

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

OFFICE USE ONLY APPLICATION FOR HCAI SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP) **APPLICATION #: OSP-0321** HCAI Special Seismic Certification Preapproval (OSP) X Type: New Renewal Manufacturer Information Manufacturer: Caterpillar Electric Power Division Manufacturer's Technical Representative: Vasantha Kodukula Mailing Address: 1720 West Kingsbury Street, Seguin, TX 78155 Telephone: (830) 386-2803 Email: Vasantha.kodukula@cat.com Product Information Product Name: C4.4, C6.6, C7.1, C9, C13, C15, C18 Product Model Number(s): C4.4, C6.6, C7.1, C9, C13, C15, C18 Product Category: **Emergency and Standby Power Systems** Product Sub-Category: Generators General Description: Diesel powered internally isolated, rigid base mounted generators Sizes D40, D50, D60, D80, D100, D125, D150, D175, D200, C9, C13, C15, and C18 Internally isolated, rigid base mounted, - Location (Other) -> on or off fuel tanks, with or without Mounting Description: Seismic enhancements made to the test units and/or modifications required to address **Tested Seismic Enhancements:** 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@thevmcgroup.com

Title: President



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OSP-0321



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Seismic Parameters

Design Basis of Equipment or Components	$s(F_{p}/W_{p}) = 1.7$
SDS (Design spectral response accel	eration at short period, g) = 2.26
ap (Amplification factor) =	2.5 (internally isolated)
Rp (Response modification factor) =	2.0 (internally isolated)
Ω_0 (System overstrength factor) =	2.0
lp (Importance factor) =	1.5
z/h (Height ratio factor) =	0
Natural frequencies (Hz) =	See Attachment
Overall dimensions and weight =	See Attachment ODE
HCAI Approval (For Office Use Only) -	Approval Expires on 07/15/2030
Date: 7/15/2024	OSP-0321
Name: Timothy Piland	Title: Senior Structural Engineer
Special Seismic Certification Valid Up to: S	z/h = 0

07/15/2022

NG CODE:

Condition of Approval (if applicable):



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OSP-0321

Droduct Femily	Model	Rating	EPA	Max Package Dimensions [in]			Weight ¹	UUT	
Product Family	Woder	[kW]	Rating	Length	Width	Height ²	[lbs]	001	
C4.4 Enclosed	D40 / D50 / D60	60	Tier 3	108	44	84	6,310	Interpolated	
C4.4 Enclosed	D50	50	Tier 3	108	41	80	6,310	UUT-01A, UUT-01B	
C4.4 Open	D40 / D50 / D60	60	Tier 3	108	44	79	5,750	Extrapolated	
C4.4 Open	D80 / D100	100	Tier 3	136	44	85	7,808	Interpolated	
C4.4 Enclosed	D80 / D100	100	Tier 3	136	44	92	8,516	Interpolated	
C6.6 Open	D125 / D150 / D175	175	Tier 3	198	44	95	11,856	Interpolated	
C6.6 Enclosed	D125 / D150 / D175	175	Tier 3) -198	44	96	12,830	Interpolated	
C6.6 Enclosed	D175	175	Tier 3	199	44	96	12,830	UUT-02A, UUT-02B	
C7.1 Open	D125/D150/D175/D200	200	Tier 3	198	44	96	12,114	Interpolated	
C7.1 Enclosed	D125/D150/D175/D200	200	Tier 3	198	44	96	13,088	Interpolated	
C9 Open Wide Skid	C9	300	Tier 3	219	81	108	17,450	Interpolated	
C9 Enclosed	C9	300	Tier 3	219	81	114	19,850	Interpolated	
C13 Open Wide Skid	C13	400	Tier 3	<i>⊃∠</i> 279	81	118	28,176	Interpolated	
C13 Enclosed	C13	400	Tier 3	286	81	124	30,864	Interpolated	
C15 Open Wide Skid	C15	450	Tier 3	244	81	119	25,773	Interpolated	
C15 Enclosed	C15	450	Tier 3	251	81	127	28,504	Interpolated	
C15 Open Wide Skid	C15	500	Tier 2	244	81	119	26,304	Interpolated	
C15 Enclosed	C15	500 🛆	Tier 27/1	5/25124	81	127	29,034	Interpolated	
C18 Open Wide Skid	C18 Tier 4F 🛛 🦳	500	Tier 4 Final	230	90	99	19,042	Interpolated	
C18 Enclosed	C18 Tier 4F	500	Tier 4 Final	247	90	111	16,900	UUT-05	
C18 Open Wide Skid	500-600kW	600	Tier 2	279	81	118	29,205	Interpolated	
C18 Enclosed	500-600kW	600	Tier 2	286 🗡	81	124	32,031	Interpolated	
C18 Enclosed	600kW	600	Tier 2	279	81	124	32,031	UUT-03	

Table 1 - Certified Gensets On Tanks

¹Weights include genset, enclosure (where applicable), and fuel tank with operating fluid

²Does not include the height of the tank

*Underlined and/or highlighted units shake tested in accordance with AC156

Table 2 - Cert	tified Gensets	Off Tanks
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Draduat Family	Madal	Rating	EPA	Max Package Dimensions [in]			Weight ¹ UUT	
Product Family	Model	[kW]	Rating	Length	Width	Height	[lbs]	001
C4.4 Enclosed	D40 / D50 / D60	60	Tier 3	97	44	51	3,020	Interpolated
C4.4 Enclosed	D50	50	Tier 3	102	41	96	3,020	UUT-01C
C4.4 Open	D40 / D50 / D60	60	Tier 3	97	44	51	3,253	Interpolated
C4.4 Open	D80 / D100	100	Tier 3	97	44	51	3,253	Interpolated
C4.4 Enclosed	D80 / D100	100	Tier 3	114	44	59	3,961	Interpolated
C6.6 Open	D125 / D150 / D175	175	Tier 3	123	44	58	4,184	Interpolated
C6.6 Enclosed	D125 / D150 / D175	175	Tier 3] 143	44	59	5,090	Interpolated
C6.6 Enclosed	D175	175	Tier 3	144	44	60	5,090	UUT-02C
C7.1 Open	D125/D150/D175/D200	200	Tier 3	123	44	58	4,442	Interpolated
C7.1 Enclosed	D125/D150/D175/D200	200	Tier 3	143	44	59	5,348	Interpolated
C9 Open Narrow Skid	C9 (300	Tier 3	122	64	80	5,423	Interpolated
C9 Open Wide Skid	C9	300	Tier 3	150	80	80	5,961	Interpolated
C9 Enclosed	C9	300	Tier 3	¹³² 178	80	87	8,364	Interpolated
C13 Open Narrow Skid	C13	400	Tier 3	138	64	82	7,584	Interpolated
C13 Open Wide Skid	C13	400	- Tier 3	186	80	84	8,283	Interpolated
C13 Enclosed	C13	400	Tier 3	195	80	91	11,036	Interpolated
C15 Open Narrow Skid	C15	450	Tier 3	138	64	84	8,253	Interpolated
C15 Open Wide Skid	C15	450 🛆	Tier(37/1	5/215024	80	84	8,662	Interpolated
C15 Enclosed	C15	450	Tier 3	195	80	91	11,393	Interpolated
C15 Open Narrow Skid	C15	500	Tier 2	138	64	84	8,784	Interpolated
C15 Open Wide Skid	C15	500	Tier 2	150	80	84	9,193	Interpolated
C15 Enclosed	C15	500	Tier 2	195	80	91	11,923	Interpolated
C18 Open Narrow Skid	C18	600	Tier 2	132	44	83	8,800	UUT-04
C18 Open Wide Skid	C18	600	Tier 2	150	80	83	9,353	Extrapolated
C18 Enclosed	C18	600	Tier 2	204	80	89	12,637	Interpolated ²
C18 Open Wide Skid	C18 Tier 4F	500	Tier 4 Final	209	90	84	11,294	Interpolated
C18 Enclosed	C18 Tier 4F	500	Tier 4 Final	227	90	96	13,720	Interpolated ³

¹Weights include genset and enclosure (where applicable)

²Similar to UUT-05, the only difference is lack of fuel tank

³Similar to UUT-03, the only difference is lack of fuel tank *Underlined and/or highlighted units shake tested in accordance with AC156

Table 2 - Certified Enclosures

Product Family	Model	Tuno	Part	Max Di	mensio	ns [in]	Material	Weight	UUT
[Caterpillar]	woder	Туре	Number	Length	Width	Height	wateria	[lb]	001
		WP with Window	3943713	77	41	51	Steel	482	Extrapolated
	D40,	WP Standard	3816168	77	41	51	Steel	483	Extrapolated
		SA1 with Window	3943715	92	41	51	Steel	544	Extrapolated
	<u>D50,</u> D60	SA1 Standard	3943714	92	41	51	Steel	545	Extrapolated
	DOU	SA2 with Window	3943717	92	41	51	Steel	596	UUT-01A, UUT-01B, UUT-01
C4.4		SA2 Standard	3943716	92	41	51	Steel	598	Interpolated
64.4		WP Standard	3818667	93	41	59	Steel	611	Interpolated
		WP with Window	3943721	93	141	59	Steel	616	Interpolated
	D80,	SA1 Standard	3943722	114	41	59	Steel	690	Interpolated
	D100	SA1 with Window	3943723	114	41	59	Steel	696	Interpolated
		SA2 Standard	3943724	114	41	59	Steel	711	Interpolated
		SA2 with Window	3943725	114	41	59	Steel	482Extrapolated483Extrapolated544Extrapolated545Extrapolated596UUT-01A, UUT-01B, UU598Interpolated611Interpolated616Interpolated690Interpolated711Interpolated735Interpolated734Interpolated739Interpolated815Interpolated901Interpolated1,392Interpolated1,392Interpolated1,363Interpolated1,863Interpolated	Interpolated
		WP Standard (D125-175)	3943734	P-120	41	59	Steel	735	Interpolated
		WP with Window (D125-175)	3943735	120	41	59	Steel	741	Interpolated
	D125,	WP Standard (D200)	-3784033	120	41	59	Steel	734	Interpolated
C6.6 / C7.1	D150,	WP with Window (D200)	3943733	120	41	59	Steel	739	Interpolated
0.0/07.1	D175,	SA1 Standard	3943736	144	41	59	Steel	815	Interpolated
	D200	SA1 with Window	3943737	5/14422	41	59	Steel	821	Interpolated
		SA2 Standard	3943738	144	41	59	Steel	895	UUT-02A, UUT-02B, UUT-02
		SA2 with Window	3943739	144	41	59	Steel	901	Interpolated
			449-0700	159	73	71	Steel	1,392	Interpolated
		WP Standard	606-9742 ¹	159	73	71	Steel	1,392	Interpolated
		1/1	606-9743 ²	159	73	71	Steel	1,392	Interpolated
		14	453-2197	177	73	71	Steel	1,863	Interpolated
		SA1 Standard	606-9755 ¹	177	73	71	Steel	1,863	Interpolated
<u></u>	C9		606-9761 ²	177	73	71	Steel	1,863	Interpolated
C9	C9		453-2198	177	73	71	Steel	1,873	Interpolated
		SA1 with Window	606-9756 ¹	177	73	71	Steel	1,873	Interpolated
			606-9762 ²	177	73	71	Steel	1,873	Interpolated
			449-0534	177	73	71	Steel	2,365	Interpolated
		SA2 Standard	606-9757 ¹	177	73	71	Steel	2,365	Interpolated
			606-9763 ²	177	73	71	Steel	2,365	Interpolated

Notes:

WP=Weatherproof, SA=Sound Attenuated, SA1=Sound Attenuated Level 1, SA2=Sound Attenuated Level 2, CW=Cold Weather

¹Yellow color enclosure

²White color enclosure

Table 2 - Certified Enclosures, Continued

Product Family	Model	Turne	Part	Max Di	mensio	ns [in]	Material	Weight	UUT
[Caterpillar]	woder	Туре	Number	Length	Width	Height	wateriai	[lb]	001
			449-0724	178	88	74	Steel	2,373	Interpolated
		SA2 With Window	606-9758 ¹	178	88	74	Steel	2,373	Interpolated
			606-9764 ²	178	88	74	Steel	2,373	Interpolated
			463-3012	195	75	71	Steel	1,375	Interpolated
		WP	607-7000 ¹	195	75	71	Steel	1,375	Interpolated
			607-7012 ²	195	75	71	Steel	1,375	Interpolated
			463-3012	195	75	71	Steel	1,375	Interpolated
		SA1 Standard	607-7004 ¹	195	175	71	Steel	1,375	Interpolated
00		(EV	607-7013 ²	195	75	71	Steel	1,375	Interpolated
C9	C9 –	,Sam	463-3012	195	75	71	Steel	1,375	Interpolated
		SA1 with Window	607-7005 ¹	195	75	71	Steel	1,375	Interpolated
			607-7014 ²	195	75	71	Steel	1,375	Interpolated
			463-3012	P-195	75	71	Steel	1,375	Interpolated
		SA2 Standard	607-7008 ¹	195	75	71	Steel	1,375	Interpolated
		DV	-607-7017 ²	195	75	71	Steel	1,375	Interpolated
		O DI.	463-3012	195	75	71	Steel	1,375	Interpolated
		SA2 with Window	607-70091	195	75	71	Steel	1,375	Interpolated
			607-7018 ²	5/1952	75	71	Steel	1,375	Interpolated
		V	393-2460	194	73	71	Steel	2,677	Interpolated
		SA Standard	607-4750 ¹	194	73	71	Steel	2,677	Interpolated
C15	C15 –		607-4759 ²	194	73	71	Steel	2,677	Interpolated
015			422-6087	194	73	71	Steel	2,688	Interpolated
		SA with Window	607-4751 ¹	194	73	71	Steel	2,688	Interpolated
		14	607-4760 ²	194	73	71	Steel	2,688	Interpolated
			393-2442	204	73	71	Steel	2,654	Interpolated
		SA Standard	607-4774 ¹	204	73	71	Steel	2,654	Interpolated
	010		607-4780 ²	204	73	71	Steel	2,654	Interpolated
	C18 -		422-6089	204	73	71	Steel	2,665	UUT-03
C18		SA with Window	607-4775 ¹	204	73	71	Steel	2,665	Interpolated
			607-4782 ²	204	73	71	Steel	2,665	Interpolated
	010		606-7320 ¹	226	89	83	Steel	3,136	Interpolated
	C18	SA Standard	606-7321 ²	226	89	83	Steel	3,136	Interpolated
	Tier 4F		461-6316	226	89	83	Steel	3,136	UUT-05

Notes:

WP=Weatherproof, SA=Sound Attenuated, SA1=Sound Attenuated Level 1, SA2=Sound Attenuated Level 2, CW=Cold Weather

¹Yellow color enclosure

²White color enclosure

Component Part Weight UUT **Notes** Number [MFR] [lb] 387-7613 156 Gallons 919 Extrapolated 392-8555 228 Gallons 1,184 Extrapolated 387-7612 285 Gallons 1,246 **UUT-01A, UUT-01B** 382-3984 376 Gallons 1.587 Interpolated 466-9202 1,552 408 Gallons Interpolated 392-8565 412 Gallons 1,590 Interpolated 449-0565 660 Gallons 2.299 Interpolated **UL-142** 599-7214 660 Gallons 2,353 Interpolated Tanks 461-6197 660 Gallons 2,875 **UUT-05** [Caterpillar] 392-8524 725 Gallons 2,524 **UUT-02A, UUT-02B** 466-9205 784 Gallons Interpolated 2,370 419-6632 1,000 Gallons 3,278 Interpolated 463-3100 1,100 Gallons 3,408 Interpolated 599-7141 1,100 Gallons 3,501 Interpolated 4.500 650-7436 1.800 Gallons Interpolated 422-6066 4,541 1,855 Gallons Interpolated 419-6634 2,160 Gallons 4,991 **UUT-03** 383-7265 D40 1,190 Extrapolated UUT-01A, UUT-01B, UUT-01C 383-7266 1.190 D50 383-7267 D60 1,190 Interpolated 383-7268 D80 1,190 Interpolated 383-7269 D100 1,190 Interpolated 291-0361 D125 1,543 Interpolated 469-6214 D125 1,543 Interpolated 291-0362 D150 1,543 Interpolated 469-6211 D150 1,543 Interpolated Engine UUT-02A, UUT-02B, UUT-02C 390-3314 D175 1,709 [Perkins¹/Caterpillar] Interpolated 469-4413 D175 1.709 456-7961 D200 1,709 Interpolated 452-9865 C9 1.841 Interpolated 434-3726 C13 2,867 Interpolated 506-6872 C13 2,867 Interpolated C15 423-0922 3,675 Interpolated C15 420-6876 3.675 Interpolated UUT-03, UUT-04 420-6877 C18 3,935 419-0904 C18 Tier 4F **UUT-05** 3,935 1500 Frame C4.4 410 Extrapolated 2000 Frame C4.4 / C6.6 754 UUT-01A, UUT-01B, UUT-01C Interpolated 3000 Frame C4.4 / C6.6 / C7.1 955 **Alternators** C4.4 / C6.6 / C7.1 3100 Frame 1.213 Interpolated [Leroy Somer] 1,973 UUT-02A, UUT-02B, UUT-02C 5000 Frame C9 C9/C13/C15/C18(500-600 kW) **UUT-05** 6100 Frame 2.886 7000 Frame C15/ C18(500-600 kW) 3,671 UUT-03, UUT-04 3174133 D40/ D50/ D60 51 UUT-01A, UUT-01B, UUT-01C 2994051 Interpolated D80/ D100 71 2758174 D125 / D150 148 Interpolated Radiators D175/ D200 UUT-02A, UUT-02B, UUT-02C 3304835 157 [Denso-Marston] 384-2246 269 Interpolated C9 / C13 354-6434 C13 / C15 309 Interpolated 366-0080 C18 (500-600 kW) 584 UUT-03, UUT-04 Radiators 336-8518 C18 Tier 4F 584 **UUT-05** [Bearward]

Table 3 - Certified Subcomponents

Perkins is a brand of Caterpillar

	Part/Model	omponents (Contin	,	
Component	Number	Notes	Weight [lb]	UUT
[MFR]	Number			UUT-01A, UUT-01B, UUT-01C
16 Gauge Steel	N/A	<u>C4.4</u> / <u>C6.6</u> / C7.1	33	UUT-02A, UUT-02B, UUT-02C
Control Panel / Box	374-5749	C9 / C15 / <u>C18 (500-600 kW)</u>	177	UUT-03, UUT-04
[Caterpillar]	461-6309	C18 Tier 4F	177	UUT-05
		Controller - EMCP 4.2		UUT-01A, UUT-01B, UUT-01C
	4311966	(AVR Compatible)	6	UUT-02A, UUT-02B, UUT-02C
	440 7000	Controller - EMCP 4.2	6	
	442-7222	(IVR Compatible)	6	UUT-03
	390-1195	Controller - EMCP 4.3	6	UUT-04
	356-0121	Controller - EMCP 4.4	7	Extrapolated
Controller			2 (screen	
[Caterpillar]	DSE6310	GCCP 1.2	only)	UUT-10
	DSC0310	GCCF 1.2	120 (with	001-10
			cabinet)	
			3 (screen	
	DSE8610	GCCP 1.5	only)	UUT-11
	DSCOOTO	GCCF 1.5	69 (with	001-11
			cabinet)	
	R250 (AVR)	Control Panel-Mounted	2.2	UUT-01A, UUT-01B, UUT-01C
Voltage Regulators	R251 (AVR)	Control Panel-Mounted	2.2	Extrapolated
[Leroy-Somer]	R250 (AVR)	Alternator-Mounted	2.2	UUT-02A, UUT-02B, UUT-02C
	R450 (AVR)	Alternator-Mounted	2.2	UUT-04
	EM10 (IVR)	Alternator-Mounted	2.2	UUT-03
Main Breaker Box	449-0638	14 Gauge Carbon Steel	64	UUT-03
[Caterpillar]	390-4858	14 Gauge Carbon Steel	64	UUT-04
Auxiliary Breaker Box [Caterpillar]	449-0619	16 Gauge Carbon Steel	31	UUT-03
Molded Case Breakers [Square D]	R Frame	C9-C18 (350-750 kW)	77	UUT-03, UUT-04
	T Series	C9-C18 (200-750 kW)	55	UUT-01A, UUT-01B, UUT-01C UUT-02A, UUT-02B, UUT-02C
Molded Case Breakers	Т8	1600A, 2000A, 2500A, <mark>3000 A</mark>	175 (breaker) 350 (with cabinet)	UUT-12
[ABB]	XT5	400 A	12	UUT-07
	XT6	600/800 A	26	Interpolated
	XT7	1200 A	39	Interpolated
	XT7M	1200 A	40	UUT-08
Battery [Caterpillar]	9X-3404	12V	68	UUT-09A ² , UUT-09B ²

Table 3 - Certified Subcomponents (Continued)

²Battery tested on wall mounted battery tray (PN: 423-7137) and secured to tray with strap (PN: 399-2026)



Summary Sheet

UUT-1A

Model Line Electrical Genera / Diesel Powered E	ator	Model Numb							
			er		N	lanufacture	er		
/ Diesel Powered E	I	C4.4 D50			Caterpillar				
/ Diesel Powered E		Product Construction	Summarv						
	lectrical Generator Set.	SA2 Carbon Steel Enclo	-	85 gal Carbo	n Steel Fuel	Tank			
	······,								
	(Options / Subcompone	nt Summar	у					
sure, Fuel Tank, E		tor, 16 Gauge Steel Con		-	r, Voltage Re	egulator, Mo	lded Ca		
kers									
		CODE							
		FORCODE	Co.						
		UUT Propertie	es						
Weight		Dimensions [in]		5	Lowes	st Nat. Freq	. [Hz]		
[lbs]	Length	Width	He	Height		F-B S-S		S-S	۷
4,260	108.04	(41.0P-032	1 80	0.0	5.3	6.8	11.8		
	UUT H	lighest Passed Seismic	Run Infor	mation					
uilding Code	Test <mark>Criter</mark> ia	S S _{DS in oth} z/h	iland	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG}		
CBC 2022	ICC-ES AC156	2.49 0.0	1.5	2.49	1.00 1.66		0.66		
CBC 2022	ICC-ES AC150			-	-	-	-		
·		Test Mounting D	etails	TA THE					
using (12) 5/8" Gra		ng (12) 5/8" diameter Gra							

Unit tested with empty tank and maintained structural integrity and functionality after AC-156 test.



Summary Sheet

UUT-1B

Model Line Model Number Manufacturer Electrical Generator C4.4 D50 Caterpillar Product Construction Summary Product Construction Summary Caterpillar kW Diesel Powered Electrical Generator Set, SA2 Carbon Steel Enclosure, and 285 gal Carbon Steel Fuel Tank Options / Subcomponent Summary uclosure, Fuel Tank, Engine, Alternator, Radiator, 16 Gauge Steel Control Panel/Box, Controller, Voltage Regulator, Molded Caeakers UUT Properties Weight Dimensions [in] Lowest Nat. Freq. [Hz] [Ibs] Length F-B S-S V 0310 108.0 41.0 80.0 4.6 5.6 11.3 UUT Highest Passed Seismic Run Information UUT Highest Passed Seismic Run Information Eucert Criteria Sog 2/h I.e Arizxi Arizxi Arizxi Arizxi Arizxi Ariz CBC 2022 ICC-ES AC156 2.49 0.0 1.5 2.49 1.00 1.66 0.64 CBC 2022 ICC-ES AC156 2.49 0.0 1.5 2.49 1.00 1.66 0.64 JT-1B was rigidly mounted to the fuel tank usi	Madallina							port: PEER			
Product Construction Summary W Diesel Powered Electrical Generator Set, SA2 Carbon Steel Enclosure, and 285 gal Carbon Steel Fuel Tank Options / Subcomponent Summary Uosure, Fuel Tank, Engine, Alternator, Radiator, 16 Gauge Steel Control Panel/Box, Controller, Voltage Regulator, Molded Cakers UUT Properties UUT Properties UUT Properties UUT Properties UUT Highest Passed Seismic Run Information Building Code Test Criteria Sos Z/h Arus Arus Arus Arus CODE UUT Properties UUT Highest Passed Seismic Run Information Building Code Test Criteria Sos Z/h Arus Arus Arus CBC 2022 ICC-ES AC156 2.49 1.00 1.66 0.66 Test Mounting Details T- Test Mounting Details	Model Line		IV		ber			vianutacture	er		
W Diesel Powered Electrical Generator Set, SA2 Carbon Steel Enclosure, and 285 gal Carbon Steel Fuel Tank Options / Subcomponent Summary Iosure, Fuel Tank, Engine, Alternator, Radiator, 16 Gauge Steel Control Panel/Box, Controller, Voltage Regulator, Molded Ca akers UUT Properties UUT Properties UUT Properties UUT Properties UUT Highest Passed Seismic Run Information Building Code Test Criteria Sps Z/h Log Action Action Action Action Action UUT Highest Passed Seismic Run Information Building Code Test Criteria Sps Z/h Log Action Actio	Electrical Gener	ator		C4.4 D50				Caterpillar			
Options / Subcomponent Summary losure, Fuel Tank, Engine, Alternator, Radiator, 16 Gauge Steel Control Panel/Box, Controller, Voltage Regulator, Molded Calakers UUT Properties UUT Properties Weight Lowest Nat. Freq. [Hz] UUT Properties Weight Lowest Nat. Freq. [Hz] UUT Highest Passed Seismic Run Information Building Code Test Criteria Sps Z/h AFLS-H ARIGH CBC 2022 ICC-ES AC156 2.49 0.0 1.5 2.49 1.00 1.66 0.60 Test Mounting Details F-1B was rigidly mounted to the fuel tank using (12) 5/8" diameter Grade 8 bolts. The tank was rigidly connected to the shake e using (12) 5/8" Grade 8 bolts. The tank was rigidly connected to the shake e using (12) 5/8" diameter Grade 8 bolts. The tank was rigidly connected to the shake e using (12) 5/8" diameter Grade 8 bolts. Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2"Colspan="2			Product C	onstructio	n Summary						
Closure, Fuel Tank, Engine, Alternator, Radiator, 16 Gauge Steel Control Panel/Box, Controller, Voltage Regulator, Molded Catakers UUT Properties UUT Properties Weight Lowest Nat. Freq. [Hz] [lbs] Length Width Height F-B S-S V 6,310 108.0 41.0 80.0 4.6 5.6 11.5 UUT Highest Passed Seismic Run Information Building Code Test Criteria Sos z/h IP Aruge H Aruge H <th col<="" td=""><td>W Diesel Powered E</td><td>Electrical Generator Set,</td><td>SA2 Carbor</td><td>Steel Encl</td><td>osure, and 2</td><td>85 gal Carbo</td><td>on Steel Fue</td><td>l Tank</td><td></td></th>	<td>W Diesel Powered E</td> <td>Electrical Generator Set,</td> <td>SA2 Carbor</td> <td>Steel Encl</td> <td>osure, and 2</td> <td>85 gal Carbo</td> <td>on Steel Fue</td> <td>l Tank</td> <td></td>	W Diesel Powered E	Electrical Generator Set,	SA2 Carbor	Steel Encl	osure, and 2	85 gal Carbo	on Steel Fue	l Tank		
Closure, Fuel Tank, Engine, Alternator, Radiator, 16 Gauge Steel Control Panel/Box, Controller, Voltage Regulator, Molded Catakers UUT Properties UUT Properties Weight Lowest Nat. Freq. [Hz] [Ibs] Length Width Height F-B S-S V 6,310 108.0 41.0 80.0 4.6 5.6 11.5 UUT Highest Passed Seismic Run Information Building Code Test Criteria Sos z/h Ip A _{FLX-H} A _{RIG-H} A _{FLX-V} A _{RIG} CBC 2022 ICC-ES AC156 2.49 0.0 1.5 2.49 1.00 1.66 0.66 Test Mounting Details											
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UUT Properties Weight [lbs] Lowest Nat. Freq. [Hz] Length Width Height F-B S-S V 6,310 108.0 41.0 80.0 4.6 5.6 11.3 UUT Highest Passed Seismic Run Information Building Code Test Criteria Sog Z/h Ir AFLX-H ARIG-H AFLX-V ARIG CBC 2022 ICC-ES AC156 2.49 0.0 1.5 2.49 1.00 1.66 0.61 Test Mounting Details		ngine, Alternator, Radia	ator, 16 Gaug	je Steel Coi	ntrol Panel/E	lox, Controlle	er, Voltage R	egulator, Mo	olded Ca		
Weight [Ibs] Lowest Nat. Freq. [Hz] Length Width Height F-B S-S V 6,310 108.0 41.0 80.0 4.6 5.6 11.3 UUT Highest Passed Seismic Run Information Building Code Test Criteria Sps z/h Ip A _{FLX-H} A _{RIG-H} A _{FLX-V} A _{RIG} CBC 2022 ICC-ES AC156 2.49 0.0 1.5 2.49 1.00 1.66 0.60 Test Mounting Details T-1B was rigidly mounted to the fuel tank using (12) 5/8" diameter Grade 8 bolts. The tank was rigidly connected to the shake le using (12) 5/8" Grade 8 bolts.											
Weight [lbs] Dimensions [in] Lowest Nat. Freq. [Hz] Length Width Height F-B S-S V 6,310 108.0 41.0 80.0 4.6 5.6 11.3 UUT Highest Passed Seismic Run Information UUT Highest Passed Seismic Run Information A _{RIG-H} A _{FLX-V} A _{RIG} Building Code Test Criteria Sps z/h Ip A _{FLX-H} A _{RIG-H} A _{FLX-V} A _{RIG} CBC 2022 ICC-ES AC156 2.49 0.0 1.5 2.49 1.00 1.66 0.6 T-1B was rigidly mounted to the fuel tank using (12) 5/8" diameter Grade 8 bolts. The tank was rigidly connected to the shake le using (12) 5/8" Grade 8 bolts. Feast Mounting Details Feast Meast rigidly connected to the shake le using (12) 5/8" Grade 8 bolts.			OR	COD	Ca						
Weight [lbs] Dimensions [in] Lowest Nat. Freq. [Hz] Length Width Height F-B S-S V 6,310 108.0 41.0 80.0 4.6 5.6 11.3 UUT Highest Passed Seismic Run Information UUT Highest Passed Seismic Run Information A _{RIG-H} A _{FLX-V} A _{RIG} Building Code Test Criteria Sps z/h Ip A _{FLX-H} A _{RIG-H} A _{FLX-V} A _{RIG} CBC 2022 ICC-ES AC156 2.49 0.0 1.5 2.49 1.00 1.66 0.60 Test Mounting Details			O FOIR								
Ibs] Length Width Height F-B S-S V 6,310 108.0 41.0 80.0 4.6 5.6 11.3 UUT Highest Passed Seismic Run Information UUT Highest Passed Seismic Run Information A _{RIG-H} A _{FLX-V} A _{RIG} Building Code Test Criteria Sps z/h Ip A _{FLX-H} A _{RIG-H} A _{FLX-V} A _{RIG} CBC 2022 ICC-ES AC156 2.49 0.0 1.5 2.49 1.00 1.66 0.66 Test Mounting Details	Waight	A.			les		Lowe	st Nat Fred	[H ₇]		
6,310 108.0 41.0 80.0 4.6 5.6 11.3 UUT Highest Passed Seismic Run Information Building Code Test Criteria Sps Z/h Ip AFLX-H ARIG-H AFLX-V ARIG CBC 2022 ICC-ES AC156 2.49 0.0 1.5 2.49 1.00 1.66 0.66 Test Mounting Details T-1B was rigidly mounted to the fuel tank using (12) 5/8" diameter Grade 8 bolts. The tank was rigidly connected to the shake le using (12) 5/8" Grade 8 bolts.		Length			He	ight					
Building Code Test Criteria S _{DS} Z/h Ip A _{FLX-H} A _{RIG-H} A _{FLX-V} A _{RIG} CBC 2022 ICC-ES AC156 2.49 0.0 1.5 2.49 1.00 1.66 0.60 Test Mounting Details T-1B was rigidly mounted to the fuel tank using (12) 5/8" diameter Grade 8 bolts. The tank was rigidly connected to the shake le using (12) 5/8" Grade 8 bolts.			-								
CBC 2022 ICC-ES AC156 2.49 0.0 1.5 2.49 1.00 1.66 0.60 Test Mounting Details T-1B was rigidly mounted to the fuel tank using (12) 5/8" diameter Grade 8 bolts. The tank was rigidly connected to the shake le using (12) 5/8" Grade 8 bolts.	·	🗸 инт і	Highest Pas	sed Seismi	c Run Infor	mation			1		
CBC 2022 ICC-ES AC156	Building Code	Test <mark>Criter</mark> ia	B ∕ S _{DSim}	oth <mark>z/h</mark>	Pilan	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG}		
T-1B was rigidly mounted to the fuel tank using (12) 5/8" diameter Grade 8 bolts. The tank was rigidly connected to the shake le using (12) 5/8" Grade 8 bolts.	CBC 2022	ICC-ES AC156	2.49	0.0	1.5	2 <mark>.4</mark> 9	1.00	1.66	0.6		
Test Mounting Details T-1B was rigidly mounted to the fuel tank using (12) 5/8" diameter Grade 8 bolts. The tank was rigidly connected to the shake le using (12) 5/8" Grade 8 bolts.	000 2022	100-E0 A0150			0001	-	-	-	-		
le using (12) 5/8" Grade 8 bolts.			Test	Mounting [Details						
							UUTO				



Summary Sheet

UUT-1C

						Test Rep	oort: PEER S	STI 2012-21
Model Line		Μ	odel Numbe	er		Ν	lanufacture	er
Electrical Gener	ator		C4.4 D50				Caterpillar	
		Product Co	onstruction	Summary				
kW Diesel Powered E	Electrical Generator Set			-				
		Options / Su	Ibcomponer	nt Summai	ry			
nclosure, Engine, Alter	rnator, Radiator, 16 Gau	uge Steel Cor	ntrol Panel/B	ox, Control	ler, Voltage F	Regulator, M	olded Case	Breakers
			CODE					
		FOR	CODE	CON				
		U	JT Propertie	is	0,			
Weight		Dimensio	ons [in]		K	Lowes	st Nat. Freq	. [Hz]
[lbs]	Length	Wid	dth	Не	eight	F-B	S-S	v
3,020								10.3
		Highest Pass	sed Seismic	Run Infor	mation			
Building Code	Test <mark>Criter</mark> ia	R∨S _{¤sim}	oth <mark>z/h</mark> P	ilan ^l e	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}
CBC 2022	ICC-ES AC156	2.49	0.0	1.5	2.49	1.00	1.66	0.66
000 2022		DATE.	07/45/0	004	-	-	-	-
			Mounting De					
IUT-1C was rigidly mou	unted to the s <mark>hake t</mark> able	using (12) 5/	8" diameter	Grade 8 bo	olts.			
			-					
	E.	Li-						
	LI TER	-			HL			
	A		-	-	14	S .		
	TADITUS		PAT	100	-	D D		
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			16.00					
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	Part -	1		-		1- S		
	200	X						
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Summary Sheet

UUT-2A

Model Line		М	odel Numb	er		Test Report: PEER STI 20 ⁻ Manufacturer				
Electrical Gener			C6.6 D175				Caterpillar			
		Product Co	onstruction	Summarv						
5kW Diesel Powered	Electrical Generator Set			-	725 gal Carb	on Steel Fu	el Tank			
		,			5					
	(Options / Su	bcompone	nt Summar	v					
closure, Fuel Tank, E eakers	ngine, Alternator, Radiat	-	-		-	r, Voltage R	egulator, Mo	olded Cas		
		FOR	IT Properti	OA)						
Weight		Dimensio	VILLEV VVV	62			st Nat Fred	[H ₇]		
[lbs]	Length	Wid		He	Height F-B S-S		Lowest Nat. Freq.			
7,610	199.04	44			96.0		7.0	V 9.4		
1,010		lighest Pass				4.3	7.0	0.1		
Building Code	Test Criteria	SVS _{DS im}	th z/h	ilan ^l e	A _{FLX-H}	A _{RIG-H} A _{FLX-V}				
-		2.49	0.0	1.5	2.49	1.00 1.66		A_{RIG-V} 0.66		
CBC 2022	ICC-E <mark>S AC1</mark> 56			-	-	_	-	_		
		OAT Est N	Nounting D	etails						
ole using (16) 5/8" Gra	unted to the fuel tank usin ade 8 bolts.									

Unit tested with empty tank and maintained structural integrity and functionality after AC-156 test.



Summary Sheet

UUT-2B

Model Line		M	odel Numb	er		Manufacture		er	
Electrical Generator			C6.6 D175			Caterpillar			
		Broduct C	onetruction	n Summary		on Steel Fuel Tank , Voltage Regulator, Molded (Lowest Nat. Freq. [Hz F-B S-S			
5kW Diesel Powered	Electrical Generator Set				725 gal Carb	on Steel Fu	el Tank		
		., .,							
		Options / Su	bcompone	nt Summar	y				
	ngine, Alternator, Radia	tor, 16 Gaug	e Steel Cor	trol Panel/B	ox, Controlle	r, Voltage R	egulator, Mo	Ided Ca	
eakers									
		-D	CODE						
		FOR		CON					
			JT Properti	es					
Weight	4	Dimensio						-	
[lbs]	Length	Wid			ight			V	
12,830	199.04	lighest Pase	<u>9P-032</u>		5.0	3.7	6.1	8.8	
Building Code	Test Criteria	S _{DSim}	z/h		A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG}	
-		2.49	0.0	1.5	2.49	лкід-н 1.00	1.66	0.66	
CBC 2022	ICC-ES AC156	-			-	-	-	-	
		DATE	Mounting D						
ble using (16) 5/8" Gra	ade 8 bolts.	2B							
				-tra	*				



Summary Sheet

UUT-2C

						Test Re	port: PEER \$	STI 2012-21	
Model Line		N	lodel Numb	ər		Regulator, Molded Case		ər	
Electrical Gener	rator		C6.6 D175				Caterpillar		
		Product C	onstruction	Summary	,				
5kW Diesel Powered	Electrical Generator Se			-					
		Options / S	ubcompone	nt Summa	ry				
iclosure, Engine, Alte	rnator, Radiator, 16 Ga	uge Steel Co	ntrol Panel/B	ox, Control	ller, Voltage F	Regulator, M	olded Case	Breakers	
			CODE						
		EOR	CODE	Co					
			UT Properti	es	0				
Weight	15		ions [in]			Lowest Nat. Freq. [Hz			
[lbs]	Length	Width		He	eight	F-B	S-S	v	
5,090	144.04	(4	€P-032	1 6	60.0	3.4	6.6	8.6	
	UUT	Highest Pas	sed Seismic	Run Infor	mation			•	
Building Code	Test <mark>Criter</mark> ia	BVS _{DSim}	oth ^{z/h} P	ilan ^l l	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}	
CBC 2022	ICC-ES AC156	2.49	0.0	1.5	2 <mark>.49</mark>	1.00	1.66	0.66	
000 2022	100-L3 A0130			001	-	-	-	-	
		DA Test	Mounting D	etails					
JT-2C was rigidly mou	unted to the shake table	e using (12) 5	i/8" diameter	Grade 8 bo	olts.				
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	UUT-02C			1. / 8			202		
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UUT-3

Summary Sheet

Test Report: VMA-48473-01E

Options / Subcomponent Summary Inclosure, Fuel Tank, Engine, Alternator, Radiator, 16 Gauge Steel Control Panel/Box, Controller, Voltage Regulator, 14 Gauge arbon Steel Main Breaker Box, 16 Gauge Carbon Steel Auxiliary Breaker Box, Molded Case Breakers UUT Properties UUT Properties UUT Properties UUT Properties UUT Properties UUT Properties UUT Highest Passed Seismic Run Information Euliding Code Test Criteria Sps Z/h Implementation Building Code Test Criteria Sps Z/h Implementation Test Mounting Details	Model Line	、 I								
Product Construction Summary Options / Subcomponent Summary Options / Subcomponent Summary nclosure, Fuel Tank, Engine, Alternator, Radiator, 16 Gauge Steel Control Panel/Box, Controller, Voltage Regulator, 14 Gauge arbon Steel Main Breaker Box, 16 Gauge Carbon Steel Auxiliary Breaker Box, Molded Case Breakers UUT Properties UUT Properties UUT Properties UUT Highest Passed Selsmic Run Information UUT Highest Passed Selsmic Run Information Test Criteria Sog Z/h AFLXH ARLe.H AFLXH ARLe.H AFLXH ARLe.H AFLXH ARLE.H ARLE.H Building Code Test Criteria Sog Z/h AFLXH ARLE.H AFLXH ARLE.H AFLXH ARLE.H AFLXH ARLE.H AFLXH ARLE.H AFLXH ARLE.H AFLXH AFLXH AFLXH AFLXH AFLXH AFLXH		,	Model Numb	er	n n	Manufacture	r			
Weight Length July Properties UUT Properties UUT Properties UUT Highest Passed Seismic Run Information Building Code Test Criteria Sos V UUT Properties UUT Properties UUT Highest Passed Seismic Run Information Building Code Test Criteria Sos Z CECEE CECE Colspan="2">Colspan="2"Colspa="2"Colspa="2"Colspa="2"Colspan="2"Colspan="2"Colspa="2"Colspan="2	Electrical Gene	rator	C18	Caterpillar						
nclosure, Fuel Tank, Engine, Alternator, Radiator, 16 Gauge Steel Control Panel/Box, Controller, Voltage Regulator, 14 Gauge arbon Steel Main Breaker Box, 16 Gauge Carbon Steel Auxiliary Breaker Box, Molded Case Breakers UUT Properties UUT Properties Weight Dimensions [in] Lowest Nat. Freq. [Hz] [Ibs] Length Width Height F-B S-S V 32,031 279.0 81.0 31 124.0 6.2 4.8 10 UUT Highest Passed Seismic Run Information Building Code Test Criteria Spg Z/h le AFLX.H ARIG.H AFLX.V ARIA CBC 2022 ICC-ES AC156 2.26 0.0 1.5 2.26 0.90 1.51 0.6 Test Mounting Details UT-3 was rigidly mounted to the shake table using (18) M16 ISO 10.9 Grade bolts with nuts.		I	Product Construction	n Summary						
Notosure, Fuel Tank, Engine, Alternator, Radiator, 16 Gauge Steel Control Panel/Box, Controller, Voltage Regulator, 14 Gauge arbon Steel Main Breaker Box, 16 Gauge Carbon Steel Auxiliary Breaker Box, Molded Case Breakers UUT Properties UUT Properties Weight Dimensions [in] Lowest Nat. Freq. [Hz] [Ibs] Length Width Height F-B S-S V 32,031 279.0 81.0 0 124.0 6.2 4.8 10 UUT Highest Passed Seismic Run Information Building Code Test Criteria Sos Z/h Ing AFLX-H AFLX-V AFLX-V CBC 2022 ICC-ES AC156 2.26 0.0 1.5 2.26 0.90 1.51 0.6 UT-3 was rigidly mounted to the shake table using (18) M16 ISO 10.9 Grade bolts with nuts.	00kW Diesel Powered	l Electrical Generator Se	et, SA Carbon Steel Enclo	osure, and 2160 gal Carl	oon Steel Fu	el Tank				
Weight Dimensions [in] Lowest Nat. Freq. [Hz] Weight Dimensions [in] Lowest Nat. Freq. [Hz] [lbs] Length Width Height F-B S-S V 32,031 279.0 81.0 124.0 6.2 4.8 10 UUT Highest Passed Seismic Run Information Building Code Test Criteria Sos Z/h Ip AFLX.H ARIG.H AFLX.V ARIG CBC 2022 ICC-ES AC156 2.26 0.0 1.5 2.26 0.90 1.51 0.6 Test Mounting Details JT-3 was rigidly mounted to the shake table using (18) M16 ISO 10.9 Grade bolts with nuts.			Options / Subcompone	ent Summary						
Weight [Ibs] Length Dimensions [in] Lowest Nat. Freq. [Hz] 32,031 279.0 81.0 124.0 6.2 4.8 10 UUT Highest Passed Seismic Run Information Building Code Test Criteria Sps Z/h Ip AFLX-H ARIG-H AFLX-V ARIG CBC 2022 ICC-ES AC156 2.26 0.0 1.5 2.26 0.90 1.51 0.6 Test Mounting Details						egulator, 14	Gauge			
I lbs] Length Width Height F-B S-S V 32,031 279.0 81.0 124.0 6.2 4.8 10 UUT Highest Passed Seismic Run Information UUT Highest Passed Seismic Run Information Arits A Arit			UUT Properti	es A,						
32,031 279.0 81.0 124.0 6.2 4.8 10 UUT Highest Passed Seismic Run Information Building Code Test Criteria Sos Z/h Ip AFLXH ARIGH AFLXV ARM CBC 2022 ICC-ES AC156 2.26 0.0 1.5 2.26 0.90 1.51 0.6 Test Mounting Details UT-3 was rigidly mounted to the shake table using (18) M16 ISO 10.9 Grade bolts with nuts.	Weight	L.S.	Dimensions [in]		Lowest Nat. Freq. [Hz]					
UUT Highest Passed Seismic Run Information Building Code Test Criteria Sps Z/h Ip AFLX.H ARIG.H AFLX.V ARIG.H CBC 2022 ICC-ES AC156 2.26 0.0 1.5 2.26 0.90 1.51 0.6 Test Mounting Details UT-3 was rigidly mounted to the shake table using (18) M16 ISO 10.9 Grade bolts with nuts. Colspan="2">Colspan="2"Colspan	[lbs]	Length	Width	Height	F-B	S-S	V			
Building Code Test Criteria S _{DS} Z/h Ip A _{FLX-H} A _{RIG-H} A _{FLX-V} A _{RW} CBC 2022 ICC-ES AC156 2.26 0.0 1.5 2.26 0.90 1.51 0.6 Test Mounting Details JT-3 was rigidly mounted to the shake table using (18) M16 ISO 10.9 Grade bolts with nuts.	32,031	279.04	(810P-032	1 124.0	6.2	4.8	10.5			
CBC 2022 ICC-ES AC156 2.26 0.0 1.5 2.26 0.90 1.51 0.6 Test Mounting Details JT-3 was rigidly mounted to the shake table using (18) M16 ISO 10.9 Grade bolts with nuts.		UUT	Highest Passed Seismi	c Run Information						
CBC 2022 ICC-ES AC156 Test Mounting Details UT-3 was rigidly mounted to the shake table using (18) M16 ISO 10.9 Grade bolts with nuts.	Building Code	Test <mark>Criter</mark> ia	BVS _{DSimoth} z/h	IP AFLX-H	A _{RIG-H}	A _{FLX-V}	A _{RIG}			
JT-3 was rigidly mounted to the shake table using (18) M16 ISO 10.9 Grade bolts with nuts.	CBC 2022		2.26 0.0	1.5 2.26	0.90	1.51	0.60			
JT-3 was rigidly mounted to the shake table using (18) M16 ISO 10.9 Grade bolts with nuts.	CBC 2022	ICC-ES ACTS0		-	-	-	-			
		14				ĩ				



UUT-4

	•	Ν	lodel Numb	ər	Test		lanufacture	er		
Electrical Gener			C18			Caterpillar				
	Product Construct						Gauge Carbon Steel Main Lowest Nat. Freq. [Ha			
kW Diacol Doworod	Electrical Generator Se		onstruction	Summary						
KW Diesel Fowered	Electrical Generator Se	L								
		-	ubcompone		-					
jine, Alternator, Rad aker Box, Molded Ca		ontrol Panel/	Box, Control	er, Voltage	Regulator, 1	4 Gauge Ca	rbon Steel N	lain		
		FOR	CODE	Con						
		V	UT Propertie	es	o, c					
Weight			ons [in]		5	Lowest Nat. Freq. [Hz				
[lbs]	Length				eight			V		
8,800	132.0		<u> 99-032</u>		3.0	4.4	5.9	11.2		
Building Code	Test Criteria	EN EN EN EN EN EN EN EN EN	sed Seismic			•	۸	•		
Building Code		2.30	0.0	ilan <mark>8</mark> 1.5	А _{FLX-Н} 2.30	А _{кід-н} 0.92	Α_{FLX-V} 1.53	A_{RIG} 0.61		
CBC 2022	ICC-E <mark>S AC1</mark> 56	-		-	-	-	-	-		
		DATEST	Mounting D	etails	V.					
	nted to the shake table u					-				
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						A PERSONAL PROPERTY AND INC.				



Summary Sheet

UUT-5

Model Line		N	lodel Numb	er		I	Manufacture	r
Electrical Gener	ator		C18 T4 Fina	l			Caterpillar	
		Product C	onstruction	Summary				
0kW Diesel Powered	Electrical Genset	1100000		Gammary				
		Options / S	ubcompone	nt Summai	ry			
nclosure, Fuel Tank, E	Engine, Alternator, Radia	ator, 16 Gau	ge Steel Con	trol Panel/B	Box			
		OB	CODF	C				
		FOR		COA				
			UT Properti	es	0			
Weight [lbs]			ions [in]		Y.		st Nat. Freq	
16,900	Length 247.0	_	dth 0.0P-0.32		hight	F-B 3.9	S-S 4.9	V 7.2
10,900			sed Seismic			5.9	4.9	1.2
Building Code	Test Criteria	S ^{DS}	th z/h	ilan ^l el	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}
_		2.26	0.0	llanti 1.5	2.26	0.90	1.51	0.60
CBC 2022	ICC-E <mark>S AC1</mark> 56				-	-	-	-
		DATest	Mounting D	etails	IN THE			
				AN -	Store and			
					PAR A			



UUT-7

				Τe	est Report: D	CL 19859-2	201; UUT-1
9	М	odel Numb	er		N	Nanufacture	r
rator		XT 5				ABB	
	Product C	onstruction	Summary				
	Options / Su	ıbcompone	nt Summar	у			
	-0	CODE					
	FOR		CON				
J.			es	2			
Dimensions [in]					Lowest Nat. Freq. [H		
	Width						V
	O5:8P-0321 8.5		N/A	N/A	N/A		
	Y NEW YNY NY NY NY NY	<u>VXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX</u>			Δ	Δ	A _{RIG-V}
		литу д. Е	nanu				-RIG-V
ICC-ES AC156				2.49			0.67
		1 / / / / / /					
rectly to the wall fixture u		NUMBER OF STREET		washers ni	its		
	rator Length 6.0 UUT I Test Criteria ICC-ES AC156	rator Product C Options / Su Options / Su Ut Dimensio Length Wit 6.0 Ut Highest Pass ICC-ES AC156 1.55 2.49 Test I	rator XT 5 Product Construction Options / Subcompone UUT Properti UUT Properti Dimensions [in] Length Width 6.0 5.8 -03 UUT Highest Passed Seismid Test Criteria S _{DS} z/h ICC-ES AC156 1.55 1.0 2.49 0.0 Test Mounting D	rator XT 5 Product Construction Summary Options / Subcomponent Summar UUT Properties UUT Properties Dimensions [in] Length Width He 6.0 UUT Highest Passed Seismic Run Infor Test Criteria S _{DS} z/h l _P ICC-ES AC156 1.55 1.0 1.5 Test Mounting Details	Model Number rator XT 5 Product Construction Summary Options / Subcomponent Summary UUT Properties Dimensions [in] Length Width Height UUT Properties Dimensions [in] Length Width Height 6.0 UUT Highest Passed Seismic Run Information Test Criteria Sps Z/h Ip AFLXH ICC-ES AC156 1.55 1.0 1.5 - Test Mounting Details rectly to the wall fixture using (4) M5 105mm Grade 4.8 bolts, washers, nu	Model Number N rator XT 5 Product Construction Summary Options / Subcomponent Summary UUT Properties Dimensions [in] Lower Length Width Height F-B 6.0 5.8 8.5 N/A UUT Highest Passed Seismic Run Information Test Criteria Sog Z/h Ip A _{RUG-H} ICC-ES AC156 1.55 1.0 1.5 - Test Mounting Details	rator XT 5 ABB Product Construction Summary Options / Subcomponent Summary UUT Properties UUT Properties UUT Properties UUT Properties UUT Properties UUT Highest Passed Seismic Run Information UUT Highest Passed Seismic Run Information Test Criteria Sps Z/h lp AFLX-H ARIG-H AFLX-V ICC-ES AC156 1.55 1.0 1.5 - 1.87 - ICC-ES AC156 2.49 0.0 1.5 2.49 - 1.67 Test Mounting Details rectly to the wall fixture using (4) M5 105mm Grade 4.8 bolts, washers, nuts.



UUT-8

Test Report: DCL 19859-2201; UUT-2 Model Line **Model Number** Manufacturer **Electrical Generator** XT7M ABB **Product Construction Summary** Plastic Molded Case **Options / Subcomponent Summary** N/A **UUT** Properties Dimensions [in] Lowest Nat. Freq. [Hz] Weight [lbs] Width Height Length F-B S-S V 40 8.5 7.0 15.0 N/A N/A N/A **UUT Highest Passed Seismic Run Information Building Code Test** Criteria SDS z/h $\mathbf{A}_{\mathsf{RIG-V}}$ I_P A_{FLX-H} A_{RIG-H} A_{FLX-V} 1.55 1.0 1.5 1.87 _ _ -CBC 2022 ICC-ES AC156 2.49 0.0 1.5 2.49 1.67 0.67 _ **Test Mounting Details** UUT-8 was mounted directly to the wall fixture using (4) M5 105mm Grade 4.8 bolts, washers, nuts. The wall fixture was flexible mounted to the shake table with (4) VMC Group MSSH isolators.



UUT-9A

Test Report: DCL 19859-2201; UUT-3A Model Line **Model Number** Manufacturer **Electrical Generator** 9X-3404 Caterpillar **Product Construction Summary** Wet Cell Battery, Battery Tray, Strap **Options / Subcomponent Summary** N/A **UUT** Properties Dimensions [in] Lowest Nat. Freq. [Hz] Weight [lbs] Width Height Length F-B S-S V 68 16.3 7.0 9.5 N/A N/A N/A **UUT Highest Passed Seismic Run Information Building Code Test** Criteria SDS z/h $\mathbf{A}_{\mathsf{RIG-H}}$ A_{RIG-V} I_P A_{FLX-H} A_{FLX-V} 1.55 1.0 1.5 1.87 CBC 2022 ICC-ES AC156 2.49 0.0 1.5 2.49 1.67 0.67 Test Mounting Details The battery was supported by battery tray (PN: 423-7137) and secured to the tray with strap (PN: 399-2026). The battery tray was mounted directly to the wall fixture using (4) 3/8" diameter Grade 5 bolts.



UUT-9B

Summary Sheet

					Tes	st Report: DO	CL 19859-22	01; UUT-3	
Model Line	e	М	odel Numb	er			Manufacture	ər	
Electrical Gene	rator	9X-3404							
		Product C	onstruction	Summary					
/et Cell Battery, Batte	ry Tray, Strap								
		Options / Su	ıbcompone	nt Summar	у				
/A		FOR	CODE	CON					
	14		JT Properti	es			-4 N-4 E		
Weight [lbs]	Length	Dimensi		Но	ight	Lowest Nat. Free F-B S-S		q. [⊓2] V	
68	16.3	07		Height 9.5		г-в N/А	N/A	N/A	
		lighest Pase				11/7			
Building Code	Test Criteria	S√S _{DS im}	oth <mark>z/h</mark>	ilan <mark>a</mark>	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}	
CBC 2022	ICC-ES AC156	1.55	1.0	1.5	-	1.87		-	
GBC 2022	ICC-ES ACT30	2.49	0.0	1.5	2 <mark>.49</mark>	-	1.67	0.67	
		Test	Mounting D	etails					
nounted directly to the with (4) VMC Group MS	wall fixture using (4) 3/8 SSH isolators.	" diameter Gi	rade 5 bolts.	The wall fix	kture was fle	xible mounte	ed to the sha	ke table	



UUT-10

Summary Sheet





UUT-11

Test Report: DCL 21017-2301; UUT-1 Model Number Model Line Manufacturer Controller DSE8610 (DeepSea GCCP 1.5) Caterpillar **Product Construction Summary** Carbon Steel and Plastic **Options / Subcomponent Summary** N/A **UUT Properties** Dimensions [in] Lowest Nat. Freq. [Hz] Weight [lbs] Width Height Length F-B S-S V 69 11.5 23.8 46.3 N/A N/A N/A **UUT Highest Passed Seismic Run Information Building Code Test** Criteria SDS z/h $\mathbf{A}_{\mathsf{RIG-V}}$ I_P A_{FLX-H} A_{RIG-H} A_{FLX-V} 1.56 1.0 1.5 1.87 _ _ _ CBC 2022 ICC-ES AC156 2.50 0.0 1.5 2.50 1.68 0.68 _ Test Mounting Details UUT-11 was attached to steel interface plate with (7) 3/8" Grade 5 bolts, round washers, and carbon steel plates washers. The steel interface plate was attached to the shake table using (4) VMC MSSH-1E spring isolators. All units were filled with contents and maintained structural integrity and functionality after AC-156 test.



UUT-12

Test Report: DCL 22453-2301; UUT-1 Model Number Model Line Manufacturer Molded Case Breaker Box Т8 ABB **Product Construction Summary** Carbon Steel **Options / Subcomponent Summary** N/A **UUT** Properties Dimensions [in] Lowest Nat. Freq. [Hz] Weight [lbs] Length Width Height F-B S-S V 350 27.4 16.4 45.3 3.0 6.0 3.0 **UUT Highest Passed Seismic Run Information Building Code Test** Criteria SDS z/h $\mathbf{A}_{\mathsf{RIG-H}}$ $\mathbf{A}_{\mathsf{RIG-V}}$ I_P A_{FLX-H} A_{FLX-V} 1.55 1.0 1.5 1.86 _ _ CBC 2022 ICC-ES AC156 2.49 0.0 1.5 2.49 1.67 0.67 _ **Test Mounting Details** UUT-12 was attached to the steel interface plate using (9) 3/8" Grade 8 bolts, plate washers, and flat washers. The interface plate was isolated using (4) VMC Group MSSH-1E-650 spring isolators.