



APPLICATION FOR PREAPPROVAL SPECIAL SEISMIC CERTIFICATION OF EQUIPMENT AND COMPONENTS

For Office Use Only

APPLICATION NO.
OSP – 0138-10

Check whether application is: NEW RENEWAL

1.0 Power Battery Company Inc. Anthony Maceiko
Manufacturer *Manufacturer's Technical Representative*

25 McLean Blvd., Paterson, NJ 07514

Mailing Address

(973) 523-8630

Telephone

E-mail Address

2.0 CA-Series Battery Cabinets Battery Cabinets
Product Name *Product Type*

SEE ATTACHMENT 1

Product model No (List all unique product identification numbers and/or serial numbers)

General Description: Rigid floor mounted continuous duty, self contained battery cabinets providing DC power backup for uninterruptible power supplies.

3.0 EQUIPMENTANCHORAGE.COM JONATHAN ROBERSON, S.E.
Applicant Company Name *Contact Person*

5877 Pine Ave, Suite 210, Chino Hills, CA. 91709

Mailing Address

(406) 541-EASE (3273)

Telephone

jon@easeco.com

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.

Signature of Applicant

November 18, 2010

Date

PRINCIPAL ENGINEER

Title

EQUIPMENTANCHORAGE.COM

Company Name

V6



Registered Design Professional Preparing the Report

4.0 EQUIPMENTANCHORAGE.COM

Company Name

Jonathan Roberson, S.E.

S4197

Contact Name

California License Number

5877 Pine Ave, Suite 210, Chino Hills, CA. 91709

Mailing Address

909-606-7622

jon@easeco.com

Telephone

E-mail Address

California Licensed Structural Engineer Review and Acceptance of the Report

5.0 EQUIPMENTANCHORAGE.COM

Company Name

Jonathan Roberson, S.E.

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Contact Name

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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

Environmental Testing Laboratory, Inc.

Brady Richard

Company Name

Contact Name

11034 Indian Trail, Dallas, TX 75229-3513

Mailing Address

972-247-9657

brady@etldallas.com

Telephone

E-mail:



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) = **1.5g**
 S_{DS} (Spectral response acceleration at short period) = **2.0g**
 a_p (In-structure equipment or component amplification factor) = **2.5**
 R_p (Equipment or component response modification factor) = **6.0**
 I_p (Importance factor) = **1.5**
 z/h (Height factor ratio) = **1.0**
 Equipment or Component fundamental frequency(s) = **SEE ATTACHMENT 1**
 Building period limits (if any) = **NO LIMIT**
 Overall dimensions and weight (or range thereof) = **SEE ATTACHMENT 1**

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):

11.0 OSHPD Approval (For Office Use Only)	
 Signature & Date Chris Tokas, SHFR Name & Title	1/10/11 December 31, 2016 Approval Expiration Date S_{DS} (g) = 2.0 z/h = 1.0 Special Seismic Certification Valid Up to
Condition of Approval (if any):	

APPLICATION FOR PREAPPROVAL

SPECIAL SEISMIC CERTIFICATION OF EQUIPMENT AND COMPONENTS

ATTACHMENT 1: Seismically Certified Components

Table 1: Seismic Certified Components: Power Battery CA-Series Battery Cabinets [‡]

CA SERIES BATTERY CABINET TYPE	CABINET PART NUMBER	W (IN)	D (IN)	H (IN)	MAX. WT. (LBS)	MOUNT	BASIS
CA-B*	CAB-TS3OS* CAB-MC2OS CAB-MC9OS	30	32	59.1	2,838	Floor	UUT2
CA-C	CAC-MC3OS CAC-TS3AOS	36	29.2	70.87	3,820	Floor	Interpolated
CA-D	CAD-SC4ROS	34	32	78.7	4,075	Floor	Interpolated
CA-E	CAE-CR7OS CAE-MC8OS CAE-TS4OS	36	29.5	78.7	4,980	Floor	Interpolated
CA-F*	CAF-TS5OS* CAE-MCAOS	40	29.5	78.7	5,238	Floor	UUT1
CA-G	CAG-MC6OS	46	29.5	70.87	4,975	Floor	Interpolated
CA-H	CAH-MC7OS	36.75	32	59.1	3,361	Floor	Interpolated
CA-I	CAI-GEBOS	44	31.9	71.3	4,960	Floor	Interpolated
CA-J	CAJ-G5AOS	30	33	75	3,715	Floor	Interpolated

Notes:

* = Tested Model

‡ = Configuration options included in this Certification :

- PRC & TC model batteries manufactured by Power Battery
- Breakers manufactured by ABB
- Smoke detectors manufactured by Kidde
- Ferraz Shawmutt Fuses
- Home Run Solution by Power Battery Company

Table 2: Lowest Resonant Frequencies of Units Tested

UUT	FRONT-TO-BACK AXIS	SIDE-TO-SIDE AXIS	TOP-TO-BOTTOM AXIS
CA-F (TS5) Battery Cabinet	6.9	5.5	11.7
CA-B (TS3) Battery Cabinet	9.1	9.1	12.8



3.1 TEST SPECIMENS

3.1.1 CA-F (TS5) Battery Cabinet

Name: Power Battery Cabinet CAF-TS5OS 480V Power Supply

UUT Function: The unit provides emergency DC back-up power for uninterruptable power systems.

Description: Cabinet shell construction consists of 12 ga. cold-formed steel sides and top welded to a steel frame with 16 ga. front and back doors. The cabinet base (7 ga.) sits atop two 12 ga stiffened base rails that run the full depth of the unit. The unit tested was configured with:

- (40)- 40TC-160C 12V-batteries each weighing approximately 110 lbs each. The batteries were arranged in two rows of five batteries per row on each of the four shelves.
- 480V
- ABB M800 Circuit Breaker w/ Auxiliary contacts
- UVR24 Under voltage release
- Ferraz Shawmut 500F Fuses
- Kidde Smoke Detector
- Power Battery Company Home Run Bus Bar Solution

Service Mounting Floor Mounted

Model No.: See Table 4: Test Specimen

Dimensions: 40"W x 29.5"D x 78.7"H

Weight: 5,025 lbs.

3.1.2 CA-B (TS3) Battery Cabinet

Name: Power Battery Cabinet CAF-TS3OS 480V Power Supply

UUT Function: Self contained power supply cabinet supporting back-up and emergency uninterrupted power supply systems.

Description: Cabinet shell construction consists of 12 ga. cold-formed steel sides and top welded to a steel frame with 16 ga. front and back doors. The cabinet base (7 ga.) sits atop two 12 ga stiffened base rails that run the full depth of the unit. The unit tested was configured with:

- (30) TC-120S 12V-batteries each weighing approximately 80 lbs each. The batteries were arranged in two rows of five batteries per row on each of the three shelves.
- 360V
- ABB H060 Circuit breaker with Auxiliary contacts
- S24 Shunt trip

Service Mounting Floor Mounted

Identification No.: See Table 4: Test Specimen

Dimensions: 30"W x 32" D x 59.1"H

Weight: 2,838 lbs.

POWER BATTERY SEISMIC CA SERIES

POWER BATTERY OSHPD SEISMIC BATTERY CABINETS

<u>CA CABINETS</u>	<u>CABINET PART NUMBER</u>	<u>DIMMENSIONS W" X D" X H"</u>	<u>MAX CABINET SYSTEM WEIGHTS (LBS)</u>
CA-E	CAE-CR7OS-AAAAAAAAA-BBB-CCCC-D/D-EEEEEE-FFFF-GG-HH-II	36 X 29.5 X 78.7	4,980
CA-B	CAB-MC2OS-AAAAAAAAA-BBB-CCCC-D/D-EEEEEE-FFFF-GG-HH-II	30 X 32 X 59.10	2,805
CA-C	CAC-MC3OS-AAAAAAAAA-BBB-CCCC-D/D-EEEEEE-FFFF-GG-HH-II	36 X 29.2 X 70.87	3,820
CA-G	CAG-MC6OS-AAAAAAAAA-BBB-CCCC-D/D-EEEEEE-FFFF-GG-HH-II	46 X 29.5 X 70.87	4,975
CA-H	CAH-MC7OS-AAAAAAAAA-BBB-CCCC-D/D-EEEEEE-FFFF-GG-HH-II	36.75 X 32 X 59.10	3,361
CA-E	CAE-MC8OS-AAAAAAAAA-BBB-CCCC-D/D-EEEEEE-FFFF-GG-HH-II	36 X 29.5 X 78.7	4,980
CA-B	CAB-MC9OS-AAAAAAAAA-BBB-CCCC-D/D-EEEEEE-FFFF-GG-HH-II	30 X 32 X 59.10	2,805
CA-F	CAF-MCAOS-AAAAAAAAA-BBB-CCCC-D/D-EEEEEE-FFFF-GG-HH-II	40 X 29.5 X 78.7	5,025
CA-B	CAB-TS3OS-AAAAAAAAA-BBB-CCCC-D/D-EEEEEE-FFFF-GG-HH-II	30 X 32 X 59.10	2,805
CA-C	CAC-TS3AOS-AAAAAAAAA-BBB-CCCC-D/D-EEEEEE-FFFF-GG-HH-II	36 X 29.2 X 70.87	3,820
CA-E	CAE-TS4OS-AAAAAAAAA-BBB-CCCC-D/D-EEEEEE-FFFF-GG-HH-II	36 X 29.5 X 78.7	4,980
CA-F	CAF-TS5OS-AAAAAAAAA-BBB-CCCC-D/D-EEEEEE-FFFF-GG-HH-II	40 X 29.5 X 78.7	5,025
CA-D	CAD-SC4ROS-AAAAAAAAA-BBB-CCCC-D/D-EEEEEE-FFFF-GG-HH-II	34 X 32 X 78.7	4,075
CA-I	CAI-GEBOS-AAAAAAAAA-BBB-CCCC-D/D-EEEEEE-FFFF-GG-HH-II	44 X 31.9 X 71.3	4,960
CA-J	CAJ-G5AOS-AAAAAAAAA-BBB-CCCC-D/D-EEEEEE-FFFF-GG-HH-II	30 X 33 X 75	3,715

Part number breakdown:

- 1). Digits 1-9: Represents Cabinets used
- 2). "AAAAAAAA": Denotes the Battery type & quantity; ex). 40TC160C
- 3). "BBB": Denotes System DC voltage; ex). 480
- 4). "CCCC": Denotes Breaker type and size; ex). M800
- 5). "D/D": Denotes if there is an Auxilliary Contact for breaker; ex). A/S
- 6). "EEEEEE": Denotes if there is a shunt trip or under voltage release; ex). 24UVR
- 7). "FFFF": Denotes if there are Fuses; ex). 250F
- 8). "GG": Denotes if there is a Smoke Detector; ex). SD
- 9). "HH": Denotes if there is a Home Run Solution; ex). HR
- 10). "II": Denotes if the system is UL listed; ex). UL

QUALIFIED CABINET ACCESSORIES

<u>ACCESSORY</u>	<u>MANUFACTURER</u>
ABB Breakers	ABB
Smoke Detector	Kidde
Home Run Solutions	Power Battery Co. Inc.
Fuses	Ferraz Shawmut

