oshpd
Office of Statewide Health Planning and Development

State of California – Health and Human Services Agency

Facilities Development Division www.oshpd.ca.gov/fdd
400 R Street. Suite 200, Sacramento, California 95811-6213 Phone (916) 440-8300 Fax (916) 654-2973

APPLICATION FOR PREAPPROVAL

SPECIAL SEISMIC CERTIFICATION OF EQUIPMENT AND COMPONENTS

For Office Use Only

APPLICATION NO.

OSP – 0120-10

Check whether application is: NEW [X] RENEWAL [ ]

1.0

Kohler Power Industrial Systems	James Kukla
Manufacturer	*Manufacturer's Technical Representative*

444 Highland Dr, Kohler, WI 53044
Mailing Address

920-565-3381	james.kukla@kohler.com
Telephone	*E-mail Address*

2.0

Kohler Master Control Panel	Switchgear Control Panels
Product Name	*Product Type*

PD/ED Series -200, 300, 400, 2000, 2100, 2200, 3000, 3100, 3200, 4000, 4100, 4200
Product model No (List all unique product identification numbers and/or serial numbers)

General Description: Rigid floor mounted Parallel Switchgear utilizing Kohler Master Control Panel in combination with third party switchgear, including those with Kohler controls mounted within the third party product. ***This application is limited to the Kohler supplied control panels as shown in attached matrix.***

3.0

The VMC Group	John P. Giuliano, PE
Applicant Company Name	*Contact Person*

113 Main St, Bloomingdale NJ, 07403
Mailing Address

973-838-1780	john.giuliano@thevmcgroup.com
Telephone	*E-mail Address*

I hereby agree to reimburse the Office of Statewide Health Planning and Development for the actual costs incurred by the department for review.

Joel P Gal	10/8/2010
Signature of Applicant	*Date*
President	The VMC Group
Title	*Company Name*

Registered Design Professional Preparing the Report

4.0

The VMC Group
Company Name

Ahmed Haider, PE — *Contact Name*
C68541 — *California License Number*

456-D West Huntington Drive, Arcadia CA 91007
Mailing Address

973-838-1780 — *Telephone*
ahmed.haider@thevmcgroup.com — *E-mail Address*

California Licensed Structural Engineer Review and Acceptance of the Report

5.0

Company Name

Eui S. Kim — *Contact Name*
S-5138 — *California License Number*

150 North Santa Ana Ave, Arcadia CA, 91006
Mailing Address

626-203-6401 — *Telephone*
panacheg@gmail.com — *E-mail Address*

Anchorage Pre-Approval

6.0

☐ *Anchorage is pre-approved under OPA-*
(Separate application for anchorage pre-approval is required)

☒ Anchorage is not Pre-approved

Certification Method

70. ☒ *Testing in accordance with:* ☒ *ICC-ES AC-156* ☐ *Other (Please Specify):*

☐ *Analysis*

☐ *Experience data*

☐ *Combination of Testing, Analysis, and/or Experience Data (Please Specify):*

Testing Laboratory (if applicable)

8.0

Trentec — *Company Name*
Timothy A. Geers — *Contact Name*

4600 East Tech Dr., Cincinnati OH, 45245
Mailing Address

513-528-7900 — *Telephone*
tgeers@curtisswright.com — *E-mail:*

Approval Parameters

9.0 *Design in accordance with ASCE 7-05 Chapter 13:* ☒ Yes ☐ No

Design Basis of Equipment or Components (F_p/W_p) = 1.44g

S_{DS} (Spectral response acceleration at short period) = 2.0g

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

R_p (Equipment or component response modification factor) = 6.0

I_p (Importance factor) = 1.5

z/h (Height factor ratio)= 1.0

Equipment or Component fundamental period(s) = See Attachment B

Building period limits (if any) = N/A

Overall dimensions and weight (or range thereof) = See Attachment B

Equipment or Components @ grade designed in accordance with ASCE 7-05 Chapter 15: ☐ Yes ☒ No

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

S_{DS} (Spectral response acceleration at short period) =

S_1 (Spectral response acceleration at 1 second period) =

R (Response modification coefficient)=1.0

Ω_0 (System overstrength factor) =1.0

C_d (Deflection amplification factor) =1.0

I_p (Importance factor) =1.5

Height to Center of Gravity above base =

Equipment or Component fundamental period(s) = Sec

Overall dimensions and weight (or range thereof) =

Tank(s) designed in accordance with ASME BPVC, 2007: ☐ Yes ☒ No

10.0 ***List of attachments supporting the special seismic certification of equipment or components:***

☒ *Test Report* ☒ *Drawings* ☒ *Manufacturer's Catalog*

☐ *Calculations* ☐ *Others (Please Specify):*

11.0 ***OSHPD Approval*** *(For Office Use Only)*

10/12/2010	**December 31, 2016**
Signature & Date	*Approval Expiration Date*
Chris Tokas, SHFR	S_{DS} (g) = **2.0** z/h = **1.0**
Name & Title	*Special Seismic Certification Valid Up to*

Condition of Approval (if any): ***Governing S_{DS} and z/h shall not exceed those of third party switchgear (see Attachment A), when control panels are mounted on them. Approval is limited to components listed in the attachments.***

Attachment A
Possible Switchgear Configurations

Switchgear System	Possible Configurations						
	Kohler Equipment		Square-D Equipment				
	Qty	Model	Qty	Model	OSP #	S_{DS}	z/h
PD-100 / ED-100	1+	Floor Mounted MCP	1+	QED-2	OSP-0022-10	~~1.89~~ VARIES	1.0
PD-1000 / ED-1000	0	Floor Mounted MCP	1+	QED-2	OSP-0022-10	~~1.89~~ VARIES	1.0
PD-100 / ED-100	1+	Floor Mounted MCP	1+	QED-6	OSP-0038-10	1.89	1.0
PD-1000 / ED-1000	0	Floor Mounted MCP	1+	QED-6	OSP-0038-10	1.89	1.0
PD-200 / ED-200	1+	Floor Mounted MCP	1+	QED-2	OSP-0022-10	~~1.89~~ VARIES	1.0
PD-2000 / ED-2000	0	Floor Mounted MCP	1+	QED-2	OSP-0022-10	~~1.89~~ VARIES	1.0
PD-200 / ED-200	1+	Floor Mounted MCP	1+	QED-6	OSP-0038-10	1.89	1.0
PD-2000 / ED-2000	0	Floor Mounted MCP	1+	QED-6	OSP-0038-10	1.89	1.0
PD-300 / ED-300	1+	Floor Mounted MCP	1+	PZ4	OSP-0007-10	1.89	1.0
PD-3000 / ED-3000	0	Floor Mounted MCP	1+	PZ4	OSP-0007-10	1.89	1.0
PD-400 / ED-400	1+	Floor Mounted MCP	1+	Medium Voltage Master Clad	OSP-0046-10	2.21	1.0
PD-4000 / ED-4000	0	Floor Mounted MCP	1+	Medium Voltage Master Clad	OSP-0046-10	2.21	1.0

Note – Kohler MCPs can only be physically connected to other Kohler MCPs. Likewise for Square-D Models.

Attachment B

Kohler Model ED/PD 200 - 4000 Swtichgear

Unit Under Test - Summary

Type	Height	Width	Depth	Weight	UUT # (From Test Report)	Lowest Natural Frequencies		
						S-S; X	F-B; Y	Vert; Z
Kohler Control Section	95	24	36	1200	A	10.3	3.1	N/A
Sq D QED-6 With Kohler Controller	94	60	36	1800	B	22.3	8.2	N/A
Kohler Master Control Panel MCP-3000	31	7	18	62	C	N/A	26.2	N/A

Internal Component Summary
UUT A - Kohler Controls Section

Item	Model	Manufacturer	Weight
Generator protective relay	BE1-GPS100	BASLER	10
Feeder protective relay	851	BASLER	16
Utility intertie protective relay	351-7	SCHWEITZER	13
Digital sync and load control (DSLC)	9905-797	WOODWARD	8
8-port Ethernet Switch	8MS-1	SIXNET	<1
M340 line	BMX series	Modicon	N/A
24 VDC Power Supply	QS10.241	PULS	2
24 VDC UPS	UBC10.241	PULS	6

Internal Component Summary
UUT B - Square D QED-6 w/Kohler Controller

Item	Model	Manufacturer	Weight
Sync-check relay	BE3-25C	Basler	1
Generator protective relay	M-3425A	BECKWITH	17
"Powerplex" RTS transducer	MTWIN4B-VD10-5500	Bitronics	4
18-port Ethernet Switch	ET-18MG-MX	SIXNET	<1
Momentum line	170 series	Modicon	N/A
Quantum line	140 series	Modicon	1
Advantys Line	STB series	Telemecanique	N/A
10-32 VDC To 24VDC Power Supply	MH150S3024TS	ACON	<1
00-240 VAC to 24 VDC Power Supply	2938581	PHOENIX	2

Internal Component Summary
UUT C - Kohler Master Control Panel MCP-3000

Item	Model	Manufacturer	Weight
Touchscreen, Color Display, 7.5"	XBTGT4330	Telemecanique	N/A
16-Pt Digital Output Module	BMX DDO 1612	Telemecanique	N/A
Processor	BMX P34 2020	Telemecanique	N/A
24VDC Power Supply	BMX CPS 2010	Telemecanique	2
16-Pt Digital Input Module	BMX DDI 1602	Telemecanique	N/A
Converter, DC-DC 24V 150W	MH150S3024TS	ACON	N/A

5/9

Attachment C

Internal Parts for Kohler Switchgear

MFR	CAT. NO.	Series Names	DESCRIPTION	WEIGHT (lb)
PROTECTIVE RELAYS				
BASLER	BE1-GPS100	GPS, IPS, BE and 700 - 1000	Generator protective relay	10
BASLER	BE1-IPS100		Intertie Protection System	10
BASLER	BE1-951		Bus tie protective relay	10 - 13
BASLER	851		Feeder protective relay	10 - 16
Basler	BE3-25C		Sync-check relay	1.32
Basler	BE1-25C		Sync-check relay	13.5
Basler	BE1-47N		Phase-sequence relay	14
BECKWITH	M-3425	3000 Series	Generator protective relay	17
BECKWITH	M-3425A		Generator protective relay	17
BECKWITH	M-3410A		Utility intertie protective relay	5.7
BECKWITH	M-3520		Utility intertie protective relay	17
GENERAL ELECTRIC	SR-489	400, 700 and MIF	Generator protective relay.	N/A
GENERAL ELECTRIC	SR-750		Utility intertie protective relay.	17.4
GENERAL ELECTRIC	SR-735		Feeder protective relay.	N/A
SCHWEITZER	300G		Generator protective relay	13.5

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Internal Parts for Kohler Switchgear				
MFR	**CAT. NO.**	**Series Names**	**DESCRIPTION**	**WEIGHT (lb)**
SCHWEITZER	351-7	300, 500 and 700	Utility intertie protective relay	13
SCHWEITZER	351A		Bus tie protective relay	13
SCHWEITZER	551		Feeder protective relay	5.5
STAND-ALONE SYNCHRONIZATION & LOAD CONTROL UNIT				
WOODWARD	9905-797	Various DSLC and MSLC Models all similar	Digital synchronization and load control (DSLC)	~8 lb.
WOODWARD	9907-004		Master sychronization and load control (MSLC)	~8 lb.
POWER TRANSDUCER				
Bitronics	MTWIN4B-VD10-5500		"Powerplex" RTS transducer	3.5
B & R	X20CM0985		"Energy measurement module"	N/A
NETWORK SWITCH				
SIXNET	ET-18MG-MX		18-port Ethernet Switch	0.75
SIXNET	8MS-1		8-port Ethernet Switch	0.625
N-TRON	526FX2-A-ST-S		24-CU, 2-FO Ethernet Switch	3.7
N-TRON	517FX		16-CU, 1-FO Ethernet Switch	2.2
N-TRON	508FX2		6-CU, 2-FO Ethernet Switch	1.76
N-TRON	102MC		Fiber-optic to copper Ethernet converter	0.5

D/C

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Internal Parts for Kohler Switchgear				
MFR	CAT. NO.	Series Names	DESCRIPTION	WEIGHT (lb)
PROGRAMMABLE LOGIC CONTROLLER				
Modicon	170 series		Momentum line	N/A
Modicon	140 series		Quantum line	1
Modicon	BMX series		M340 line	N/A
Telemecanique	STB series		Advantys Line	N/A
POWER SUPPLIES/UPS				
ACON	MH150S3024TS		10-32 VDC IN TO 24VDC OUT (DC-TO-DC) POWER SUPPLY	0.481
PHOENIX	2938581		100-240 VAC to 24 VDC Power Supply	1.83
PULS	QS10.241		24 VDC Power Supply	1.98
PULS	UBC10.241		24 VDC UPS	6.28

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