APPLICATION FOR OSHPD SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY	
APPLICATION #:	OSP – 0467 – 10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☒ New ☐ Renewal

Manufacturer Information

Manufacturer: Fuji Electric

Manufacturer's Technical Representative: Gareth Davis

Mailing Address: 50 Northfield Avenue, Edison, NJ 08837

Telephone: 732-564-5145 Email: gdavis@fecoa.fujielectric.com

Product Information

Product Name: UPS7000HX-T3U

Product Type: Uninterruptible Power Supply

Product Model Number: UPS7000HX-T3U/ 300kVA, 400kVA, 500kVA, 500kVA-Sidecar
(List all unique product identification numbers and/or part numbers)

General Description: 300kVA – 500kVA UPS. Seismic enhancements made to the test units and modifications required to address the anomalies observed during the tests shall be incorporated into the production units.

Mounting Description: Rigid base mounted.

Applicant Information

Applicant Company Name: TRU Compliance, LLC – A Tobolski Watkins Affiliate

Contact Person: Derek J. Manwill, S.E.

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

Telephone: 844-878-0200 Email: dmanwill@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: 6/2/2016

Title: Vice President Company Name: TRU Compliance, LLC

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

Company Name: TRU Compliance, LLC – A Tobolski Watkins Affiliate

Name: Derek J. Manwill, S.E. California License Number: S6266

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

Telephone: 844-878-0200 Email: dmanwill@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: Clark Testing

Contact Name: Russell Matich

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

Telephone: 412-387-1001 Email: rmatich@clarktesting.com

Seismic Parameters

Design in accordance with ASCE 7-10 Chapter 13: ☒ Yes ☐ No

Design Basis of Equipment or Components (F_p/W_p) = 1.5 (S_{DS} = 2.0g, z/h =1.0); 1.44 (S_{DS} = 3.2g, z/h=0.0)

S_{DS} (Design spectral response acceleration at short period, g) = 2.0g (z/h = 1.0); 3.2g (z/h = 0.0)

a_p (In-structure equipment or component amplification factor) = 2.5

R_p (Equipment or component response modification factor) = 6.0

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1.0 (S_{DS} = 2.0g); 0.0 (S_{DS} = 3.2g)

Equipment or Component Natural Frequencies (Hz) = See Attached

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

Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15: ☐ Yes ☒ No

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

S_{DS} (Design spectral response acceleration at short period, g) = _____

S_{D1} (Design spectral response acceleration at 1 second period, g) = _____

R (Response modification coefficient) = _____

Ω_0 (System overstrength factor) = _____

C_d (Deflection amplification factor) = _____

I_p (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 ☒ No

List of Attachments Supporting Special Seismic Certification

☒ Test Report(s) ☐ Drawings ☐ Calculations ☒ Manufacturer's Catalog

☒ Other(s) (Please Specify): Attachment A

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

Signature:  Date: 6/5/2016

Print Name: M. R. Karim Title: SHFR

Special Seismic Certification Valid Up to : S_{DS} (g) = See Above z/h = See Above

Condition of Approval (if applicable): _____

SPECIAL SEISMIC CERTIFICATION
CERTIFIED COMPONENT MATRIX

TRU PROJECT NO. 15044

Manufacturer: Fuji Electric
Model Line: UPS7000HX-T3U

TABLE 1

Certified Product Construction Summary:
Carbon steel cabinet, Carbon steel frame, Carbon steel base channel

Certified Options Summary:
Sidecar extension. Subcomponents are identical between models and uniquely identified by model number.

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 g z/h=1.0; S_{DS} = 3.2 g z/h=0.0 I_P = 1.5

Model Line	Model	Dimensions (in)			Weight (lb)	Notes	UUT
		Depth	Width	Height			
UPS7000HX-T3U	300kVA	35.5	78.7	78.7	3,918	Similar to 500kVA, software	
	400kVA	35.5	78.7	78.7	3,918	Similar to 500kVA, software	
	500kVA	35.5	78.7	78.7	3,918	*UUT: no sidecar*	1
	500kVA - Sidecar	35.5	90.6	78.7	4,172	*UUT: with sidecar*	2

UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 15044

Manufacturer:	Fuji Electric		UUT 1
Model Line:	UPS7000HX-T3U		
Model Number:	UPS7000HX-T3U/500kVA	*Serial Number:*	HHHE 4670 UZ000

Product Construction Summary:

Carbon steel cabinet, Carbon steel frame, Carbon steel base channel

Options/Subcomponent Summary:

Tested without sidecar. Single subcomponent configuration (all subcomponents are uniquely identified by model number).

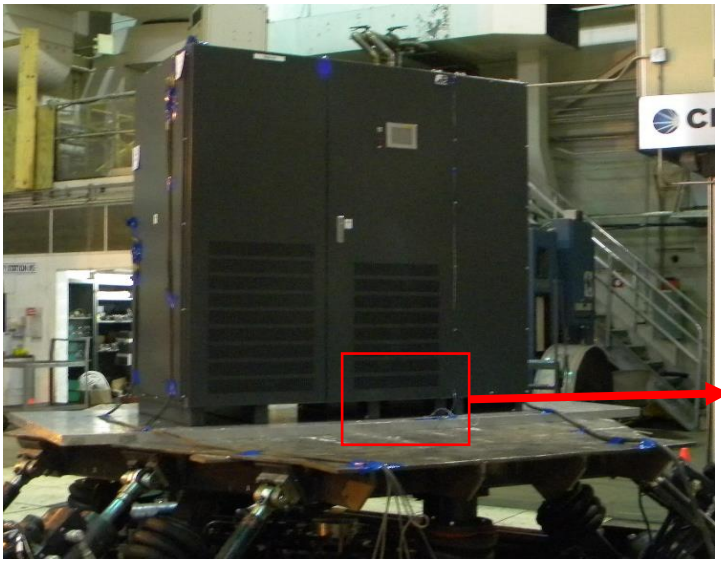
UUT Properties

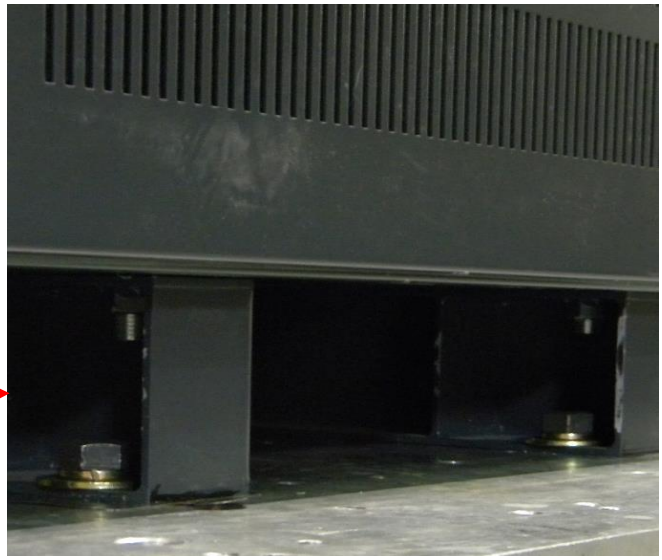
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
3,918	35.5	78.7	78.7	16.3	17.3	>33.3

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 2016	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	1.33	0.53
		3.2	0.0	1.5	3.20	1.28	2.13	0.85

Test Mounting Details:





Rigid base mounted with (10) 3/4" Gr. 5 bolts.
Unit maintained structural integrity and remained functional per manufacturer requirement.
Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

TRU PROJECT NO. 15044

UUT 2

Manufacturer: Fuji Electric
Model Line: UPS7000HX-T3U
Model Number: UPS 7000 HX-T3U/500 kVA - Sidecar *Serial Number:* HHHE 4670 UZ006

Product Construction Summary:
Carbon steel cabinet, Carbon steel frame, Carbon steel base channel

Options/Subcomponent Summary:
Tested with sidecar. Single subcomponent configuration (all subcomponents are uniquely identified by model number).

UUT Properties

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
4,172	35.5	90.6	78.7	15.8	17.3	29.7

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 2016	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	1.33	0.53
		3.2	0.0	1.5	3.20	1.28	2.13	0.85

Test Mounting Details:

Rigid base mounted with (12) 3/4" Gr. 5 bolts.
Unit maintained structural integrity and remained functional per manufacturer requirement.
Contents were included in testing per operating conditions.