



APPLICATION FOR PREAPPROVAL SPECIAL SEISMIC CERTIFICATION OF EQUIPMENT AND COMPONENTS

For Office Use Only

<p>APPLICATION NO.</p> <p>OSP – 0107 – 10</p>

Check whether application is: NEW RENEWAL

1.0 Mitsubishi Electric Power Products, Inc., Ed Falk
Manufacturer *Manufacturer's Technical Representative*

530 Keystone Drive, Warrendale, PA 15086
Mailing Address

724-772-2555 ed.falk@meppi.com
Telephone *E-mail Address*

2.0 9900 Series UPS Uninterruptible Power Supply (UPS)
Product Name *Product Type*

9900A and 9900B UPS Units (80 KVA – 750 KVA)
Product model No (List all unique product identification numbers and/or serial numbers)

General Description:
 Rigid base mounted uninterruptible power supply (UPS) units installed within compact enclosures

3.0 Tobolski Watkins Engineering, Inc. Matthew J. Tobolski, Ph.D., S.E.
Applicant Company Name *Contact Person*

9246 Lightwave Ave, San Diego, CA 92123
Mailing Address

858-381-5843 mtobolski@tobolskiwatkins.com
Telephone *E-mail Address*

I hereby agree to reimburse the Office of Statewide Health Planning and Development for the actual costs incurred by the department for review.

 <hr/> <p style="text-align: center;"><i>Signature of Applicant</i></p> <hr/> <p style="text-align: center;">President and CEO <i>Title</i></p>	<p style="text-align: center;"><u>10/22/2012</u> <i>Date</i></p> <hr/> <p style="text-align: center;">Tobolski Watkins Engineering, Inc. <i>Company Name</i></p>
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Registered Design Professional Preparing the Report

4.0

Tobolski Watkins Engineering Inc.

Company Name

<u>Matthew J. Tobolski, Ph.D., S.E.</u>	<u>S 5648</u>
<small>Contact Name</small>	<small>California License Number</small>

9246 Lightwave Ave, San Diego, CA 92123

Mailing Address

<u>858-381-5843</u>	<u>mtobolski@tobolskiwatkins.com</u>
<small>Telephone</small>	<small>E-mail Address</small>

California Licensed Structural Engineer Review and Acceptance of the Report

5.0

Tobolski Watkins Engineering Inc.

Company Name

<u>Matthew J. Tobolski, Ph.D., S.E.</u>	<u>S 5648</u>
<small>Contact Name</small>	<small>California License Number</small>

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<small>Telephone</small>	<small>E-mail Address</small>

Anchorage Pre-Approval

6.0

Anchorage is pre-approved under OPA-
(Separate application for anchorage pre-approval is required)

Anchorage is not Pre-approved

Certification Method

7.0

Testing in accordance with: ICC-ES AC-156 Other (Please Specify):

Analysis

Experience data

Combination of Testing, Analysis, and/or Experience Data (Please Specify):

Testing Laboratory (if applicable)

8.0

<u>Clark Dynamic Test Laboratory, Inc.</u>	<u>J.R. Antenucci</u>
<small>Company Name</small>	<small>Contact Name</small>

1801 Route 51 South, Building 8, Jefferson Hills, PA 15025

Mailing Address

<u>412-387-1001</u>	<u>jrantenucci@clarkdynamic.com</u>
<small>Telephone</small>	<small>E-mail:</small>



Approval Parameters

9.0

Design in accordance with ASCE 7-05 Chapter 13: Yes No

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

S_{DS} (Spectral response acceleration at short period) = **2.00g**

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

R_p (Equipment or component response modification factor) = **2.5**

I_p (Importance factor) = **1.5**

z/h (Height factor ratio) = **1.0**

Equipment or Component fundamental period(s) = **[See Attachment]**

Building period limits (if any) = **None**

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

Equipment or Components @ grade designed in accordance with ASCE 7-05 Chapter 15: Yes No

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

S_{DS} (Spectral response acceleration at short period) =

S_1 (Spectral response acceleration at 1 second period) =

R (Response modification coefficient) = **1.0**

Ω_0 (System overstrength factor) = **1.0**

C_d (Deflection amplification factor) = **1.0**

I_p (Importance factor) = **1.5**

Height to Center of Gravity above base =

Equipment or Component fundamental period(s) = Sec

Overall dimensions and weight (or range thereof) =

Tank(s) designed in accordance with ASME BPVC, 2007: Yes No

10.0 List of attachments supporting the special seismic certification of equipment or components:

- Test Report
- Drawings
- Manufacturer's Catalog
- Calculations
- Others (Please Specify): Attachment A

11.0 OSHPD Approval (For Office Use Only)

12/06/2012

December 31, 2016

Signature & Date

Approval Expiration Date

Timothy J. Piland, SSE

S_{DS} (g) = **2.0** z/h = **1.0**

Name & Title

Special Seismic Certification Valid Up to

Condition of Approval (if any):



UUT - #1

UNIT UNDER TEST (UUT) Summary Sheet

TWEI Project No.: 2010-0089-CO-001

Manufacturer: Mitsubishi Electric Power Products, Inc.

Model Line: 9900 Series UPS Systems

Model Number: 9900A 80 KVA (Serial No. 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)	Dimensions (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 _{DS}	z/h	I _p	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}
CBC 2010	ICC-ES AC 156	2.0g	1.0	1.5	3.20g	2.40g	1.33g	0.53g

Test Mounting Details:



Non-isolated floor mounted with (4) ½"-13 Grade 5 hex-head bolts, washers, and lock washers.

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UUT - #2

UNIT UNDER TEST (UUT) Summary Sheet

TWEI Project No.: 2010-0089-CO-001

Manufacturer: Mitsubishi Electric Power Products, Inc.

Model Line: 9900 Series UPS Systems

Model Number: 9900B 750 KVA (Serial No. 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)	Dimensions (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
4,740	33.0	98.4	80.6	7.7	9.7	26.9

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 2010	ICC-ES AC 156	2.0g	1.0	1.5	3.20g	2.40g	1.33g	0.53g

Test Mounting Details:



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

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