



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY
APPLICATION #: OSP - 0608

OSHPD Special Seismic Certification Preapproval (OSP)

Type: [X] New [] Renewal

Manufacturer Information

Manufacturer: Ametek Powervar
Manufacturer's Technical Representative: Peter Huss, Three Phase Applications Engineer
Mailing Address: 1450 S Lakeside Dr, Waukegan, IL 60085
Telephone: (847) 596-7040 Email: peter.huss@ametek.com

Product Information

Product Name: Security II UPM (Uninterruptible Power Manager) with Extended Run Batteries
Product Type: UPS (batteries)
Product Model Number: See attachments
General Description: 700 to 1440 VA units containing batteries, transformer and PCB.
Mounting Description: Rigid base mounting with or without rubber spacers. Seismic enhancement made to the test units and modifications required to address anomalies observed during the tests shall be incorporated into the production units.

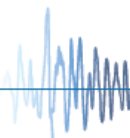
Applicant Information

Applicant Company Name: The VMC Group
Contact Person: John Giuliano
Mailing Address: 113 Main Street, Bloomingdale, NJ 07403
Telephone: (973) 838-1780 Email: john.giuliano@thevmcgroup.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: [Signature] Date: 5/23/19
Title: President Company Name: The VMC Group

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





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

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

Company Name: The VMC Group

Name: Kenneth Tarlow California License Number: SE-2851

Mailing Address: 113 Main Street, Bloomingdale, NJ 07403

Telephone: (973) 838-1780 Email: ken.tarlow@thevmcgroup.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 Aliaari

DATE: 11/20/2020

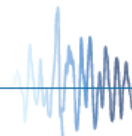
Testing Laboratory

Company Name: DCL Labs

Contact Name: Josh Sailer, Laboratory Manager

Mailing Address: 1315 Greg Street, Suite 109, Sparks, NV 89431

Telephone: (775) 358-5085 Email: josh@shaketest.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) = 1.44

S_{DS} (Design spectral response acceleration at short period, g) = 2.00

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

R_p (Equipment or component response modification factor) = 2.5

Ω_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 attachments

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

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) = by: Mohammad Aliaari

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

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

Signature: M. Aliaari Date: November 20, 2020

Print Name: Mohammad Aliaari Title: Senior Structural Engineer

Special Seismic Certification Valid Up to : S_{DS} (g) = 2.00 z/h = 1

Condition of Approval (if applicable): _____

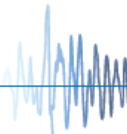


Table 1 - Certified Components, Security II UPM Tower Configuration

Certification Level: $S_{DS} = 2.00g$, $z/h=1.0$

Manufacturer: Ametek Powervar

Mounting: Rigid base mounted with or without rubber spacer

UPS Model Number ^{1,2}	Max. Dimensions (in)			Weight (lb)	Unit
	Depth	Width	Height		
ABCE702-11R-0	21.0	4.0	17.0	58	UUT 1
ABCE702-11RB/RMEDB-0	21.0	4.0	17.0	58	Interpolated
ABCE702-11RMED-0	21.0	4.0	17.0	58	UUT 3
ABCE1002-11R/RB/RMEDB/RMED-0	21.0	4.0	17.0	64	Interpolated
ABCE1442-11R/RB/RMEDB/RMED-0	21.0	4.0	17.0	70	Interpolated
ABCE702-11R/RB/RMEDB/RMED-1	21.0	8.0	17.0	130	Interpolated
ABCE1002-11R/RB/RMEDB/RMED-1	21.0	8.0	17.0	134	Interpolated
ABCE1442-11R/RB/RMEBB/RMED-1	21.0	8.0	17.0	140	Interpolated
ABCE702-11R/RB/RMEDB/RMED-2	21.0	12.0	17.0	200	Interpolated
ABCE1002-11R/RB/RMEDB/RMED-2	21.0	12.0	17.0	204	Interpolated
ABCE1442-11R-2	21.0	12.0	17.0	210	UUT 2
ABCE1442-11RB/RMEDB-2	21.0	12.0	17.0	210	Interpolated
ABCE1442-11RMED-2	21.0	12.0	17.0	210	UUT 4

Notes:

1. UPS classifications R, RB, RMED, and RMEDB differ only by branding.
2. Number 0,1 or 2 at the end of a UPS model number denotes the number of extended run batteries.
3. ABCE702, 1002, and 1442 differ slightly in weight due to utilizing different transformers.

Table 2 - Certified Subcomponents

Certification Level: $S_{DS} = 2.00g$, $z/h=1.0$

Subcomponent [Manufacturer]	Model Number	Description	Material	Weight (lb)	Unit
Extended Run Battery [Ametek Powervar]	E4804-12	Extended Run Battery, (2) each tested in UUT2 and UUT4	Lead Acid	70	UUT 2, UUT 4
Battery [Hitachi]	A14-00012	700-1440 VA	Lead Acid	18	UUT 1, UUT 2, UUT 3, UUT 4
Transformer [V&F Transformer]	A07-00154	700VA 120-120V 60HZ	Copper	16	UUT 1, UUT 3
	A07-00155	1000VA 120-120V 60HZ	Copper	20	Interpolated
	A07-00156	1440VA 120-120V 60HZ	Copper	26	UUT 2, UUT 4
PCB [Ametek Powervar]	A26-00196	UPM Main 700 120 Volt	PCB	<1	UUT 1, UUT 3
	A26-00197	UPM Main 1000 120 Volt	PCB	<1	Interpolated
	A26-00198	UPM Main 1440 120 Volt	PCB	<1	UUT 2, UUT 4

BY: Mohammad Aliaari

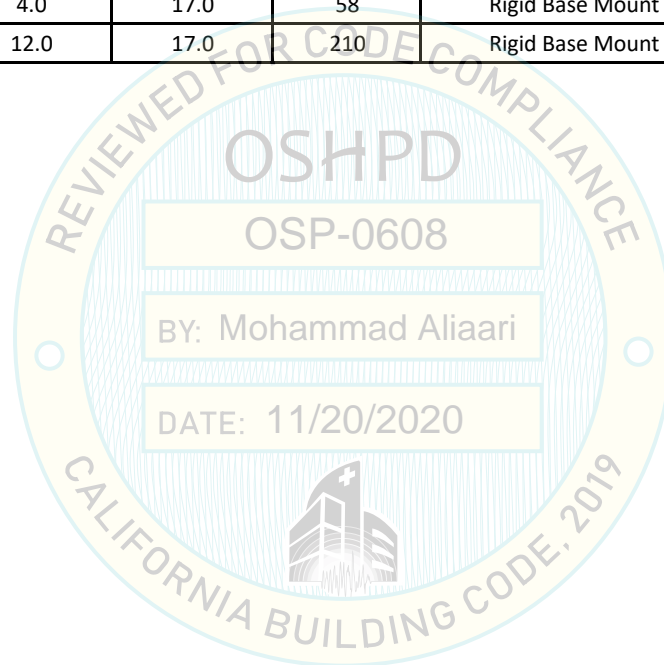
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Table 3 - Tested Units

Certification Level: $S_{DS} = 2.00g$, $z/h=1.0$

Model Number	Max. Dimensions (in)			Measured Weight (lb)	Mounting	Unit
	Depth	Width	Height			
ABCE702-11R-0	21.0	4.0	17.0	58	Rigid Base Mount without Rubber Spacer	UUT 1
ABCE1442-11R-2	21.0	12.0	17.0	210	Rigid Base Mount without Rubber Spacer	UUT 2
ABCE702-11RMED-0	21.0	4.0	17.0	58	Rigid Base Mount with Rubber Spacer	UUT 3
ABCE1442-11RMED-2	21.0	12.0	17.0	210	Rigid Base Mount with Rubber Spacer	UUT 4



UUT 1	
UNIT UNDER TEST (UUT) Summary Sheet	

Manufacturer: Ametek Powervar

Product Line: Ametek Powervar Security II UPM Tower Configuration

Model Number: ABCE702-11R-0

Product Construction Summary: Carbon steel enclosure

Options / Component Summary: Batteries, transformer, and PCB

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component and attachment system and force-resisting systems was maintained.

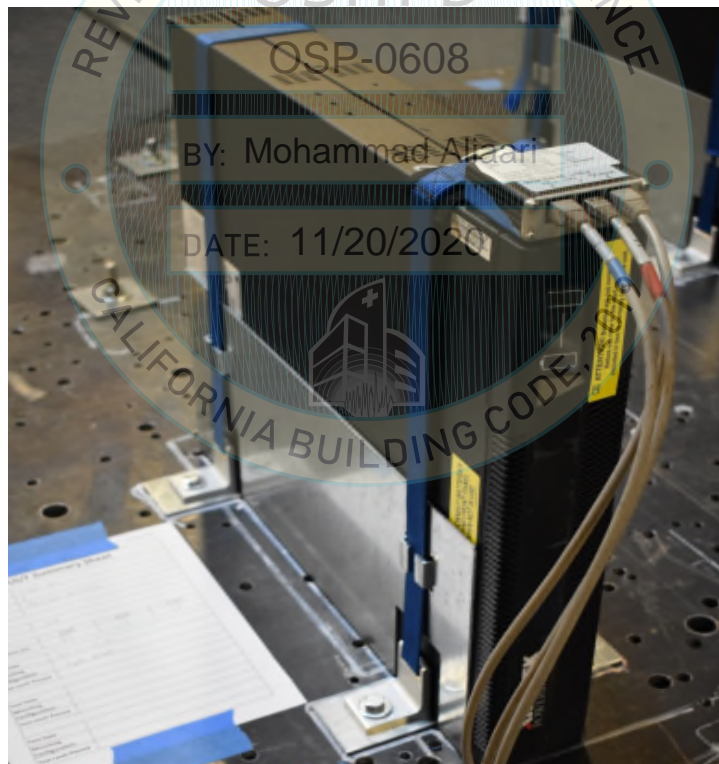
UUT Properties

UUT 1	Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
		Length	Width	Height	Front-Back	Side-Side	Vertical
	58	21.0	4.0	17.0	23.5	>33.3	>33.3


Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2019	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.33	0.53

Unit Mounting Description:



UUT 1 was rigid base mounted to the DCL interface fixture with a strap assembly at the front and rear of the unit. The assembly consisted of (2) 1" wide by 0.060" thick heavyweight polypropylene cam straps (Manufacturer: Strapworks, Model Number: CS1H8PB, 50lbs tension / 675 lb working load limit) looped through (4) seismic brackets supplied by Ametek Powervar (Part Number A05-00929) and (2) rackmount brackets supplied by Ametek Powervar (Part Number A05-00942). Each bracket was fastened to the DCL interface fixture with a 3/8" diameter, grade 5, bolt. Bolts were spaced at 14" lengthwise and 6" widthwise on center.

UUT 2	
UNIT UNDER TEST (UUT) Summary Sheet	

Manufacturer: Ametek Powervar

Product Line: Ametek Powervar Security II UPM Tower Configuration

Model Number: ABCE1442-11R-2

Product Construction Summary: Carbon steel enclosure

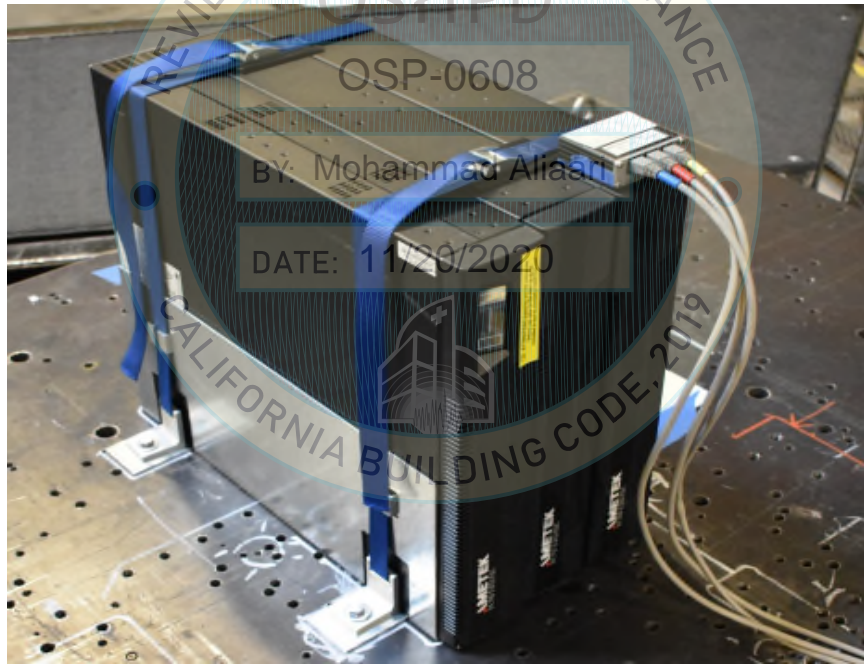
Options / Component Summary: Batteries, transformer, and PCB

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component and attachment system and force-resisting systems was maintained.


<i>UUT Properties</i>							
UUT 2	Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
		Length	Width	Height	Front-Back	Side-Side	Vertical
	210	21.0	12.0	17.0	>33.3	>33.3	>33.3

<i>Seismic Test Parameters</i>								
Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2019	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.33	0.53

Unit Mounting Description:



UUT 2 was rigid base mounted to the DCL interface fixture with a strap assembly at the front and rear of the unit. The assembly consisted of (2) 1" wide by 0.060" thick heavyweight polypropylene cam straps (Manufacturer: Strapworks, Model Number: CS1H8PB, 50lbs tension / 675 lb working load limit) looped through (4) seismic brackets supplied by Ametek Powervar (Part Number A05-00929), (2) rackmount brackets supplied by Ametek Powervar (Part Number A05-00942), and (4) rackmount link plates supplied by Ametek Powervar (Part Number A05-00943). Each bracket was fastened to the DCL interface fixture with a 3/8" diameter, grade 5, bolt. Bolts were spaced at 14" lengthwise and 13" widthwise on center.

UUT 3	
UNIT UNDER TEST (UUT) Summary Sheet	

Manufacturer: Ametek Powervar

Product Line: Ametek Powervar Security II UPM Tower Configuration

Model Number: ABCE702-11RMED-0

Product Construction Summary: Carbon steel enclosure

Options / Component Summary: Batteries, transformer, and PCB

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component and attachment system and force-resisting systems was maintained.

UUT Properties

UUT 3	Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
		Length	Width	Height	Front-Back	Side-Side	Vertical
	58	21.0	4.0	17.0	18.5	>33.3	>33.3


Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2019	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.33	0.53

Unit Mounting Description:



UUT 3 was rigid base mounted to the DCL interface fixture with a strap assembly at the front and rear of the unit. The assembly consisted of (2) 1" wide by 0.060" thick heavyweight polypropylene cam straps (Manufacturer: Strapworks, Model Number: CS1H8PB, 50lbs tension / 675 lb working load limit) looped through (4) seismic brackets supplied by Ametek Powervar (Part Number A05-00929) and (2) rackmount brackets supplied by Ametek Powervar (Part Number A05-00942). Each bracket was fastened to the DCL interface fixture with a 3/8" diameter, grade 5, bolt through a 0.5" rubber spacer supplied by Ametek Powervar (Part Number A05-00055). Bolts were spaced at 14" lengthwise and 6" widthwise on center.

UUT 4	
UNIT UNDER TEST (UUT) Summary Sheet	

Manufacturer: Ametek Powervar

Product Line: Ametek Powervar Security II UPM Tower Configuration

Model Number: ABCE1442-11RMED-2

Product Construction Summary: Carbon steel enclosure

Options / Component Summary: Batteries, transformer, and PCB

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component and attachment system and force-resisting systems was maintained.

UUT Properties

UUT 4	Operating Weight (lb)	Dimensions (in)			Lowest Natural Frequency (Hz)		
		Length	Width	Height	Front-Back	Side-Side	Vertical
	210	21.0	12.0	17.0	7.0	>33.3	>33.3

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2019	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.33	0.53

Unit Mounting Description:



UUT 4 was rigid base mounted to the DCL interface fixture with a strap assembly at the front and rear of the unit. The assembly consisted of (2) 1" wide by 0.060" thick heavyweight polypropylene cam straps (Manufacturer: Strapworks, Model Number: CS1H8PB, 50lbs tension / 675 lb working load limit) looped through (4) seismic brackets supplied by Ametek Powervar (Part Number A05-00929), (2) rackmount brackets supplied by Ametek Powervar (Part Number A05-00942), and (4) rackmount link plates supplied by Ametek Powervar (Part Number A05-00943). Each bracket was fastened to the DCL interface fixture with a 3/8" diameter, grade 5, bolt through a 0.5" rubber spacer supplied by Ametek Powervar (Part Number A05-00055). Bolts were spaced at 14" lengthwise and 13" widthwise on center.