



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP-0720

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☒ New ☐ Renewal

Manufacturer Information

Manufacturer: C&C Power

Manufacturer's Technical Representative: James Lupinek

Mailing Address: 395 Mission Street, Carol Stream, IL 60188

Telephone: (630) 617-9022

Email: jlupinek@ccpower.com

Product Information

Product Name: UPS and Batteries

Product Type: UPS

Product Model Number: BC43, BC55, UBC80

General Description:

BY: Mohammad Karim

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: Dynamic Certification Laboratories, LLC.

Contact Person: Kelly Laplace

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

Telephone: (775) 358-5085

Email: kelly@shaketest.com

Title: Business Manager





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

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

Company Name: THE VMC GROUP

Name: 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: _____

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

Telephone: (775) 358-5085

Email: _____

BY: Muhammad Karim

DATE: 11/17/2021



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Seismic Parameters

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

SDS (Design spectral response acceleration at short period, g) = 2.0

a_p (Amplification factor) = 1.0

R_p (Response modification factor) = 2.5

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height ratio factor) = 1

Natural frequencies (Hz) = See Attachment

Overall dimensions and weight = See Attachment

OSHPD Approval (For Office Use Only) - Approval Expires on 11/19/2027

Date: 11/17/2021

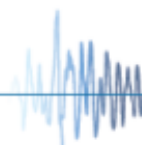
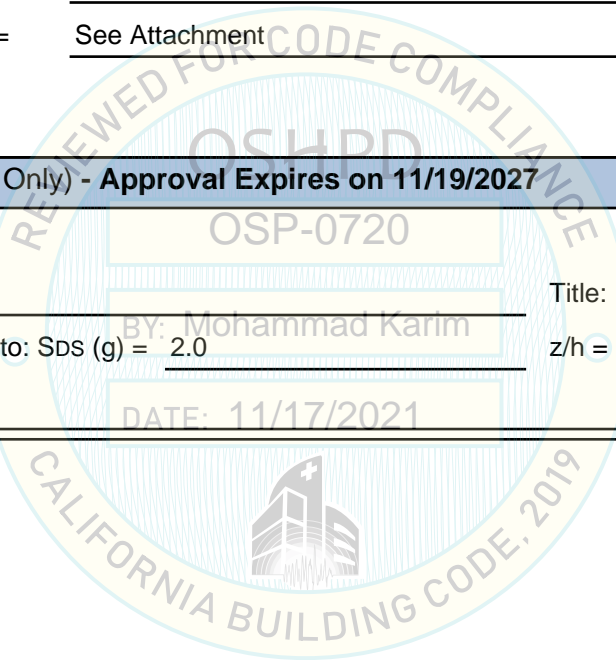
Name: Mohammad Karim

Title: Supervisor, Health Facilities

Special Seismic Certification Valid Up to: SDS (g) = 2.0

z/h = 1

Condition of Approval (if applicable):



Special Seismic Certification

Table 1 - Certified Components



DCL Project Number: 51697-2001

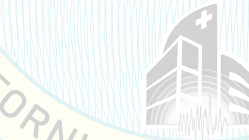
Manufacturer: C&C Power, Inc.
Product Type: Battery Cabinet
Product Line: BC and UBC Battery Cabinets
Mounting Configuration: Rigid Base Mounted
Test Levels: $S_{DS} = 2.0g$, $z/h=1.0$

Cabinet Type	Model Number ¹	Construction Material	NEMA Rating	Max. Dimensions (in)			Max. Weight (lb.)	Unit
				Depth	Width	Height		
BC43	43C1xxxx-D4801Qxxx00AH1xx	Powder Coated Carbon Steel	1	29.5	36.0	78.7	4,400	UUT-1
BC43	43C1xxxx-D4801xxxx20XH1xx	Powder Coated Carbon Steel	1	29.5	36.0	78.7	4,560	UUT-5
BC43	43xxxxxxxxxxxxxxxxxxxxH1xx	Powder Coated Carbon Steel	1	29.5	36.0	78.7	4,980	Interpolated ²
BC55	55C1xxxx-D4801Dxxx00AH1xx	Powder Coated Carbon Steel	1	29.5	40.0	78.7	4,910	UUT-2
BC55	55xxxxxxxxxxxxxxxxxxxxH1xx	Powder Coated Carbon Steel	1	29.5	40.0	78.7	5,024	Interpolated ²
UBC80	X8C1xxxx-D4801Gxxx02HH1xx	Powder Coated Carbon Steel	1	35.6	46.5	84.0	7,030	UUT-4

1. The variable "x" denotes different options as described in the Nomenclature Charts in Tables 2 and 3. For the tested units, different batteries were tested; therefore a distinct model number cannot be associated with the actual tested units since they utilize multiple battery types.

2. The max weight for the interpolated units assumes each cabinet type uses all the heaviest subcomponents whereas a combination was tested to bookend all possible combinations.

DATE: 11/17/2021



Special Seismic Certification
Table 2 - Certified Options - Nomenclature Chart



DCL Project Number: 51697-2001

Manufacturer: C & C Power, Inc.
 Product Line: BC and UBC Battery Cabinets
 Seismic Levels: S₀₅ = 2.0g, z/h=1.0

Sample Model Number																
<div><div>551</div><div>C2</div><div>13</div><div>E4</div><div>5405</div><div>-6</div><div>D7</div><div>4808</div><div>19</div><div>E10</div><div>60011</div><div>112</div><div>113</div><div>H14</div><div>H15</div><div>116</div><div>QB17</div></div>																
Character	Category	Allowable Value	Description	Unit												
1	Enclosure Type	43	BC43 Battery Cabinet Enclosure	UUT-1, UUT-5												
		55	BC55 Battery Cabinet Enclosure	UUT-2												
		X8	UBC80 Battery Cabinet Enclosure	UUT-4												
2	Customer Code	A	Identifier for the buying customer	Extrapolated												
		C		UUT-1, UUT-2, UUT-4, UUT-5												
		B-Z		Extrapolated												
3	String Quantity	1	Number of strings inside a single battery cabinet. Does not exceed total # of batteries	UUT-1, UUT-2, UUT-4, UUT-5												
4	Battery Manufacturer	E	Energys	UUT-1, UUT-2, UUT-4, UUT-5												
		U	Deka	UUT-1, UUT-2, UUT-4, UUT-5												
		S	CSB	UUT-1, UUT-2, UUT-5												
5	Battery Model Number															
	Energys HX	205	12HX205	Extrapolated												
		300	12HX300	Extrapolated												
		330	12HX330	Extrapolated												
		400	12HX400	Extrapolated												
		505	12HX505	UUT-1, UUT-5												
		540	12HX540	UUT-2												
	Energys XE Front Access	XF2	12XE1150F-FR	UUT-4												
	Deka HR	200	45HR2000	Extrapolated												
		H30	HR3000	Extrapolated												
		H35	HR3500	Extrapolated												
		H40	HR4000	Extrapolated												
		500	31HR5000	UUT-1												
		H55	HR5500	UUT-2												
	Deka HRC	X95	HRC950	UUT-5												
	Deka HR Front Access	F75	HR7500ET	UUT-4												
	Deka HT Front Access	H75	HT7500ET	UUT-4												
	CSB HRL	200	HRL12200W	Extrapolated												
		280	HRL12280W	Extrapolated												
		330	HRL12330W	Extrapolated												
		390	HRL12390W	UUT-1												
		540	HRL12540W	UUT-2												
	CSB XPL	X22	XPL2200	Extrapolated												
		X27	XPL2700	Extrapolated												
		X35	XPL3500	Extrapolated												
		X42	XPL4200	Extrapolated												
X47		XPL4700	Extrapolated													
X57		XPL5700	UUT-5													
X67		XPL6700	UUT-2													
6	Battery Supplier / Installer	-	Supplied & Installed by C&C Power	UUT-1, UUT-2, UUT-4, UUT-5												
		X	Supplied by others & Installed by C&C Power	Extrapolated												
7	Lug Size	C	#10 or M5 Bolt	Extrapolated												
		D	1/4" or M6 Bolt	UUT-1, UUT-2, UUT-4, UUT-5												
		E	5/16" or M8	Extrapolated												
8	Bus Voltage	12 -432	Total voltage when a string of batteries are wired together in series.	Extrapolated												
		480		UUT-1, UUT-2, UUT-4, UUT-5												

Special Seismic Certification
Table 3 - Certified Options - Nomenclature Chart (Continued)



DCL Project Number: 51697-2001

Manufacturer: C & C Power, Inc.
Product Line: BC and UBC Battery Cabinets
Seismic Levels: $S_{DS} = 2.0g$, $z/h=1.0$

Sample Model Number																	
<div><div>551</div><div>C2</div><div>13</div><div>E4</div><div>5405</div><div>-6</div><div>D7</div><div>4808</div><div>19</div><div>E10</div><div>60011</div><div>112</div><div>113</div><div>H14</div><div>H15</div><div>116</div><div>QB17</div></div>																	
Character	Category	Allowable Value	Description												Unit		
9	Breaker Quantity	1	The number of breakers inside a single battery cabinet. Typically 1 per cabinet but multiple may be used if there are multiple smaller strings inside a single battery cabinet.												UUT-1, UUT-2, UUT-4, UUT-5		
10	Breaker Type	D	Square-D with Rotary Handle Extension												UUT-2		
		E	Eaton / Cutler-Hammer Breaker												UUT-5		
		G	Eaton / Cutler-Hammer Breaker with Rotary Handle Extension												UUT-4		
		Q	Square-D Breaker												UUT-1		
		S	Siemens												UUT-5		
11	Breaker Amperage	070-250	Ranges from 070-800A												UUT-1, UUT-5		
		250-800													UUT-2, UUT-4		
12	Auxiliary Contacts for Breaker	0	NONE												UUT-1, UUT-2, UUT-4		
		1	Single Aux Contact												Interpolated		
		2	Dual Aux Contacts												UUT-5		
13	Bell Alarm for Breaker	0	NONE												UUT-1, UUT-2, UUT-5		
		1	Single Bell Alarm												Interpolated		
		2	Dual Bell Alarm												UUT-4		
14	Under Voltage Relay or Shunt Trip for Breakers	A	NONE												UUT-1, UUT-2		
		B	120VAC UV Trip												Interpolated		
		C	208VAC UV Trip												Interpolated		
		D	240VAC UV Trip												Interpolated		
		E	277VAC UV Trip												Interpolated		
		F	480VAC UV Trip												Interpolated		
		G	600VAC UV Trip												Interpolated		
		H	24VDC UV Trip												UUT-4		
		J	48VDC UV Trip												Interpolated		
		K	125VDC UV Trip												Interpolated		
		L	250VDC UV Trip												Interpolated		
		M	24VAC Shunt Trip												Interpolated		
		N	48VAC Shunt Trip												Interpolated		
		P	120VAC Shunt Trip												Interpolated		
		Q	208VAC Shunt Trip												Interpolated		
		R	240VAC Shunt Trip												Interpolated		
		S	277VAC Shunt Trip												Interpolated		
		T	480VAC Shunt Trip												Interpolated		
		U	600VAC Shunt Trip												Interpolated		
		V	12VDC Shunt Trip												Interpolated		
		W	24VDC Shunt Trip												Interpolated		
		X	48VDC Shunt Trip												UUT-5		
		Y	125VDC Shunt Trip												Interpolated		
		Z	250VDC Shunt Trip												Interpolated		
15	Certification Code	H	OSHDPD												UUT-1, UUT-2, UUT-4, UUT-5		
		J	OSHDPD and IFC Compliance												Extrapolated		
16	Cabinet Quantity	1 to 9	The number of cabinets in a multi-cabinet system. Cabinets remain structurally independent but model number calls out cabinet quantity as it correlates with the application.												UUT-1, UUT-2, UUT-4, UUT-5		
17	Color Code	##	Color the enclosure is painted. Matches customer specification. Any 2-character alpha numeric combination to represent a specific color.												UUT-1, UUT-2, UUT-4, UUT-5		

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Table 4 - Certified Subcomponents- Enclosures and Batteries



DCL Project Number: 51697-2001

Mounting Configuration: Rigid Base Mounted
 Product Type: Battery Cabinet
 Product Line: BC and UBC Battery Cabinets
 Test Levels: $S_{ps} = 2.0g$, $z/h=1.0$

Enclosures							
Model Number	Manufacturer	NEMA Rating	Description	Construction	Material	Weight (lb.)	Unit
BC43 Enclosure	C & C Power Inc.	1	Top Terminal Battery Cabinet	Welded	Powder- Coated Carbon Steel	488	UUT-1, UUT-5
BC55 Enclosure	C & C Power Inc.	1	Top Terminal Battery Cabinet	Welded	Powder- Coated Carbon Steel	520	UUT-2
UBC80 Enclosure	C & C Power Inc.	1	Front Terminal Battery Cabinet	Welded	Powder- Coated Carbon Steel	1,000	UUT-4
Top Terminal Batteries (12 VDC VRLA Batteries)							
Model Number	Manufacturer	Description		Material		Weight (lb.)	Unit
12HX205	Energys	ENERSYS DataSafe HX Top Terminal		Plastic, Lead, and Brass		43	Extrapolated
12HX300	Energys	ENERSYS DataSafe HX Top Terminal		Plastic, Lead, and Brass		60	Extrapolated
12HX330	Energys	ENERSYS DataSafe HX Top Terminal		Plastic, Lead, and Brass		71	Extrapolated
12HX400	Energys	ENERSYS DataSafe HX Top Terminal		Plastic, Lead, and Brass		80	Extrapolated
12HX505	Energys	ENERSYS DataSafe HX Top Terminal		Plastic, Lead, and Brass		103	UUT-1, UUT-5
12HX540	Energys	ENERSYS DataSafe HX Top Terminal		Plastic, Lead, and Brass		106	UUT-2
45HR2000	EAST PENN Manufacturing Co. Inc.	DEKA UNIGY HR		Plastic, Lead, and Brass		40	Extrapolated
HR3000	EAST PENN Manufacturing Co. Inc.	DEKA UNIGY HR		Plastic, Lead, and Brass		62	Extrapolated
HR3500	EAST PENN Manufacturing Co. Inc.	DEKA UNIGY HR		Plastic, Lead, and Brass		72	Extrapolated
HR4000	EAST PENN Manufacturing Co. Inc.	DEKA UNIGY HR		Plastic, Lead, and Brass		81	UUT-1
31HR5000	EAST PENN Manufacturing Co. Inc.	DEKA UNIGY HR		Plastic, Lead, and Brass		97	Interpolated
HR5500	EAST PENN Manufacturing Co. Inc.	DEKA UNIGY HR		Plastic, Lead, and Brass		105	UUT-2
HRC950	EAST PENN Manufacturing Co. Inc.	DEKA UNIGY HRC		Plastic, Lead, and Brass		93	UUT-5
HRL12200W	Hitachi Chemical Energy Technology Co. Ltd.	CSB HRL		Plastic, Lead, and Brass		38	Extrapolated
HRL12280W	Hitachi Chemical Energy Technology Co. Ltd.	CSB HRL		Plastic, Lead, and Brass		57	Extrapolated
HRL12330W	Hitachi Chemical Energy Technology Co. Ltd.	CSB HRL		Plastic, Lead, and Brass		65	Extrapolated
HRL12390W	Hitachi Chemical Energy Technology Co. Ltd.	CSB HRL		Plastic, Lead, and Brass		73	UUT-1
HRL12540W	Hitachi Chemical Energy Technology Co. Ltd.	CSB HRL		Plastic, Lead, and Brass		97	UUT-2
XPL2200	Hitachi Chemical Energy Technology Co. Ltd.	CSB XPL		Plastic, Lead, and Brass		36	Extrapolated
XPL2700	Hitachi Chemical Energy Technology Co. Ltd.	CSB XPL		Plastic, Lead, and Brass		40	Extrapolated
XPL3500	Hitachi Chemical Energy Technology Co. Ltd.	CSB XPL		Plastic, Lead, and Brass		57	Extrapolated
XPL4200	Hitachi Chemical Energy Technology Co. Ltd.	CSB XPL		Plastic, Lead, and Brass		62	Extrapolated
XPL4700	Hitachi Chemical Energy Technology Co. Ltd.	CSB XPL		Plastic, Lead, and Brass		71	Extrapolated
XPL5700	Hitachi Chemical Energy Technology Co. Ltd.	CSB XPL		Plastic, Lead, and Brass		80	UUT-5
XPL6700	Hitachi Chemical Energy Technology Co. Ltd.	CSB XPL		Plastic, Lead, and Brass		104	UUT-2
Front Terminal Batteries (12 VDC VRLA Batteries)							
Model Number	Manufacturer ¹	Description		Material		Weight (lb.)	Unit
HR7500ET	EAST PENN Manufacturing Co. Inc.	DEKA HR Front Access		Plastic, Lead, and Brass		150	UUT-4
HT7500ET	EAST PENN Manufacturing Co. Inc.	DEKA HT Front Access		Plastic, Lead, and Brass		151	UUT-4
12XE1150F-FR	Energys	ENERSYS XE Front Access		Plastic, Lead, and Brass		129	UUT-4

1. EAST PENN Manufacturing Co. Inc. and Energys are ISO 9001 certified manufacturers

Special Seismic Certification
Table 5 - Certified Subcomponents- Circuit Breakers and Circuit Breaker Accessories



DCL Project Number: 51697-2001

Mounting Configuration: Rigid Base Mounted
Product Type: Battery Cabinet
Product Line: BC and UBC Battery Cabinets
Test Levels: S_{DS} = 2.0g, z/h=1.0

Circuit Breakers					
Model Number	Manufacturer	Model	Material	Weight (lb.)	Unit
JGEDC3250NN	Eaton / Cutler Hammer	70A-250A G Circuit Breaker	Plastic, Steel, and Copper	6	UUT-5
JGEDC3630NN	Eaton / Cutler Hammer	250A-600A G Circuit Breaker	Plastic, Steel, and Copper	12	Interpolated
LGEDC3630NNCC	Eaton / Cutler Hammer	250A-600A G Circuit Breaker	Plastic, Steel, and Copper	12	Interpolated ¹
HMDLDC3800F	Eaton / Cutler Hammer	300A-800A G Circuit Breaker	Plastic, Steel, and Copper	24	UUT-4
JGL37250D82	Schneider Electric	150A-250A PowerPact Circuit Breaker	Plastic, Steel, and Copper	4	UUT-1
LLL37060D33	Schneider Electric	250A-600A PowerPact Circuit Breaker	Plastic, Steel, and Copper	14	UUT-2
3VA5210-5EC31-0AA0	Siemens	100A 3VA Circuit Breaker	Plastic, Steel, and Copper	5	UUT-5

1. LGEDC3630NNCC is identical to the LGEDC3630NN circuit breaker, just with C&C Power logo added to it.

Circuit Breaker Accessories						
Accessory Type	Model Number	Manufacturer	Description	Material	Weight (lb.)	Unit
Auxiliary Switches	ALM1M1BJPK	Eaton / Cutler Hammer	G JG & LG Frame Alarm Lockout 1	Plastic, Steel, and Copper	< 1 lb	UUT-4
	ALM2M2BJPK	Eaton / Cutler Hammer	G JG & LG Frame Alarm Lockout 2	Plastic, Steel, and Copper	< 1 lb	UUT-4
	AUX1A1BPK	Eaton / Cutler Hammer	G EG, JG, & LG Frame Auxiliary Switch 1A/1B	Plastic, Steel, and Copper	< 1 lb	UUT-5
	AUX2A2BPK	Eaton / Cutler Hammer	G EG, JG, & LG Frame Auxiliary Switch 2A/2B	Plastic, Steel, and Copper	< 1 lb	UUT-5
Shunt Trips	SNT4860CPK	Eaton / Cutler Hammer	G EG, JG, & LG Frame Shunt Trip	Plastic, Steel, and Copper	< 1 lb	UUT-5
Undervoltage Releases	UVR024DPK	Eaton / Cutler Hammer	G EG, JG, & LG Frame Undervoltage Release	Plastic, Steel, and Copper	< 1 lb	UUT-4
Rotary Handles	S32603	Schneider Electric	PowerPact LG Rotary Handle	Plastic, Steel, and Copper	2	UUT-2
	MHMVD128	Eaton / Cutler Hammer	G M Rotary Handle - 16 INCH	Plastic, Steel, and Copper	6	UUT-4

DATE: 11/17/2021



Special Seismic Certification

Table 6 - Tested Units



DCL Project Number: 51697-2001

Mounting Configuration: Rigid Base Mounted
Manufacturer: C&C Power, Inc.
Product Type: Battery Cabinet
Product Line: BC and UBC Battery Cabinets
Test Levels: $S_{DS} = 2.0g$, $z/h=1.0$

Cabinet Type	Model Number ¹	Dimensions (in)			Weight (lb.)	Unit
		Depth	Width	Height		
BC43	43C1xxxx-D4801Qxxx00AH1xx	29.5	36.0	78.7	4,400	UUT-1
BC43	43C1xxxx-D4801xxxx20XH1xx	29.5	36.0	78.7	4,560	UUT-5
BC55	55C1xxxx-D4801Dxxx00AH1xx	29.5	40.0	78.7	4,910	UUT-2
UBC80	X8C1xxxx-D4801Gxxx02HH1xx	35.6	46.5	84.0	7,030	UUT-4

1. For the tested units, different batteries were tested; therefore a distinct model number cannot be associated with the actual tested units since they utilize multiple battery types.

DATE: 11/17/2021

UNIT UNDER TEST (UUT)

Summary Sheet

UUT-01



DCL Project Number: 51697-2001

Manufacturer: C & C Power Inc.

Product Line: BC Battery Cabinets

Model Number: 43C1xxxx-D4801Qxxx00AH1xx

Mounting: Rigid Base Mount

Product Construction Summary: Powder Coated Carbon Steel

Options / Component Summary:

Enclosures; Top Terminal Batteries (12 VDC VRLA Batteries); Front Terminal Batteries (12 VDC VRLA Batteries); Circuit Breakers; Circuit Breaker Accessories

Unit Mounting Description:

UUT-01 was rigid base mounted to the test fixture using (6) 5/8" Grade 8 bolts, round washers, and 3"x3"x3/8" low carbon steel plate washers in manufacturer-provided holes. The bolts were spaced 16.31" and 32.25" from the datum in the width direction and 19.5" from the datum in the depth direction. The bolts were torqued down to 125 ft-lbs.

UUT Properties								
Operating Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)				
	Depth	Width	Height	Front-Back	Side-Side	Vertical		
4,400	29.5	36.0	78.7	10.0	5.5	>33.3		
Seismic Test Parameters								
Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2019	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	1.34	0.54



Figure 1. Overall view of UUT-01

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained.

UNIT UNDER TEST (UUT)

Summary Sheet

UUT-02



DCL Project Number: 51697-2001

Manufacturer: C & C Power Inc.

Product Line: BC Battery Cabinets

Model Number: 55C1xxxx-D4801Dxxx00AH1xx

Mounting: Rigid Base Mount

Product Construction Summary: Powder Coated Carbon Steel

Options / Component Summary:

Enclosures; Top Terminal Batteries (12 VDC VRLA Batteries); Front Terminal Batteries (12 VDC VRLA Batteries); Circuit Breakers; Circuit Breaker Accessories

Unit Mounting Description:

UUT-02 was rigid base mounted to the test fixture using (6) 5/8" Grade 8 bolts, round washers, and 3"x3"x3/8" low carbon steel plate washers in manufacturer-provided holes. The bolts were spaced 16.3" and 36.3" from the datum in the width direction and 19.5" from the datum in the depth direction. The bolts were torqued down to 125 ft-lbs.

UUT Properties

Operating Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
4,910	29.5	40.0	78.7	8.0	7.0	>33.3

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2019	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	1.34	0.54



Figure 1. Overall view of UUT-02

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained.

UNIT UNDER TEST (UUT)

Summary Sheet

UUT-04



DCL Project Number: 51697-2101

Manufacturer: C & C Power Inc.

Product Line: UBC Battery Cabinets

Model Number: X8C1xxxx-D4801Gxxx02HH1xx

Mounting: Rigid Base Mount

Product Construction Summary: Powder Coated Carbon Steel

Options / Component Summary:

Enclosures; Top Terminal Batteries (12 VDC VRLA Batteries); Front Terminal Batteries (12 VDC VRLA Batteries); Circuit Breakers; Circuit Breaker Accessories

Unit Mounting Description:

UUT-04 was rigid base mounted to the test fixture using (8) 5/8" Grade 8 bolts, round washers, and 3"x3"x3/8" low carbon steel plate washers in manufacturer-provided holes. The bolts were spaced 21.56" and 43.12" from the datum in the width direction and 16.58" and 31.16" from the datum in the depth direction. The bolts were torqued down to 125 ft-lbs.

UUT Properties								
Operating Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)				
	Depth	Width	Height	Front-Back	Side-Side	Vertical		
7,030	35.6	46.5	84.0	10.5	7.5	24.5		
Seismic Test Parameters								
Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2019	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	1.34	0.54



Figure 1. Overall view of UUT-04

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained.

UNIT UNDER TEST (UUT)

Summary Sheet

UUT-05



DCL Project Number: 51697-2101

Manufacturer: C & C Power Inc.

Product Line: BC Battery Cabinets

Model Number: 43C1xxxx-D4801xxxx20XH1xx

Mounting: Rigid Base Mount

Product Construction Summary: Powder Coated Carbon Steel

Options / Component Summary:

Enclosures; Top Terminal Batteries (12 VDC VRLA Batteries); Front Terminal Batteries (12 VDC VRLA Batteries); Circuit Breakers; Circuit Breaker Accessories

Unit Mounting Description:

UUT-05 was rigid base mounted to the test fixture using (6) 5/8" Grade 8 bolts, round washers, and 3"x3"x3/8" low carbon steel plate washers in manufacturer-provided holes. The bolts were spaced 16.31" and 32.25" from the datum in the width direction and 19.5" from the datum in the depth direction. The bolts were torqued down to 125 ft-lbs.

UUT Properties								
Operating Weight (lb)	Dimensions (inches)				Lowest Natural Frequency (Hz)			
	Depth	Width	Height		Front-Back	Side-Side	Vertical	
4,560	29.5	36.0	78.7		10.0	7.0	>33.3	
Seismic Test Parameters								
Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2019	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	1.34	0.54

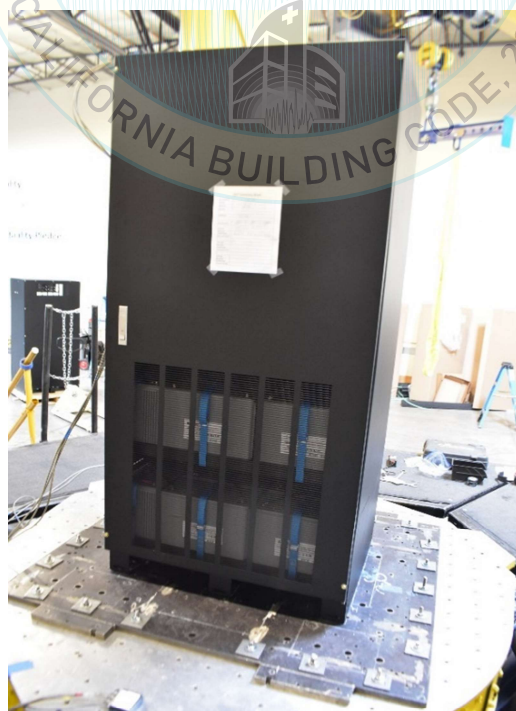


Figure 1. Overall view of UUT-05

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained.