



DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR HCAI SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP-0701

HCAI Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Mitsubishi Electric Power Products, Inc

Manufacturer's Technical Representative: Robert Durbin

Mailing Address: 547 Keystone Dr., Suite 300, Warrendale, PA 15086

Telephone: (724) 778-5217

Email: robert.durbin@meppi.com

Product Information

Product Name: UPS and Batteries

Product Type: UPS

Product Model Number: 1100B

General Description: 10kVA - 80kVA Uninterruptible Power Supplies

Mounting Description: Rigid, Floor Mounted

Tested Seismic Enhancements: None

Applicant Information

Applicant Company Name: TRU Compliance, by Structural Integrity Associates, Inc.

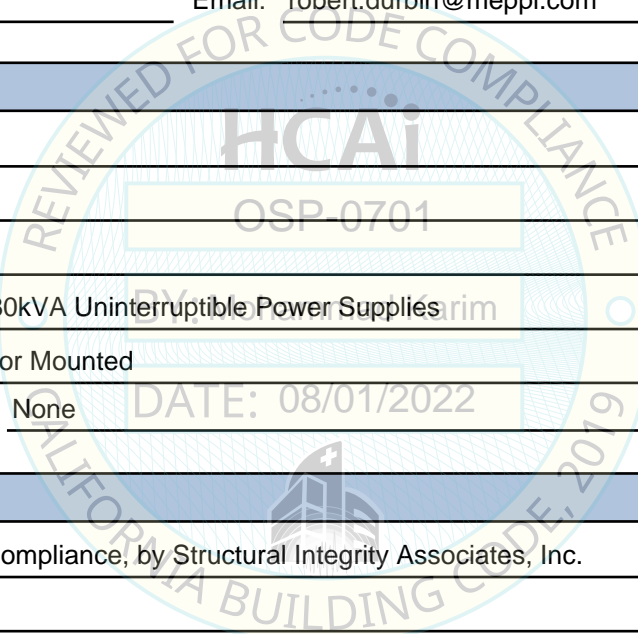
Contact Person: Galen Reid

Mailing Address: 233 SW Wilson Ave Suite 101, Bend, OR 97702

Telephone: (541) 604-7225

Email: greid@structint.com

Title: Director, TRU Compliance





**DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
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California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)

Company Name: STRUCTURAL INTEGRITY ASSOCIATES, INC.

Name: Andrew Coughlin California License Number: S6082

Mailing Address: 5215 Hellyer Ave, Suite 101, San Jose, CA 95138-1025

Telephone: (415) 635-8461 Email: acoughlin@structint.com

Certification Method

GR-63-Core ICC-ES AC156 IEEE 344 IEEE 693 NEBS 3

Other (Please Specify): _____

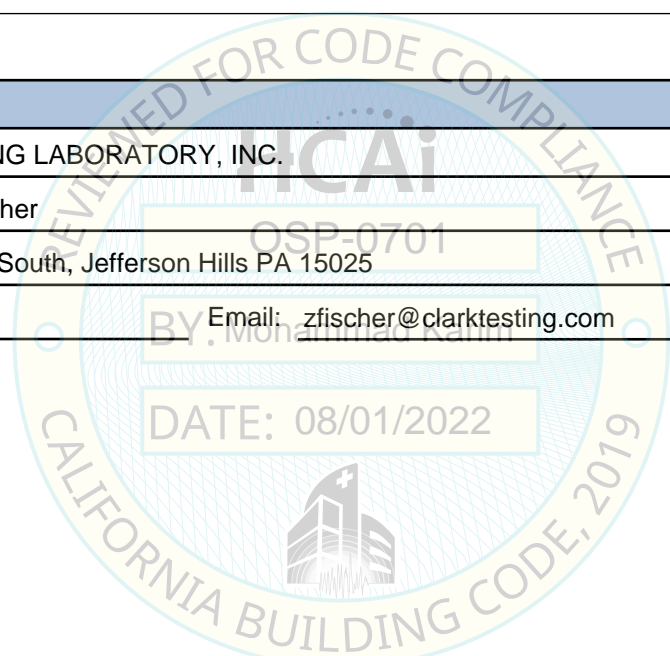
Testing Laboratory

Company Name: CLARK TESTING LABORATORY, INC.

Contact Person: Zachary E. Fischer

Mailing Address: 1801 Route 51 South, Jefferson Hills PA 15025

Telephone: (412) 387-1001 Email: zfischer@clarktesting.com





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Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 1.08 (z/h = 1); 0.68 (z/h = 0)

SDS (Design spectral response acceleration at short period, g) = 1.5

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 and 0

Natural frequencies (Hz) = See Attachment

Overall dimensions and weight = See Attachment

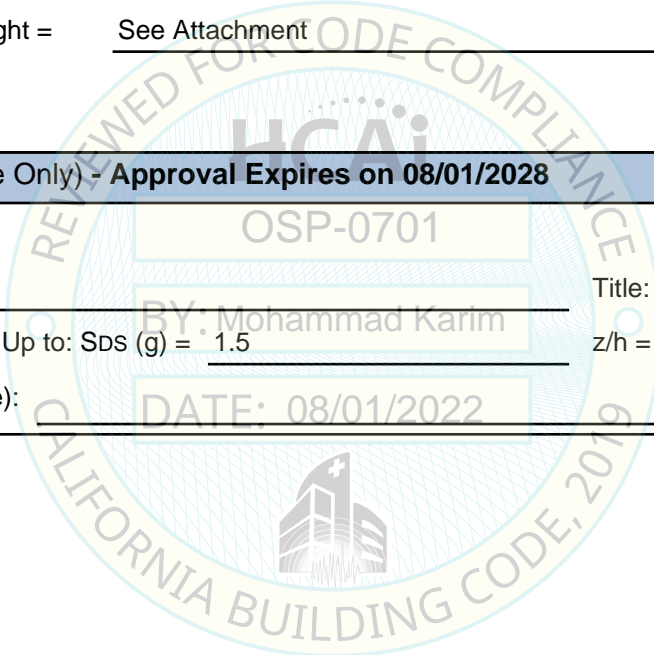
HCAI Approval (For Office Use Only) - Approval Expires on 08/01/2028

Date: 8/1/2022

Name: Mohammad Karim Title: Supervisor, Health Facilities

Special Seismic Certification Valid Up to: SDS (g) = 1.5 z/h = See Above

Condition of Approval (if applicable): DATE: 08/01/2022



SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

2100153-CR-001-R1



Manufacturer: Mitsubishi Electric Power Products, Inc.						TABLE 1		
Model Line: 1100B UPS								
Certified Product Construction Summary: Painted Carbon Steel Enclosure								
Certified Options Summary: Input/Output VAC: 480/480								
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 2019		Seismic Certification Limits:				$S_{DS} = 1.5g$	$z/h = 1.0$	$I_p = 1.5$
						$S_{DS} = 1.5g$	$z/h = 0.0$	
Model Line	Model	Dimensions (in)			Weight (lb)	Notes	UUT	
		Depth	Width	Height				
1100B	M1100B-A-10-208-208	27.0	32.0	68.0	538		2	
	11B-AE0010BA26	27.0	32.0	68.0	538	Same as -10-208-208 Factory Installed Label	Interp.	
	11B-AE0010B	27.0	32.0	68.0	538	Same as -10-208-208 Field Installed Label	Interp.	
	M1100B-A-10-208-D01	27.0	32.0	68.0	498		Interp.	
	11B-AE0010BD03	27.0	32.0	68.0	498	Same as -10-208-D01 Factory Installed Label	Interp.	
	11B-AE0010B	27.0	32.0	68.0	498	Same as -10-208-D01 Field Installed Label	Interp.	
	M1100B-A-20-208-208	27.0	32.0	68.0	542		Interp.	
	11B-AE0020BA26	27.0	32.0	68.0	542	Same as -20-208-208 Factory Installed Label	Interp.	
	11B-AE0020B	27.0	32.0	68.0	542	Same as -20-208-208 Field Installed Label	Interp.	
	M1100B-A-20-208-D01	27.0	32.0	68.0	542		Interp.	
	11B-AE0020BD03	27.0	32.0	68.0	542	Same as -20-208-D01 Factory Installed Label	Interp.	
	11B-AE0020BD01	27.0	32.0	68.0	542	Same as -20-208-D01 Field Installed Label	Interp.	
	M1100B-A-30-208-208	27.0	32.0	68.0	586		Interp.	
	11B-AE0030BA26	27.0	32.0	68.0	586	Same as -30-208-208 Factory Installed Label	Interp.	
	11B-AE0030B	27.0	32.0	68.0	586	Same as -30-208-208 Field Installed Label	Interp.	

TRU Compliance, by Structural Integrity Associates, Inc.

844-TRU-0200 | info@trucompliance.com

SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

2100153-CR-001-R1



Manufacturer: Mitsubishi Electric Power Products, Inc.	TABLE 1
Model Line: 1100B UPS	

Certified Product Construction Summary:
Painted Carbon Steel Enclosure

Certified Options Summary:
Input/Output VAC: 480/480

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 2019 **Seismic Certification Limits:** $S_{DS} = 1.5g \quad z/h = 1.0$ $I_p = 1.5$
 $S_{DS} = 1.5g \quad z/h = 0.0$

Model Line	Model	Dimensions (in)			Weight (lb)	Notes	UUT
		Depth	Width	Height			
1100B	M1100B-A-30-208-D01	27.0	32.0	68.0	586		Interp.
	11B-AE0030BD03	27.0	32.0	68.0	586	Same as -30-208-D01 Factory Installed Label	Interp.
	11B-AE0030BD01	27.0	32.0	68.0	586	Same as -30-208-D01 Field Installed Label	Interp.
	M1100B-A-40-208-208	27.0	32.0	68.0	631		Interp.
	11B-AE0040BA26	27.0	32.0	68.0	631	Same as -40-208-208 Factory Installed Label	Interp.
	11B-AE0040B	27.0	32.0	68.0	631	Same as -40-208-208 Field Installed Label	Interp.
	M1100B-A-40-208-D01	27.0	32.0	68.0	631		Interp.
	11B-AE0040BD03	27.0	32.0	68.0	631	Same as -40-208-D01 Factory Installed Label	Interp.
	11B-AE0040BD01	27.0	32.0	68.0	631	Same as -40-208-D01 Field Installed Label	Interp.
	M1100B-A-50-208-208	27.0	32.0	68.0	675		Interp.
	11B-AE0050BA26	27.0	32.0	68.0	675	Same as -50-208-208 Factory Installed Label	Interp.
	11B-AE0050B	27.0	32.0	68.0	675	Same as -50-208-208 Field Installed Label	Interp.
	M1100B-A-50-208-D01	27.0	32.0	68.0	675		Interp.
	11B-AE0050BD03	27.0	32.0	68.0	675	Same as -50-208-D01 Factory Installed Label	Interp.
	11B-AE0050BD01	27.0	32.0	68.0	675	Same as -50-208-D01 Field Installed Label	Interp.

SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

2100153-CR-001-R1



Manufacturer: Mitsubishi Electric Power Products, Inc.	TABLE 1
Model Line: 1100B UPS	

Certified Product Construction Summary:
Painted Carbon Steel Enclosure

Certified Options Summary:
Input/Output VAC: 480/480

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 2019 **Seismic Certification Limits:** $S_{DS} = 1.5g \quad z/h = 1.0$ $I_p = 1.5$
 $S_{DS} = 1.5g \quad z/h = 0.0$

Model Line	Model	Dimensions (in)			Weight (lb)	Notes	UUT
		Depth	Width	Height			
1100B	M1100B-A-60-208-208	27.0	32.0	68.0	719		Interp.
	11B-AE0060BA26	27.0	32.0	68.0	719	Same as -60-208-208 Factory Installed Label	Interp.
	11B-AE0060B	27.0	32.0	68.0	719	Same as -60-208-208 Field Installed Label	Interp.
	M1100B-A-60-208-D01	27.0	32.0	68.0	719		Interp.
	11B-AE0060BD03	27.0	32.0	68.0	719	Same as -60-208-D01 Factory Installed Label	Interp.
	11B-AE0060BD01	27.0	32.0	68.0	719	Same as -60-208-D01 Field Installed Label	Interp.
	M1100B-A-70-208-208	27.0	32.0	68.0	763		Interp.
	11B-AE0070BA26	27.0	32.0	68.0	763	Same as -70-208-208 Factory Installed Label	Interp.
	11B-AE0070B	27.0	32.0	68.0	763	Same as -70-208-208 Field Installed Label	Interp.
	M1100B-A-80-208-208	27.0	32.0	68.0	836		1
	11B-AE0080BA26	27.0	32.0	68.0	836	Same as -80-208-208 Factory Installed Label	Interp.
	11B-AE0080B	27.0	32.0	68.0	836	Same as -80-208-208 Field Installed Label	Interp.

UNIT UNDER TEST (UUT) SUMMARY SHEET

2100153-CR-001-R1



Manufacturer: Mitsubishi Electric Power Products, Inc.	UUT 1
Model Line: 1100B UPS	
Model Number: M1100B-A-80-208-208	
Serial Number: 18-7M86057-03	

Product Construction Summary:
Painted Carbon Steel Enclosure

Options/Subcomponent Summary:
Subcomponents are identified by model number.

UUT Properties

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
836	27.0	32.0	68.0	8.6	8.6	26.8

UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S _{DS} (g)	z/h	I _P	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2019	ICC-ES AC156	1.5	1.0	1.50	2.40	1.80	1.00	0.40
		1.5	0.0					

Test Mounting Details:



UUT1 was base mounted - rigid using four (4) 1/2" - 13 SAE grade 5 hex bolts torqued to 50ft. - lbs.
Unit maintained structural integrity and remained functional per manufactures requirements after shake table test.
Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET



2100153-CR-001-R1

Manufacturer: Mitsubishi Electric Power Products, Inc.	UUT 2
Model Line: 1100B UPS	
Model Number: M1100B-A-10-208-208	
Serial Number: 20-7M86424-01	

Product Construction Summary:
Painted Carbon Steel Enclosure

Options/Subcomponent Summary:
Subcomponents are identified by model number.

<i>UUT Properties</i>						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
538	27.0	32.0	68.0	12.0	10.9	28.2

<i>UUT Highest Passed Seismic Run Information</i>									
Building Code	Test Criteria	S _{DS} (g)	z/h	I _P	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)	
CBC 2019	ICC-ES AC156	1.5	1.0	1.50	2.40	1.80	1.00	0.40	
		1.5	0.0						

Test Mounting Details:



UUT2 was base mounted - rigid using four (4) 1/2" - 13 SAE grade 5 hex bolts torqued to 50ft. - lbs.
Unit maintained structural integrity and remained functional per manufactures requirements after shake table test.
Contents were included in testing per operating conditions.