



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP – 0120 – 10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: Kohler Power Systems

Manufacturer's Technical Representative: Andy Miller

Mailing Address: 444 Highland Drive, Kohler, WI 53044

Telephone: (920) 457-4441 Email: andrew.miller@kohler.com

Product Information

Product Name: PD/ED Switchgears

Product Type: Low Voltage Switchgear Systems

Product Model Number: See Attachments

(List all unique product identification numbers and/or part numbers)

General Description: Switchgear cabinets with NEMA 1 and 3R rating enclosures. Contain breakers, transformers, meters, power supplies, relays, controllers, displays and accessories. Seismic enhancements made to test units and modifications required to address the anomalies observed during the tests shall be incorporated into the production units.

Mounting Description: Rigid floor, rigid floor/wall, and wall mount – **See additional bracing requirements on UUT Sheets.**

Applicant Information

Applicant Company Name: The VMC Group

Contact Person: John P. Giuliano, PE

Mailing Address: 113 Main Street, Bloomingdale, NJ 07403

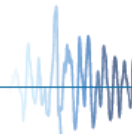
Telephone: (973) 838-1780 Email: john.giuliano@thevmcgroup.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2016.

Signature of Applicant:  Date: 07/06/2017

Title: President Company Name: The VMC Group

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"





**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION**

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

Company Name: The VMC Group
Name: Mr. Ken Tarlow 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

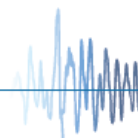
- ☒ Testing in accordance with: ☒ ICC-ES AC156
- ☐ Other (Please Specify): _____

Testing Laboratory

Company Name: Wyle Laboratories
Contact Name: Don Smith
Mailing Address: 7800 Highway 20 West, P.O. Box 077777, Huntsville, Alabama 35807-7777
Telephone: (256) 837-4411 Email: don.smith@wyle.com

Testing Laboratory

Company Name: PEER, UC Berkley
Contact Name: Clement Barthes
Mailing Address: 1302 South 46th Street Building 420, Richmond, CA 94084
Telephone: (510) 665-3409 Email: clementbarther@berkley.edu





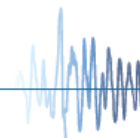
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Testing Laboratory

Company Name: SEESL, UB
Contact Name: Mark Pitman
Mailing Address: 212 Ketter Hall, Buffalo, NY 14260
Telephone: (716) 645-3019 Email: mpitman@eng.buffalo.edu

Testing Laboratory

Company Name: QualTech NP
Contact Name: Timothy A. Geers
Mailing Address: 4600 East Tech Drive, Cincinnati, OH 45245
Telephone: (513) 528-7900 Email: tgeers@curtisswright.com





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Seismic Parameters

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

Design Basis of Equipment or Components (F_p/W_p) = 0.94

S_{DS} (Design spectral response acceleration at short period, g) = 1.25

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) = 2.0

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1

Equipment or Component Natural Frequencies (Hz) = See Attachments

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

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, 2015: ☐ Yes ☒ No

List of Attachments Supporting Special Seismic Certification

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

☒ Other(s) (Please Specify): Expired OSP and Supporting Document

OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2022

Signature:  Date: May 2, 2018

Print Name: Timothy J. Piland Title: SSE

Special Seismic Certification Valid Up to : S_{DS} (g) = 1.25 z/h = 1

Condition of Approval (if applicable): _____

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"

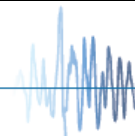


Table 1a - Certified Low Voltage Switchgear Systems - Ganged

Model Number	Main Bus Rating [Amps]	Breaker Rating [Amps]	Enclosure				Max System Weight [lbs]	Mounting Configuration	UUT
			NEMA Rating	Max Height [in]	Max Width [in]	Max Depth [in]			
PD/ED - 200/2000, 0B/2C	N/A	N/A	Type 1, Type 3R	91.5	36.0	54.0	625	Base	12
PD/ED - 200/2000, 1B/0C	2000	2000	Type 1	91.5	36.0	24.0	895		Interpolated
PD/ED - 200/2000, FH 2000A I-Line Interior, DR	1600-5000	15-3000	Type 1, Type 3R	91.5	48.0	54.0	1,000		
PD/ED - 200/2000, 1IMB/HH 2000A I-Line Interior, DR	1600-5000	15-2000	Type 1, Type 3R	91.5	48.0	54.0	1,300		
PD/ED - 200/2000, 1IMB/HH 2000A I-Line Interior, SR	1600-5000	15-3000	Type 1, Type 3R	91.5	36.0	54.0	1,176		
PD/ED - 200/2000, FH 2000-3000A I-Line Interior, SR	2000	2000	Type 1	91.5	42.0	24.0	1,176		
PD/ED - 200/2000, FH 2000-3000A I-Line Interior, SR	1600-5000	240-3000	Type 1, Type 3R	91.5	48.0	54.0	1,176		
PD/ED - 200/2000, FH 3000A I-Line Interior, DR	1600-5000	15-3000	Type 1, Type 3R	91.5	54.0	54.0	1,300		
PD/ED - 100/1000, 1B/1C	1600-5000	800-2000	Type 1, Type 3R	91.5	36.0	54.0	2,320		
PD/ED - 100/1000, 2B/1C	1600-5000	800-2000	Type 1, Type 3R	91.5	36.0	54.0	2,320		
PD/ED - 200/2000, 1B/1C	1600-5000	800-3000	Type 1, Type 3R	91.5	36.0	54.0	2,320		
PD/ED - 200/2000, 2B/0C	1600-5000	800-2000	Type 1, Type 3R	91.5	36.0	54.0	2,320		12
PD/ED - 200/2000, 2B/0C	1600-5000	800-1200	Type 1, Type 3R	91.5	30.0	54.0	2,320		Interpolated
PD/ED - 200/2000, 2B/1C	1600-5000	800-1600	Type 1, Type 3R	91.5	48.0	54.0	2,320		
PD/ED - 200/2000, 4B/0C	1600-5000	800-1600	Type 1, Type 3R	91.5	36.0	54.0	2,320		
PD/ED - 200-2000, 1B/0C	2500-5000	2500-3000	Type 1, Type 3R	91.5	36.0	54.0	2,320		
PD/ED - 200-2000, 1B/0C	4000-5000	4000-5000	Type 1, Type 3R	91.5	54.0	54.0	2,320		
PD/ED - 200-2000, 1B/1C	4000-5000	4000	Type 1, Type 3R	91.5	42.0	54.0	2,320		
PD/ED - 200/2000, 1B/0C	5000	5000	Type 1	91.5	48.0	54.0	2,320		
PD/ED - 300/3000, 0B/4C	N/A	N/A	Type 1	91.5	36.0	80.0	1,000		13
PD/ED - 300/3000, 2B/0C	1600-5000	800-3200	Type 1	91.5	22.0	80.0	1,700		Interpolated
PD/ED - 300/3000, 2B/1C	1600-5000	800-3200	Type 1	91.5	22.0	80.0	1,700		13
PD/ED - 300/3000, 3B/0C	1600-5000	800-3200	Type 1	91.5	30.0	80.0	1,700		Interpolated
PD/ED - 300/3000, 3B/1C	1600-5000	800-2000	Type 1	91.5	22.0	80.0	1,700		
PD/ED - 300/3000, 4B/0C	1600-5000	800-2000	Type 1	91.5	22.0	80.0	1,700		
PD/ED - 300/3000, 0B/4C	1600-5000	N/A	Type 1	91.5	36.0	80.0	1,800		
PD/ED - 300/3000, 1B/2C	1600-5000	3200-5000	Type 1	91.5	36.0	80.0	1,800		
PD/ED - 300/3000, 2B/0C	1600-5000	3200-5000	Type 1	91.5	36.0	80.0	1,800		
PD/ED - 300/3000, 2B/1C	1600-5000	800-5000	Type 1	91.5	36.0	80.0	1,800		
PD/ED - 300/3000, 3B/0C	1600-5000	800-5000	Type 1	91.5	36.0	80.0	1,800		
PD/ED - 300/3000, 3B/1C	1600-5000	800-2000	Type 1	91.5	36.0	80.0	1,800		
PD/ED - 300/3000, 4B/0C	1600-5000	800-2000	Type 1	91.5	36.0	80.0	1,800		
PD/ED - 300/3000, 4B/0C	5000	800-2000	Type 1	91.5	30.0	72.0	2,889		5
PD/ED - 300/3000, 1B/2C	5000	5000	Type 1	91.5	48.0	72.0	4,371		5

B - Breaker, C - Controls, FH - Full Height, HH - Half Height, SR - Left Side Mounting, DR - Right and Left Side Mounting, IMB - Individually Mounted Breaker

Table 2a - Certified Medium Voltage Switchgear Systems - Ganged

Model Number	Main Bus Rating [Amps]	Breaker Rating [Amps]	Enclosure				Max System Weight [lbs]	Mounting Configuration	UUT
			NEMA Rating	Max Height [in]	Max Width [in]	Max Depth [in]			
PD/ED - 400/4000, 0CB/2C	N/A	N/A	Type 1	95.1	36.0	92.0	4,100	Base	Extrapolated
PD/ED - 400/4000, 1CB/1C	1200-3000	1200-3000	Type 1	95.1	36.0	92.0	4,100		7
PD/ED - 400/4000, 1CB/1C	1200-3000	1200-3000	Type 3R	109.0	36.0	109.0	4,240		Interpolated
PD/ED - 400/4000, 2CB/0C	1200-3000	1200-2000	Type 1	95.1	36.0	92.0	4,430		7

B - Breaker, C - Controls, FH - Full Height, HH - Half Height, SR - Left Side Mounting, DR - Right and Left Side Mounting, IMB - Individually Mounted Breaker

Table 1b - Certified Low Voltage Switchgear Systems - Single

Model Number	Main Bus Rating [Amps]	Breaker Rating [Amps]	Enclosure				Max System Weight [lbs]	Mounting Configuration	UUT
			NEMA Rating	Max Height [in]	Max Width [in]	Max Depth [in]			
PD/ED - 200/2000, 0B/2C	N/A	N/A	Type 1, Type 3R	91.5	36.0	54.0	625	Base	Extrapolated
PD/ED - 200/2000, 1B/0C	2000	2000	Type 1	91.5	36.0	24.0	895		1
PD/ED - 200/2000, FH 2000A I-Line Interior, DR	1600-5000	15-3000	Type 1, Type 3R	91.5	48.0	54.0	1,000		Interpolated
PD/ED - 200/2000, 1IMB/HH 2000A I-Line Interior, DR	1600-5000	15-2000	Type 1, Type 3R	91.5	48.0	54.0	1,300		
PD/ED - 200/2000, 1IMB/HH 2000A I-Line Interior, SR	1600-5000	15-3000	Type 1, Type 3R	91.5	36.0	54.0	1,176		
PD/ED - 200/2000, FH 2000-3000A I-Line Interior, SR	2000	2000	Type 1	91.5	42.0	24.0	1,176	Base/Wall	2
PD/ED - 200/2000, FH 2000-3000A I-Line Interior, SR	1600-5000	240-3000	Type 1, Type 3R	91.5	48.0	54.0	1,176	Base	Interpolated
PD/ED - 200/2000, FH 3000A I-Line Interior, DR	1600-5000	15-3000	Type 1, Type 3R	91.5	54.0	54.0	1,300		
PD/ED - 100/1000, 1B/1C	1600-5000	800-2000	Type 1, Type 3R	91.5	36.0	54.0	2,320		
PD/ED - 100/1000, 2B/1C	1600-5000	800-2000	Type 1, Type 3R	91.5	36.0	54.0	2,320		
PD/ED - 200/2000, 1B/1C	1600-5000	800-3000	Type 1, Type 3R	91.5	36.0	54.0	2,320		
PD/ED - 200/2000, 2B/0C	1600-5000	800-2000	Type 1, Type 3R	91.5	36.0	54.0	2,320		
PD/ED - 200/2000, 2B/0C	1600-5000	800-1200	Type 1, Type 3R	91.5	30.0	54.0	2,320		
PD/ED - 200/2000, 2B/1C	1600-5000	800-1600	Type 1, Type 3R	91.5	48.0	54.0	2,320		
PD/ED - 200/2000, 4B/0C	1600-5000	800-1600	Type 1, Type 3R	91.5	36.0	54.0	2,320		
PD/ED - 200-2000, 1B/0C	2500-5000	2500-3000	Type 1, Type 3R	91.5	36.0	54.0	2,320		
PD/ED - 200-2000, 1B/0C	4000-5000	4000-5000	Type 1, Type 3R	91.5	54.0	54.0	2,320		
PD/ED - 200-2000, 1B/1C	4000-5000	4000	Type 1, Type 3R	91.5	42.0	54.0	2,320		
PD/ED - 200/2000, 1B/0C	5000	5000	Type 1	91.5	48.0	54.0	2,320		3
Kohler Control Section	N/A	N/A	Type 1	95.0	36.0	24.0	1,200		14
Kohler Control Section	N/A	N/A	Type 1	95.0	36.0	24.0	1,200		10
Kohler Master Control Panel MCP-3000	N/A	N/A	Type 2	31.0	18.0	7.0	62	Wall	11

B - Breaker, C - Controls, FH - Full Height, HH - Half Height, SR - Left Side Mounting, DR - Right and Left Side Mounting, IMB - Individually Mounted Breaker

Table 2b - Certified Medium Voltage Switchgear Systems - Single

Model Number	Main Bus Rating [Amps]	Breaker Rating [Amps]	Enclosure				Max System Weight [lbs]	Mounting Configuration	UUT	
			NEMA Rating	Max Height [in]	Max Width [in]	Max Depth [in]				
PD/ED - 400/4000, 0CB/2C	N/A	N/A	Type 1	95.1	36.0	92.0	4,100	Base	Extrapolated	
PD/ED - 400/4000, 1CB/1C	1200-3000	1200-3000	Type 1	95.1	36.0	92.0	4,100		8	
PD/ED - 400/4000, 1CB/1C	1200-3000	1200-3000	Type 3R	109.0	36.0	109.0	4,240			
PD/ED - 400/4000, 2CB/0C	1200-3000	1200-2000	Type 1	95.1	36.0	92.0	4,430			Interpolated
PD/ED - 400/4000, 1CB/1C	1200-3000	1200-3000	Type 3R	109.0	84.0	109.0	7,700			

B - Breaker, C - Controls, FH - Full Height, HH - Half Height, SR - Left Side Mounting, DR - Right and Left Side Mounting, IMB - Individually Mounted Breaker

Table 3 - Certified Subcomponents: Breakers

Model Number	Rating [Amps]	Weight [lbs]	Manufacturer	Mounting Configuration	UUT
PowerPact H-Frame	15-150	5	Square D	Base	Extrapolated
PowerPact J-Frame	150-250	5	Square D		
PowerPact M-Frame	300-800	29	Square D		
PowerPact L-Frame	600	14	Square D		
PowerPact P-Frame	100-1200	32	Square D		2
PowerPact R-Frame	240-3000	52	Square D		1
NW08N1	800	110	Square D	Base	Extrapolated
NW08L1	800	110	Square D		
NW08H1	800	110	Square D		
NW08H2	800	110	Square D		
NW08H3	800	110	Square D		
NW16N1	1600	110	Square D		
NW16L1	1600	110	Square D		
NW16H1	1600	110	Square D		
NW16H2	1600	110	Square D		
NW16H3	1600	110	Square D		
NW20L1	2000	130	Square D		
NW20H1	2000	130	Square D		
NW20H2	2000	130	Square D		5
NW20H3	2000	130	Square D		Interpolated
NW32L1	3200	230	Square D		
NW32H1	3200	230	Square D		
NW32H2	3200	230	Square D		
NW32H3	3200	230	Square D		
NW40L1	4000	230	Square D		
NW40H2	4000	230	Square D		
NW40H3	4000	230	Square D		
NW50L1	5000	230	Square D		
NW50H2	5000	230	Square D		5
VR-05025-12	1200	380	Square D	Base	8
VR-05025-20	2000	430	Square D		Interpolated
VR-05025-30	3000	630	Square D		
VR-05035-12	1200	450	Square D		
VR-05035-20	2000	500	Square D		
VR-05035-30	3000	700	Square D		
VR-05050-12	1200	800	Square D		
VR-05050-20	2000	800	Square D		
VR-05050-30	3000	800	Square D		
VR-08050-12	1200	380	Square D		
VR-08050-20	2000	430	Square D		
VR-08050-30	3000	630	Square D		
VR-15050-12	1200	380	Square D		
VR-15050-20	2000	430	Square D		9
VR-15050-30	3000	630	Square D		Interpolated
VR-15075-12	1200	380	Square D		
VR-15075-20	2000	430	Square D		
VR-15075-30	3000	630	Square D		
VR-15100-12	1200	450	Square D		
VR-15100-20	2000	500	Square D		
VR-15100-30	3000	700	Square D		
VR-15150-12	1200	800	Square D		
VR-15150-20	2000	800	Square D		
VR-15150-30	3000	800	Square D		7

Table 4a - Certified Enclosures - Base Mounted Ganged Units

Max Dimensions (in)					Max Combined Weight (lb)	Max Floor Loading (lb/ft ²)	Manufacturer	UUT	Material	Type
Depth	Height	Unit 1 Width	Unit 2 Width	Combined Width						
24	91.5	36	36	72	1,790	149.17	Square D	Extrapolated	Carbon Steel	NEMA 1, NEMA 3R
		42	42	84	2,352	168.00		Extrapolated		
54	91.5	30	30	60	4,460	198.22		Extrapolated		
		30	36	66	4,460	180.20		Extrapolated		
		30	42	72	4,460	165.19		Extrapolated		
		30	48	78	4,460	152.48		Extrapolated		
		30	54	84	4,460	141.59		Extrapolated		
		36	36	72	2,945	109.07		12		
		36	42	78	4,460	152.48		Interpolated		
		36	48	84	4,460	141.59		Interpolated		
		36	54	90	4,460	132.15		Interpolated		
		42	42	84	4,460	141.59		Interpolated		
		42	48	90	4,460	132.15		Interpolated		
		42	54	96	4,460	123.89		Interpolated		
		48	48	96	4,460	123.89		Interpolated		
		48	54	102	4,460	116.60		Interpolated		
		54	54	108	4,460	110.12		Interpolated		
72	91.5	30	30	60	7,260	242.00		Interpolated		NEMA 1
		30	48	78	7,260	186.15		5		
		48	48	96	7,260	151.25		Interpolated		
80	91.5	22	22	44	2,400	98.18		Interpolated		
		22	36	58	2,700	83.79		13		
		36	36	72	2,700	67.50		Interpolated		
92	95.1	36	36	72	8,530	185.43		7		

Table 4b - Certified Enclosures - Base and Base/Wall (UUT-02) Mounted Single Units

Max Dimensions (in)			Max Weight (lbs)	Manufacturer	UUT	Material	Type
Depth	Height	Width					
24	91.5	36	895	Square D	1	Carbon Steel	NEMA 1, NEMA 3R
		42	1,176		2		
54	91.5	30	2,230		Interpolated		
		36	2,230		Interpolated		
		42	2,230		Interpolated		
		48	2,320		3		
109	109	36	4,240		8		NEMA 3R
		84	7,700		9		
24	95	36	1,700	Kohler	10, 14		NEMA 1

Table 4c - Certified Enclosures - Wall Mounted Single Units

Type	Configuration	Enclosure Dimensions			Material	Manufacturer	UUT
		Length (in)	Width (in)	Height (in)			
NEMA 1	Single	7.0	18.0	31.0	Carbon Steel	Kohler	11

Table 5 - Certified Subcomponents:Transformers

Model Number	Description	Weight [lbs]	Manufacturer	Mounting Configuration	UUT
Model 460	Low Voltage, PT's, 150VA	7.75	GE/ITI	Base	13
Model PTG3*, PTG4*, PTG5*,	Medium Voltage, VT	85	GE/ITI		8, 9
Model 785R	Current Transformer, MV	58	Square D		15
Model 780R	Current Transformer, MV	30	Square D		15
Model SMCT	Low Voltage, Cradle Metering CT's	20	Square D		5

Table 6 - Certified Subcomponents:Meters

Model Number	Description	Weight [lbs]	Manufacturer	Mounting Configuration	UUT
PM5000	Power Meter	1	Schneider Electric	Base	Extrapolated
PM8000	Power Meter	1.3	Schneider Electric		14
CM4000	Power Meter	4.2	Schneider Electric		14
ION7650	Power Meter	4.2	Schneider Electric		14

Table 7 - Certified Subcomponents:Power Supplies

Customer Part Number	Description	Weight [lbs]	Manufacturer	Mounting Configuration	UUT
BAP236	Converter, 24VDC to 125VDC	2.6	Absopulse	Base	14
XP1-1-2-6-2	Inverter, 24VDC to 120VAC	2	EXELTECH		14
QS10.241	24VDC Power Supply	1.98	PULS		10
UBC10.241	24VDC UPS	6.28	PULS		10
TEP 150-2415WI	Converter, 24VDC output, 9-36VDC input	0.66	Traco Power		13
TEP 150-4815WI	Converter, 24VDC output, 18-75VDC input	0.66	Traco Power		12

Table 8 - Certified Subcomponents:Relays / Controllers

Model Number	Description	Weight [lbs]	Manufacturer	Mounting Configuration	UUT
BE3-25C	Sync-check Relay	1	Basler	Base	10
BE1-11i	Intertie Protective Relay	6	Basler		Interpolated
BE1-11f	Feeder Protective Relay	6	Basler		Interpolated
BE1-11g	Generator Protective Relay	6	Basler		14
M3520, M3425A, M3410A	Utility Intertie Protective Relay	17	Beckwith	Wall	11
350	Feeder Protective Relay	11	GE	Base	14
850	Intertie Protective Relay	20	GE		14
SEL 700G	Generator Protective Relay	4.4	Schweitzer	Base	14
SEL 751A	Feeder Protective Relay	6	Schweitzer		Interpolated
SEL 751	Bus Tie Protective Relay	6	Schweitzer		14

Table 9 - Certified Subcomponents:Controllers & Controller Components

Model Number	Description	Weight [lbs]	Manufacturer	Mounting Configuration	UUT
BMX	Modicon M340 PAC	10	Schneider Electric	Base	10

Table 10 - Certified Subcomponents:Switches

Model Number	Description	Weight [lbs]	Manufacturer	Mounting Configuration	UUT
SLX	Managed Ethernet Switches	0.75	Sixnet	Base	13
EIR	Copper to Fiber Converter	0.5	B&B Electronics		14
Eagle One	VPN Router	1	Hirschmann		12, 13

Table 11 - Certified Subcomponents:Displays & Interface Monitors

Model Number	Description	Weight [lbs]	Manufacturer	Mounting Configuration	UUT
iPC	15", 17", 19", 21.5" industrial PC	20 to 28	Nematron	Base	13
GTU	15" HMI	11.9	Schneider Electric		12

Table 12 - Other Certified Components

Model Number	Description	Weight [lbs]	Manufacturer	Mounting Configuration	UUT
8440-1878	Digital Synchronizer and Load Control	4.2	Woodward	Base	13
LS-511	Circuit Breaker Control and Protection	2	Woodward		14
easYgen 3000	Paralleling Genset Controller	4 to 4.74	Woodward		14



UNIT UNDER TEST (UUT) Summary Sheet

UUT-01

55636R08; UUT-2

Model Line	Model Number	Manufacturer
Power-Style QED-2	F-607999	Square D

Product Construction Summary

Carbon steel enclosure with powder-coated finish; NEMA 1 rating

Options / Subcomponent Summary

Enclosure: Square D, Breaker: Square D, Transformer: Square D, Switch: Square D

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
895	24.0	36.0	91.5	7.3	7.7	7.8

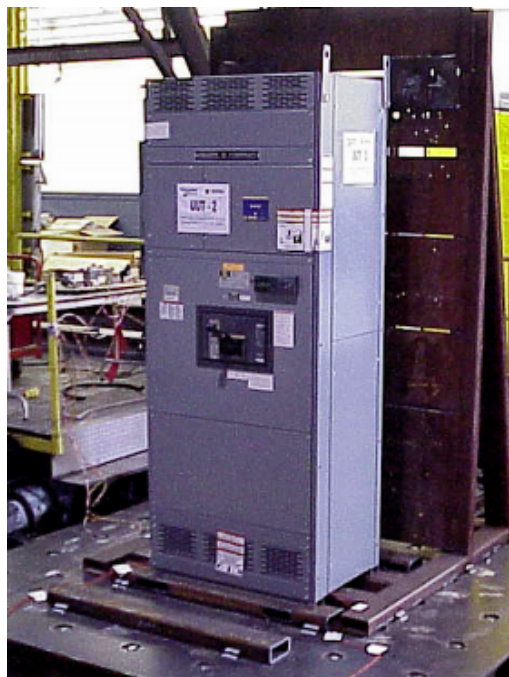
UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC156	1.73	1.00	1.50	2.77	2.08	1.16	0.46

Test Mounting Details

UUT 1 was mounted directly to the shake table fixture using (4) 1/2" Grade 5 bolts.

UUT-01



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.



UNIT UNDER TEST (UUT) Summary Sheet

UUT-02

55636R08; UUT-4

Model Line	Model Number	Manufacturer
Single Row I-Line	593383	Square D

Product Construction Summary

Carbon steel enclosure with powder-coated finish; NEMA 1 rating

Options / Subcomponent Summary

Enclosure: Square D, Breaker: Square D, Transformer: Square D, Switch: Square D

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
1,176	24.0	42.0	91.5	6.9	8.8	

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC156	1.78	1.00	1.50	2.85	2.14	1.64	0.66

Test Mounting Details

UUT 2 was directly mounted to the shake table fixture using (4) 1/2" Grade 5 bolts. UUT-2 was connected at the top using (8) 1" Grade 5 bolts to the 10"x10" Steel Back Plates with 2"x2" Steel Angles centrally positioned and connecting to the unit using (4) 1/2" Grade 5 bolts. Diagonal bracing was welded onto the Steel Angles across the top of the unit.

UUT-02



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.



UNIT UNDER TEST (UUT) Summary Sheet

UUT-03

55636R08; UUT-5

Model Line	Model Number	Manufacturer
Power-Style QED-2	24817279-001	Square D

Product Construction Summary

Carbon steel enclosure with powder-coated finish; NEMA 1 rating

Options / Subcomponent Summary

Enclosure: Square D, Breaker: Square D

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
2,320	54.0	48.0	91.5	7.8	3.6	19.0

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC156	1.33	1.00	1.50	2.13	1.60	0.89	0.36

Test Mounting Details

UUT 3 was mounted directly to the shake table fixture using (6) 1/2" Grade 5 bolts.

UUT-03



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.



UNIT UNDER TEST (UUT) Summary Sheet

UUT-05

57725R10; UUT-12a & UUT-12b

Model Line	Model Number	Manufacturer
Power-Zone 4	28371524-001	Square D

Product Construction Summary

Carbon steel enclosure with powder-coated finish; NEMA 1 rating

Options / Subcomponent Summary

Enclosure: Square D, Breaker: Square D

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
7,260	72.0	78.0	91.5	8.0	5.9	23.0

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC156	1.25	1.00	1.50	2.00	1.50	1.19	0.48

Test Mounting Details

UUT 5 was directly mounted to the shake table fixture using (12) 1/2" grade 5 bolts.

UUT-05



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.



UNIT UNDER TEST (UUT) Summary Sheet

UUT-07

70081R12A; UUT-1a & UUT-1b

Model Line	Model Number	Manufacturer
MasterClad Switchgear	28258835	Square D

Product Construction Summary

Carbon steel enclosure with power-coated finish; NEMA 1 rating

Options / Subcomponent Summary

Enclosure: Square D, Breaker: Square D

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
8,350	92.0	72.0	95.1	9.9	7.7	24.0

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC156	2.46	0.00	1.50	2.46	0.98	1.64	0.66
CBC 2016	ICC-ES AC156	1.78	1.00	1.50	2.85	2.14	1.19	0.48

Test Mounting Details

UUT 7 was mounted directly to the shake table test fixture using (12) 1/2" Grade 5 bolts.

UUT-07



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.



UNIT UNDER TEST (UUT) Summary Sheet

UUT-08

SEESL 2014-11R4; UUT-1

Model Line	Model Number	Manufacturer
MasterClad Switchgear	34089617-006	Square D

Product Construction Summary

Carbon steel enclosure with power-coated finish; NEMA 3R rating

Options / Subcomponent Summary

Enclosure: Square D, Breaker: Square D, Transformer: GE/ITI

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
4,240	109.0	36.0	109.0	7.5	13.6	24.1

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC156	1.78	1.00	1.50	2.85	2.14	1.19	0.47

Test Mounting Details

UUT 8 had (4) 3"x2"x3/4" plates welded onto the unit using 3/4" welds all around the plate. These plates were used to bolt the unit directly to the shake table using (4) 1/2" grade 8 bolts.

UUT-08



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.



UNIT UNDER TEST (UUT) Summary Sheet

UUT-09

PEER STI 2014-04R1; UUT-1

Model Line	Model Number	Manufacturer
MasterClad / HVL Switchgear	17-30209756-002	Square D

Product Construction Summary

Carbon steel enclosure with powder-coated finish; NEMA 3R rating

Options / Subcomponent Summary

Enclosure: Square D, Breaker: Square D, Transformer: GE/ITI, Relay: Schneider Electric, Meter: Schneider Electric

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
7,700	109	84	109	4.9	7.0	17.8

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC156	1.78	1.00	1.50	2.85	2.14	1.19	0.47

Test Mounting Details

UUT 9 was mounted directly to the shake table fixture using (6) tie-down welds; three in front and three in back. Each 1/8" weld was 12" long.

UUT-09



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.



UNIT UNDER TEST (UUT) Summary Sheet

UUT-10

Trentec Q0018.0; UUT-A

Model Line	Model Number	Manufacturer
PD/ED	Control Section	Kohler

Product Construction Summary

Carbon steel enclosure with powder-coated finish; NEMA 1 rating

Options / Subcomponent Summary

Enclosure: Kohler, Power Supplies: PULS, Relays: Basler; Controllers: Schneider Electric

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
1,200	36	24	95	10.3	3.1	20.8

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC156	2.00	1.00	1.50	3.20	2.40	1.53	0.33

Test Mounting Details

UUT 10 was mounted directly to the shake table using (8) 1/2" Grade 5 bolts.

UUT-10



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.



UNIT UNDER TEST (UUT) Summary Sheet

UUT-11

Trentec Q0018.0; UUT-C

Model Line	Model Number	Manufacturer
PD/ED	MCP-3000	Kohler

Product Construction Summary

Master control panel with touchscreen display; NEMA 1 rating

Options / Subcomponent Summary

Relay: Beckwith

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
62	18	7	31	N/A	N/A	N/A

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC156	2.00	1.00	1.50	3.20	2.40	1.53	0.53

Test Mounting Details

UUT 11 was mounted directly to the wall fixture using (4) 3/8" Grade 5 bolts.

UUT-11



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.



UNIT UNDER TEST (UUT) Summary Sheet

UUT-12

VMA-45801-01E; UUT 7

Model Line	Model Number	Manufacturer
PD/ED	200/2000, 0B/2C & 200/2000 2B/0C	Kohler

Product Construction Summary

Carbon steel enclosure with powder-coated finish; NEMA 3R rating

Options / Subcomponent Summary

Power Supplies: Traco Power, Switches: Hirschmann, Displays: Schneider Electric

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
2,940	54	72	92	10.3	6.3	18.3

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC156	2.00	1.00	1.50	3.20	2.40	1.67	0.67

Test Mounting Details

UUT 12 was bolted directly to the shake table steel plate fixture using (8) 1/2" Grade 8 bolts.

UUT-12



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.



UNIT UNDER TEST (UUT) Summary Sheet

UUT-13

VMA-45801-01E; UUT 8

Model Line	Model Number	Manufacturer
PD/ED	300/3000 0B/4C & 300/3000 2B/1C	Kohler

Product Construction Summary

Carbon steel enclosure with powder-coated finish; NEMA 3R rating

Options / Subcomponent Summary

Enclosure: Square D, Transformers: GE/ITI, Power Supplies: Traco Power, Switches: Sixnet, Displays: Nematron, Accessories: Woodward

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
2,805	80	58	92	5.8	13.3	19.8

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC156	2.00	1.00	1.50	3.20	2.40	1.67	0.67

Test Mounting Details

UUT 13 was bolted directly to the shake table steel fixture using (16) 1/2" Grade 8 bolts.

UUT-13



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.



UNIT UNDER TEST (UUT) Summary Sheet

UUT-14

VMA-45801-01E; UUT 9

Model Line	Model Number	Manufacturer
PD/ED	Control Section	Kohler

Product Construction Summary

Carbon steel enclosure with powder-coated finish; NEMA 3R rating

Options / Subcomponent Summary

Meters: Schneider Electric, Power Supplies: Absopulse/EXELTECH, Relays/Controllers: Basler/GE/Schweitzer, Switches: B&B Electronics, Accessories: Woodward

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
1,270	24	36	95	17.3	12.8	20.5

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC156	2.00	1.00	1.50	3.20	2.40	1.67	0.67

Test Mounting Details

UUT 14 was bolted directly to the shake table steel fixture using (16) 1/2" Grade 8 bolts.

UUT-14



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.



UNIT UNDER TEST (UUT) Summary Sheet

UUT-15

70712R13; UUT 1

Model Line	Model Number	Manufacturer
Arc Resistant MasterClad	R0C00811	Square D

Product Construction Summary

Carbon steel enclosure with powder-coated finish; NEMA 1 rating

Options / Subcomponent Summary

Current Transformers: Square D

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
8,911	91	36	95.12	9.8	6.8	26.0

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2016	ICC-ES AC156	2.46	0.00	1.50	2.46	0.98	1.64	0.66
CBC 2016	ICC-ES AC156	1.78	1.00	1.50	2.85	2.14	1.19	0.48

Test Mounting Details

UUT 15 was bolted directly to the shake table steel fixture using (4) 1/2" Grade 5 bolts and (2) 7/16 grade 5 bolts.

UUT-15



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.