



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT  
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD SPECIAL SEISMIC  
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP-0107

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: Mitsubishi Electric Power Products, Inc.

Manufacturer's Technical Representative: Robert Durbin

Mailing Address: 530 Keystone Drive, 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: 9900A, 9900B Series UPS (See Attachment)

General Description: Uninterruptible Power Supply

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 Suite 101, Bend, OR 92201

Telephone: (844) 878-0200

Email: greid@structint.com

Title: Manager



**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT  
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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: (844) 878-0200 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: Russell Matich

Mailing Address: 1801 Route 51, Jefferson Hills PA 15025

Telephone: (412) 387-1026 Email: rmatich@clarktesting.com



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

### 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

$\Omega_0$  (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 12/31/2025

Date: 10/20/2020

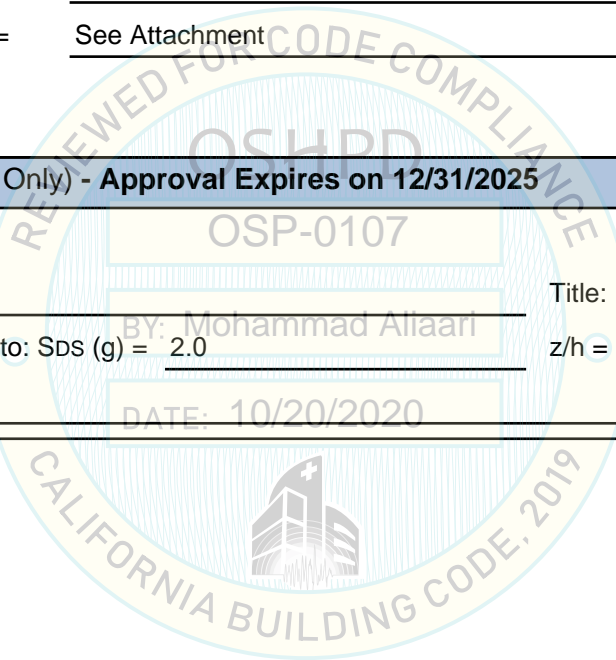
Name: Mohammad Aliaari

Title: Senior Structural Engineer

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

$z/h$  = 1

Condition of Approval (if applicable):



# SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

2000560-CR-001-R1



<b>Manufacturer:</b> Mitsubishi Electric Power Products, Inc.						<b>TABLE 1</b>	
<b>Model Line:</b> 9900A, 9900B UPS							
<b>Certified Product Construction Summary:</b> Painted carbon steel enclosure. Certified units must be constructed in compliance with construction standards and detailing at time of testing.							
<b>Certified Options Summary:</b> Input/Output VAC: 480/480							
<b>Mounting Configuration:</b> Base mounted - rigid Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.							
<b>Building Code: CBC 2019</b>		<b>Seismic Certification Limits:</b>				$S_{DS}= 2.0\text{ g}$ $z/h=1.0$ $S_{DS}= 2.0\text{ g}$ $z/h=0.0$	$I_P= 1.5$
Model Line	Model	Dimensions (in)			Weight (lb)	Notes	UUT
		Depth	Width	Height			
9900A UPS	M9900A-E-080-480-480-N	32.8	27.6	80.6	772		Extrap.
	M9900A-E-080-480-480	32.8	27.6	80.6	772		Extrap.
	M9900A-A-080-480-480	32.8	27.6	80.6	855		1
	M9900A-E-100-480-480-N	32.8	27.6	80.6	772		Interp.
	M9900A-E-100-480-480	32.8	27.6	80.6	772		Interp.
	M9900A-A-100-480-480	32.8	27.6	80.6	855		Interp.
	M9900A-E-150-480-480-N	32.8	27.6	80.6	860		Interp.
	M9900A-E-150-480-480	32.8	27.6	80.6	860		Interp.
	M9900A-A-150-480-480	32.8	35.4	80.6	1160		Interp.
	M9900A-E-160-480-480-N	32.8	27.6	80.6	860		Interp.
	M9900A-E-160-480-480	32.8	27.6	80.6	860		Interp.
	M9900A-E-225-480-480-N	32.8	35.4	80.6	1080		Interp.
	M9900A-E-225-480-480	32.8	35.4	80.6	1080		Interp.
	M9900A-A-225-480-480	32.8	35.4	80.6	1230		Interp.
	M9900B-A-300-480-480	32.7	55.1	80.7	2360		Interp.
	M9900B-A-500-480-480	32.7	88.4	80.7	3605		Interp.
	M9900B-A-750-480-480	32.7	98.4	80.7	4740		2
9900A UPS 65kAIC Rated	M9900A-E-080-480-480-N-65	33	27	78.5	798		Interp.
	M9900A-E-080-480-A02	33	27	78.5	798		3
	M9900A-A-080-480-480-65	33	27	78.5	855		Interp.
	M9900A-A-080-480-A02	33	27	78.5	855		Interp.
	M9900A-E-100-480-480-N-65	33	27	78.5	772		Interp.
	M9900A-E-100-480-A02	33	27	78.5	772		Interp.
M9900A-A-100-480-480-65	33	27	78.5	855		Interp.	

TRU Compliance, by Structural Integrity Associates, Inc.

844-TRU-0200 | info@trucompliance.com

# SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

2000560-CR-001-R1



<b>Manufacturer:</b> Mitsubishi Electric Power Products, Inc.						<b>TABLE 1</b>	
<b>Model Line:</b> 9900A, 9900B UPS							
<b>Certified Product Construction Summary:</b> Painted carbon steel enclosure. Certified units must be constructed in compliance with construction standards and detailing at time of testing.							
<b>Certified Options Summary:</b> Input/Output VAC: 480/480							
<b>Mounting Configuration:</b> Base mounted - rigid Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.							
<b>Building Code: CBC 2019</b>						<b>Seismic Certification Limits:</b> $S_{DS}= 2.0\text{ g}$ $z/h=1.0$ $S_{DS}= 2.0\text{ g}$ $z/h=0.0$ $I_p= 1.5$	
Model Line	Model	Dimensions (in)			Weight (lb)	Notes	UUT
		Depth	Width	Height			
9900A UPS 65kAIC Rated	M9900A-A-100-480-A02	33	27	78.5	855		Interp.
	M9900A-E-150-480-480-N-65	33	27	78.5	860		Interp.
	M9900A-E-150-480-A02	33	27	78.5	860		Interp.
	M9900A-A-150-480-480-65	33	35	78.5	1160		Interp.
	M9900A-A-150-480-A02	33	35	78.5	1160		Interp.
	M9900A-E-160-480-480-N-65	33	35	78.5	860		Interp.
	M9900A-E-160-480-A02	33	35	78.5	860		Interp.
	M9900A-E-225-480-480-N-65	33	35	78.5	1094		Interp.
	M9900A-E-225-480-A02	33	35	78.5	1094		4
	M9900B-A-300-480-A02	33	35	78.5	1094		Extrap.
	M9900B-A-500-480-A02	33	35	78.5	1094		Extrap.
	M9900B-A-750-480-A02	33	35	78.5	1094		Extrap.
9900B UPS 100kAIC Rated	M9900B-A-300-480-A03	33	35	78.5	1094	Identical to 65kAIC. Software	Extrap.
	M9900B-A-500-480-A03	33	35	78.5	1094	Identical to 65kAIC. Software	Extrap.
	M9900B-A-750-480-A03	33	35	78.5	1094	Identical to 65kAIC. Software	Extrap.

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# UNIT UNDER TEST (UUT) SUMMARY SHEET

2000560-CR-001-R1



<b>Manufacturer:</b>		Mitsubishi Electric Power Products, Inc.				
<b>Model Line:</b>		9900A UPS				
UUT	Unit Description	Report Number	Testing Laboratory	S <sub>DS</sub>	z/h	I <sub>p</sub>
1	9900 UPS M9900A-A-080-480-480	EL: 9282	Clark Testing	2.0 2.0	1 0	1.5
2	9900 UPS M9900B-A-750-480-480	EL: 9282	Clark Testing	2.0 2.0	1 0	1.5
3	9900 UPS M9900A-E-080-480-A02	JID 17-00404 (UUT 1)	Clark Testing	2.0 2.0	1 0	1.5
4	9900 UPS M9900A-E-225-480-A02	JID 17-00404 (UUT 2)	Clark Testing	2.0 2.0	1 0	1.5
<b>Notes:</b>						



# UNIT UNDER TEST (UUT) SUMMARY SHEET

2000560-CR-001-R1



<b>Manufacturer:</b>	Mitsubishi Electric Power Products, Inc.	<b>UUT 1</b>
<b>Model Line:</b>	9900A UPS	
<b>Model Number:</b>	M9900A-A-080-480-480	
		<b>Serial Number:</b> 08-7M72732-07

**Product Construction Summary:**  
Painted carbon steel enclosure. Certified units must be constructed in compliance with construction standards and detailing at time of testing.

**Options/Subcomponent Summary:**  
Internal components of certified units must be consistent with tested layout and selection.

UUT Properties									
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)					
	Depth	Width	Height	Front-Back	Side-Side	Vertical			
855	32.8	27.6	80.6	5.6	5.8	27.9			
UUT Highest Passed Seismic Run Information									
Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	I <sub>p</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (g)	
Building Code: CBC 2019	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	1.33	0.53	
		2.0	0.0						

## Test Mounting Details:



Base mounted - rigid with (4) 1/2" - 13 Grade 5 hex-head bolts, washers, and lock washers.  
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

2000560-CR-001-R1



<b>Manufacturer:</b>	Mitsubishi Electric Power Products, Inc.	<b>UUT 2</b>
<b>Model Line:</b>	9900A UPS	
<b>Model Number:</b>	M9900B-A-750-480-480	
<b>Serial Number:</b>		10-7M73261EG001-01

**Product Construction Summary:**  
Painted carbon steel enclosure. Certified units must be constructed in compliance with construction standards and detailing at time of testing.

**Options/Subcomponent Summary:**  
Internal components of certified units must be consistent with tested layout and selection.

UUT Properties										
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)						
	Depth	Width	Height	Front-Back		Side-Side		Vertical		
4740	33	98.4	80.6	7.7		9.7		26.9		
UUT Highest Passed Seismic Run Information										
Building Code		Test Criteria		S <sub>DS</sub> (g)	z/h	I <sub>P</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (g)
Building Code: CBC 2019		ICC-ES AC156		2.0	1.0	1.5	3.20	2.40	1.33	0.53
				2.0	0.0					

## Test Mounting Details:



Base mounted - rigid with (12) 5/8" - 11 Grade 5 hex-head bolts, washers, and lock washers.  
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

2000560-CR-001-R1



<b>Manufacturer:</b>	Mitsubishi Electric Power Products, Inc.	<b>UUT 3</b>
<b>Model Line:</b>	9900A UPS	
<b>Model Number:</b>	M9900A-E-080-480-A02	
<b>Serial Number:</b>		16-7M85520-04

## Product Construction Summary:

Painted carbon steel enclosure. Certified units must be constructed in compliance with construction standards and detailing at time of testing.

## Options/Subcomponent Summary:

Internal components of certified units must be consistent with tested layout and selection.

UUT Properties									
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)					
	Depth	Width	Height	Front-Back	Side-Side	Vertical			
798	33	27	78.5	6.4	5.3	31.3			
UUT Highest Passed Seismic Run Information									
Building Code	Test Criteria		S <sub>DS</sub> (g)	z/h	I <sub>P</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (g)
Building Code: CBC 2019	ICC-ES AC156		2.0	1.0	1.5	3.20	2.40	1.33	0.53
			2.0	0.0					

## Test Mounting Details:



Base mounted - rigid with (4) 1/2" - 13 Grade 5 hex-head bolts, washers, and lock washers.  
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

2000560-CR-001-R1



<b>Manufacturer:</b>	Mitsubishi Electric Power Products, Inc.	<b>UUT 4</b>
<b>Model Line:</b>	9900A UPS	
<b>Model Number:</b>	M9900A-E-225-480-A02	
<b>Serial Number:</b>		15-7M85166-02

**Product Construction Summary:**  
Painted carbon steel enclosure. Certified units must be constructed in compliance with construction standards and detailing at time of testing.

**Options/Subcomponent Summary:**  
Internal components of certified units must be consistent with tested layout and selection.

UUT Properties									
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)					
	Depth	Width	Height	Front-Back	Side-Side	Vertical			
1094	35	33	78.5	5.8	5.7	26.4			
UUT Highest Passed Seismic Run Information									
Building Code	Test Criteria		S <sub>DS</sub> (g)	z/h	I <sub>P</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (g)
Building Code: CBC 2019	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	1.33	0.53	
			2.0						

**Test Mounting Details:**



Base mounted - rigid with (4) 1/2" - 13 Grade 5 hex-head bolts, washers, and lock washers.  
Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test.  
Contents were included in testing per operating conditions.