APPLICATION FOR OSHPD SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY	
APPLICATION #:	OSP – 0578

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☒ New ☐ Renewal

Manufacturer Information

Manufacturer: **ABB Industrial Solutions (Switzerland) SA**

Manufacturer's Technical Representative: Christopher Belcastro

Mailing Address: 5900 Eastport Blvd., VA 23231-4453

Telephone: On File Email: On File

Product Information

Product Name: **TLE Scalable UPS**

Product Type: Uninterruptible Power System (UPS)

Product Model Number: See Attachment 1
(List all unique product identification numbers and/or part numbers)

General Description: 3-Phase 480Vac UPS System with double conversion. Seismic enhancements incorporated into the test units and modifications required to address anomalies observed during testing shall be incorporated into the certified units.

Mounting Description: Rigid base mount.

Applicant Information

Applicant Company Name: **EASE Co.**

Contact Person: Jonathan Roberson, S.E.

Mailing Address: 5877 Pine Ave, Suite 210, Chino Hills, CA. 91709

Telephone: (909) 606-7622 Email: j.roberson@easeco.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: July 23, 2018

Title: Principal Structural Engineer Company Name: **EASE Co.**

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

Company Name: **EASE Co.**

Name: Jonathan Roberson, S.E. California License Number: S4197

Mailing Address: 5877 Pine Ave, Suite 210, Chino Hills, CA. 91709

Telephone: (909) 606-7622 Email: j.roberson@easeco.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: Environmental Testing Laboratory, Inc.

Contact Name: Brady Richard

Mailing Address: 11034 Indian Trail, Dallas, TX. 75229-3513

Telephone: (972) 247-9657 Email: brady@etldallas.com

Seismic Parameters

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

Design Basis of Equipment or Components (F_p/W_p) = 1.44 (S_{DS} = 2.00, z/h = 1); 1.13 (S_{DS} = 2.50, z/h = 0)

S_{DS} (Design spectral response acceleration at short period, g) = 2.00 (z/h = 1); 2.50 (z/h = 0)

a_p (In-structure equipment or component amplification factor) = 1

R_p (Equipment or component response modification factor) = 2.5

Ω_0 (System overstrength factor) = 2

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1 (S_{DS} = 2.00); 0 (S_{DS} = 2.50)

Equipment or Component Natural Frequencies (Hz) = SEE ATTACHMENT 2

Overall dimensions and weight (or range thereof) = SEE ATTACHMENT 1

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): Attachments 1 & 2

OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2025

Signature: _____ Date: May 14, 2021

Print Name: Timothy J. Piland Title: SSE

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

Condition of Approval (if applicable):

ATTACHMENT 1: SEISMIC CERTIFIED COMPONENTS

TABLE 1: SEISMIC CERTIFIED COMPONENTS

Manufacturer	**ABB Industrial Solutions (Switzerland) SA**
Product Line	**TLE Scalable UPS**

COMPONENT	ABB PART NO. [5]	DIMENSIONS (IN.) W	D	H	MAX. WT. (LB.) [4]	MOUNTING	BASIS [1]
TLE Scalable UL 40 kVA	4NWP105714R0002	23.62	34.06	64.17	655	Rigid Base	INT
TLE Scalable UL 40 kVA with THF		23.62	34.06	75.00	677	Rigid Base	SAME as UUT-1
TLE Scalable UL 40 kVA with THF & TCE		27.56	34.06	75.00	765	Rigid Base	INT
TLE Scalable UL 50 kVA	4NWP105714R0001	23.62	34.06	64.17	655	Rigid Base	INT
TLE Scalable UL 50 kVA with THF		**23.62**	**34.06**	**75.00**	**677**	**Rigid Base**	**UUT-1**
TLE Scalable UL 50 kVA with THF & TCE		27.56	34.06	75.00	765	Rigid Base	INT
TLE Scalable UL 80 kVA	4NWP105716R0002	23.62	34.06	64.17	792	Rigid Base	INT
TLE Scalable UL 80 kVA with THF		23.62	34.06	75.00	814	Rigid Base	INT
TLE Scalable UL 80 kVA with THF & TCE		27.56	34.06	75.00	902	Rigid Base	INT
TLE Scalable UL 100 kVA	4NWP105716R0001	23.62	34.06	64.17	792	Rigid Base	INT
TLE Scalable UL 100 kVA with THF		23.62	34.06	75.00	814	Rigid Base	INT
TLE Scalable UL 100 kVA with THF & TCE		27.56	34.06	75.00	902	Rigid Base	INT
TLE Scalable UL 120 kVA	4NWP105718R0002	23.62	34.06	64.17	914	Rigid Base	INT
TLE Scalable UL 120 kVA with THF		23.62	34.06	75.00	936	Rigid Base	INT
TLE Scalable UL 120 kVA with THF & TCE		27.56	34.06	75.00	1024	Rigid Base	SAME as UUT-2
TLE Scalable UL 150 kVA	4NWP105718R0001	23.62	34.06	64.17	914	Rigid Base	INT
TLE Scalable UL 150 kVA with THF		23.62	34.06	75.00	936	Rigid Base	INT
TLE Scalable UL 150 kVA with THF & TCE		**27.56**	**34.06**	**75.00**	**1024**	**Rigid Base**	**UUT-2**

Mount	RIGID BASE (FLOOR) MOUNT: free-standing, base-mounted tower configuration with the component rigidly attached to a supporting structure and no lateral support above the base.
Notes	1. BASIS: • UUT#: Indicates that a test specimen matching these characteristics was tested as part of this testing program. • SAME: Product is identical to a model tested, except for possible variations in color, software or identification number. • INT (Interpolated or extrapolated): Configuration not specifically tested, which seismic qualification is established based on similarity to a test unit. 2. THF = Top Hat Fascia. Steel sheet metal plates attached to top of cabinet on front, left and right sides to increase cabinet height. 3. TCE = Top Cable Entry. Steel enclosure mounted to side of UPS to rout conductors feeding from above to the standard entry point below. 4. Tabulated weights are installed weights. For models with TCE option, weight excludes conductors passing through TCE. 5. Require installation of ABB seismic kit (Part No. 7000195095A) 6. Bolting footprint is identical for all models.

ATTACHMENT 2: TEST SPECIMEN SUMMARY

UUT- 1 TLE Scalable UPS 50kVA UPS with THF

Manufacturer: GE Consumer & Industrial SA

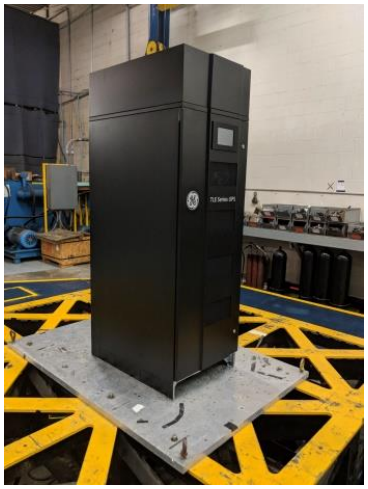
Identification:
As Labeled: UB1005TL444AA00
As Configured: UB1005TL444AA00-OSHPD-THF * (Legacy GE P/N)
4NWP105714R0001 + seismic kit 7000195095A (Current ABB P/N)

Description: 50 kVA – 480V UPS

Installed Options:
Includes top hat fascia (THF)
Single power module installed.

* NOTE: "As Configured" GE identification number was developed and released subsequent to testing and identifies a standard production unit that includes the seismic enhancements incorporated into this test unit.

Mounting: Rigid Base (Floor) Mounted w/ (4) – 3/8" diameter SAE J429 Grade 8 Bolts.



DIMENSIONS (in.)				LOWEST RESONANT FREQUENCY (Hz.)		
Width	Depth	Height	Weight (lb.)	FRONT-AXIS	SIDE-AXIS	VERTICAL-AXIS
23.62	34.06	75	677	>50	>50	46.24

ICC-ES AC156 SHAKE TABLE TEST PARAMETERS						CODE: 2019 CBC
S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.0 2.5	1 0	1.5	3.20	2.40	1.68	0.68

Unit maintained structural integrity and functionality after the ICC-ES AC 156 test

UUT- 2 TLE Scalable UPS 150kVA UPS with THF & TCE

Manufacturer: GE Consumer & Industrial SA

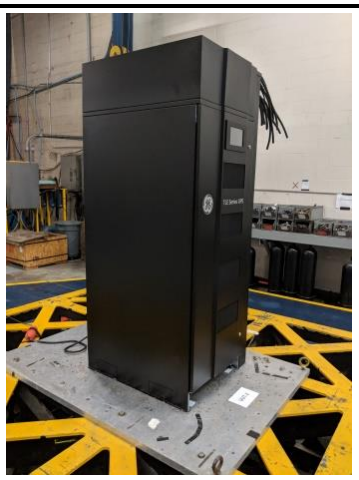
Identification:
As Labeled: UB1015TL444AA00
As Configured: UB1015TL444AA00-OSHPD-THF-TCE * (Legacy GE P/N)
4NWP105718R0001 + seismic kit 7000195095A (Current ABB P/N)

Description: 150 kVA – 480V UPS

Installed Options:
Top Hat Fascia (THF)
Top cable entry (TCE) (also referred to as Sidecar)
Three power modules installed.

* NOTE: "As Configured" GE identification number was developed and released subsequent to testing and identifies a standard production unit that includes the seismic enhancements and modifications to address anomalies incorporated into this test unit.

Mounting: Rigid Base (Floor) Mounted w/ (4) – 3/8" diameter SAE J429 Grade 8 Bolts.



DIMENSIONS (in.)				LOWEST RESONANT FREQUENCY (Hz.)		
Width	Depth	Height	Weight (lb.)	FRONT-AXIS	SIDE-AXIS	VERTICAL-AXIS
27.56	34.06	75	1108.5 (As Tested) 1024 (w/o Cables)	>50	>50	>50

ICC-ES AC156 SHAKE TABLE TEST PARAMETERS						CODE: 2019 CBC
S_{DS} (g)	z/h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
2.0 2.5	1 0	1.5	3.20	2.40	1.68	0.68

Unit maintained structural integrity and functionality after the ICC-ES AC 156 test