



DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
OFFICE OF STATEWIDE HOSPITAL PLANNING AND DEVELOPMENT

APPLICATION FOR HCAI SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP-0726

HCAI Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: Rolls-Royce Solutions America Inc.

Manufacturer's Technical Representative: Ben Stratton

Mailing Address: 100 Power Drive, Mankato, MN 56001

Telephone: (507) 625-7973

Email: ben.stratton@ps.rolls-royce.com

Product Information

Product Name: Gas Generator Set

Product Model Number(s): See Attachments

Product Category: Emergency and Standby Power Systems

Product Sub-Category: Generators

General Description: Gas Powered Electrical Generators off tanks, Sizes 20-500kW

Mounting Description: Base Mounted Rigid and Spring Vibration Isolated

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: VMC Group

Contact Person: John Giuliano

Mailing Address: 1113 Main Street, Bloomingdale, NJ 07403

Telephone: (973) 838-1780

Email: john.giuliano@thevmcgroup.com

Title: President



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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: DYNAMIC CERTIFICATION LABORATORY (DCL)

Contact Person: Kelly LaPlace

Mailing Address: 1315 Greg St., Ste 109, Sparks NV 89431

Telephone: (775) 358-5085 Email: kelly@shaketest.com

Company Name: UNIVERSITY OF CALIFORNIA, BERKELEY (PEER)

Contact Person: Amarnath Kasalanati

Mailing Address: 325 Davis Hall, Berkeley CA 94720-1729

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Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = Isolated [4.50 (z/h = 1) & 1.88 (z/h = 0)]; Rigid [1.44 (z/h = 1) & 1.13 (z/h = 0)]

S_{DS} (Design spectral response acceleration at short period, g) = 2.00 (z/h = 1) & 2.50 (z/h = 0)

a_p (Amplification factor) = 2.5 (Isolated) and 1.0 (Rigid)

R_p (Response modification factor) = 2.0 (Isolated) and 2.5 (Rigid)

Ω₀ (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 09/25/2031

Date: 9/25/2025

Name: Mohammad Karim

Title: Supervisor, Health Facilities

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

z/h = 1

Condition of Approval (if applicable): BY: Mohammad Karim

DATE: 04/20/2020



Table 1 - Certified Product Table - Gas Gensets Off Tanks

Model	Configuration	Max Rating [kW]	Maximum Dimensions ^{1,2} [in]			Max Operating Weight [lb]	Mounting Configuration	UUT
			Length	Width	Height			
mtu 4R0063 GS20	Enclosed	20	92.0	38.0	63.0	2,175	Rigid / Isolated Base	Extrapolated
GG04RF025V2	Enclosed	30	92.0	36.0	63.0	1,980	Isolated Base	UUT-05
mtu 4R0063 GS30	Enclosed	30	92.0	38.0	63.0	2,200	Rigid / Isolated Base	Interpolated
mtu 4R0075 GS30	Enclosed	30	146.5	40.5	69.0	2,240	Rigid Base	UUT-01
mtu 4R0075 GS30	Enclosed	30	120.0	42.0	71.0	2,300	Rigid / Isolated Base	Interpolated
mtu 4R0063 GS40	Enclosed	40	92.0	38.0	63.0	2,500	Rigid / Isolated Base	Interpolated
mtu 8V0071 GS50	Enclosed	50	113.0	42.0	75.0	3,000	Rigid / Isolated Base	Interpolated
mtu 4R0090 GS50	Enclosed	50	113.0	40.0	65.0	3,750	Rigid / Isolated Base	Interpolated
mtu 8V0078 GS60	Enclosed	60	113.0	43.0	65.0	2,580	Isolated Base	UUT-08
mtu 8V0071 GS60	Enclosed	60	114.5	40.0	68.0	2,590	Isolated Base	UUT-02
mtu 8V0071 GS60	Enclosed	60	113.0	42.0	75.0	3,000	Rigid / Isolated Base	Interpolated
mtu 4R0090 GS60	Enclosed	60	113.0	40.0	65.0	3,750	Rigid / Isolated Base	Interpolated
mtu 10V0068 GS75	Enclosed	75	100.0	48.0	83.0	3,070	Rigid Base	UUT-06
mtu 10V0068 GS75	Enclosed	75	100.0	48.0	83.0	3,070	Isolated Base	UUT-07
mtu 10V0068 GS75	Enclosed	75	132.5	50.5	80.0	3,420	Rigid Base	UUT-03
mtu 10V0068 GS75	Enclosed	75	133.0	50.0	83.0	3,940	Rigid / Isolated Base	Interpolated
mtu 4R0090 GS80	Enclosed	80	113.0	40.0	64.0	3,230	Rigid Base	UUT-11
mtu 4R0090 GS80	Enclosed	80	113.0	40.0	65.0	3,750	Rigid / Isolated Base	Interpolated
mtu 10V0068 GS100	Enclosed	100	133.0	50.0	83.0	3,940	Rigid / Isolated Base	Interpolated
mtu 8V0078 GS100	Enclosed	100	132.0	48.0	72.0	5,100	Rigid / Isolated Base	Interpolated
mtu 10V0068 GS125	Enclosed	125	133.0	50.0	83.0	3,940	Rigid / Isolated Base	Interpolated
mtu 10V0068 GS125	Enclosed	125	133.0	50.0	83.0	3,940	Isolated Base	UUT-04
mtu 8V0110 GS130	Enclosed	130	133.0	51.0	80.0	5,000	Rigid / Isolated Base	Interpolated
mtu 8V0110 GS150	Enclosed	150	132.0	48.0	79.0	4,550	Rigid Base	UUT-09
mtu 8V0110 GS150	Enclosed	150	132.5	50.5	85.5	5,500	Rigid Base	UUT-10A
mtu 8V0110 GS150	Enclosed	150	132.5	50.5	85.5	5,500	Isolated Base	UUT-10B
mtu 8V0129 GS180	Enclosed	180	161.0	48.0	87.0	6,000	Rigid / Isolated Base	Interpolated
mtu 8V0129 GS200	Enclosed	200	161.0	48.0	87.0	6,000	Rigid / Isolated Base	Interpolated
mtu 8V0129 GS200	Enclosed	200	160.3	48.0	86.0	5,950	Isolated Base	UUT-12
mtu 12V1600 GS250	Enclosed	250	240.0	92.0	102.0	16,130	Rigid / Isolated Base	Interpolated
mtu 12V1600 GS300	Enclosed	300	240.0	92.0	102.0	16,130	Rigid / Isolated Base	Interpolated
mtu 12V1600 GS350	Enclosed	350	240.0	92.0	102.0	16,130	Rigid / Isolated Base	Interpolated
mtu 12V1600 GS400	Enclosed	400	240.0	92.0	102.0	16,130	Rigid / Isolated Base	Interpolated
mtu 12V1600 GS450	Enclosed	450	240.0	92.0	102.0	16,130	Rigid / Isolated Base	Interpolated
mtu 12V1600 GS500	Enclosed	500	240.0	92.0	102.0	16,130	Rigid / Isolated Base	Interpolated
mtu 12V1600 GS500	Enclosed	500	250.0	86.0	102.0	16,127	Rigid Base	UUT-13A
mtu 12V1600 GS500	Enclosed	500	250.0	86.0	102.0	16,127	Isolated Base	UUT-13B

Notes

1. Weights and Dimensions include enclosure and scoop
2. Height measurement does not include exhaust
3. Rolls-Royce Solutions America Inc. is the manufacturer of all listed models

Table 2a - Certified Subcomponents - Enclosures

MFR	Part Number	Notes	Material	Maximum Dimensions [in]			Weight [lb]	UUT
				Length	Width	Height		
Rolls-Royce Solutions America Inc.	XSG31300.00464	20-30 kW Enclosure	Aluminum	92	36	63	235	Extrapolated
	XSG25300.00498	50-60 kW 130 mph		86	42	75	240	Extrapolated
	XSG25300.00489	50-60 kW 195 mph		86	42	75	242	UUT-08
	SUA78329	30-60 kW Enclosure CQE		112	42	68	290	UUT-02
	XSG27300.00012	50-80 kW 130 mph		86	40	59	260	Interpolated
	XSG27300.00013	50-80 kW 195 mph		86	40	59	260	Interpolated
	XSG31300.00609	100 kW 130 mph		100	48	72	375	Interpolated
	XSG31300.00611	100 kW 195 mph		100	48	72	375	Interpolated
	XSG27300.00058	180-200 kW 130 mph		112	48	87	510	Interpolated
	XSG27300.00059	180-200 kW 195 mph		112	48	87	510	Interpolated
	XSG31300.00307	75-125 kW Enclosure		100	48	83	355	UUT-04
	XSG25300.00472	130-150 kW 130 mph		100	51	80	354	Interpolated
	XG2506100026/ XSG25300.00461	130-150 kW 195 mph		100	51	80	354	UUT-09
	XSG48380.00014	250 kW - 500 kW L1/L2		181	86	102	1,210	Interpolated
	XSG48380.00013	250 kW - 500 kW L3		221	86	102	1,450	Interpolated
	XS575380.00030	250 - 500 kW L3, 550 - 600 kW L3		232	86	102	1,530	UUT-13A, UUT-13B
	XSG25300.00497	50-60 kW 130mph	Carbon Steel	86	42	75	498	Extrapolated
	XSG25300.00482	50-60 kW 190mph		86	42	75	500	Extrapolated
	SUA103868	30 kW Enclosure		90	42	71	600	UUT-01
	XSG31300.00466	20-30 kW Enclosure		92	36	63	700	UUT-05
	XSG31300.00462	20-30 kW Enclosure		92	36	63	700	Interpolated
	XSG27300.00010	50-80 kW 130 mph		86	40	59	497	Interpolated
	XSG27300.00011	50-80 kW 195 mph		86	40	59	507	UUT-11
	XSG31300.00608	100 kW 130 mph		100	48	72	780	Interpolated
	XSG31300.00610	100 kW 195 mph		100	48	72	780	Interpolated
	XSG27300.00034	180-200 kW 130 mph		112	48	87	910	Interpolated
	XSG27300.00057	180-200 kW 195 mph		112	48	87	910	UUT-12
	XSG31300.00305	75-125 kW Enclosure		100	48	83	766	UUT-03, UUT-06, UUT-07
	XSG25300.00471	130-150 kW 130 mph		100	51	80	792	Interpolated
	XG2506100020/ XSG25300.00459	130-150 kW 195 mph		100	51	80	803	UUT-10A, UUT-10B

Table 2b - Certified Subcomponents - Enclosure Scoops

MFR	Part Number	Notes	Material	Maximum Dimensions [in]			Weight [lb]	UUT
				Length	Width	Height		
Rolls-Royce Solutions America Inc.	XSG25300.00490	50-60 kW	Aluminum	27	40	59	70	UUT-08
	XSG25300.00490	50-80 kW		27	40	59	71	Interpolated
	XSG25300.00466	100 kW		32	48	72	80	Interpolated
	XSG27300.00063	180-200 kW		49	48	87	182	Interpolated
	XSG31300.00258	75-125 kW		33	48	83	94	UUT-04
	XSG25300.00466	150 kW		33	51	80	84	UUT-09
	XSG25300.00484	50-60 kW	Carbon Steel	27	40	59	158	Extrapolated
	SUA59296 / SUA59297	30 kW Intake/Outlet		30	40	64	210	UUT-01
	XSG25300.00484	50-80 kW		27	40	59	160	UUT-11
	XSG25300.00465	100 kW		32	48	72	235	Interpolated
	XSG27300.00062	180-200 kW		49	48	87	351	UUT-12
	XSG31300.00256	75-125 kW		33	48	83	244	UUT-03, UUT-06, UUT-07
	XSG25300.00465	130-150 kW		33	51	80	279	UUT-10A, UUT-10B

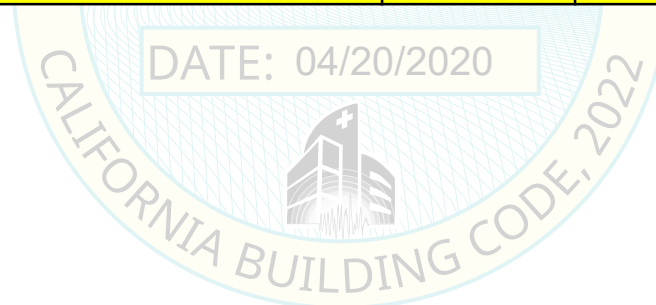


Table 3 - Certified Subcomponents - Engine

MFR	Model Name	Notes	Material	Weight [lb]	UUT
PSI	3.0L	30 kW	Carbon Steel, Cast Iron, Aluminum, Plastic, Brass, Stainless Steel	362	UUT-01
	5.7L	60 kW		581	UUT-02
	5.7LTCAC	50-60 kW w/ Radiator		915	UUT-08
	8.8LTCAC	130-150kW		1,088	UUT-09, UUT-10A, UUT-10B
Origin	3.6L	50-80 kW		580	UUT-11
	6.2L	100 kW		724	Interpolated
	10.3L	180-200 kW		1,071	UUT-12
Rolls-Royce Solutions America Inc.	2.5L	20-40 kW		388	UUT-05
	6.8L NA	75 kW		753	UUT-03, UUT-06, UUT-07
	6.8L Turbo	100 kW		773	Interpolated
	6.8L Turbo CAC	125 kW		775	UUT-04
	12V1600	250-500 kW		4,500	UUT-13A, UUT-13B

Table 4 - Certified Subcomponents - Alternator

MFR	Model Name	Notes	Material	Weight [lb]	UUT
Marathon	280 Frame	30-60 kW	Carbon Steel, Cast Iron, Aluminum, Copper	660	UUT-01, UUT-05
	360 Frame	30-125 kW		929	UUT-02, UUT-03, UUT-06, UUT-07, UUT-08
	430 Frame	75-600 kW		2,365	UUT-04, UUT-09
	570 Frame	300-600 kW		5,000	UUT-14
Marelli	180 Frame	30-60 kW		520	Extrapolated
	225 Frame	40-130 kW		1,040	UUT-11
	250 Frame	100-500 kW		1,730	UUT-10A, UUT-10B, UUT-12
	315 Frame	180-500 kW		2,620	Interpolated
	355 Frame	250-600 kW		4,225	UUT-13A, UUT-13B

Table 5 - Certified Subcomponents - Radiators

MFR	Part Number	Notes	Material	Weight [lb]	UUT
JB Radiator	XG3141100001	20-30 kW	Carbon Steel, Aluminum, Copper	33	UUT-05
	SUA101938	75 kW		200	UUT-03, UUT-06, UUT-07
	SUA101939	100 kW		314	Interpolated
	SUA101940	125 kW		364	UUT-04
PSI	XG2541100021	150 kW		360	UUT-09, UUT-10A, UUT-10B
Diesel	XG3141100068	50-80 kW		150	UUT-11
	XG3141100052	100 kW		140	Interpolated
	XG2741100010	180-200 kW		292	UUT-12
Nissens	XG4841100064	250-500 kW		1,060	UUT-13A, UUT-13B

Table 6 - Certified Subcomponents - Air Filter

MFR	Part Number	Notes	Material	Weight [lb]	UUT
Baldwin	SUA77168	75-125 kW	Carbon Steel, Aluminum, Plastic, Paper	5	UUT-03, UUT-04, UUT-06, UUT-07
	SUA77167	50-80 kW		6	UUT-08, UUT-11
	SUA77166	30-60 kW		6	UUT-01, UUT-02, UUT-05
Donaldson	XG2512100002	150 kW		4	UUT 09, UUT-10A, UUT-10B, UUT-12
	XG4812300007	250 kW - 500 kW		3	Interpolated
	XSG48120.00004	250 kW - 500 kW HD		16	UUT-13A, UUT-13B

Table 7 - Certified Subcomponents - Controller

MFR	Part Number	Notes	Material	Weight [lb]	UUT
Rolls-Royce Solutions America Inc.	MGC-1500 Series	Each controller is a depopulated version of the higher number. The 2000 and 3000 series are the same overall dimension. The 1500 series is of smaller dimensions.	Carbon Steel, Aluminum, Copper, Plastic	55	UUT-01, UUT-03, UUT-06, UUT-07
	MGC-2000 Series			88	UUT-05
	MGC-3000 Series			90	UUT-02, UUT-04, UUT-08, UUT-09, UUT-10A, UUT-10B, UUT-11, UUT-12, UUT-13A, UUT-13B

Table 8 - Certified Subcomponents - Jacket Water Heater

MFR	Part Number	Notes	Material	Weight [lb]	UUT
Kim Hotstart	SUA90366	500 W	Carbon Steel, Cast Iron, Stainless Steel, Brass, Copper, Plastic	2	UUT-05
	SUA52746	1000 W		2	UUT-01, UUT-08,
	SUA52748	1500 W		2	UUT-03, UUT-06, UUT-07, UUT-11
	SUA52750	1800 W		3	UUT-02, UUT-04, UUT-12
	SUA52751	2000 W		14	UUT-09, UUT-10A, UUT-10B
	SUA98913	5000 W 240V 1PH		7	Interpolated
	SUA99384	5000W 480V 1PH		10	Interpolated
	SUA96725	5000W 208V 1PH		10	Interpolated
	SUA92800	5000W 208V 3PH		12	Interpolated
	SUA98951	5000W 480V 3PH		15	UUT-13A, UUT-13B

Table 9 - Certified Subcomponents - Circuit Breakers

MFR	Part Number	Notes	Material	Weight [lb]	UUT
Square-D	H Frame	150 Amp Max Rating	Carbon Steel, Aluminum, Copper, Plastic	5	UUT-05, UUT-08, UUT-11
	J Frame	250 Amp Max Rating		7	UUT-03, UUT-06, UUT-07, UUT-09
	L Frame	600 Amp Max Rating		24	UUT-03, UUT-06, UUT-07, UUT-09, UUT-10A, UUT-10B, UUT-12
	M Frame	800 Amp Max Rating		31	Interpolated
	P Frame	1200 Amp Max Rating		31	UUT-04, UUT-09, UUT-10A, UUT-10B, UUT-12
	R Frame	3000 Amp Max Rating		52	Interpolated
	NW Frame	6000 Amp Max Rating		363	Interpolated
	MTZ Frame	6000 Amp Max Rating		363	UUT-13A, UUT-13B

Table 10 - Certified Subcomponents - Battery

MFR	Part Number	Notes	Material	Weight [lb]	UUT
Power-Sonic	XG3130100006	24V (2x 12V batteries)	Carbon Steel, Aluminum, Copper, Plastic	25	UUT-04
Napa	SUA102538	12V		40	UUT-05
	SUA120299	12V		56	UUT-01, UUT-02, UUT-03, UUT-04, UUT-06, UUT-07, UUT-08, UUT-09, UUT-10A, UUT-10B, UUT-11, UUT-12
	SUA102493	12V		100	UUT-13A, UUT-13B

Table 11 - Certified Subcomponents - Battery Charger

MFR	Part Number	Notes	Material	Weight [lb]	UUT
Guest	SUA79100	6 Amp Rating	Carbon Steel, Cast Iron, Aluminum, Copper, Plastic	3	UUT-02, UUT-04, UUT-05
Marinco	XG3130100003	6 Amp Rating		4	UUT-03, UUT-06, UUT-07, UUT-09
SENS	XG3042500013	10 Amp Rating		6	UUT-08, UUT-10A, UUT-10B, UUT-12
	X52642500004	10 Amp Rating		6	Interpolated
	X54942500005	10 Amp Rating		6	Interpolated
	XG3042500014	15 Amp Rating		6	UUT-13A, UUT-13B
	SUA85250	3.5 Amp Rating		7	UUT-01
	XG3030100057	10 Amp Rating		7	UUT-05
	SUA106215	6 Amp Rating		7	UUT-05
	SUA85257	6 Amp Rating		14	Interpolated
	SUA87358	6 Amp Rating		14	Interpolated
	SUA83187	10 Amp Rating		24	Interpolated
	SUA85204	10 Amp Rating		38	Interpolated
	SUA86468	10 Amp Rating		38	Interpolated
	SUA89983	10 Amp Rating		38	UUT-04

Table 12 - Certified Subcomponents - Space Heater

MFR	Part Number	Notes	Material	Weight [lb]	UUT
King	XG3006100004	1500 kW	Carbon Steel, Aluminum, Copper, Plastic	12	UUT-05, UUT-08, UUT-09, UUT-10A, UUT-10B, UUT-12, UUT-13A, UUT-13B

Table 13 - Certified Subcomponents - Lighting Kit

MFR	Part Number	Notes	Material	Weight [lb]	UUT
Rolls-Royce Solutions America Inc.	XSG30300.02294	Lighting Kit	Carbon Steel, Aluminum, Copper, Plastic, Glass	6	UUT-05, UUT-08
	XSD03300.00003	Lighting Kit (AC/DC)		10	UUT-05, UUT-06, UUT-07, UUT-09, UUT-10A, UUT-10B, UUT-12
	XSG48300.00017	Lighting Kit		13	UUT-13A, UUT-13B
	XS526300.00034 / XSG25300.00066	Lighting Kit (AC/DC)		11 / 15	UUT-01, UUT-02
	SUAPH104508 / SUAPH104509	Lighting Kit (AC/DC)		16 / 20	UUT-03, UUT-04, UUT-06, UUT-07

Table 14 - Certified Subcomponents - Louver

MFR	Part Number	Notes	Material	Weight [lb]	UUT
Rolls-Royce Solutions America Inc.	XSG31300.00449	Gravity Exhaust	Carbon Steel, Aluminum, Copper, Plastic	6	UUT-05
	XSG25300.00483	Gravity Exhaust		9	UUT-08
	XSG31300.00450	Motorized Intake		56	UUT-05
	XSG21300.00035	Motorized Intake		89	UUT-09
	XSG21300.00195	Motorized Intake		113	Interpolated
	XSG31300.00512	Motorized Intake		118	UUT-08, UUT-10A, UUT-10B, UUT-12
	XSG21300.00037	Motorized Intake		135	UUT-12
	XSG48380.00006	Motorized Intake		470	UUT-13A, UUT-13B

Table 14 - Certified Subcomponents - Louver, Continued

MFR	Part Number	Notes	Material	Weight [lb]	UUT
Vent Products	XG2530100105	Gravity	Carbon Steel, Aluminum, Copper, Plastic	13	UUT-09, UUT-10A, UUT-10B
	XG3130100168	Gravity		13	Interpolated
	XG2706100061	Gravity Exhaust Louver		16	UUT-12
	XG4862300065	Gravity		51	UUT-13A, UUT-13B

Table 15 - Certified Subcomponents - Silencer

MFR	Part Number	Notes	Material	Weight [lb]	UUT
Miratech	SUA93265	3", 8" Dia.	Carbon Steel	12	UUT-02
	SUA94155	2 1/2" Inlet, 8" Dia.		15	UUT-01
	XG3141700096	3" Inlet, 8 1/2" Dia.		18	UUT-11
	XG3141700066	3" Inlet, 8 1/2" Dia.		20	Interpolated
	XG2741700009	4" Inlet, 11" Dia.		32	UUT-12
	XG3141700003	2 3/8" Inlet, 6" Dia.		28	UUT-05
	XG3141700036	2 3/8" Inlet,		28	Interpolated
	XG4841700014	5" Inlet, 12" Dia.		28	UUT-13A, UUT-13B
	XG3141700037	3" inlet, 10" Dia.		61	UUT-08
	SUA101740	3" Space Saver, 14" Dia.		69	UUT-03, UUT-04, UUT-06, UUT-07, UUT-09, UUT-10A, UUT-10B
	XG2541700052	3" inlet, 10" Dia.		72	UUT-08
Maremont	XG3141700026	2" inlet, 2" outlet		15	UUT-05

Table 16 - Certified Subcomponents - Distribution Panel

MFR	Part Number	Notes	Material	Weight [lb]	UUT
Rolls-Royce Solutions America Inc.	XG2130900009	100A UL CSA	Carbon Steel, Copper, Plastic	10	UUT-05, UUT-08
	XSG21300.00119	100A UL CSA		16	UUT-09, UUT-10A, UUT-10B, UUT-12
	XSG30500.00169	125A CSA		33	Interpolated
	XSG30500.00168	125A UL		33	UUT-13A, UUT-13B

Table 17 - Certified Subcomponents - Battery Heater

MFR	Part Number	Notes	Material	Weight [lb]	UUT
Zero Start	SUA33218	200 Watt 120V	Plastic, Copper, Aluminum	1	UUT-08, UUT-09, UUT-10A, UUT-10B, UUT-13A, UUT-13B



UNIT UNDER TEST (UUT) Summary Sheet

UUT-1

Test Report: 11441-1501

Model	Model Number	Manufacturer
30 kW Gas Genset	4R0075GS30	Rolls-Royce Solutions America Inc.

Product Construction Summary

Steel Enclosure

Options / Subcomponent Summary

Enclosure: Rolls-Royce Solutions America Inc. ; Silencer: Miratech ; Engine: PSI ; Alternator: Marathon ; Air Filter: Baldwin ; Controller: Rolls-Royce Solutions America Inc. ; Jacket Water Heater: Kim Hotstart ; Battery: Napa ; Battery Charger: SENS

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
2,240	146.5	40.5	69.0	5.0	7.8	8.0

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 2022	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	-	-
		2.50	0.0	1.5	-	-	1.67	0.67

Test Mounting Details

UUT-1 was rigidly mounted to the shake table using (6) 5/8" diameter 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: 11441-1501

Model	Model Number	Manufacturer
60 kW Gas Genset	8V0071GS60	Rolls-Royce Solutions America Inc.

Product Construction Summary

Crystal Quiet (Aluminum) Enclosure

Options / Subcomponent Summary

Enclosure: Rolls-Royce Solutions America Inc. ; Silencer: Miratech ; Engine: PSI ; Alternator: Marathon ; Air Filter: Baldwin ; Controller: Rolls-Royce Solutions America Inc. ; Jacket Water Heater: Kim Hotstart ; Battery: Napa ; Battery Charger: Guest

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
2,590	114.5	40.0	68.0	2.5	4.0	5.0

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 2022	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	-	-
		2.50	0.0	1.5	-	-	1.67	0.67

Test Mounting Details

UUT-2 was isolated using (6) VMC MSSH-3C spring isolators. The isolators were connected to the equipment using (1) 3/4 Grade 8 bolt each, and were connected to the shake table using (4) 3/4" diameter Grade 8 bolts per isolator.

DCRs: A slotted fan shroud bracket was retrofitted by welding a plate onto each bracket. This prevents loosening of the shroud.



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: 11441-1501

Model	Model Number	Manufacturer
75 kW Gas Genset	10V0068GS75	Rolls-Royce Solutions America Inc.

Product Construction Summary

Steel Enclosure

Options / Subcomponent Summary

Enclosure: Rolls-Royce Solutions America Inc. ; Silencer: Miratech ; Engine: Rolls-Royce Solutions America Inc. ; Alternator: Marathon ; Air Filter: Baldwin ; Controller: Rolls-Royce Solutions America Inc. ; Jacket Water Heater: Kim Hotstart ; Battery: Napa ; Battery Charger: Marinco ; Radiator: JB Radiator ; Breakers: Square-D

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
3,420	132.5	50.5	80.0	4.3	6.8	14.5

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 2022	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	-	-
		2.50	0.0	1.5	-	-	1.67	0.67

Test Mounting Details

UUT-3 was rigidly mounted to the shake table using (6) 5/8" diameter 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-4

Test Report: PEER STI 2015-18

Model	Model Number	Manufacturer
125 kW Gas Genset	MTU10V0068GS125	Rolls-Royce Solutions America Inc.

Product Construction Summary

Aluminum Enclosure

Options / Subcomponent Summary

Enclosure: Rolls-Royce Solutions America Inc. ; Silencer: Miratech ; Engine: Rolls-Royce Solutions America Inc. ; Alternator: Marathon ; Air Filter: Baldwin ; Controller: Rolls-Royce Solutions America Inc. ; Jacket Water Heater: Kim Hotstart ; Battery: Napa & Power-Sonic; Battery Charger: Guest ; Radiator: JB Radiator ; Breakers: Square-D

UUT Properties

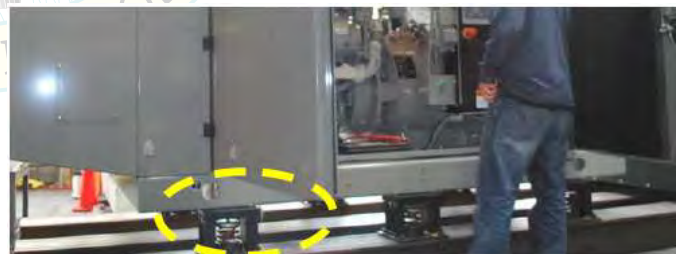
Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
3,940	133.0	50.0	83.0	2.9	4.1	6.7

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 2022	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	-	-
		2.50	0.0	1.5	-	-	1.67	0.67

Test Mounting Details

UUT-4 was isolated using (6) VMC MSSH-3C spring isolators. The isolators were connected to the equipment using (1) 3/4 Grade 8 bolt each, and were connected to the shake table using (4) 3/4" diameter Grade 8 bolts per isolator.



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



UNIT UNDER TEST (UUT) Summary Sheet

UUT-5

Test Report: VMA-49667-01E

Model	Model Number	Manufacturer
30 kW Gas Genset	GG04RF025V2	Rolls-Royce Solutions America Inc.

Product Construction Summary

Steel Enclosure

Options / Subcomponent Summary

Enclosure: Rolls-Royce Solutions America Inc. ; Engine: Rolls-Royce Solutions America Inc. ; Alternator: Marathon ; Radiator: JB Radiators ; Air Filter: Baldwin ; Controller: Rolls-Royce Solutions America Inc. ; Jacket Water Heater: Kim Hotstart ; Breakers: Square-D ; Battery: Napa ; Battery Sensor: SENS ; Battery Charger: Guest ; Space Heater: King ; Silencer: Miratech and Maremont ; Louvers: Rolls-Royce Solutions America Inc. ; Distribution Panel: Rolls-Royce Solutions America Inc.

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
1,980	92.0	36.0	63.0	5.0	6.3	6.0

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 2022	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	-	-
		2.50	0.0	1.5	-	-	1.67	0.67

Test Mounting Details

UUT-5 was isolated using (6) VMC MSSH-1E-530N spring isolators. The isolators were connected to the equipment using (1) 3/4 Grade 8 bolt each, and were connected to the shake table using (4) 3/4" diameter Grade 5 bolts per isolator. DCRs: Bolts attaching the control panel to the junction box were replaced with 1/4"x20 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-6

Test Report: 30889-1801a; UUT-1a

Model	Model Number	Manufacturer
75 kW Gas Genset	MTU10V0068GS75	Rolls-Royce Solutions America Inc.

Product Construction Summary

Steel Enclosure

Options / Subcomponent Summary

Enclosure: Rolls-Royce Solutions America Inc. ; Engine: Rolls-Royce Solutions America Inc. ; Alternator: Marathon ; Radiator: JB Radiator ; Air Filter: Baldwin ; Contoller: Rolls-Royce Solutions America Inc. ; Jacket Water Heater: Kim Hotstart ; Circuit Breaker: Square D ; Battery: Napa ; Battery Charger: Marinco ; Lighting Kit: Rolls-Royce Solutions America Inc. ; Silencer: Miratech

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
3,070	100.0	48.0	83.0	9.0	5.0	20.0

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 2022	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	-	-
		2.50	0.0	1.5	-	-	1.67	0.67

Test Mounting Details

UUT-6 was rigidly mounted to the shake table using (6) 5/8" diameter Grade 8 bolts.

DCRs: Breaker and control cabinet, and air intake bracket attachment points changed from thru-holes instead of slotted channels



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



UNIT UNDER TEST (UUT) Summary Sheet

UUT-7

Test Report: 30889-1801a; UUT-1b

Model	Model Number	Manufacturer
75 kW Gas Genset	MTU10V0068GS75	Rolls-Royce Solutions America Inc.

Product Construction Summary

Steel Enclosure

Options / Subcomponent Summary

Enclosure: Rolls-Royce Solutions America Inc. ; Engine: Rolls-Royce Solutions America Inc. ; Alternator: Marathon ; Radiator: JB Radiator ; Air Filter: Baldwin ; Contoller: Rolls-Royce Solutions America Inc. ; Jacket Water Heater: Kim Hotstart ; Circuit Breaker: Square D ; Battery: Napa ; Battery Charger: Marinco ; Lighting Kit: Rolls-Royce Solutions America Inc. ; Silencer: Miratech

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
3,070	100.0	48.0	83.0	7.0	4.0	5.5

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 2022	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	-	-
		2.50	0.0	1.5	-	-	1.67	0.67

Test Mounting Details

UUT-7 was isolated using (6) VMC MSS-1E-1200N spring isolators. The isolators were connected to the equipment using (1) 5/8 Grade 5 bolt each, and were connected to the shake table using (2) 5/8" diameter Grade 8 bolts per isolator.

DCRs: Breaker and control cabinet, and air intake bracket attachment points changed from thru-holes instead of slotted channels



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



UNIT UNDER TEST (UUT) Summary Sheet

UUT-8

Test Report: 31682-2101

Model	Model Number	Manufacturer
60 kW Gas Genset	MTU8V0071GS60	Rolls-Royce Solutions America Inc.

Product Construction Summary

Aluminum Enclosure

Options / Subcomponent Summary

Enclosure: Rolls-Royce Solutions America Inc. ; Engine/Radiator: PSI ; Alternator: Marathon ; Air Filter: Baldwin ; Controller: Rolls-Royce Solutions America Inc. ; Jacket Water Heater: Kim Hotstart ; Breakers: Square-D ; Battery: Napa ; Battery Charger: SENS ; Space Heater: King ; Lighting Kit: MTU ; Louver: MTU ; Silencer: Miratech ; Distribution Panel: Rolls-Royce Solutions America Inc. ; Battery Heater: Zero Start

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
2,580	113.0	43.0	65.0	3.5	4.5	4.5

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 2022	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	-	-
		2.50	0.0	1.5	-	-	1.67	0.67

Test Mounting Details

UUT-8 was isolated using (6) VMC MSSH-1E-530N spring isolators. The isolators were connected to the equipment using (1) 3/4 Grade 8 bolt each, and were connected to the shake table using (4) 1/2" diameter Grade 5 bolts per isolator.

DCRs: (2) 16" pieces of Unistrut attached, with (4) 3/8" bolts and washers, to side rail to extend battery support as to not interfere with external spring isolators.



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



UNIT UNDER TEST (UUT) Summary Sheet

UUT-9

Test Report: 31444-2001; UUT-7a

Model	Model Number	Manufacturer
150 kW Gas Genset	MTU8V0110GS150	Rolls-Royce Solutions America Inc.

Product Construction Summary

Aluminum Enclosure

Options / Subcomponent Summary

Enclosure: MTU America, Inc.; Engine/Radiator: PSI; Alternator: Marathon; Silencer: Miratech; Air Filter: Donaldson; Controller: MTU; Jacket Water Heater: Kim Hotstart; Breakers: Square-D; Distribution Panel: MTU; Battery: Exide; Battery Charger: Marinco; Lighting Kit: MTU; Space Heater: King; Battery Warming Plate: Zero Start; Louver: MTU; Louver: Vent Products

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
4,550	132.0	48.0	79.0	5.0	7.0	14.0

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 2022	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	-	-
		2.50	0.0	1.5	-	-	1.67	0.67

Test Mounting Details

UUT-9 was rigidly mounted to the shake table using (6) 5/8" diameter 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-10a

Test Report: 20716-2301

Model	Model Number	Manufacturer
150 kW Gas Genset	8V110GS150	Rolls-Royce Solutions America Inc.

Product Construction Summary

Carbon Steel Enclosure

Options / Subcomponent Summary

Enclosure: Rolls-Royce Solutions America Inc.; Enclosure Scoop: Rolls-Royce Solutions America Inc.; Engine/Radiator: PSI; Alternator: Marelli; Air Filter: Donaldson; Controller: Rolls-Royce Solutions America Inc.; Jacket Water Heater: Kim Hotstart; Circuit Breakers: Square-D; Battery: Napa; Battery Charger: SENS; Space Heater: King; Lighting Kit: Rolls-Royce Solutions America Inc.; Louvers: Rolls-Royce Solutions America Inc. and Vent Products; Silencer: Miratech; Distribution Panel: Rolls-Royce Solutions America Inc.; Battery Heater

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
5,500	132.5	50.5	85.5	6.0	6.5	15.0

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 2022	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	-	-
		2.50	0.0	1.5	-	-	1.67	0.67

Test Mounting Details

UUT-10a was rigidly mounted to the shake table using (6) 5/8" diameter Grade 5 bolts.



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



UNIT UNDER TEST (UUT) Summary Sheet

UUT-10b

Test Report: 20716-2301

Model	Model Number	Manufacturer
150 kW Gas Genset	8V110GS150	Rolls-Royce Solutions America Inc.

Product Construction Summary

Carbon Steel Enclosure

Options / Subcomponent Summary

Enclosure: Rolls-Royce Solutions America Inc.; Enclosure Scoop: Rolls-Royce Solutions America Inc.; Engine/Radiator: PSI; Alternator: Marelli; Air Filter: Donaldson; Controller: Rolls-Royce Solutions America Inc.; Jacket Water Heater: Kim Hotstart; Circuit Breakers: Square-D; Battery: Napa; Battery Charger: SENS; Space Heater: King; Lighting Kit: Rolls-Royce Solutions America Inc.; Louvers: Rolls-Royce Solutions America Inc. and Vent Products; Silencer: Miratech; Distribution Panel: Rolls-Royce Solutions America Inc.; Battery Heater

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
5,500	132.5	50.5	85.5	3.0	3.0	6.0

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 2022	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	-	-
		2.50	0.0	1.5	-	-	1.67	0.67

Test Mounting Details

UUT-10b was isolated using (6) VMC MSSH-1E spring isolators. The isolators were connected to the equipment using (1) 5/8" Grade 5 bolt each, and were connected to the shake table using (4) 1/2" diameter Grade 5 bolts per isolator.



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



UNIT UNDER TEST (UUT) Summary Sheet

UUT-11

Test Report: 20528-2201

Model	Model Number	Manufacturer
80 kW Gas Genset	4R0090 GS80	Rolls-Royce Solutions America Inc.

Product Construction Summary

Carbon Steel Enclosure

Options / Subcomponent Summary

Enclosure: Rolls-Royce Solutions America Inc.; Enclosure Scoop: Rolls-Royce Solutions America Inc.; Engine: Origin; Alternator: Marelli; Radiator: Diesel; Air Filter: Baldwin; Controller: Rolls-Royce Solutions America Inc.; Jacket Water Heater: Kim Hotstart; Circuit Breakers: Square-D; Battery: Napa; Silencer: Miratech

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
3,230	113.0	40.0	64.0	5.0	7.0	12.5

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 2022	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	-	-
		2.50	0.0	1.5	-	-	1.67	0.67

Test Mounting Details

UUT-11 was rigidly mounted to the shake table using (6) 3/4" diameter Grade 5 bolts.



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



UNIT UNDER TEST (UUT) Summary Sheet

UUT-12

Test Report: 20528-2201

Model	Model Number	Manufacturer
200 kW Gas Genset	8V0129 GS200	Rolls-Royce Solutions America Inc.

Product Construction Summary

Carbon Steel Enclosure

Options / Subcomponent Summary

Enclosure: Rolls-Royce Solutions America Inc.; Enclosure Scoop: Rolls-Royce Solutions America Inc.; Engine: Origin; Alternator: Marelli; Radiator: Diesel; Air Filter: Donaldson; Controller: Rolls-Royce Solutions America Inc.; Jacket Water Heater: Kim Hotstart; Circuit Breakers: Square-D; Battery: Napa; Battery Charger: SENS; Space Heater: King; Lighting Kit: Rolls-Royce Solutions America Inc.; Louvers: Rolls-Royce Solutions America Inc. and Vent Products; Silencer: Miratech; Distribution Panel: Rolls-Royce Solutions America Inc.

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
5,950	160.3	48.0	86.0	3.5	4.5	9.0

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 2022	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	-	-
		2.50	0.0	1.5	-	-	1.67	0.67

Test Mounting Details

UUT-12 was isolated using (6) VMC MSSH-1E-2000 spring isolators. The isolators were connected to the equipment using (1) 3/4 Grade 8 bolt each, and were connected to the shake table using (4) 5/8" diameter Grade 5 bolts per isolator.



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



UNIT UNDER TEST (UUT) Summary Sheet

UUT-13a

Test Report: 20530-2201

Model	Model Number	Manufacturer
S1600 500 kW Gas Genset	MTU12V1600GS500	Rolls-Royce Solutions America Inc.

Product Construction Summary

Aluminum Enclosure

Options / Subcomponent Summary

Enclosure: Rolls-Royce Solutions America Inc.; Enclosure Scoop: Rolls-Royce Solutions America Inc.; Engine: Rolls-Royce Solutions America Inc.; Alternator: Marelli; Radiator: Nissens; Air Filter: Donaldson; Controller: Rolls-Royce Solutions America Inc.; Jacket Water Heater: Kim Hotstart; Circuit Breaker: Square-D; Battery: Napa; Battery Charger: SENS; Space Heater: King; Lighting Kit: Rolls-Royce Solutions America, Inc.; Louver: Vent Products; Silencer: Miratech; Distribution Panel: Rolls-Royce Solutions America Inc.; Battery Heater: Zero Start

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
16,127	250.0	86.0	102.0	4.0	4.0	6.5

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 2022	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	-	-
		2.50	0.0	1.5	-	-	1.67	0.67

Test Mounting Details

UUT-13a was rigidly mounted to the shake table using (10) 3/4" diameter 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-13b

Test Report: 20530-2201

Model	Model Number	Manufacturer
S1600 500 kW Gas Genset	MTU12V1600GS500	Rolls-Royce Solutions America Inc.

Product Construction Summary

Aluminum Enclosure

Options / Subcomponent Summary

Enclosure: Rolls-Royce Solutions America Inc.; Enclosure Scoop: Rolls-Royce Solutions America Inc.; Engine: Rolls-Royce Solutions America Inc.; Alternator: Marelli; Radiator: Nissens; Air Filter: Donaldson; Controller: Rolls-Royce Solutions America Inc.; Jacket Water Heater: Kim Hotstart; Circuit Breaker: Square-D; Battery: Napa; Battery Charger: SENS; Space Heater: King; Lighting Kit: Rolls-Royce Solutions America, Inc.; Louver: Vent Products; Silencer: Miratech; Distribution Panel: Rolls-Royce Solutions America Inc.; Battery Heater: Zero Start

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
16,127	250.0	86.0	102.0	7.5	6.0	>33.3

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 2022	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	-	-
		2.50	0.0	1.5	-	-	1.67	0.67

Test Mounting Details

UUT-13b was isolated using (10) VMC M2SSH-1E-3400N spring isolators. The isolators were connected to the equipment using (1) 3/4" Grade 8 bolt each, and were connected to the shake table using (4) 5/8" diameter Grade 8 bolts per isolator.



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



UNIT UNDER TEST (UUT) Summary Sheet

UUT-14

Test Report: DCL 24919-2401; UUT-31

Model	Model Number	Manufacturer
600 kW Diesel Genset	MTU12V1600DS600	Rolls-Royce Solutions America Inc.

Product Construction Summary

Carbon Steel Skid

Options / Subcomponent Summary

Alternator: Marathon

UUT Properties

Weight [lbs]	Dimensions [in]			Lowest Nat. Freq. [Hz]		
	Length	Width	Height	F-B	S-S	V
15,820	249.5	86.0	105.0	4.0	4.5	6.3

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 2022	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	-	-
		2.50	0.0	1.5	-	-	1.67	0.67

Test Mounting Details

UUT-14 was isolated using (12) VMC Group M2SSH-1E-2400N spring isolators. The isolators were connected to the equipment using (1) 3/4" diameter Grade 8 bolt each and were connected to the shake table using (4) 5/8" diameter Grade 8 bolts per isolator.



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