly	A60 Steel	12 - 14 Gauge	Rigid Floor Mount	2100	UUT 8
NEMA 3R	2000A	Bolted Assembly	A60 Steel	12 - 14 Gauge	Rigid Floor Mount	2600	UUT 9

All enclosure base channels are made of 3/16" thick CRS Plate Steel and are manufactured by Thomson Power Systems

Table 3C - MV VCB Switchgear (sys2k) Breaker / Mechanism

Amps	Volts	Poles	Model	Transition Type	Weight [lbs]	UUT
Square D Draw Out (D/O) Breakers						
AUX	2400V-15000V	3 Pole	VR	Electrically Operated Drawout	250	UUT 6 & 7
1200A	2400V-15000V	3 Pole	VR	Electrically Operated Drawout	360	UUT 6
2000A	2400V-15000V	3 Pole	VR	Electrically Operated Drawout	410	UUT 7
Cutler Hammer Draw Out (D/O) Breakers						
AUX	2400V-15000V	3 Pole	VCP-W	Electrically Operated Drawout	250	UUT 8 & 9
1200A	2400V-15000V	3 Pole	VCP-W	Electrically Operated Drawout	525	UUT 8
2000A	2400V-15000V	3 Pole	VCP-W	Electrically Operated Drawout	530	UUT 9

Table 3D - MV VCB Switchgear (sys2k) Switch Type

Mfr	Description	Model	Weight	UUT
SquareD	Electrically Oper.	See Table 3C	See Table 3C	UUT 6 & 7
Cutler Hammer	Electrically Oper.	See Table 3C	See Table 3C	UUT 8 & 9

Table 3E - MV VCB Switchgear (sys2k) Control

Model	Function	Mfr	ISO	Weight [lbs]	UUT
PGC4000	CONTROLLER	TPS	YES	15	UUT6,7
PPC-5170	PC / DISPLAY	IEI TECHNOLOGY	NO	27	UUT6,7
CJ1	PLC	OMRON	YES	6 - 12	UUT6,7
CS1	PLC	OMRON	YES	10	UUT6,7
CL5000	PLC	ALEEN BRADLEY	YES	4.5 - 12	UUT8,9
PV1500	DISPLAY	ALLEN BRADLEY	YES	9.5	UUT8,9
DSLC	CONTROLLER	WOODWARD	YES	4.5	UUT8,9
MSLC	CONTROLLER	WOODWARD	YES	4.5	UUT8,9
MB3000 Series	CONTROLLER	MOXA	YES	1	UUT8,9
DSP	CONTROLLER	RED LION	YES	1	UUT8,9
CNV	CONTROLLER	RENU	YES	0.5	UUT6,7
PTG	PT	ITI	YES	34 - 85	UUT6,7
PTW	PT	ITI	YES	34 - 85	UUT8,9
CT102	CT	AMRAN	YES	31	UUT8,9
CT104	CT	AMRAN	YES	59	UUT8,9
CT355	CT	AMRAN	YES	0.5 - 45	UUT8,9
MODEL 780	CT	ITI	YES	30	UUT6,7
MODEL 785	CT	ITI	YES	58	UUT6,7
100 SERIES	ENET SWITCH	N-TRON	YES	0.6	UUT6,7,8,9
AX Series	POWER SUPPLY	AXIOMATIC	YES	6	UUT6,7,8,9
PS5R	POWER SUPPLY	IDEC	YES	2	UUT6,7
DRP	POWER SUPPLY	MEAN WELL	YES	2	UUT8,9
QUINT-UPS	POWER SUPPLY	PHOENIX	YES	1	UUT6,7
SEL700 Series	PROTN DEVICE	SCHWEITZER	YES	4.5 - 6	UUT6,7
SR350	PROTN DEVICE	GE Multilin	YES	9	UUT8,9
SR489	PROTN DEVICE	GE Multilin	YES	17	UUT8,9
SR750	PROTN DEVICE	GE Multilin	YES	18	UUT8,9
TYPE UI	PROTN DEVICE	COOPER	YES	11 - 44	UUT6,7
103 Series	METER	YOKOGAWA	YES	1.5 - 4	UUT8,9
106 Series	METER	YOKOGAWA	YES	1.5 - 4	UUT8,9

All subcomponents listed within this table are manufactured in an ISO-9001 certified facility.
The only exception is the IEI Technology manufactured PPC-5170 model.

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UNIT UNDER TEST (UUT) Summary Sheet

UUT-1

VMA-48716-01

Model Line	Model Number	Manufacturer
ATS	TS880	Thomson Power Systems

Product Construction Summary

Automatic transfer switch made of NEMA rated carbon steel enclosure with electrical components

UUT Description

UUT 1 is made of 800A ATS, NEMA 1 enclosure and Square D Fixed Mounted Breakers

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Depth	Width	Height	F-B	S-S	V
1350	42	36	92	5.7	6.6	16.4

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2013	ICC-ES AC156	2	1	1.5	3.2	2.4	1.33	0.53

Test Mounting Details

UUT bolted to test fixture using four (4) 3/4" Dia Grade 8 Bolts

All units were filled with contents and maintained functionality and structural integrity

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UNIT UNDER TEST (UUT) Summary Sheet

UUT- 2

VMA-48716-01

Model Line	Model Number	Manufacturer
ATS with Doublesided Bypass	TS880	Thomson Power Systems

Product Construction Summary

Automatic transfer switch with manual bypass made of NEMA rated carbon steel enclosure with electrical components.

UUT Description

UUT 2 is made of 800A Bypass and ATS, NEMA 1 enclosure and Square D Fixed Mounted and Draw Out Breakers.
The 2 vertical sections are bolted together using 3 / 8 inch diameter grade 5 bolts. These bolts are arranged in vertical rows of 5 bolts evenly spaced on the front and the back and at each side sheet connection between the front and the back sections. UUT 2 has three rows of bolts for a total of 15 bolts. This is the standard method for connecting all of our multiple section switchgear and transfer / bypass panels together.

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Depth	Width	Height	F-B	S-S	V
3590	66	72	92	5.5	8	14.6

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2013	ICC-ES AC156	2	1	1.5	3.2	2.4	1.33	0.53

Test Mounting Details

UUT bolted to test fixture using six (6) 3/4" Dia Grade 8 Bolts

All units were filled with contents and maintained functionality and structural integrity

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UNIT UNDER TEST (UUT) Summary Sheet

UUT-3

VMA-48716-01

Model Line	Model Number	Manufacturer
ATS with Doublesided Bypass	TS880	Thomson Power Systems

Product Construction Summary

Automatic transfer switch with manual bypass made of NEMA rated carbon steel enclosure with electrical components.

UUT Description

UUT 3 is made of 4000A Bypass and ATS, NEMA 3R enclosures and Square D Fixed Mounted and Draw Out Breakers.
The 2 vertical sections are bolted together using 3 / 8 inch diameter grade 5 bolts arranged in vertical rows of 5 bolts and are evenly spaced on the front and the back and at each side sheet connection between the front and the back sections.
UUT-3 has 5 rows of bolts for a total of 25 bolts holding the two vertical sections together. This is the standard method for connecting all of our multiple section switchgear and transfer / bypass panels together.

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Depth	Width	Height	F-B	S-S	V
10570	90	96	93	5.9	9	15.2

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2013	ICC-ES AC156	2	1	1.5	3.2	2.4	1.33	0.53

Test Mounting Details

UUT bolted to test fixture using eight (8) 3/4" Dia Grade 8 Bolts

All units were filled with contents and maintained functionality and structural integrity

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UNIT UNDER TEST (UUT) Summary Sheet

UUT-4

VMA-48716-01

Model Line	Model Number	Manufacturer
Low Voltage Switchgear	S2200-2400	Thomson Power Systems

Product Construction Summary

Low Voltage Switchgear made of NEMA rated carbon steel enclosure with electrical components.

UUT Description

UUT 4 is made of 800A Switchgear, NEMA 1 enclosure and Square D and Cutler Hammer Breakers

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Depth	Width	Height	F-B	S-S	V
1490	42	30	92	5.7	5.5	16.6

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2013	ICC-ES AC156	2	1	1.5	3.2	2.4	1.33	0.53

Test Mounting Details

UUT bolted to test fixture using four (4) 3/4" Dia Grade 8 Bolts

All units were filled with contents and maintained functionality and structural integrity

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UNIT UNDER TEST (UUT) Summary Sheet

UUT-5

VMA-48716-01

Model Line	Model Number	Manufacturer
Low Voltage Switchgear	S2200-2400	Thomson Power Systems

Product Construction Summary

Low Voltage Switchgear made of NEMA rated carbon steel enclosure with electrical components.

UUT Description

UUT 5 is made of 4000A Switchgear, NEMA 3R enclosure and Square D and Cutler Hammer Breakers

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Depth	Width	Height	F-B	S-S	V
4960	90	56	92	5.5	7.4	-

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2013	ICC-ES AC156	2	1	1.5	3.2	2.4	1.33	0.53

Test Mounting Details

UUT bolted to test fixture using six (6) 3/4" Dia Grade 8 Bolts

All units were filled with contents and maintained functionality and structural integrity

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UNIT UNDER TEST (UUT) Summary Sheet

UUT-6

VMA-48716-01

Model Line	Model Number	Manufacturer
Medium Voltage Switchgear	S2200-2400	Thomson Power Systems

Product Construction Summary

Medium Voltage Switchgear made of NEMA rated carbon steel enclosure with electrical components.

UUT Description

UUT 6 is made of 1200A Switchgear, NEMA 1 enclosure and Square D Breakers

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Depth	Width	Height	F-B	S-S	V
3480	91	36	96	5.7	7.2	17.6

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2013	ICC-ES AC156	2	1	1.5	3.2	2.4	1.33	0.53

Test Mounting Details

UUT bolted to test fixture using six (6) 3/4" Dia Grade 8 Bolts

All units were filled with contents and maintained functionality and structural integrity

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UNIT UNDER TEST (UUT) Summary Sheet

UUT-7

VMA-48716-01

Model Line	Model Number	Manufacturer
Medium Voltage Switchgear	S2200-2400	Thomson Power Systems

Product Construction Summary

Medium Voltage Switchgear made of NEMA rated carbon steel enclosure with electrical components.

UUT Description

UUT 7 is made of 2000A Switchgear, NEMA 3R enclosure and Square D Breakers

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Depth	Width	Height	F-B	S-S	V
4470	100	42	102	5.3	7.2	17.6

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2013	ICC-ES AC156	2	1	1.5	3.2	2.4	1.33	0.53

Test Mounting Details

UUT bolted to test fixture using six (6) 3/4" Dia Grade 8 Bolts

All units were filled with contents and maintained functionality and structural integrity

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UNIT UNDER TEST (UUT) Summary Sheet

UUT- 8&9

VMA-48716-01

Model Line	Model Number	Manufacturer
Medium Voltage Switchgear	S2200-2400	Thomson Power Systems

Product Construction Summary

Medium Voltage Switchgear made of NEMA rated carbon steel enclosure with electrical components.

UUT Description

UUT 8 is made of 1200A Switchgear, NEMA 1 enclosure and Cutler Hammer Breakers
UUT 9 is made of 2000A Switchgear, NEMA 3R enclosure and Cutler Hammer Breakers

UUT Properties

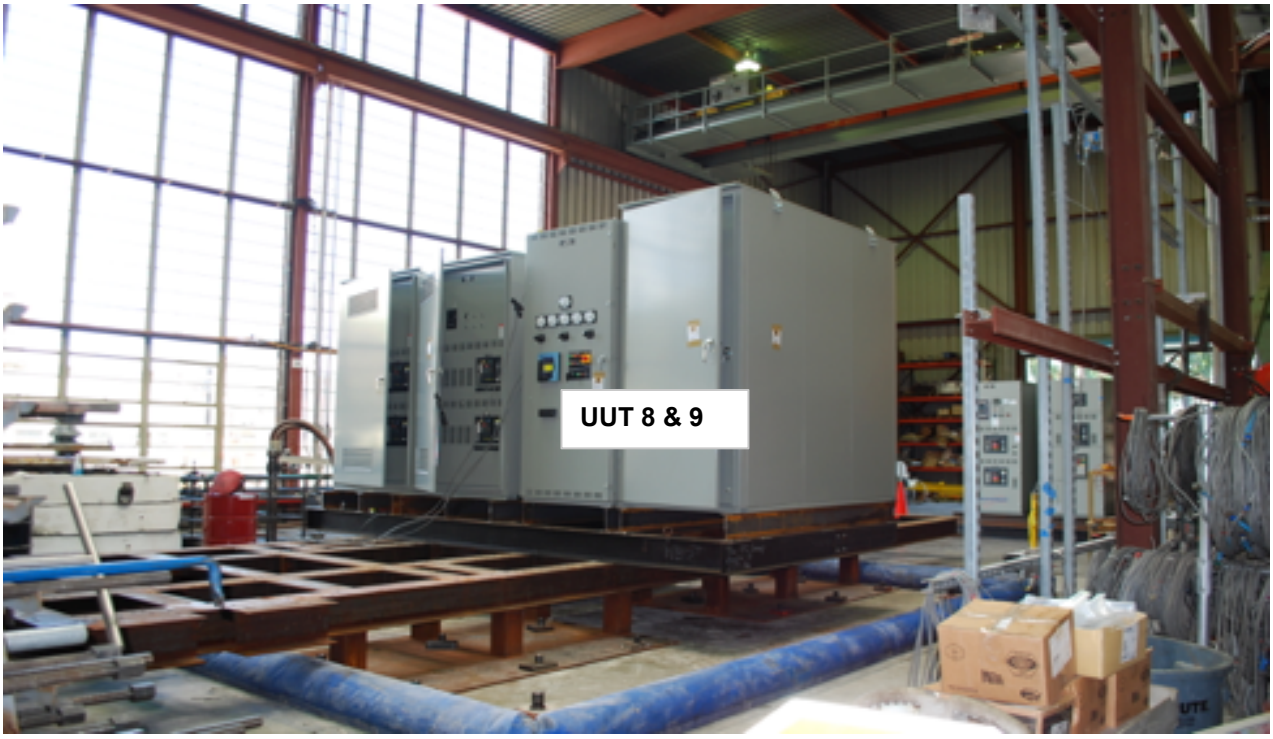
Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Depth	Width	Height	F-B	S-S	V
6810	96	72	102	4.8	9	15

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2013	ICC-ES AC156	2	1	1.5	3.2	2.4	1.33	0.53

Test Mounting Details

UUT bolted to test fixture using six (6) 3/4" Dia Grade 8 Bolts



All units were filled with contents and maintained functionality and structural integrity