



**DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
FACILITIES DEVELOPMENT DIVISION**

**APPLICATION FOR HCAI SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)**

OFFICE USE ONLY

APPLICATION #: OSP-0464

HCAI Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Kohler Power Systems

Manufacturer's Technical Representative: Brady Eifrid

Mailing Address: N 7650 Lakeshore Road, Sheboygan, WI 53083

Telephone: (920) 457-4441

Email: brady.eifrid@kohler.com

Product Information

Product Name: Emergency and Standby Power Systems

Product Type: Generators

Product Model Number: 15kW-60kW REOZK

General Description: Diesel Powered Electrical Generators

Mounting Description: Rigid, Floor Mounted

Tested Seismic Enhancements: Seismic enhancements made to the test units and/or modifications required to address anomalies during the tests shall be incorporated into the production units.

Applicant Information

Applicant Company Name: The VMC Group

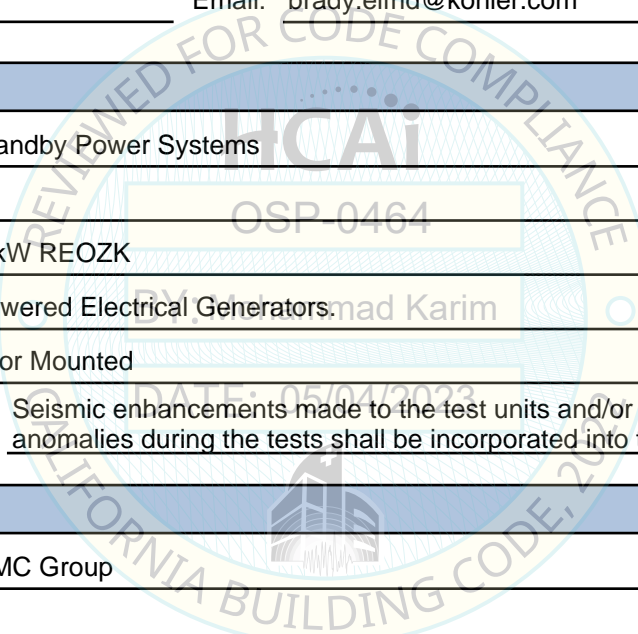
Contact Person: John Giuliano

Mailing Address: 113 Main Street, Bloomingdale, NJ 07403

Telephone: (973) 838-1780

Email: john.giuliano@thvmcgroup.com

Title: President





**DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
FACILITIES DEVELOPMENT DIVISION**

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

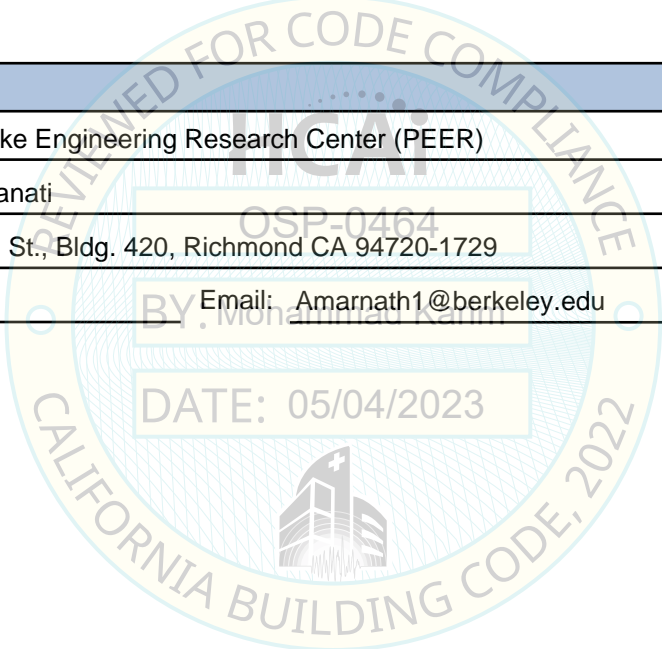
Company Name: THE VMC GROUP
Name: Kenneth Tarlow California License Number: S2851
Mailing Address: 980 9th Street, 16th Floor, Sacramento, CA 95814
Telephone: (832) 627-2214 Email: ken.tarlow@thevmcgroup.com

Certification Method

GR-63-Core ICC-ES AC156 IEEE 344 IEEE 693 NEBS 3
 Other (Please Specify): _____

Testing Laboratory

Company Name: Pacific Earthquake Engineering Research Center (PEER)
Contact Person: Amarnath Kasalanati
Mailing Address: 1301 South 46th St., Bldg. 420, Richmond CA 94720-1729
Telephone: (510) 642-3437 Email: Amarnath1@berkeley.edu





DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
FACILITIES DEVELOPMENT DIVISION

Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 4.5

SDS (Design spectral response acceleration at short period, g) = 2.0 (z/h=1) & 2.5 (z/h=0)

a_p (Amplification factor) = 2.5

R_p (Response modification factor) = 2.0 (internally isolated)

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height ratio factor) = 1 and 0

Natural frequencies (Hz) = See Attachment

Overall dimensions and weight = See Attachment

HCAI Approval (For Office Use Only) - Approval Expires on 05/04/2029

Date: 5/4/2023

Name: Mohammad Karim Title: Supervisor, Health Facilities

Special Seismic Certification Valid Up to: SDS (g) = See Above z/h = See Above

Condition of Approval (if applicable): DATE: 05/04/2023

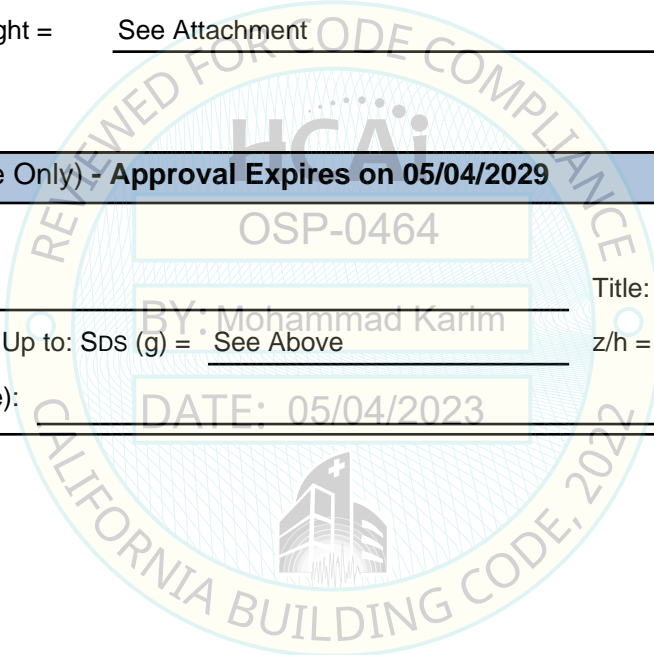


Table 1A - Certified Generators Off Tank (Rigid Mounting)

Model	Max Rating [kW]	Configuration	EPA Rating	Dimensional Data [in]			Max Operating Weight [lb]	UUT
				Max Length	Max Width	Max Height		
15REOZK	15	Open	Tier 3	55.1	31.9	42.7	1,003	Interpolated
		Enclosed	Tier 3	77.5	34.7	51.3	1,463	
20REOZK	20	Open	Tier 3	55.1	31.9	42.7	1,146	
		Enclosed	Tier 3	77.5	34.7	51.3	1,526	
30REOZK	30	Open	Tier 3	55.6	31.9	40.3	1,130	
		Enclosed	Tier 3	76.2	34.7	52.3	1,520	
40REOZK	40	Open	Tier 3	90.6	40.9	44.5	1,735	
		Enclosed	Tier 3	91.3	42.1	57.7	2,335	
50REOZK	50	Open	Tier 3	90.6	40.9	44.5	1,769	
		Enclosed	Tier 3	91.3	42.1	57.7	2,369	
60REOZK	60	Open	Tier 3	90.6	40.9	44.5	1,855	
		Enclosed	Tier 3	91.3	42.1	57.7	3,026	

Table 1B - Certified Generators On Tank (Rigid Mounting)

Model	Max Rating [kW]	Configuration	EPA Rating	Dimensional Data [in]			Operating Weight [lb]	UUT
				Max Length	Max Width	Max Height		
15REOZK	15	Open	Tier 3	101.4	34.7	66.7	2,711	Extrapolated
		Enclosed	Tier 3	101.4	34.7	78.3	2,846	UUT-01
20REOZK	20	Open	Tier 3	101.4	34.7	72.7	4,088	Interpolated
		Enclosed	Tier 3	101.4	34.7	81.3	4,468	
30REOZK	30	Open	Tier 3	101.4	34.7	76.3	4,876	
		Enclosed	Tier 3	101.4	34.7	84.0	5,266	
40REOZK	40	Open	Tier 3	114.0	42.1	80.5	7,235	
		Enclosed	Tier 3	114.0	42.1	93.7	7,835	
50REOZK	50	Open	Tier 3	158.3	42.1	80.5	8,387	
		Enclosed	Tier 3	158.3	42.1	93.7	8,987	
60REOZK	60	Open	Tier 3	158.3	42.1	80.5	8,473	
		Enclosed	Tier 3	158.3	42.1	93.7	8,981	

Table 2 - Certified Enclosures

Kohler Manufactured Enclosures ¹		Internal Silencer		Material	Weight [lb]	UUT		
Type	Part Number	MRF	Part Number					
Aluminum Sound, CA AQMD	GM88335-KA9	N/A	N/A	Aluminum	203	Interpolated		
Aluminum Sound, CA AQMD	GM88335-KA21				213	Interpolated		
Aluminum Sound, CA AQMD, SS Hinges/Latches	GM88335-KA12				219	Interpolated		
Aluminum Sound, CA AQMD, SS Hinges/Latches	GM88335-KA24				229	Interpolated		
Aluminum Sound, CA AQMD	GM89762-KA9				340	Interpolated		
Aluminum Sound, CA AQMD, SS Hinges/Latches	GM89762-KA12				356	Interpolated		
Aluminum Sound	GM88335-KA5				Nelson Global Products	GM92142	238	Interpolated
Aluminum Sound	GM88335-KA17	GM92142	248			Interpolated		
Aluminum Sound, SS Hinges/Latches	GM88335-KA6	GM92142	254			Interpolated		
Aluminum Sound, SS Hinges/Latches	GM88335-KA18	GM92142	254			Interpolated		
Aluminum Sound	GM89762-KA5	GM89765	375			Interpolated		
Aluminum Sound, SS Hinges/Latches	GM89762-KA6	GM89765	391			UUT-02		
Steel Weather, CA AQMD	GM88335-KA7	N/A	N/A		Carbon Steel	325	Interpolated	
Steel Weather, CA AQMD	GM88335-KA19					335	Interpolated	
Steel Weather, CA AQMD, SS Hinges/Latches	GM88335-KA10			341		Interpolated		
Steel Sound, CA AQMD	GM88335-KA8			345		Interpolated		
Steel Weather, CA AQMD, SS Hinges/Latches	GM88335-KA22			351		Interpolated		
Steel Sound, CA AQMD	GM88335-KA20			355		Interpolated		
Steel Sound, CA AQMD, SS Hinges/Latches	GM88335-KA11			361		Extrapolated		
Steel Sound, CA AQMD, SS Hinges/Latches	GM88335-KA23			371		Interpolated		
Steel Weather, CA AQMD	GM89762-KA8			540		Interpolated		
Steel Weather, CA AQMD, SS Hinges/Latches	GM89762-KA11			561		Interpolated		
Steel Sound, CA AQMD	GM89762-KA7			565		Interpolated		
Steel Sound, CA AQMD, SS Hinges/Latches	GM89762-KA10			581		Interpolated		
Steel Weather	GM88335-KA1			Nelson Global Products		GM92142	360	UUT-01
Steel Weather	GM88335-KA13			GM92142		370	Interpolated	
Steel Weather, SS Hinges/Latches	GM88335-KA3	GM92142	376	Interpolated				
Steel Sound	GM88335-KA2	GM92142	380	Interpolated				
Steel Weather, SS Hinges/Latches	GM88335-KA15	GM92142	386	Interpolated				
Steel Sound	GM88335-KA14	GM92142	390	Interpolated				
Steel Sound, SS Hinges/Latches	GM88335-KA4	GM92142	396	Interpolated				
Steel Sound, SS Hinges/Latches	GM88335-KA16	GM92142	406	Interpolated				
Steel Weather	GM89762-KA1	GM89765	575	Interpolated				
Steel Weather, SS Hinges/Latches	GM89762-KA4	GM89765	591	Interpolated				
Steel Sound	GM89762-KA2	GM89765	600	Interpolated				
Steel Sound, SS Hinges/Latches	GM89762-KA3	GM89765	616	Interpolated				
Steel Sound Level 2	GM87407-KA1	Engineered Exhaust Systems	GM59117	782	UUT-03			

¹ Enclosures are certified for use with or without internal silencers

Table 3 - Certified Tanks

Component [MFR]	Part Number	Notes	Operating Weight [lb]	UUT
UL-142 Tanks [Kohler]	GM89058-1	87 Gallons	1,383	UUT-01
	GM89058-2	126 Gallons	1,801	Interpolated
	GM93355-1	142 Gallons	2,035	Interpolated
	GM74926-2	147 Gallons	2,130	Interpolated
	GM89058-3	168 Gallons	2,248	Interpolated
	GM69240-1	215 Gallons	2,839	Interpolated
	GM89058-4	221 Gallons	2,804	Interpolated
	GM93355-2	237 Gallons	3,004	Interpolated
	GM74926-3	253 Gallons	3,124	Interpolated
	GM89058-5	279 Gallons	3,400	Interpolated
	GM93355-3	279 Gallons	3,433	Interpolated
	GM70816-1	316 Gallons	3,856	Interpolated
	GM74926-4	372 Gallons	4,303	Interpolated
	GM93355-4	401 Gallons	4,561	Interpolated
	GM85993-1	404 Gallons	5,733	Interpolated
	GM69240-2	415 Gallons	4,787	Interpolated
	GM71640-1	416 Gallons	5,675	Interpolated
GM85993-2	468 Gallons	6,262	Interpolated	
GM93355-5	535 Gallons	5,955	UUT-02	

Table 4 - Certified Subcomponents

Component [MFR]	Part Number	Notes	Weight [lb]	UUT
Engines [Kohler Diesel]	KDI1903M	15 kW	550	UUT-01
	KDI2504M	20 kW	594	Interpolated
	KDI2504TM	30 kW	595	Interpolated
	KD13404TCR	40-60kW	868	Interpolated
	KDI3404TM	40-60 kW	947	UUT-02
Block Heater [Kim Hotstart]	A-7825-OS		1	UUT-01
	KHTPS10GT6-XXX		4	UUT-02
Alternators [Kohler]	4D / 4E /4P	15-30kW	655	UUT-01
	4P	40-60kW	655	UUT-02
Radiators [JB Radiator]	RS-5851	15-30 kW	29	UUT-01
	RS-7748	40-60 kW	68	UUT-02
Controllers [Kohler]	DEC550		3	UUT 02
	APM402		3	Interpolated
	DEC3000		3	UUT-01
Breakers [Square D]	H-FRAME	150 A Max	5	UUT-01, UUT-02
	J-FRAME	400 A Max	13	UUT-01, UUT-02



UNIT UNDER TEST (UUT) Summary Sheet

UUT-1

Test Report: VMA-50224-01

Model Line	Model Number	Manufacturer
REOZKx	15REOZK	Kohler

Product Construction Summary

Carbon steel fuel tank, Carbon steel skid, Carbon steel enclosure

Options / Subcomponent Summary

Enclosure, Tank, Engine, Block Heater, Alternator, Radiator, Controller, Breaker

UUT Properties						
Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
2,846	101.4	34.7	78.3	4.9	6.1	12.7

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 2019	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	-	-
		2.50	0.0	1.5	-	-	1.68	0.68

Test Mounting Details

UUT-1 was rigidly mounted to the fuel tank using (4) 5/8" diameter Grade 8 bolts. The tank was rigidly connected to the shake table using (4) 3/4" Grade 8 bolts.



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



UNIT UNDER TEST (UUT) Summary Sheet

UUT-2

Test Report: VMA-50224-01

Model Line	Model Number	Manufacturer
REOZKx	60REOZK	Kohler

Product Construction Summary

Carbon steel fuel tank, Carbon steel skid, Aluminum enclosure

Options / Subcomponent Summary

Enclosure, Tank, Engine, Block Heater, Alternator, Radiator, Controller, Breaker

UUT Properties						
Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
8,981	158.3	42.1	93.7	6.1	10.4	11.1

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 2019	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	-	-
		2.50	0.0	1.5	-	-	1.68	0.68

Test Mounting Details

UUT-2 was rigidly mounted to the fuel tank using (4) 5/8" diameter Grade 8 bolts. The tank was rigidly connected to the shake table using (8) 7/8" Grade 8 bolts.



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



UNIT UNDER TEST (UUT) Summary Sheet

UUT-3

Test Report: 31214-2001; UUT-1

Model Line	Model Number	Manufacturer
REOZJF	100REOZJF	Kohler

Product Construction Summary

Carbon steel fuel tank, Carbon steel skid, Carbon steel enclosure

Options / Subcomponent Summary

Enclosure, Tank, Engine, Block Heater, Alternator, Radiator, Controller

UUT Properties						
Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
12,850	142.0	72.0	106.5	5.5	3.5	10.0

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 2019	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	-	-
		2.50	0.0	1.5	-	-	1.68	0.68

Test Mounting Details

UUT-3 was rigidly mounted to the fuel tank using (4) M20 Class 8.8 bolts. The tank was rigidly connected to the shake table using (14) 3/4" Grade 8 bolts.



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