

| APPLICATION FOR OSHPD SPECIAL SEISMIC | OFFICE | USE ONLY |
|---|-------------------------|----------------------|
| CERTIFICATION PREAPPROVAL (OSP) | APPLICATION #: | OSP – 0592 – 10 |
| OSHPD Special Seismic Certification Preapproval (OSP) | | |
| Type: 🛛 New 🗌 Renewal | | |
| Manufacturer Information | | |
| Manufacturer: Ametek Powervar | | |
| Manufacturer's Technical Representative: Michael Creighton, Directo | r of Engineering | |
| Mailing Address:1450 S Lakeside Dr, Waukegan, IL 60085 | | |
| Telephone: (847) 596-7000 x7058 Email: Michae | el.creighton@ametek.cor | <u>n</u> |
| Product Information | 20, | |
| Product Name:Security II UPM (Uninterruptible Power Manager) | AT PL | |
| Product Type: UPS (batteries) | 1 E | |
| Product Model Number: See attachments (List all unique product identification numbers and/or part numbers) General Description: 420 to 3,000 VA units containing batteries, training batteries, train | nsformer and PCB | |
| | | |
| Mounting Description: Rigid base mounted | 70 | |
| | ₩. | |
| Applicant Information | CODE | |
| Applicant Company Name: The VMC Group | | |
| Contact Person: John Giuliano | | |
| Mailing Address:113 Main Street, Bloomingdale, NJ 07403 | | |
| Telephone: (973) 838-1780 Email: john.gi | uliano@thevmcgroup.co | <u>m</u> |
| I hereby agree to reimburse the Office of Statewide Health F accordance with the California Administrative Code, 2016. | Planning and Develo | pment review fees in |
| Signature of Applicant: | Date: | 2/21/19 |
| Title: President Company Name: The Vi | MC Group | |
| | | |
| "Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs" | AL AMAAAA | OSHPD |
| STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY OSH-FD-759 (REV 12/16/15) | JANTA TATATA | Page 1 of 3 |



| California Licensed Structural Engineer Responsible for the Engineering and Test Report(s) |
|---|
| Company Name: |
| Name: Kenneth Tarlow California License Number: SE-2851 |
| Mailing Address:113 Main Street, Bloomingdale, NJ 07403 |
| Telephone: _(973) 838-1780 Email: <u>ken.tarlow@thevmcgroup.com</u> |
| 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 $CODE$ |
| Certification Method |
| Testing in accordance with: ICC-ES AC156 Other (Please Specify): OSP-0592-10 |
| BY: Timothy J. Piland |
| 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 |

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



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OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT FACILITIES DEVELOPMENT DIVISION

| Seism | ic Da | iramo | tore |
|-------|-------|-------|------|
| Seism | IC Pa | ırame | ters |

| Design in accordance with ASCE 7-10 Chapter 13: 🛛 Yes 🗌 No |
|---|
| Design Basis of Equipment or Components $(F_p/W_p) = 1.44 (z/h = 1) \& 1.13 (z/h = 0)$ |
| 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) = <u>1.0</u> |
| R _p (Equipment or component response modification factor) = <u>2.5</u> |
| Ω_0 (System overstrength factor) = _2.0 |
| I _P (Importance factor) = 1.5 |
| z/h (Height factor ratio) = <u>1 & 0</u> |
| Equipment or Component Natural Frequencies (Hz) = <u>See attachments</u> |
| Overall dimensions and weight (or range thereof) = <u>See attachments</u> |
| 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) = |
| C₄ (Deflection amplification factor) = BY: Timothy J. Piland |
| 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): |
| OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2022 |
| Signature: May 28, 2019 |
| |
| Print Name: Timothy J. Piland Title: SSE |
| Special Seismic Certification Valid Up to : S _{DS} (g) = <u>See Above</u> z/h = <u>See Above</u> |
| Condition of Approval (if applicable): |
| |
| |
| "Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs" |
| STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY OSH-FD-759 (REV 12/16/15) Page 3 of 3 Page 3 of 3 |

Table 1 - Certified Components, Security II UPM

Certification Level: S_{DS} =2.00g, z/h=1.0 & S_{DS} = 2.50 g, z/h=0.0

| Standard Model Number | Medical Model Number | Manufacturer | Max. Dimensions (in) | | | Max. Weight | Mounting | Unit |
|-----------------------|----------------------|-----------------|----------------------|-------|--------|----------------|------------|--------------|
| | Medical Model Number | Manufacturer | Depth | Width | Height | (lb) | Mounting | onnt |
| ABCE422-11 | ABCE422-11MED | Ametek Powervar | 18.0 | 5.5 | 7.0 | 31 | Rigid base | UUT 1 |
| ABCE602-11 | ABCE602-11MED | Ametek Powervar | 18.0 | 6.0 | 8.5 | 45 | Rigid base | Interpolated |
| ABCE802-11 | ABCE802-11MED | Ametek Powervar | 18.0 | 6.0 | 8.5 | 49 | Rigid base | Interpolated |
| ABCE1102-11 | ABCE1102-11MED | Ametek Powervar | 20.0 | 8.0 | 9.0 | 70 | Rigid base | Interpolated |
| ABCE1442-11 | ABCE1442-11MED | Ametek Powervar | E 20.0 | 8.0 | 9.0 | 70 | Rigid base | UUT 2 |
| ABCE2202-11 | ABCE2202-11MED | Ametek Powervar | 22.0 | 8.0 | 20.0 | 140 | Rigid base | Interpolated |
| ABCE3002-11 | ABCE3002-11MED | Ametek Powervar | 22.0 | 8.0 | 20.0 | 140 | Rigid base | UUT 3 |



Table 2 - Certified Subcomponents, Base Mounted

| Certification Level: S _{DS} =2 | 2.00g, z/h=1.0 & S _{DS} | = 2.50 g, z/h=0.0 |
|---|----------------------------------|-------------------|
|---|----------------------------------|-------------------|

| Subcomponent (Manufacturer) | Model Number | Description | Material | Weight (lb) | Unit |
|-------------------------------|---------------|--------------------------|-----------|-------------|--------------|
| | A99-00520 | 420VA | Lead Acid | 7.75 | UUT 1 |
| Battery (Hitachi) | A99-00525 | 600-800VA | Lead Acid | 11.1 | Interpolated |
| | A99-00526 | 1100-1440VA | Lead Acid | 22.35 | UUT 2 |
| | A14-00014 | 2200-3000 VA | Lead Acid | 45 | UUT 3 |
| | A07-00108 | 120V 60Hz | Copper | 12.4 | UUT 1 |
| | A07-00127 | 120V 60Hz | Copper | 14.0 | Interpolated |
| Transformer (V&F Transformer) | A07-00107 | 120V 60Hz C | Copper | 20.0 | Interpolated |
| | A07-00102 | 120V 60Hz | Copper | 32.0 | UUT 2 |
| | A07-00143 | 120V 60Hz | Copper | 55.0 | UUT 3 |
| | A26-00107 🖊 🗸 | Main 420 | PCB | <1.0 | UUT 1 |
| | A26-00108 🖊 🛆 | Main 600 | PCB | <1.0 | Interpolated |
| PCB (Ametek Powervar) | A26-00109 | Main 800 | PCB | <1.0 | Interpolated |
| | A26-00110 | Main 1100 | PCB | <1.0 | Interpolated |
| | A26-00111 | BY:TimotlMain 1440 iland | PCB | <1.0 | UUT 2 |
| | A26-00192 | Main 2200-3000 | PCB | <1.0 | UUT 3 |



Table 3 - Tested Units

Certification Level: S_{DS} =2.00g, z/h=1.0 & S_{DS} = 2.50 g, z/h=0.0

| Security II UPM Base Mounted | | | | | | | | | | |
|------------------------------|-----------------|-------|------------|--------|-------------|------------|-------|--|--|--|
| Model Number | Manufacturer | Dir | mensions (| (in) | Weight (lb) | Mounting | Unit | | | |
| | Manufacturer | Depth | Width | Height | weight (ib) | Mounting | Unit | | | |
| ABCE422-11 | Ametek Powervar | 18.0 | 5.5 | 7.0 | 31 | Rigid base | UUT 1 | | | |
| ABCE1442-11 | Ametek Powervar | 20.0 | 8.0 | 9.0 | 70 | Rigid base | UUT 2 | | | |
| ABCE3002-11 | Ametek Powervar | 22.0 | 8.0 | 20.0 | 140 | Rigid base | UUT 3 | | | |



2.50

0.0



N/A

N/A

1.67

0.67

UNIT UNDER TEST (UUT) Summary Sheet

Manufacturer: Ametek Powervar

Product Line: Ametek Powervar Security II UPM

Model Number: ACBE422-11

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 | | | | | | | | | | |
|-------------------------|---------------|---------------|-------------------------------|--------------|------------|------------|------------|------------|--|--|
| Operating Weight | | imensions (in | Lowest Natural Frequency (Hz) | | | | | | | |
| (lb) | | | Length | Width | Height | Front-Back | Side-Side | Vertical | | |
| 31 | UUT | 1 | 18.0 | 5.5 | 7.0 | >33.3 | >33.3 | >33.3 | | |
| | | | Seismic | Test Paramet | ers | | | | | |
| Building Code | Test Criteria | Sds (g) | z/h | lp | Aflx-H (g) | Arig-H (g) | Aflx-V (g) | Arig-V (g) | | |
| CBC 2016 | ICC-ES AC156 | 2.00 | 1.0 F | | 3.20 | 2.40 | N/A | N/A | | |
| CBC 2010 | ICC-ES ACISO | | 40- | 1.5 | | | | | | |

Unit Mounting Description:



UUT 1 was 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 (50lbs tension / 675 lb working load limit) looped through seismic brackets supplied by Ametek Powervar (Part Number A05-00928 & A05-00929). Each bracket (4 in total) was fastened to the DCL interface fixture with a 3/8" diameter, grade 5, bolt. Bolts were spaced at 14" lengthwise and 8" widthwise on center.



UNIT UNDER TEST (UUT) Summary Sheet

Manufacturer: Ametek Powervar

Product Line: Ametek Powervar Security II UPM

Model Number: ACBE1442-11

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.

| | | | UU | T Properties | | | | | |
|-------------------------|---------------|-----------------|----------------|--------------|------------|-------------------------------|------------|------------|--|
| Operating Weight | | D | imensions (in) | | | Lowest Natural Frequency (Hz) | | | |
| (lb) | | Length Width He | | | | Front-Back | Side-Side | Vertical | |
| 70 | UUT | 2 | 20.0 | 8.0 | 9.0 | >33.3 | >33.3 | >33.3 | |
| | | | Seismic | Test Paramet | ers | | | | |
| Building Code | Test Criteria | Sds (g) | z/h | lp | Aflx-H (g) | Arig-H (g) | Aflx-V (g) | Arig-V (g) | |
| CBC 2016 | ICC-ES AC156 | 2.00 | 1.0 F | | 3.20 | 2.40 | N/A | N/A | |
| CBC 2010 | ICC-L3 AC150 | 2.50 | 0.0 | | N/A | N/A | 1.67 | 0.67 | |

Unit Mounting Description:



UUT 2 was 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 (50lbs tension / 675 lb working load limit) looped through seismic brackets supplied by Ametek Powervar (Part Number A05-00928 & A05-00929). Each bracket (4 in total) was fastened to the DCL interface fixture with a 3/8" diameter, grade 5, bolt. Bolts were spaced at 16" lengthwise and 11" widthwise on center.

2.50

0.0



N/A

N/A

1.67

0.67

UNIT UNDER TEST (UUT) Summary Sheet

Manufacturer: Ametek Powervar

Product Line: Ametek Powervar Security II UPM

Model Number: ACBE3002-11

Product Construction Summary: Carbon steel enclosure

ICC-ES AC156

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 | | | | | | | | | | |
|-------------------------|-------------------------|---------|---------------|--------------|------------|------------|-------------------------------|------------|--|--|
| Operating Weight | | D | imensions (in | ensions (in) | | | Lowest Natural Frequency (Hz) | | | |
| (lb) | | | Length | Width | Height | Front-Back | Side-Side | Vertical | | |
| 140 | UUT | 3 | 22.0 | 8.0 | 20.0 | >33.3 | >33.3 | >33.3 | | |
| | Seismic Test Parameters | | | | | | | | | |
| Building Code | Test Criteria | Sds (g) | z/h | lp | Aflx-H (g) | Arig-H (g) | Aflx-V (g) | Arig-V (g) | | |
| | | 2.00 | 1.0 | CODI | 3.20 | 2.40 | N/A | N/A | | |

Unit Mounting Description:

CBC 2016



UUT 3 was base mounted to the DCL interface fixture with a strap assembly at front and rear of the unit. The assembly consisted of (2) 1" wide by 0.060" thick heavyweight polypropylene cam straps (50lbs tension / 675 lb working load limit) looped through seismic brackets supplied by Ametek Powervar (Part Number A05-00928 & A05-00929). Each bracket (4 in total) was fastened to the DCL interface fixture with a 3/8" diameter, grade 5, bolt. Bolts were spaced at 16.5" lengthwise and 11" widthwise on center. The unit was installed with (4) seismic spacers in place of casters provided by Ametek Powervar (Part Number A05-00925) and (2) seismic support brackets provided by Ametek Powervar (Part Number A05-00926).