



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

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

OFFICE USE ONLY

APPLICATION #: OSP – 0499-10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Crucial Power Products

Manufacturer's Technical Representative: Sherri Shahsavari

Mailing Address: 14000 S Broadway, Los Angeles, CA 90061

Telephone: 323.721.5017 x412

Email: sherris@onlinepower.com

Product Information

Product Name: Wave Rider 1 / Wave Rider 3

Product Type: Emergency Lighting Inverter

Product Model Number: See Attachment

(List all unique product identification numbers and/or part numbers)

General Description: Single phase or three phase emergency lighting inverter with battery backup inside of a carbon steel electrical cabinet enclosure. Seismic enhancements made to the test units required to address the anomalies observed during the tests shall be incorporated into the production units.

Mounting Description: Base mounted – rigid.

Applicant Information

Applicant Company Name: TRU Compliance, LLC


Contact Person: Derrick Watkins, Ph.D., S.E.

Mailing Address: 960 SW Disk Drive, Suite 104, Bend, OR 97702

Telephone: 844.878.0200

Email: dwatkins@trucompliance.com

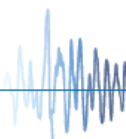
I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2016.

Signature of Applicant: 

Date: 1/13/2017

Title: Executive Vice President

Company Name: TRU Compliance, LLC





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

Company Name: TRU Compliance, LLC

Name: Derrick Watkins, Ph.D., S.E. California License Number: S5257

Mailing Address: 960 SW Disk Dr., Suite 104, Bend, OR 97702

Telephone: 844.878.0200 Email: d Watkins@trucompliance.com

Supports and Attachments Preapproval

- Supports and attachments are preapproved under OPM- _____
(Separate application for OSHPD Preapproval of Manufacturer's Certification (OPM) of Supports and attachments is required)
- Supports and attachments are not preapproved

Certification Method

- Testing in accordance with: ICC-ES AC156
- Other (Please Specify): _____

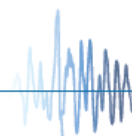
Testing Laboratory

Company Name: Pacific Earthquake Engineering Research Center (PEER)

Contact Name: Nathaniel Knight

Mailing Address: 1301 South 46th Street, Bldg. 420, Richmond, CA 94804

Telephone: (510) 642-3437 Email: peer_center@berkeley.edu





Seismic Parameters

Design in accordance with ASCE 7-10 Chapter 13: [X] Yes [] No

Design Basis of Equipment or Components (Fp/Wp) = 1.44 for SDS = 2.0g @ z/h = 1.0; 1.35 for SDS = 3.0g @ z/h = 0.0

SDS (Design spectral response acceleration at short period, g) = 2.0 for z/h = 1.0; 3.0 for z/h = 0.0

ap (In-structure equipment or component amplification factor) = 1.0

Rp (Equipment or component response modification factor) = 2.5

Omega_0 (System overstrength factor) = 2.0

Ip (Importance factor) = 1.5

z/h (Height factor ratio) = 1.0 for SDS = 2.0g; 0.0 for SDS = 3.0g

Equipment or Component Natural Frequencies (Hz) = See Attachment

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

Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15: [] Yes [X] No

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

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

SD1 (Design spectral response acceleration at 1 second period, g) =

R (Response modification coefficient) =

Omega_0 (System overstrength factor) =

Cd (Deflection amplification factor) =

Ip (Importance factor) = 1.5

Height to Center of Gravity above base =

Equipment or Component Natural Frequencies (Hz) =

Overall dimensions and weight (or range thereof) =

Tank(s) designed in accordance with ASME BPVC, 2015: [] Yes [X] No

List of Attachments Supporting Special Seismic Certification

[X] Test Report(s) [] Drawings [] Calculations [X] Manufacturer's Catalog

[X] Other(s) (Please Specify): Attachment

OSHPD Approval (For Office Use Only) - Approval Expires on December 31, 2022

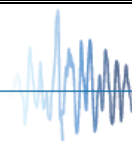
Signature: [Handwritten Signature] Date: 1/23/17

Print Name: M. R. Karim Title: SHFR

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

Condition of Approval (if applicable):

Empty lines for additional approval conditions.



SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

TRU PROJECT NO. 15052



Manufacturer: Crucial Power Products						TABLE 1	
Model Line: Wave Rider 1							
Certified Product Construction Summary: Base & Top: 12 GA. carbon steel, Back & Sides: 14 GA. carbon steel, Doors: 16 GA. carbon steel.							
Certified Options Summary: Input/Output voltage: 120-480VAC.							
Mounting Configuration: Base mounted - rigid Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.							
Building Code: CBC 2016			Seismic Certification Limits:		$S_{DS} = 2.0$ $z/h=1.0$	$I_p = 1.5$	
					$S_{DS} = 3.0$ $z/h = 0.0$		
Model Line	Model	Dimensions (in)			Weight (lb)	Notes	UUT
		Depth	Width	Height			
Wave Rider 1 Cabinet Type A	SV-WR3.0A0100N1	18	39	68	1,284		extrap.
	SV-WR3.0A5800T1	18	39	68	1,284		extrap.
	SV-WR3.0B1300N1	18	39	68	1,284		extrap.
	SV-WR3.0B5800T1	18	39	68	1,284		extrap.
	SV-WR3.0D0400N1	18	39	68	1,284		extrap.
	SV-WR3.0D5800T1	18	39	68	1,284		extrap.
	SV-WR3.0R2500N1	18	39	68	1,284		extrap.
	SV-WR3.0R5800T1	18	39	68	1,284		extrap.
	SV-WR3.0H1100T1	18	39	68	1,284		extrap.
	SV-WR3.0H2500T1	18	39	68	1,284		extrap.
	SV-WR3.0H5800T1	18	39	68	1,284		extrap.
	SV-WR3.0R1100T1	18	39	68	1,284		extrap.
	SV-WR5.0A0100N1	18	39	68	1,284		extrap.
	SV-WR5.0A5800T1	18	39	68	1,284		extrap.
	SV-WR5.0B1300N1	18	39	68	1,284		extrap.
	SV-WR5.0B5800T1	18	39	68	1,284		extrap.
	SV-WR5.0D0400N1	18	39	68	1,284		extrap.
	SV-WR5.0D5800T1	18	39	68	1,284		extrap.
	SV-WR5.0R2500N1	18	39	68	1,284		extrap.
	SV-WR5.0R5800T1	18	39	68	1,284		extrap.
	SV-WR5.0H1100T1	18	39	68	1,284		extrap.
	SV-WR5.0H2500T1	18	39	68	1,284		extrap.
	SV-WR5.0H5800T1	18	39	68	1,284		extrap.
	SV-WR5.0R1100T1	18	39	68	1,284		extrap.

SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

TRU PROJECT NO. 15052



Manufacturer: Crucial Power Products						TABLE 1	
Model Line: Wave Rider 1							
Certified Product Construction Summary: Base & Top: 12 GA. carbon steel, Back & Sides: 14 GA. carbon steel, Doors: 16 GA. carbon steel.							
Certified Options Summary: Input/Output voltage: 120-480VAC.							
Mounting Configuration: Base mounted - rigid Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.							
Building Code: CBC 2016			Seismic Certification Limits:		$S_{DS} = 2.0$ $z/h=1.0$	$I_p = 1.5$	
					$S_{DS} = 3.0$ $z/h = 0.0$		
Model Line	Model	Dimensions (in)			Weight (lb)	Notes	UUT
		Depth	Width	Height			
Wave Rider 1 Cabinet Type A	SV-WR6.0A0100N1	18	39	68	1,340		extrap.
	SV-WR6.0A5800T1	18	39	68	1,340		extrap.
	SV-WR6.0B1300N1	18	39	68	1,340		extrap.
	SV-WR6.0B5800T1	18	39	68	1,340		extrap.
	SV-WR6.0D0400N1	18	39	68	1,340		extrap.
	SV-WR6.0D5800T1	18	39	68	1,340		extrap.
	SV-WR6.0R2500N1	18	39	68	1,340		extrap.
	SV-WR6.0R5800T1	18	39	68	1,340		extrap.
	SV-WR6.0H1100T1	18	39	68	1,340		extrap.
	SV-WR6.0H2500T1	18	39	68	1,340		extrap.
	SV-WR6.0H5800T1	18	39	68	1,340		extrap.
	SV-WR6.0R1100T1	18	39	68	1,340		extrap.
	SV-WR7.5A0100T1	18	39	68	1,340		extrap.
	SV-WR7.5A5800T1	18	39	68	1,340		extrap.
	SV-WR7.5B1300N1	18	39	68	1,340		extrap.
	SV-WR7.5B5800T1	18	39	68	1,340		extrap.
	SV-WR7.5D0400N1	18	39	68	1,340		extrap.
	SV-WR7.5D5800T1	18	39	68	1,340		extrap.
	SV-WR7.5R2500N1	18	39	68	1,340		extrap.
	SV-WR7.5R5800T1	18	39	68	1,340		extrap.
	SV-WR7.5H1100T1	18	39	68	1,340		extrap.
	SV-WR7.5H2500T1	18	39	68	1,340		extrap.
SV-WR7.5H5800T1	18	39	68	1,340		extrap.	
SV-WR7.5R1100T1	18	39	68	1,340		extrap.	

SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

TRU PROJECT NO. 15052



Manufacturer: Crucial Power Products						TABLE 1	
Model Line: Wave Rider 1							
Certified Product Construction Summary: Base & Top: 12 GA. carbon steel, Back & Sides: 14 GA. carbon steel, Doors: 16 GA. carbon steel.							
Certified Options Summary: Input/Output voltage: 120-480VAC.							
Mounting Configuration: Base mounted - rigid Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.							
Building Code: CBC 2016			Seismic Certification Limits:		$S_{DS} = 2.0$ $z/h = 1.0$	$I_p = 1.5$	
					$S_{DS} = 3.0$ $z/h = 0.0$		
Model Line	Model	Dimensions (in)			Weight (lb)	Notes	UUT
		Depth	Width	Height			
Wave Rider 1 Cabinet Type A	SV-WR8.0A0100T1	18	39	68	1,795	UUT: 120V in, 120V out	1
	SV-WR8.0A5800T1	18	39	68	1,795		interp.
	SV-WR8.0B1300N1	18	39	68	1,795		interp.
	SV-WR8.0B5800T1	18	39	68	1,795		interp.
	SV-WR8.0D0400N1	18	39	68	1,795		interp.
	SV-WR8.0D5800T1	18	39	68	1,795		interp.
	SV-WR8.0R2500N1	18	39	68	1,795		interp.
	SV-WR8.0R5800T1	18	39	68	1,795		interp.
	SV-WR8.0H1100T1	18	39	68	1,795		interp.
	SV-WR8.0H2500T1	18	39	68	1,795		interp.
	SV-WR8.0H5800T1	18	39	68	1,795		interp.
SV-WR8.0R1100T1	18	39	68	1,795		interp.	
Wave Rider 1 Cabinet Type B	SV-WR010A0100T1	30.5	51	70	2,438		interp.
	SV-WR010A5800T1	30.5	51	70	2,438		interp.
	SV-WR010B1300N1	30.5	51	70	2,438		interp.
	SV-WR010B5800T1	30.5	51	70	2,438		interp.
	SV-WR010D0400N1	30.5	51	70	2,438		interp.
	SV-WR010D5800T1	30.5	51	70	2,438		interp.
	SV-WR010R2500N1	30.5	51	70	2,438		interp.
	SV-WR010R5800T1	30.5	51	70	2,438		interp.
	SV-WR010H1100T1	30.5	51	70	2,438		interp.
	SV-WR010H2500T1	30.5	51	70	2,438		interp.
	SV-WR010H5800T1	30.5	51	70	2,438		interp.
SV-WR010R1100T1	30.5	51	70	2,438		interp.	

SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

TRU PROJECT NO. 15052



Manufacturer: Crucial Power Products						TABLE 1	
Model Line: Wave Rider 1							
Certified Product Construction Summary: Base & Top: 12 GA. carbon steel, Back & Sides: 14 GA. carbon steel, Doors: 16 GA. carbon steel.							
Certified Options Summary: Input/Output voltage: 120-480VAC.							
Mounting Configuration: Base mounted - rigid Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.							
Building Code: CBC 2016			Seismic Certification Limits:		$S_{DS} = 2.0$ $z/h=1.0$	$I_p = 1.5$	
					$S_{DS} = 3.0$ $z/h = 0.0$		
Model Line	Model	Dimensions (in)			Weight (lb)	Notes	UUT
		Depth	Width	Height			
Wave Rider 1 Cabinet Type B	SV-WR012A010T1	30.5	51	70	3,681		interp.
	SV-WR012A5800T1	30.5	51	70	3,681		interp.
	SV-WR012B1300N1	30.5	51	70	3,681		interp.
	SV-WR012B5800T1	30.5	51	70	3,681		interp.
	SV-WR012D0400N1	30.5	51	70	3,681		interp.
	SV-WR012D5800T1	30.5	51	70	3,681		interp.
	SV-WR012R2500N1	30.5	51	70	3,681		interp.
	SV-WR012R2800T1	30.5	51	70	3,681		interp.
	SV-WR012H1100T1	30.5	51	70	3,681		interp.
	SV-WR012H2500T1	30.5	51	70	3,681		interp.
	SV-WR012H5800T1	30.5	51	70	3,681		interp.
	SV-WR012R1100T1	30.5	51	70	3,681		interp.
	SV-PW015A0100T1	30.5	51	70	3,852		interp.
	SV-WR015A5800T1	30.5	51	70	3,852		interp.
	SV-WR015B1300N1	30.5	51	70	3,852		interp.
	SV-WR015B5800T1	30.5	51	70	3,852		interp.
	SV-WR015D0400N1	30.5	51	70	3,852		interp.
	SV-WR015D5800T1	30.5	51	70	3,852		interp.
	SV-WR015R2500N1	30.5	51	70	3,852		interp.
	SV-WR015R5800T1	30.5	51	70	3,852		interp.
	SV-WR015H1100T1	30.5	51	70	3,852		interp.
	SV-WR015H2500T1	30.5	51	70	3,852		interp.
SV-WR015H5800T1	30.5	51	70	3,852		interp.	
SV-WR015R1100T1	30.5	51	70	3,852		interp.	

SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

TRU PROJECT NO. 15052



Manufacturer: Crucial Power Products						TABLE 1	
Model Line: Wave Rider 1							
Certified Product Construction Summary: Base & Top: 12 GA. carbon steel, Back & Sides: 14 GA. carbon steel, Doors: 16 GA. carbon steel.							
Certified Options Summary: Input/Output voltage: 120-480VAC.							
Mounting Configuration: Base mounted - rigid Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.							
Building Code: CBC 2016		Seismic Certification Limits:			$S_{DS} = 2.0$	$z/h = 1.0$	$I_p = 1.5$
					$S_{DS} = 3.0$	$z/h = 0.0$	
Model Line	Model	Dimensions (in)			Weight (lb)	Notes	UUT
		Depth	Width	Height			
Wave Rider 1 Cabinet Type B	SV-PW017A0100T1	30.5	51	70	4,512		interp.
	SV-WR017A5800T1	30.5	51	70	4,512		interp.
	SV-WR017B1300N1	30.5	51	70	4,512		interp.
	SV-WR017B5800T1	30.5	51	70	4,512		interp.
	SV-WR017D0400N1	30.5	51	70	4,512		interp.
	SV-WR017D5800T1	30.5	51	70	4,512		interp.
	SV-WR017R2500N1	30.5	51	70	4,512		interp.
	SV-WR017R5800T1	30.5	51	70	4,512		interp.
	SV-WR017H1100T1	30.5	51	70	4,512		interp.
	SV-WR017H2500T1	30.5	51	70	4,512		interp.
	SV-WR017H5800T1	30.5	51	70	4,512		interp.
	SV-WR017R1100T1	30.5	51	70	4,512	UUT: 277V in, 480V out	2

SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

TRU PROJECT NO. 15052



Manufacturer: Crucial Power Products						TABLE 2	
Model Line: Wave Rider 3							
Certified Product Construction Summary: Base & Top: 12 GA. carbon steel, Back & Sides: 14 GA. carbon steel, Doors: 16 GA. carbon steel.							
Certified Options Summary: Input: 208Y/120V ~ 480Y/277 Output: 208Y/120V ~ 480Y/277							
Mounting Configuration: Base mounted - rigid Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.							
Building Code: CBC 2016			Seismic Certification Limits:		$S_{DS} = 2.0$ $z/h=1.0$	$I_p = 1.5$	
					$S_{DS} = 3.0$ $z/h = 0.0$		
Model Line	Model	Dimensions (in)			Weight (lb)	Notes	UUT
		Depth	Width	Height			
Wave Rider 3	SV-WR010B05LHT3-VA	18	39	68	1,083	208Y/120V in, 208Y/120V out	3
	SV-WR010B09LHT3-VA	18	39	68	1,083		interp.
	SV-WR010H09LHT3-VA	18	39	68	1,083		interp.
	SV-WR010H05LHT3-VA	18	39	68	1,083		interp.
	SV-WR015B05LHT3-VA	18	39	68	1,446		interp.
	SV-WR015B09LHT3-VA	18	39	68	1,446		interp.
	SV-WR015H09LHT3-VA	18	39	68	1,446		interp.
	SV-WR015H05LHT3-VA	18	39	68	1,446		interp.
	SV-WR020B05LHT3-VA	18	39	68	1,679		interp.
	SV-WR020B09LHT3-VA	18	39	68	1,679		interp.
	SV-WR020H09LHT3-VA	18	39	68	1,679		interp.
	SV-WR020H05LHT3-VA	18	39	68	1,679		interp.
	SV-WR025B05LHT3-VA	18	39	68	1,679		interp.
	SV-WR025B09LHT3-VA	18	39	68	1,679		interp.
	SV-WR025H09LHT3-VA	18	39	68	1,679		interp.
	SV-WR025H05LHT3-VA	18	39	68	1,679		interp.
	SV-WR030B05LHT3-VA	18	39	68	1,719		interp.
	SV-WR030B09LHT3-VA	18	39	68	1,719		interp.
	SV-WR030H09LHT3-VA	18	39	68	1,719		interp.
	SV-WR030H05LHT3-VA	18	39	68	1,719		interp.
	SV-WR040B05LHT3-VA	18	39	68	2,066		interp.
	SV-WR040B09LHT3-VA	18	39	68	2,066		interp.
SV-WR040H09LHT3-VA	18	39	68	2,066		interp.	
SV-WR040H05LHT3-VA	18	39	68	2,066		interp.	

SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

TRU PROJECT NO. 15052



Manufacturer: Crucial Power Products						TABLE 2	
Model Line: Wave Rider 3							
Certified Product Construction Summary: Base & Top: 12 GA. carbon steel, Back & Sides: 14 GA. carbon steel, Doors: 16 GA. carbon steel.							
Certified Options Summary: Input: 208Y/120V ~ 480Y/277 Output: 208Y/120V ~ 480Y/277							
Mounting Configuration: Base mounted - rigid Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.							
Building Code: CBC 2016			Seismic Certification Limits:		$S_{DS} = 2.0$ $z/h = 1.0$	$I_p = 1.5$	
					$S_{DS} = 3.0$ $z/h = 0.0$		
Model Line	Model	Dimensions (in)			Weight (lb)	Notes	UUT
		Depth	Width	Height			
Wave Rider 3	SV-WR050B05LHT3-VA	18	39	68	2,463		interp.
	SV-WR050B09LHT3-VA	18	39	68	2,463		interp.
	SV-WR050H09LHT3-VA	18	39	68	2,463		interp.
	SV-WR050H05LHT3-VA	18	39	68	2,463		interp.
	SV-WR050B05LHT3-KW	18	39	68	2,565		interp.
	SV-WR050B09LHT3-KW	18	39	68	2,565		interp.
	SV-WR050H09LHT3-KW	18	39	68	2,565	480Y/277V in, 480Y/277V out	4
	SV-WR050H05LHT3-KW	18	39	68	2,565		interp.
Battery Cabinet	39 Inch	18	39	68	1,752	UUT 1 enclosure w/batteries	interp.
	51 Inch	30.5	51	70	4,320		5

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 15052



Manufacturer: Crucial Power Products	Table Description: Batteries	TABLE 3
Model Line: Wave Rider 1 & 3		

Building Code: CBC 2016	Seismic Certification Limits:	$S_{DS} = 2.0$ $z/h = 1.0$	$I_p = 1.5$
		$S_{DS} = 3.0$ $z/h = 0.0$	

Component Type	Manufacturer	Model	Description	Notes	UUT
Battery	Exide Technologies	S12V285F	12V, 285-270WPC, lead acid		2
		S12V300F	12V, 306-290WPC, lead acid		interp.
		S12V370NGF	12V, 373-353WPC, lead acid		interp.
		S12V550NGF	12V, 550-521WPC, lead acid		5
		M12V105FT	12V, 100Ah, lead acid		5
		M12V155FT	12V, 150Ah, lead acid		interp.
		M12V180FT	12V, 175Ah, lead acid		5
	Vision Group	UNA12-370	12V, 95 Ah, lead acid		1
		UNA12-420	12V, 106 Ah, lead acid		2
	Power-Sonic Co.	PHR-12350	12V, 95 Ah, lead acid		1
	MK (Unigy)	HR7500ET	12V, 750 WPC, lead acid		5
	CSB Battery/Hitachi Chemical Company	HRL12330WFR	12V, 330V, lead acid		1
		HRL12540WFR	12V, 540W, lead acid		5

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 15052



Manufacturer: Crucial Power Products	Table Description: Transformers	TABLE 4
Model Line: Wave Rider 1 & 3		

Building Code: CBC 2016	Seismic Certification Limits:	$S_{DS} = 2.0$ $z/h = 1.0$	$I_p = 1.5$
		$S_{DS} = 3.0$ $z/h = 0.0$	

Component Type	Manufacturer	Model	Description	Notes	UUT
Transformer	OnLine Power Inc.	1400-105	50VA, Cu windings, 120-277V in, 120V out		extrap.
		1400-110	130VA, Cu windings, 208-277V in, 120V out		extrap.
		1400-111	60VA, Cu windings, 208-480V in, 120V out		extrap.
		1400-113	200VA, Cu windings, 120-277V in, 120V out		2
		1400-114	130VA, Cu windings, 208-480V in, 120V out		3
		1450-1473-02	5kVA, Cu windings, 120-277V in, 120-277V out		interp.
		1450-1613-01	7.5kVA, Cu windings, 208-277V in, 208-277V out		interp.
		1450-1661-01	7.5kVA, Cu windings, 480V in, 240-277V out		interp.
		1450-1473-04	10kVA, Cu windings, 120-277V in, 120-277V out		interp.
		1450-1473-06	15kVA, Cu windings, 120-277V in, 120-277V out		interp.
		1450-1629-02	15kVA, Cu windings, 120V in, 240V out		interp.
		1450-1507-02	15kVA, Cu windings, 158V in, 120V out		3
		1450-1508-02	15kVA, Cu windings, 158V in, 277V out		interp.
		1450-1613-02	15kVA, Cu windings, 208-277V in, 208-277V out		interp.
		1450-1661-02	15kVA, Cu windings, 480V in, 240-277V out		interp.
		1450-1613-03	18kVA, Cu windings, 208-277V in, 208-277V out		interp.
		1450-1473-07	20kVA, Cu windings, 120-277V in, 120-277V out		interp.
		1450-1629-03	20kVA, Cu windings, 120V in, 240V out		interp.
		1450-1507-03	20kVA, Cu windings, 158V in, 120V out		interp.
		1450-1508-03	20kVA, Cu windings, 158V in, 277V out		interp.
1450-1613-04	20kVA, Cu windings, 208-277V in, 208-277V out		2		
1450-1661-03	20kVA, Cu windings, 480V in, 240-277V out		2		
1450-1506-06	23kVA, Cu windings, 120V in, 127-220V out		3		

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 15052



Manufacturer: Crucial Power Products	Table Description: Transformers	TABLE 4
Model Line: Wave Rider 1 & 3		

Building Code: CBC 2016	Seismic Certification Limits:	$S_{DS} = 2.0$ $z/h = 1.0$	$I_P = 1.5$
		$S_{DS} = 3.0$ $z/h = 0.0$	

Component Type	Manufacturer	Model	Description	Notes	UUT
Transformer	OnLine Power Inc.	1450-1620-06	23kVA, Cu windings, 120V in, 277-220V out		interp.
		1450-1525-06	23kVA, Cu windings, 277V in, 120-220V out		interp.
		1450-1619-06	23kVA, Cu windings, 277V in, 120-220V out		interp.
		1450-1519-06	23kVA, Cu windings, 277V in, 127-220V out		interp.
		1450-1509-01	30kVA, Cu windings, 213V in, 120V out		interp.
		1450-1510-01	30kVA, Cu windings, 213V in, 277V out		interp.
		1450-1509-02	40kVA, Cu windings, 213V in, 120V out		interp.
		1450-1510-02	40kVA, Cu windings, 213V in, 277V out		interp.
		1450-1506-07	45kVA, Cu windings, 120V in, 173-300V out		interp.
		1450-1620-07	45kVA, Cu windings, 120V in, 277-300V out		interp.
		1450-1525-07	45kVA, Cu windings, 277V in, 120-300V out		interp.
		1450-1619-07	45kVA, Cu windings, 277V in, 120-300V out		interp.
		1450-1519-07	45kVA, Cu windings, 277V in, 173-300V out		interp.
		1450-1509-03	50kVA, Cu windings, 396V in, 120V out		interp.
		1450-1510-03	50kVA, Cu windings, 396V in, 277V out		interp.
		1450-1620-08	58kVA, Cu windings, 120V in, 277-532V out		interp.
		1450-1506-08	58kVA, Cu windings, 120V in, 307-532V out		interp.
		1450-1525-08	58kVA, Cu windings, 277V in, 120-532V out		interp.
		1450-1619-08	58kVA, Cu windings, 277V in, 120-532V out		interp.
		1450-1519-08	58kVA, Cu windings, 277V in, 307-532V out		interp.
1450-1506-09	70kVA, Cu windings, 120V in, 307-532V out		interp.		
1450-1525-09	70kVA, Cu windings, 277V in, 120-532V out		interp.		
1450-1619-09	70kVA, Cu windings, 277V in, 120-532V out		interp.		

**SPECIAL SEISMIC CERTIFICATION
CERTIFIED SUBCOMPONENT MATRIX**



TRU PROJECT NO. 15052

Manufacturer: Crucial Power Products			Table Description: Transformers		TABLE 4
Model Line: Wave Rider 1 & 3					
Building Code: CBC 2016		Seismic Certification Limits:			
		$S_{DS} = 2.0$ $z/h = 1.0$ $S_{DS} = 3.0$ $z/h = 0.0$		$I_p = 1.5$	
Component Type	Manufacturer	Model	Description	Notes	UUT
Transformer	OnLine Power Inc.	1450-1519-09	70kVA, Cu windings, 277V in, 307-532V out		4
		1450-1509-04	70kVA, Cu windings, 396V in, 120V out		interp.
		1450-1510-04	70kVA, Cu windings, 396V in, 277V out		4

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 15052



Manufacturer: Crucial Power Products	Table Description: Circuit Breakers	TABLE 5
Model Line: Wave Rider 1 & 3		

Building Code: CBC 2016	Seismic Certification Limits:	$S_{DS} = 2.0$ $z/h = 1.0$	$I_p = 1.5$
		$S_{DS} = 3.0$ $z/h = 0.0$	

Component Type	Manufacturer	Model	Description	Notes	UUT
Circuit Breaker	Cutler Hammer (ED)	ED2125L	2P, 125A		1
		ED2150L	2P, 150A		interp.
		ED2175L	2P, 175A		interp.
		ED2200L	2P, 200A		1
		ED3125L	3P, 125A		interp.
		ED3150L	3P, 150A		interp.
		ED3175L	3P, 175A		4
	Cutler Hammer (QC)	QC1030	1P, 30A		1
		QC1050	1P, 50A		interp.
		QC1100	1P, 100A		interp.
		QC2015H	2P, 15A		interp.
		QC2020H	2P, 20A		1
		QC2025H	2P, 25A		interp.
		QC2030H	2P, 30A		interp.
		QC2040H	2P, 40A		interp.
		QC2050H	2P, 50A		1
		QC2060H	2P, 60A		interp.
		QC2070	2P, 70A		interp.
		QC2080	2P, 80A		interp.
		QC2090	2P, 90A		interp.
		QC2100H	2P, 100A		interp.
		QC3035H	3P, 35A		3
		QC3050H	3P, 50A		interp.

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 15052



Manufacturer: Crucial Power Products Model Line: Wave Rider 1 & 3		Table Description: Circuit Breakers			TABLE 5	
Building Code: CBC 2016		Seismic Certification Limits:			$S_{DS} = 2.0$ $z/h = 1.0$ $S_{DS} = 3.0$ $z/h = 0.0$	
					$I_p = 1.5$	
Component Type	Manufacturer	Model	Description	Notes	UUT	
Circuit Breaker	Cutler Hammer (QC)	QC3070H	3P, 70A		interp.	
		QC3080H	3P, 80A		interp.	
		QC3090H	3P, 90A		interp.	
		QC3100H	3P, 100A		3	
	Cutler Hammer (GHC)	GHC1015	1P, 15A			1
		GHC1025	1P, 25A			1
		GHC1035	1P, 35A			interp.
		GHC1040	1P, 40A			interp.
		GHC1050	1P, 50A			interp.
		GHC1060	1P, 60A			interp.
		GHC1080	1P, 80A			interp.
		GHC1100	1P, 100A			2
		GHC3020	3P, 20A			interp.
		GHC3030	3P, 30A			interp.
		GHC3040	3P, 40A			3
		GHC3060	3P, 60A			interp.
		GHC3080	3P, 80A			4
		GHC3100	3P, 100A			3
		Cutler Hammer (EGE)	EGE3020FFG	3P, 20A		
	EGE3030FFG		3P, 30A			interp.
	EGE3040FFG		3P, 40A			interp.
	EGE3050FFG		3P, 50A			interp.
	EGE3070FFG		3P, 70A			interp.

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 15052



Manufacturer: Crucial Power Products Model Line: Wave Rider 1 & 3		Table Description: Circuit Breakers			TABLE 5	
Building Code: CBC 2016		Seismic Certification Limits:			$S_{DS} = 2.0$ $z/h = 1.0$ $S_{DS} = 3.0$ $z/h = 0.0$	
					$I_p = 1.5$	
Component Type	Manufacturer	Model	Description	Notes	UUT	
Circuit Breaker	Cutler Hammer (EGE)	EGE3080FFG	3P, 80A		interp.	
		EGE3100FFG	3P, 100A		4	
	ABB	TS3N060TW-2	2P, 60A		1	
		TS3N090TW-2	2P, 90A		3	
		TS3N100TW-2	2P, 100A		5	
		TS3N125TW-2	2P, 125A		interp.	
		TS3N150TW-2	2P, 150A		2	
		T3N200TW	2P, 200A		4	
		S201-C20	1P, 20A		2	
		S203-D20	3P, 20A		interp.	
		S203-B20	3P, 20A		interp.	
		T2S015TW	3P, 15A		interp.	
		T2S025TW	3P, 25A		interp.	
		T2S030TW	3P, 30A		interp.	
		T2S040TW	3P, 40A		interp.	
		T2S050TW	3P, 50A		interp.	
		T2S060TW	3P, 60A		interp.	
		T2S070TW	3P, 70A		interp.	
		T2S080TW	3P, 80A		interp.	
		T2S090TW	3P, 90A		4	

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 15052



Manufacturer: Crucial Power Products Model Line: Wave Rider 1 & 3		Table Description: Miscellaneous			TABLE 6	
Building Code: CBC 2016		Seismic Certification Limits:			$S_{DS} = 2.0$ $z/h = 1.0$ $S_{DS} = 3.0$ $z/h = 0.0$	
					$I_p = 1.5$	
Component Type	Manufacturer	Model	Description	Notes	UUT	
Heat Sink	Wakefield Extrusion	5088-011	#510M		3	
	AAVID	62905	6063-T5 Aluminum extrusion alloy		3, 4	
		024562	Augmented bonded fin		4	
	Newark Electronic	657-25ABP			4	
Contactor	Cutler Hammer	C25DNF340A	3P, 40A		extrap.	
		C25FNF360A	3P, 60A		extrap.	
		C25FNF375A	3P, 75A		1	
		XTCE225H22A	3P, 225A		2	
	GE	CR353GJ3AA1	3P, 120A		4	
		CR353GK3AA1	3P, 150A		3	
	ABB	A95-30-00-84	3P, 90A		3	
	GIGAVAC	GX11KA	150A, 750VDC		1, 2	

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 15052



Manufacturer: Crucial Power Products	Table Description: Miscellaneous	TABLE 6
Model Line: Wave Rider 1 & 3		

Building Code: CBC 2016	Seismic Certification Limits:	$S_{DS} = 2.0$ $z/h = 1.0$	$I_p = 1.5$
		$S_{DS} = 3.0$ $z/h = 0.0$	

Component Type	Manufacturer	Model	Description	Notes	UUT
PCBD	OnLine Power Inc.	1625-287-01	1PH, 3-5kW, 10kW & 3PH, 10kW-15kW (24 Ω Resistor)		1
		1625-287-02	1PH, 7.5, 12.5, 15, 17kW & 3PH, 20 kVA-25kVA (14 Ω Resistor)		2
		1625-287-03	3PH, 40kVA (6.8 Ω, 1/2w Resistor), 150A CT		3
		1625-287-05	3PH, 20kVA	Identical to '-287-03 (software)	interp.
		1625-287-XX	Base Board (1, 3 Phase Power Board)		1, 2, 3
		1625-288-05	1PH, 3-10kW	Identical to '-288-07 (software)	interp.
		1625-288-07	1PH, 12.5kW, 17kW		2
		1625-288-XX	Base Board (Standard Control Board)		1, 2
		1625-291-01	1PH & 3PH, SCR Driver PDBD		4
		1625-291-XX	Base Board (SCR Drive Board)		1
		1625-296-05	3PH, Control PCBD, 10-15kVA with LCD		3
		1625-296-06	3PH, Control PCBD, 20-30kVA with LCD	Identical to '-296-05 (software)	interp.
		1625-296-07	3PH, Control PCBD, 50kVA/50kW with LCD	Identical to '-296-05 (software)	interp.
		1625-296-08	3PH, Control PCBD, 40kVA with LCD	Identical to '-296-05 (software)	interp.
		1625-296-XX	Base Board (3 Phase Control Board)		3
		1625-298-01	3PH, 50kVA & 50 kW, 150A CT		4
		1625-298-XX	Base Board (3 Phase Power Board)		4
		1625-305-XX	3PH, DC to DC converter, 50kVA/50kW		4
		1625-343-XX	1PH & 3PH, Alarm, Dirstrubution PCBD		1
		1625-344-XX	1PH Control PCBD (Event Logging)		1
1625-355-XX	3PH, Control PCBD (Event Logging)		4		

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SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 15052



Manufacturer: Crucial Power Products Model Line: Wave Rider 1 & 3		Table Description: Miscellaneous			TABLE 6	
Building Code: CBC 2016		Seismic Certification Limits:				
		$S_{DS} = 2.0$ $z/h = 1.0$		$I_P = 1.5$		
		$S_{DS} = 3.0$ $z/h = 0.0$				
Component Type	Manufacturer	Model	Description	Notes	UUT	
PCBD	OnLine Power Inc.	1625-362-XX	3PH, Netagent Interface (Network Mgmt)		4	
		1625-367-XX	3PH, Metering Interface PCBD		4	
		1625-405-XX	1PH & 3PH, Slow Transfer PCBD		1	
		1625-406-XX	3PH, Output Overload Sensing PCBD		1	
		1625-407-XX	1PH & 3PH, Fast Transfer Processor PCBD		1	
		1625-461-XX	1PH & 3PH, Alarm Relay PCBD		2	
		1625-352-XX	1 PH, Audio Alarm PCBD		1	
Current Sensor	LEM	LA100-P	100A		3,4	
Switch	Control Switches International Inc.	N63-US10726-05	3P, 55A, 600V		3	
		3N125US10726-03	3P, 125A, 600V			
		A200US10726-02	3P, 175A, 600V		4	
Rectifier Diode	Int. Rectifier	IRKD91/14	91A		3,4	
	Semikron	SKKD 100/16 G6	91A		3,4	
	Powerex	CD411699B	91A, 1800V		3,4	
		CD411699C			3,4	
Diode Bridge	Multicom	MCCM3508-RH	35A, 800VDC		3,4	
	Collmer Semiconductor	KBPC35-04	35AMP, 400VDC		1,2	
	General Semiconductor	GBPC35-04	35AMP, 400VDC		1,2	
SCR	Semikron	SKKT 92/12E	95A		3	
		SKKT 132/12E	132A		4	
LCD Display	OPTREX	C-51847NFJ-SLW-AEN	4.5-5.5V, 98.5mm x 61mm x 15.6mm		3	

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 15052



Manufacturer: Crucial Power Products Model Line: Wave Rider 1 & 3		Table Description: Miscellaneous		TABLE 6	
Building Code: CBC 2016		Seismic Certification Limits:		$S_{DS} = 2.0$ $z/h = 1.0$ $I_p = 1.5$ $S_{DS} = 3.0$ $z/h = 0.0$	
Component Type	Manufacturer	Model	Description	Notes	UUT
LCD Display	Panasonic	AIG05GQ02D	24VDC, 3.6W, 73mm x 38.4mm		4
Inductor	OnLine Power Inc.	1450-1470-01	55A, 200uH, 120-277VAC		3
		1450-1470-02	75A, 200uH, 120-277VAC		interp.
		1450-1470-03	90A, 200uH, 120-277VAC		2
		1450-1470-04	125A, 200uH, 120-277VAC		interp.
		1450-1472-01	55A, 500uH, 80-240VDC		interp.
		1450-1472-02	75A, 350uH, 80-240VDC		3
		1450-1472-03	90A, 350uH, 80-240VDC		2
		1450-1522	125A, 500uH, 12-15Hz, 125A		4
Capacitor	FJ Enterprise	606R330A4T	60mFD, 330VAC, 60Hz		3
		406R660A4T	40mFD, 600VAC, 60Hz		4
		156R370A4T	15mFD, 370VAC, 60Hz		3,4
Terminal Block	Mersen	MPDB63153	600V, 175A		3
		MPDB63193	600V, 135A		interp.
		MPDB63150	600V, 135A		interp.
		MPDB67003	600V, 310A		interp.
		MPDB67000	600V, 310A		interp.
		MPDB67023	600V, 350A		3
		MPDB67423	600V, 310A		4
	Weidmuller	WDU35	690V, 109A		1
		WPE35	Ground, 12-2 AWG		1
IGBT	Fuji	2MBI150TA-060	150A, 600V		1
		2MBI200TE-060	200A, 600V		3

SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

TRU PROJECT NO. 15052



Manufacturer: Crucial Power Products		Table Description: Miscellaneous			TABLE 6
Model Line: Wave Rider 1 & 3					
Building Code: CBC 2016		Seismic Certification Limits:		$I_p = 1.5$	
		$S_{DS} = 2.0 \quad z/h = 1.0$			
		$S_{DS} = 3.0 \quad z/h = 0.0$			
Component Type	Manufacturer	Model	Description	Notes	UUT
IGBT	Fuji	2MBI300TE-060	300A, 600V		2
	Semikron	SKM400GB	400A, 1200V		4
Power Supply	TDK-Lambda	ZPT4051212N	+5V, +12V, -12V		4
Fan	Mechatronics	UF15KC12BTH	115VAC, 38W, 60Hz		1-4
TVSS	Mersen	ST2083PYG	120/208VAC, 3-phase wye		3
		ST4803PYG	277/480VAC, 3-phase wye		4
		STP1201PGM	120V		interp.
		STP2771PGM	277V		interp.
		STP240SPGM	208/240V		1
RM & UPS Management Sys	MEGATEC	BT505	Netagent II, 3 ports		2
		DP532	Netagent Mini		4

UNIT UNDER TEST (UUT) SUMMARY SHEET



TRU PROJECT NO. 15052

Manufacturer: Crucial Power Products	UUT 1
Model Line: Wave Rider 1 & 3	
Model Number: SV-PW8.0A0100T1 Serial Number: N/A	

Product Construction Summary:
Base & Top: 12 GA. carbon steel, **Back & Sides:** 14 GA. carbon steel, **Doors:** 16 GA. carbon steel.
 Cabinet type A.

Options/Subcomponent Summary:
Lead Acid batteries: 12V 95 Ah; 12V 330W **Breakers:** Cutler Hammer: (ED) 125 & 200A; (QC) 30, 50, & 100A; (GHC) 15 & 25A| ABB: TS 60A

UUT Properties

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
1795	18	39	68	17.3	12.7	19.1

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS}	z/h	I _p	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}
CBC 2016	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	2.0	0.8
		3.0	0.0	1.5				

Test Mounting Details:



The UUT was rigid base mounted to the table using (6) 5/8" Grade 8 bolts.
 Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
 Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET



TRU PROJECT NO. 15052

Manufacturer: Crucial Power Products	UUT 2
Model Line: Wave Rider 1 & 3	
Model Number: SV-PW017R1100T1 Serial Number: N/A	

Product Construction Summary:
Base & Top: 12 GA. carbon steel, **Back & Sides:** 14 GA. carbon steel, **Doors:** 16 GA. carbon steel.
 Cabinet type B

Options/Subcomponent Summary:
Lead Acid batteries: 12V, 285-270WPC; 12V, 106 Ah **Transformers:** 200VA, Cu windings, 120-277V in, 120V out; 20kVA, Cu windings, 208-277V in, 208-277V out; 20kVA, Cu windings, 480V in, 240/277V out **Breakers:** Cutler Hammer: (GHC) 100A| ABB: 125 & 200A

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
4512	30.5	51	70	9.5	12	22

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 2016	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	2.0	0.8
		3.0	0.0	1.5				

Test Mounting Details:



The UUT was rigid base mounted to the table using (12) 5/8" Grade 8 bolts.
 Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
 Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 15052



Manufacturer: Crucial Power Products	UUT 3
Model Line: Wave Rider 1 & 3	
Model Number: SV-PW010B05LHT3-VA Serial Number: N/A	

Product Construction Summary:
Base & Top: 12 GA. carbon steel, **Back & Sides:** 14 GA. carbon steel, **Doors:** 16 GA. carbon steel.

Options/Subcomponent Summary:
Transformers: 130VA, Cu windings, 208-480V in, 120V out; 15kVA, Cu windings, 158V in, 120V out; 23kVA, Cu windings, 120V in, 127-220V out **Breakers:** Cutler Hammer: (QC) 35 & 100A; (GHC) 40 & 100A| ABB: 90A

UUT Properties						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
1083	18	39	68	23.1	12.4	20

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 2016	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	2.0	0.8
		3.0	0.0	1.5				

Test Mounting Details:



The UUT was rigid base mounted to the table using (6) 5/8" Grade 8 bolts.
 Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
 Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET



TRU PROJECT NO. 15052

Manufacturer: Crucial Power Products	UUT 4
Model Line: Wave Rider 1 & 3	
Model Number: SV-PW050H09LHT3-KW Serial Number: N/A	

Product Construction Summary:
Base & Top: 12 GA. carbon steel, **Back & Sides:** 14 GA. carbon steel, **Doors:** 16 GA. carbon steel.

Options/Subcomponent Summary:
Transformers: 70kVA, Cu windings, 277V in, 307-532V out; 70kVA, Cu windings, 396V in, 277V out; **Breakers:** Cutler Hammer: (ED) 175A; (GHC) 80A; (EGE) 20 & 100A | ABB: 90 & 200A

<i>UUT Properties</i>						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
2565	18	39	68	20.3	11.2	21.5

<i>UUT Highest Passed Seismic Run Information</i>								
Building Code	Test Criteria	S _{DS}	z/h	I _P	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}
CBC 2016	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	2.0	0.8
		3.0	0.0	1.5				

Test Mounting Details:



The UUT was rigid base mounted to the table using (6) 5/8" Grade 8 bolts.
 Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
 Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET



TRU PROJECT NO. 15052

Manufacturer: Crucial Power Products	UUT 5
Model Line: Wave Rider 1 & 3	
Model Number: 51 Inch Battery Cabinet Serial Number: N/A	

Product Construction Summary:
Base & Top: 12 GA. carbon steel, **Back & Sides:** 14 GA. carbon steel, **Doors:** 16 GA. carbon steel.

Options/Subcomponent Summary:
Lead Acid batteries: 12V, 550-521WPC; 12V, 100Ah; 12V, 175Ah; 12V, 750 WPC; 12V, 540W **Breakers:** ABB: 100A

<i>UUT Properties</i>						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
4320	30.5	51	70	9.4	8.5	8.9

<i>UUT Highest Passed Seismic Run Information</i>								
Building Code	Test Criteria	S _{DS}	z/h	I _p	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}
CBC 2016	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	2.0	0.8
		3.0	0.0	1.5				

Test Mounting Details:



The UUT was rigid base mounted to the table using (12) 5/8" Grade 8 bolts.
 Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.
 Contents were included in testing per operating conditions.