



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT  
FACILITIES DEVELOPMENT DIVISION

**APPLICATION FOR OSHPD SPECIAL SEISMIC  
CERTIFICATION PREAPPROVAL (OSP)**

OFFICE USE ONLY

APPLICATION #: OSP – 0194 – 10

**OSHPD Special Seismic Certification Preapproval (OSP)**

Type: ☐ New ☒ Renewal

**Manufacturer Information**

Manufacturer: ABT Power Management, Inc.

Manufacturer's Technical Representative: Doug Meyer

Mailing Address: 1830 Air Lane Drive Suite 13 Nashville, TN 37210

Telephone: (615) 804-6131 Email: dmeyer@wemanagepower.com

**Product Information**

Product Name: 48 Vdc and 125 Vdc System Battery Rack

Product Type: Battery Racks

Product Model Number: ABT48VOSHDP and ABT125VOSHDP

(List all unique product identification numbers and/or part numbers)

General Description: 48 Vdc System battery rack with (8) lead acid 3CC-5M battery blocs and 125 Vdc System batter  
Rack with (20) lead acid 3CC-9M battery blocs from the Power Safe CC battery series

Mounting Description: Rigid floor mounted

**Applicant Information**

Applicant Company Name: ABT Power Management, Inc.

Contact Person: Doug Meyer

Mailing Address: 1830 Air Lane Drive Suite 13 Nashville, TN 37210

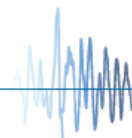
Telephone: (615) 804-6131 Email: dmeyer@wemanagepower.com

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: 3/16/2016

Title: Sales Engineer Company Name: ABT Power Management, Inc.

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"





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

Company Name: Forell/Elsesser Engineers, Inc.

Name: Marco Scanu, SE California License Number: S4454

Mailing Address: 160 Pine St., 6<sup>th</sup> Flr., San Francisco, CA 94111

Telephone: (415) 837-0700 Email: m.scanu@forell.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): \_\_\_\_\_

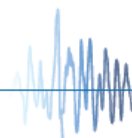
**Testing Laboratory**

Company Name: ANCO Engineers, Inc.

Contact Name: Conor Byrne

Mailing Address: 1965A 33<sup>rd</sup> Street, Boulder, CO 80301

Telephone: (303) 443-7580x233 Email: conor@ancoengineers.com





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**Seismic Parameters**

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

Design Basis of Equipment or Components ( $F_p/W_p$ ) = 1.20

$S_{DS}$  (Design spectral response acceleration at short period, g) = 1.67

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

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

$\Omega_0$  (System overstrength factor) = 2.0

$I_p$  (Importance factor) = 1.5

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

Equipment or Component Natural Frequencies (Hz) = See UUT Summary Sheets

Overall dimensions and weight (or range thereof) = See attachment, Certified Products Table

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) = \_\_\_\_\_

$\Omega_0$  (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): Certified Products Table, Certified Subcomponents Table, UUT Summary Sheets

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

Signature:  Date: May 27, 2016

Print Name: Timothy J. Piland Title: SSE

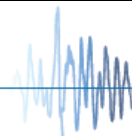
Special Seismic Certification Valid Up to :  $S_{DS}$  (g) = 1.67  $z/h$  = 1

Condition of Approval (if applicable): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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**ABT Power Management, Inc. Battery Racks**  
**I. Certified Product Table**

	Width	Depth	Height	Max. Weight	Part No.	Notes	Test Status
<b>Racks</b>							
48 Vdc System	23.2 in	17.8 in	47.8 in	737.0 lbs	ABT48VOSHDP	1, 3, 4	UUT-2
125 Vdc System	23.2 in	66.0 in	47.8 in	2848.0 lbs	ABT125VOSHDP	2, 3, 4	UUT-1
<b>Notes</b> 1. Contains 3CC-5M battery blocs. 2. Contains 3CC-9M battery blocs. 3. Constructed out of plastic coated steel (S235). 4. Rigidly floor mounted.							

**ABT Power Management, Inc. Battery Racks**  
**II. Certified Subcomponents Table**

	Width	Depth	Height	Max. Weight	Part No.	Notes	Test Status
<b>PowerSafe Lead Acid CC Batteries<sup>1</sup></b>							
3CC-5M	9 in	7 in	14.8 in	74.0 lbs	3CC-5M	2	UUT-2
3CC-9M	9 in	12.2 in	14.8 in	132.0 lbs	3CC-9M	3	UUT-1
<b>Notes</b> 1. PowerSafe CC Series batteries are provided by EnerSys 2. Installed in the 48Vdc System Rack only 3. Installed in the 125Vdc System Rack only							

**Tested Unit #1 (UUT1)**

125 Vdc System with (20) 3CC-9M battery blocs

Plastic Coated Steel (S235)

23.2"W x 66.0"D x 47.75"H, 2848 lbs

Floor mounted using (6) ½"-13 Grade 8 bolts.



UUT#1 is on the right

Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	Horizontal		Vertical	
				A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-H</sub> (g)
CBC 2016	ICC-ES AC 156	1.67	1	2.67	2.00	1.12	0.45
Natural Frequencies			Test Results				
F-B	S-S	V	The UUT maintained structural integrity and functionality after the AC156 test. UUT full of contents during testing.				
9.1	10.27	>33.3					

**Internal Components:**

Item #	Part #	Description
1	ABT125VOSHDPD	125Vdc Battery Rack
2	3CC-9M	3CC-9M Battery Blocs

**Tested Unit #2 (UUT2)**

48 Vdc System with (8) 3CC-5M battery blocs

Plastic Coated Steel (S235)

23.2"W x 17.8"D x 47.75"H, 737 lbs

Floor mounted using (4) ½"-13 Grade 8 bolts.



UUT#2 is on the left

Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	Horizontal		Vertical	
				A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-H</sub> (g)
CBC 2016	ICC-ES AC 156	1.67	1	2.67	2.00	1.12	0.45
Natural Frequencies			Test Results				
F-B	S-S	V	The UUT maintained structural integrity and functionality after the AC156 test. UUT full of contents during testing.				
14.3	10.9	>33.3					

**Internal Components:**

Item #	Part #	Description
1	ABT48VOSHPD	48 Vdc Battery Rack
2	3CC-5M	3CC-5M Battery Blocs