



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP – 0602

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., Bldg. V, Richmond, VA 23231-4453

Telephone: On File

Email: On File

Product Information

Product Name: TLE Series UL High Power

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


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

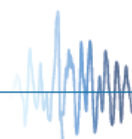
I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2016.

Signature of Applicant: 

Date: April 22, 2019

Title: Principal Structural Engineer

Company Name: EASE





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

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

Company Name: EASE

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): _____

BY: Mohammad Aliari

DATE: 1/15/2021

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



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Seismic Parameters

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

Design Basis of Equipment or Components (F_p/W_p) = 1.50 ($S_{DS} = 2.0$ @ $z/h = 1$); 1.13 ($S_{DS} = 2.5$ @ $z/h = 0$)

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) = 2½

R_p (Equipment or component response modification factor) = 6

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) = Mohammad Aliaari

Ω_0 (System overstrength factor) = _____

C_d (Deflection amplification factor) = DATE: 1/15/2021

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

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

Signature: M. Aliaari

Date: January 15, 2021

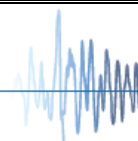
Print Name: Mohammad Aliaari

Title: Senior Structural Engineer

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

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TABLE 1: SEISMIC CERTIFIED COMPONENTS

Manufacturer	ABB Industrial Solutions (Switzerland) SA						
Product Line	TLE SERIES UL S2B UNINTERRUPTIBLE POWER SYSTEMS 3-Phase 480VAC UPS with double conversion.						
COMPONENT	IDENTIFICATION NO.	DIMENSIONS (IN.)			APPROX. WT. (LB.)	MOUNTING	BASIS ^[1]
		W	D	H			
TLE Series UL S2B 160kVA	4NWP105706R0004	44.1	34.06	75	1506	Rigid Base	SAME
TLE Series UL S2B 200kVA	4NWP105706R0003	44.1	34.06	75	1506	Rigid Base	SAME
TLE Series UL S2B 225kVA	4NWP105706R0002	44.1	34.06	75	1506	Rigid Base	UUT4
TLE Series UL S2B 250kVA	4NWP105706R0001	44.1	34.06	75	1506	Rigid Base	SAME
TLE Series UL S2B 300kVA	4NWP105709R0004	63.78	34.06	75	2756	Rigid Base	SAME
TLE Series UL S2B 350kVA	4NWP105709R0003	63.78	34.06	75	2756	Rigid Base	SAME
TLE Series UL S2B 400kVA	4NWP105709R0002	63.78	34.06	75	2756	Rigid Base	SAME
TLE Series UL S2B 500kVA	4NWP105709R0001	63.78	34.06	75	2756	Rigid Base	UUT5
Mounting	RIGID BASE MOUNT: free-standing, base-mounted tower configuration with the component rigidly attached to a supporting structure and no lateral support above the base.						
Notes	<p>1. BASIS:</p> <ul style="list-style-type: none">• UUT#: Indicates that a test specimen matching these characteristics was tested.• 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.						


DATE: 1/15/2021

CALIFORNIA BUILDING CODE, 2019

ATTACHMENT 2: TEST SPECIMEN SUMMARY

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UUT- 4 TLE Series UL S2B 225kVA UPS						
Manufacturer:			GE Consumer & Industrial SA			
Identification:			As Labeled: UB3022TL444AA00			
			As Configured: 4NWP105706R0002 *			
Description:			Model: TLE Series UL / Output Power:225 kVA Voltage: 480VAC Input / 480VAC Output 3W+N+PE or 3W+PE Current: 285A Input / 271A Output Frequency: 60 Hz Input / 60 Hz Output The then-standard production unit was modified prior to test to include enhancements and modifications to address anomalies observed during testing. * <u>NOTE</u> : "As Configured" 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 observed during testing incorporated into this test unit.			
Mounting:			Rigid Base (Floor) Mounted w/ (6) – 1/2" diameter SAE J429 Grade 8 Bolts.			
DIMENSIONS (in.)			LOWEST RESONANT FREQUENCY (Hz.)			
Width	Depth	Height	Weight (lb.)	FRONT-AXIS	SIDE-AXIS	VERTICAL-AXIS
44.1	34.06	75	1502	5.61	23.82	23.22
ICC-ES AC156 SHAKE TABLE TEST PARAMETERS						
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	1	1.5	3.20	2.40	1.68	0.68
2.5	0					
Unit satisfied AC156 requirements for structural integrity and manufacturer requirements for functionality after AC156 test.						

UUT- 5 TLE Series UL S2B 500kVA UPS						
Manufacturer: GE Consumer & Industrial SA						
Identification: As Labeled: UB3050TL444AA00						
As Configured: 4NWP105709R0001 *						
Description: Model: TLE Series UL / Output Power:500 kVA Voltage: 480VAC Input / 480VAC Output 3W+N+PE or 3W+PE Current: 504A Input / 481A Output Frequency: 60 Hz Input / 60 Hz Output The then-standard production unit was modified prior to test to include enhancements and modifications to address anomalies observed during testing of UUT-2. * NOTE: "As Configured" 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/ (8) – 1/2" diameter SAE J429 Grade 8 Bolts.						
DIMENSIONS (in.)			Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)		
Width	Depth	Height		FRONT-AXIS	SIDE-AXIS	VERTICAL-AXIS
63.78	34.06	75	2756	8.38	6.03	25.5
ICC-ES AC156 SHAKE TABLE TEST PARAMETERS						
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	1	1.5	3.20	2.40	1.68	0.68
2.5	0					
Unit satisfied AC156 requirements for structural integrity and manufacturer requirements for functionality after AC156 test.						