



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY
APPLICATION #: OSP - 0070

OSHPD Special Seismic Certification Preapproval (OSP)

Type: [] New [X] Renewal

Manufacturer Information

Manufacturer: ASCO Power Technologies, LP

Manufacturer's Technical Representative: Adam Seid, Director, Project Management

Mailing Address: 160 Park Ave, Florham Park, NJ 07932

Telephone: 973-966-2154 Email: Adam.Seid@ascopower.com

Product Information

Product Name: Power Control Systems (PCS)

Product Type: Electrical Switchgear

Product Model Number: PCS Product Series, 4000 & 7000 with Overhead Lifting Trolley

(List all unique product identification numbers and/or part numbers) Low Voltage Switchgear Systems with Square D Circuit Breakers. Seismic enhancements

General Description: made to the test units shall be incorporated into the production units.

Mounting Description: Rigid Floor Mounted

Applicant Information

Applicant Company Name: The VMC Group

Contact Person: John P. Giuliano, PE

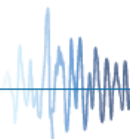
Mailing Address: 113 Main Street, Bloomingdale, NJ 07403

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: 6/12/19
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: Mr. Kenneth Tarlow California License Number: SE2851

Mailing Address: 980 9th Street, 16th Floor, Sacramento, CA 95814

Telephone: (916) 449-9918 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): _____

Testing Laboratory

Company Name: Trentec

Contact Name: Timothy A. Geers

Mailing Address: 4600 East Tech Dr., Cincinnati, OH 45245

Telephone: (513) 528-7900 Email: tgeers@curtisswright.com

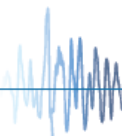
Testing Laboratory

Company Name: UC Berkeley PEER

Contact Name: Wesley Neighbour

Mailing Address: 1301 South 46th Street, Building 420, Richmond, CA 94804

Telephone: (510) 665-3409 Email: wdn@berkeley.com





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Seismic Parameters

Design in accordance with ASCE 7-10 Chapter 13: [X] Yes [] No

Design Basis of Equipment or Components (Fp/Wp) = 1.50 (z/h = 1); 1.11 (z/h = 0)

Sds (Design spectral response acceleration at short period, g) = 2.00 (z/h = 1); 2.46 (z/h = 0)

ap (In-structure equipment or component amplification factor) = 2.5

Rp (Equipment or component response modification factor) = 6.0

Omega_0 (System overstrength factor) = 2.0

Ip (Importance factor) = 1.5

z/h (Height factor ratio) = 1 and 0

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

Overall dimensions and weight (or range thereof) = See Certified Tables 1A and 1B

Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15: [] Yes [X] No

Design Basis of Equipment or Components (V/W) =

Sds (Design spectral response acceleration at short period, g) =

Sd1 (Design spectral response acceleration at 1 second period, g) =

R (Response modification coefficient) =

Omega_0 (System overstrength factor) =

Cd (Deflection amplification factor) =

Ip (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 [X] No

List of Attachments Supporting Special Seismic Certification

[X] Test Report(s) [] Drawings [] Calculations [X] Manufacturer's Catalog

[] Other(s) (Please Specify):

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

Signature: [Signature] Date: March 17, 2020

Print Name: Timothy J. Piland Title: SSE

Special Seismic Certification Valid Up to: Sds (g) = See Above z/h = See Above

Condition of Approval (if applicable):

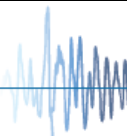


Table 1A - Certified Low Voltage Switchgear Systems (NEMA Type 1)

| Model Number ⁴ | Main Bus Rating [Amps] | Breaker Rating [Amps] | NEMA Rating | Enclosure Dimensions [in] | | | Max System Weight [lbs] | UUT |
|---------------------------|-----------------------------|----------------------------|----------------|-----------------------------|-------------|-------------|------------------------------|--------------------------|
| | | | | Max Height ⁷ | Max Width | Max Depth | | |
| 0H-C/C/C/C | N/A | N/A | TYPE 1 | 94.0 | 36.0 | 24.0 | 1,068 | UUT-2 |
| 0H-C/C/C/C | N/A | N/A | TYPE 1 | 94.0 | 36.0 | 30.0 | 1,089 | Interpolated |
| 0H-C/C/C/C | 0 - 10,000 | N/A | TYPE 1 | 94.0 | 36.0 | 84.0 | 1,713 | Interpolated |
| 6H-B/B/B/B/B-3P | 3,000 - 10,000 | 250 - 1200 | TYPE 1 | 94.0 | 40.0 | 84.0 | 2,991 | Interpolated |
| 2H-B/C/C/B-3P | 6,000 | (2) 800 | TYPE 1 | 94.0 | 26.0 | 72.0 | 3,000 | UUT-1a |
| 1H-B/S/C/S-3P | 2,000 - 10,000 | 800 - 3,200 | TYPE 1 | 94.0 | 40.0 | 84.0 | 3,345 | Interpolated |
| 1H-B/S/C/S-4P | 2,000 - 10,000 | 800 - 3,200 | TYPE 1 | 94.0 | 40.0 | 84.0 | 3,627 | Interpolated |
| 1H-B/C/C/C-3P | 2,000 - 10,000 | 800 - 3,200 | TYPE 1 | 94.0 | 40.0 | 84.0 | 3,704 | Interpolated |
| 2H-B/B/C/S-3P | 2,000 - 10,000 | 800 - 3,200 | TYPE 1 | 94.0 | 40.0 | 84.0 | 3,733 | Interpolated |
| 3H-B/B/B/C-3P | 3,000 - 10,000 | 800 - 3,200 | TYPE 1 | 94.0 | 40.0 | 84.0 | 3,746 | Interpolated |
| 3H-B/B/C/B-3P | 3,000 - 10,000 | 800 - 3,200 | TYPE 1 | 94.0 | 40.0 | 84.0 | 3,746 | Interpolated |
| 4H-B/B/B/B-3P | 3,000 - 10,000 | 800 - 2,000 | TYPE 1 | 94.0 | 40.0 | 84.0 | 3,837 | Interpolated |
| 1H-B/X/C/C-3P | 2,000 - 10,000 | 800 - 5,000 | TYPE 1 | 94.0 | 40.0 | 84.0 | 3,941 | Interpolated |
| 1H-B/C/C/C-4P | 2,000 - 10,000 | 800 - 3,200 | TYPE 1 | 94.0 | 40.0 | 84.0 | 3,987 | Interpolated |
| 1H-B/X/C/C-3P | 6,000 | 5,000 | TYPE 1 | 94.0 | 40.0 | 84.0 | 4,000 | UUT-3⁵ |
| 4H-B/B/B/B-3P | 10,000 | (4) 800 | TYPE 1 | 94.0 | 26.0 | 84.0 | 4,000 | UUT-3⁵ |
| 1H-S/B/C/C-3P | 2,000 - 10,000 | 6,000 | TYPE 1 | 94.0 | 40.0 | 84.0 | 4,006 | Interpolated |
| 2H-B/C/B/S-3P | 2,000 - 10,000 | 800 - 3,200 | TYPE 1 | 94.0 | 40.0 | 84.0 | 4,123 | Interpolated |
| 2H-B/B/C/S-4P | 2,000 - 10,000 | 800 - 3,200 | TYPE 1 | 94.0 | 40.0 | 84.0 | 4,152 | Interpolated |
| 3H-B/B/B/C-4P | 3,000 - 10,000 | 800 - 3,200 | TYPE 1 | 94.0 | 40.0 | 84.0 | 4,201 | Interpolated |
| 3H-B/B/C/B-4P | 3,000 - 10,000 | 800 - 3,200 | TYPE 1 | 94.0 | 40.0 | 84.0 | 4,201 | Interpolated |
| 1H-B/X/C/C-4P | 2,000 - 10,000 | 800 - 5,000 | TYPE 1 | 94.0 | 46.0 | 84.0 | 4,275 | Interpolated |
| 2H-B/C/C/B-3P | 2,000 - 10,000 | 800 - 4,000 | TYPE 1 | 94.0 | 40.0 | 84.0 | 4,322 | Interpolated |
| 4H-B/B/B/B-4P | 3,000 - 10,000 | 800 - 2,000 | TYPE 1 | 94.0 | 40.0 | 84.0 | 4,385 | Interpolated |
| 1H-S/B/C/C-4P | 2,000 - 10,000 | 6,000 | TYPE 1 | 94.0 | 46.0 | 84.0 | 4,497 | Interpolated |
| 2H-B/C/B/S-4P | 2,000 - 10,000 | 800 - 3,200 | TYPE 1 | 94.0 | 40.0 | 84.0 | 4,687 | Interpolated |
| 2H-B/C/C/B-3P | 10,000 | (2) 4,000 | TYPE 1 | 94.0 | 36.0 | 84.0 | 4,800 | UUT-1b |
| 2H-B/C/C/B-4P | 2,000 - 10,000 | 800 - 4,000 | TYPE 1 | 94.0 | 46.0 | 84.0 | 4,879 | Extrapolated |

Notes:

- NEMA Type 1 (0-10,000 Amp range) section cubicles are constructed of 11 gauge Carbon Steel by ASCO.
- The NEMA Type 3R gear is constructed using a cubicle section from Table 1A (Nema Type 1, Max. 36"W x 72"Deep, Max. 6000A Main Bus rating and 800-5000A Circuit
- NEMA Type 3R (0-6,000 Amp range) section cubicles are constructed of 11 gauge Carbon Steel by ASCO.
- Model Descriptors:
 B = Compartment that is designated only for the Circuit Breaker
 C = Compartment that is designated only for Controls
 X = A Circuit Breaker compartment that is taller than standard height due to extra ventilation require
 S = Compartment that is designated as empty (no Circuit Breaker or Controls)
 H = Qty. of Breakers
- UUT-3 consists 2 cabinets, 1H-B/X/C/C-3P and 4H-B/B/B/B-3P
- The maximum tested system weight is 4,800 lbs.
- The listed height is 3" larger due to a control wireway on top of the cabinet which was not included in the measuring of the units in the test report.

Table 1B - Certified Low Voltage Switchgear Systems (NEMA Type 3R)

| Model Number ⁴ | Main Bus Rating [Amps] | Breaker Rating [Amps] | NEMA Rating | Enclosure Dimensions [in] | | | Max System Weight [lbs] | UUT |
|---------------------------|-----------------------------|----------------------------|----------------|-----------------------------|-------------|-------------|------------------------------|--------------|
| | | | | Max Height | Max Width | Max Depth | | |
| 0H-C/C/C/C | 0 - 6,000 | N/A | TYPE 3R | 101.5 | 40.0 | 84.0 | 2,618 | Interpolated |
| 6H-B/B/B/B/B-3P | 6,000 | (6) 1200 | TYPE 3R | 101.5 | 40.0 | 84.0 | 3,700 | UUT-4 |
| 1H-B/S/C/S-3P | 2,000 - 6,000 | 800 - 3,200 | TYPE 3R | 101.5 | 40.0 | 84.0 | 4,203 | Interpolated |
| 1H-B/S/C/S-4P | 2,000 - 6,000 | 800 - 3,200 | TYPE 3R | 101.5 | 40.0 | 84.0 | 4,473 | Interpolated |
| 2H-B/B/C/S-3P | 2,000 - 6,000 | 800 - 3,200 | TYPE 3R | 101.5 | 40.0 | 84.0 | 4,544 | Interpolated |
| 2H-B/C/B/S-3P | 2,000 - 6,000 | 800 - 3,200 | TYPE 3R | 101.5 | 40.0 | 84.0 | 4,544 | Interpolated |
| 3H-B/B/B/C-3P | 3,000 - 6,000 | 800 - 3,200 | TYPE 3R | 101.5 | 40.0 | 84.0 | 4,552 | Interpolated |
| 3H-B/B/C/B-3P | 3,000 - 6,000 | 800 - 3,200 | TYPE 3R | 101.5 | 40.0 | 84.0 | 4,552 | Interpolated |
| 1H-B/C/C/C-3P | 2,000 - 6,000 | 800 - 3,200 | TYPE 3R | 101.5 | 40.0 | 84.0 | 4,583 | Interpolated |
| 4H-B/B/B/B-3P | 3,000 - 6,000 | 800 - 2,000 | TYPE 3R | 101.5 | 40.0 | 84.0 | 4,638 | Interpolated |
| 1H-B/X/C/C-3P | 2,000 - 6,000 | 800 - 5,000 | TYPE 3R | 101.5 | 40.0 | 84.0 | 4,750 | Interpolated |
| 1H-B/C/C/C-4P | 2,000 - 6,000 | 800 - 3,200 | TYPE 3R | 101.5 | 40.0 | 84.0 | 4,860 | Extrapolated |

Notes:

- NEMA Type 1 (0-10,000 Amp range) section cubicles are constructed of 11 gauge Carbon Steel by ASCO.
- The NEMA Type 3R gear is constructed using a cubicle section from Table 1A (Nema Type 1, Max. 36"W x 72"Deep, Max. 6000A Main Bus rating and 800-5000A Circuit
- NEMA Type 3R (0-6,000 Amp range) section cubicles are constructed of 11 gauge Carbon Steel by ASCO.
- Model Descriptors:
 B = Compartment that is designated only for the Circuit Breaker
 C = Compartment that is designated only for Controls
 X = A Circuit Breaker compartment that is taller than standard height due to extra ventilation require
 S = Compartment that is designated as empty (no Circuit Breaker or Controls)
 H = Qty. of Breakers
- UUT-3 consists 2 cabinets, 1H-B/X/C/C-3P and 4H-B/B/B/B-3P
- The maximum tested system weight is 4,800 lbs.
- The listed height is 3" larger due to a control wireway ontop of the cabinet which was not included in the measuring of the units in the test report.

Table 2 - Certified Subcomponents: Breakers

| Part Number | Rating [Amps] | Weight [lbs] | Manufacturer | UUT |
|----------------|-----------------|----------------|--------------|---------------|
| P-FRAMEG/J/K/L | 1,200 | 31 | Square D | UUT-4 |
| NW08N/L/H | 800 | 223 | Square D | UUT-1a, UUT-3 |
| NW12N/L/H | 1,200 | 223 | Square D | Interpolated |
| NW16N/L/H | 1,600 | 223 | Square D | Interpolated |
| NW20N/L/H | 2,000 | 223 | Square D | Interpolated |
| NW08L1/H1-H3 | 800 | 223 | Square D | Interpolated |
| NW16L1/H1-H3 | 1,600 | 223 | Square D | Interpolated |
| NW25L/H | 2,500 | 277 | Square D | Interpolated |
| NW30L/H | 3,000 | 277 | Square D | Interpolated |
| NW20L1/H1-H3 | 2,000 | 351 | Square D | Interpolated |
| NW40L/H | 4,000 | 557 | Square D | UUT-1b |
| NW50L/H | 5,000 | 557 | Square D | UUT-3 |
| NW32L1/H1-H3 | 3,200 | 557 | Square D | Extrapolated |
| NW40L1/H1-H3 | 4,000 | 557 | Square D | Extrapolated |
| NW50L1/H2/H3 | 5,000 | 557 | Square D | Extrapolated |

Table 3 - Certified Subcomponents: Transformers

| Part Number | Description | Weight [lbs] | Manufacturer | UUT |
|---------------|--------------------------------|----------------|--------------|-----------------------|
| 20XSUM3 | Summing Transformer | 3 | ITI | UUT-2 |
| 19SHT | CT / 600 V 300:5 to 3000:5 | 3 | ITI | UUT-1a |
| 568T | CT / 600 V 400:5/1 to 5000:5/1 | 4 | ITI | UUT-1b |
| 561 | CT / 600 V 150:5 to 4000:5 | 8 | ITI | Interpolated |
| 135 | CT / 600 V 150:5 to 5000:5 | 18 | ITI | UUT-1b |
| 142 | CT / 600 V 400:5 to 6000:5 | 31 | ITI | UUT-3 |
| 3VTN460277FF | Potential Transformer | 23 | ITI | UUT-3 |
| CG0500480120F | Potential Transformer, Fuse | 15 | Square D | UUT-1a, UUT-1b, UUT-3 |
| S33579 | Neut Current Transformer | 7 | Square D | Extrapolated |
| S34036 | Neut Current Transformer | 25 | Square D | UUT-1a, UUT-1b, UUT-3 |
| S48182 | Neut Current Transformer | 25 | Square D | UUT-1a, UUT-1b, UUT-3 |
| S48897 | Neut Current Transformer | 50 | Square D | UUT-1b, UUT-3 |

Table 4 - Certified Subcomponents: Meters

| Part Number | Description | Weight [lbs] | Manufacturer | UUT |
|-------------|---------------|----------------|--------------|---------------|
| 629269-001 | Power Manager | 9 | ASCO | UUT-1a, UUT-3 |

Table 5 - Certified Subcomponents: Power Supplies

| Part Number | Description | Weight [lbs] | Manufacturer | UUT |
|-------------|-----------------|----------------|--------------|----------------------|
| VIM13CW03 | DC/DC Convertor | 2 | Vicor | Extrapolated |
| VIMBW301 | DC/DC Convertor | 2 | Vicor | UUT-2, UUT-3 |
| VIMW301 | DC/DC Convertor | 2 | Vicor | UUT-1a, UUT-2, UUT-3 |

Table 6 - Certified Subcomponents: Relays / Controllers

| Part Number | Weight [lbs] | Manufacturer | UUT |
|---------------|----------------|---------------|----------------------|
| 267566 | <1 | ASCO | UUT-1a, UUT-2, UUT-3 |
| 246955540AHD0 | 2 | Yokogawa | UUT-2 |
| 253PHDUNWBX | 2 | Crompton | UUT-2 |
| 253PVBU | 2 | Crompton | UUT-2 |
| 9907-175 | 4 | Woodward | UUT-3 |
| BE3251A1N5 | 3 | BASLER | UUT-2 |
| CAD50BD | 2 | Telemecanique | UUT-1a, UUT-3 |
| LADN04 | <1 | Telemecanique | UUT-1a, UUT-3 |
| RH1BUDC24V | <1 | IDEC | UUT-2 |
| RH2BULDC24V | <1 | IDEC | UUT-1a, UUT-2, UUT-3 |
| RH4BULDDC24V | <1 | IDEC | Interpolated |
| SH1B05 | <1 | IDEC | UUT-2 |
| SH2B05 | <1 | IDEC | UUT-2, UUT-3 |
| SH4B05 | <1 | IDEC | Interpolated |
| SY2S02F1 | <1 | IDEC | UUT-2 |
| SY4S02F1 | <1 | IDEC | UUT-1a, UUT-2, UUT-3 |

Table 7 - Certified Subcomponents: Controllers & Controller Components

| Part Number | Weight [lbs] | Manufacturer | UUT |
|----------------|----------------|-------------------------|---------------|
| HE200ACM530-17 | 2 | Horner Automation Group | UUT-1a, UUT-3 |
| HE200CGM750-17 | 2 | Horner Automation Group | UUT-1b |
| HE800DIM310-17 | 2 | Horner Automation Group | UUT-1a, UUT-3 |
| HE800DQM306-17 | 2 | Horner Automation Group | UUT-1a, UUT-3 |
| HE800ETN250-17 | 2 | Horner Automation Group | UUT-1a, UUT-3 |
| HE800GCM911 | 2 | Horner Automation Group | UUT-1a, UUT-3 |
| HE800RCS250-17 | 2 | Horner Automation Group | UUT-1a, UUT-3 |
| IC200CHS022 | <1 | GE | UUT-1b |
| IC200ALG230 | <1 | GE | Interpolated |
| IC200CPUE05 | <1 | GE | Interpolated |
| IC200GBI001 | <1 | GE | UUT-1b |
| IC200MDD844 | <1 | GE | UUT-1b |
| IC200MDL650 | <1 | GE | Interpolated |
| IC200MDL750 | <1 | GE | Interpolated |
| IC200PWR001 | <1 | GE | UUT-1b |
| IC200PWR002 | <1 | GE | Interpolated |
| IC693BEM331 | <1 | GE | UUT-1b |
| IC693CPU372 | <1 | GE | UUT-1b |
| IC693PWR331 | <1 | GE | UUT-1b |
| IC695ACC302 | <1 | GE | Interpolated |
| IC695ETM001 | <1 | GE | Interpolated |
| IC695PSD140 | <1 | GE | Interpolated |
| IC695CPE400 | <1 | GE | Interpolated |
| IC695ACC403 | <1 | GE | Interpolated |
| IC200CPUE05 | <1 | GE | Interpolated |
| IC695CPU315 | 2 | GE | Interpolated |
| IC693CHS397 | 2 | GE | UUT-1b |
| IC695CHS007 | 3 | GE | Extrapolated |



Table 8 - Certified Subcomponents: Switches

| Part Number | Description | Weight [lbs] | Manufacturer | UUT |
|----------------|----------------------------------|----------------|------------------|-----------------------|
| 629800-004 | Ethernet Comm. Module,72E | 1 | ASCO | UUT-1a, UUT-2, UUT-3 |
| MESR901 | Converter, Modbus Gateway | <1 | B&B | UUT-2 |
| 985436 | 10A | <1 | CHINT | UUT-1a, UUT-2, UUT-3 |
| 985437 | 10A | <1 | CHINT | UUT-1a, UUT-3 |
| 985438 | 16A | <1 | CHINT | UUT-1a, UUT-1b, UUT-2 |
| 985451 | 20A | <1 | CHINT | UUT-2 |
| 985230 | 20A | <1 | CHINT | Extrapolated |
| 985439 | 25A | <1 | CHINT | Extrapolated |
| CHM1D | Fuse Holder With Built-In Puller | <1 | Bussman | UUT-1a, UUT-2, UUT-3 |
| 943987001 | Ethernet Router,2 Port,24VDC | <1 | Hirschmann | UUT-2 |
| 2642D17077 | CB Control | 2 | Shallco | UUT-1b |
| CA10A231600FT1 | SEL SW,4 POS | <1 | Kraus and Naimer | UUT-1a, UUT-3 |
| CA10A232600FT1 | SEL SW,5 POS | <1 | Kraus and Naimer | UUT-1a, UUT-3 |
| CA10A252600FT1 | SEL SW,American Solenoid,5 | <1 | Kraus and Naimer | UUT-1a, UUT-3 |
| EDS205 | Ethernet Switch,5 | <1 | MOXA | UUT-1a, UUT-3 |
| EDS308 | Ethernet Switch,8 | 1.4 | MOXA | Interpolated |
| EDS316 | Ethernet Switch,16 | 2.5 | MOXA | Interpolated |
| EDS316MMST | Ethernet Switch,16 | 2.5 | MOXA | UUT-1a, UUT-3 |

Table 9 - Certified Subcomponents: Displays & Interface Monitors

| Part Number | Description | Weight [lbs] | Manufacturer | UUT |
|-------------|-------------------|----------------|-------------------------|-------|
| HEQX651-16 | 12.1" LCD Display | 6 | Horner Automation Group | UUT-2 |



UNIT UNDER TEST (UUT) Summary Sheet

UUT-1a

Q0007.0; Q0007-01-01-01

| Model Line | Model Number | Manufacturer |
|--------------------------------|---------------|--------------|
| Low Voltage Switchgear Systems | 2H-B/C/C/B-3P | ASCO |

Product Construction Summary

Rigid floor mounted, 11 GA carbon steel, painted, NEMA Type 1

Options / Subcomponent Summary

Breaker: NW08N/L/H ; Transformer: 19SHT, CG0500480120F, S34036, and S48182; Meter: 629269-001; Power Supply: VIMW301; Relay: 267566, CAD50BD, LADN04, RH2BULDC24V, SY4S02F1; Controller: HE200ACM530-17, HE800ACM310-17, HE800DQM306-17, HE800ETN250-17, HE800GCM911, HE800RCS250-17; Switch: 985436, 985437, 985438, CHM1D, 629800-004, CA10A231600FT1, CA10A232600FT1, CA10A252600FT1, EDS205, EDS316MMST

UUT Properties

| Weight [lbs] | Dimensions [in] | | | Lowest Nat. Freq. [Hz] | | |
|----------------|-------------------|-------|--------|--------------------------|-----|----|
| | Length | Width | Height | F-B | S-S | V |
| 3000 | 72 | 26 | 91 | 4.7 | 15 | 15 |

UUT Highest Passed Seismic Run Information

| Building Code | Test Criteria | S _{DS} | z/h | I _p | A _{FLX-H} | A _{RIG-H} | A _{FLX-V} | A _{RIG-V} |
|---------------|---------------|-----------------|-----|----------------|--------------------|--------------------|--------------------|--------------------|
| CBC 2016 | ICC-ES AC156 | 2.46 | 1.0 | 1.5 | 3.94 | 2.95 | 1.64 | 0.66 |

Test Mounting Details

UUT-1a was floor-mounted onto the Shake table surface using six (6) 1/2" Grade 5 bolts using the unit's mounting hole provisions.



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.



UNIT UNDER TEST (UUT) Summary Sheet

UUT-1b

Q0007.0; Q0007-02-01-01

| Model Line | Model Number | Manufacturer |
|--------------------------------|---------------|--------------|
| Low Voltage Switchgear Systems | 2H-B/C/C/B-3P | ASCO |

Product Construction Summary

Rigid floor mounted, 11 GA carbon steel, painted, NEMA Type 1

Options / Subcomponent Summary

Breaker: VW40L/H; Transformer: 568T, 135, CG0500480120F, S34036, S48182, S48897; Controller: HE200CGM750-17, IC200CHS022, IC200GB1001, IC200MDD844, IC200PWR001, IC693BEM331, IC693CHS397, IC693CPU372, IC693PWR331; Switch: 985438, 2642D17077,

UUT Properties

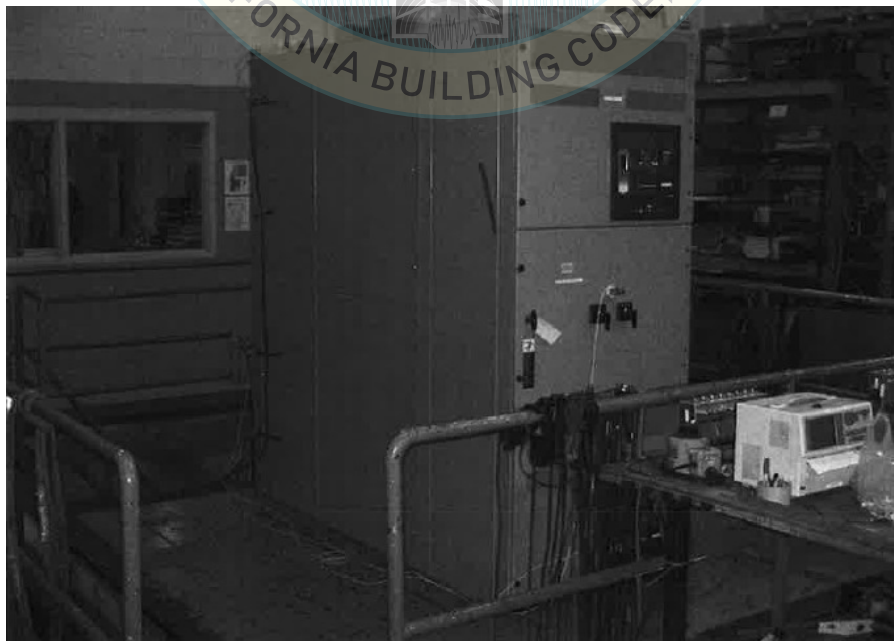
| Weight [lbs] | Dimensions [in] | | | Lowest Nat. Freq. [Hz] | | |
|----------------|-------------------|-------|--------|--------------------------|-----|----|
| | Length | Width | Height | F-B | S-S | V |
| 4800 | 84 | 36 | 91 | 5.5 | 12 | 24 |

UUT Highest Passed Seismic Run Information

| Building Code | Test Criteria | S _{DS} | z/h | I _p | A _{FLX-H} | A _{RIG-H} | A _{FLX-V} | A _{RIG-V} |
|---------------|---------------|-----------------|-----|----------------|--------------------|--------------------|--------------------|--------------------|
| CBC 2016 | ICC-ES AC156 | 2.46 | 1.0 | 1.5 | 3.94 | 2.95 | 1.64 | 0.66 |

Test Mounting Details

UUT-1b was floor-mounted onto the Shake table surface using six (6) 1/2" Grade 5 bolts using the unit's mounting hole provisions.



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.



UNIT UNDER TEST (UUT) Summary Sheet

UUT-2

Q0007.0; Q0007-03-01-01

| Model Line | Model Number | Manufacturer |
|----------------------------|--------------|--------------|
| Segregated Control Systems | 0H-C/C/C/C | ASCO |

Product Construction Summary

Rigid floor mounted, 11 GA carbon steel, painted, NEMA Type 1

Options / Subcomponent Summary

Transformer: 20XSUM3; Power Supply: VIMBW301, VIMW301; Relay: 267566, 246955540AHD0, 253PHDUNWBX, 253PVBV, BE3251A1N5, RH1BUDC24V, RH2BULDC24V, SH1B05, SY2S02F1, SY4S02F1; Switch: 985436, 985438, 985451, CHM1D, 943987001, 629800-004, MESR901; Display & Interface Monitor: HEQX651-16

UUT Properties

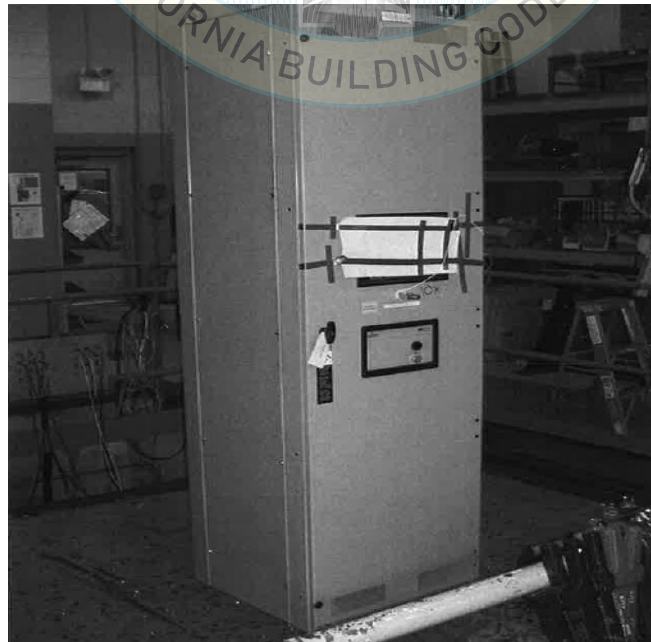
| Weight [lbs] | Dimensions [in] | | | Lowest Nat. Freq. [Hz] | | |
|----------------|-------------------|-------|--------|--------------------------|-----|-----|
| | Length | Width | Height | F-B | S-S | V |
| 500 | 24 | 26 | 91 | 8.2 | 14 | 8.4 |

UUT Highest Passed Seismic Run Information

| Building Code | Test Criteria | S _{DS} | z/h | I _p | A _{FLX-H} | A _{RIG-H} | A _{FLX-V} | A _{RIG-V} |
|---------------|---------------|-----------------|-----|----------------|--------------------|--------------------|--------------------|--------------------|
| CBC 2016 | ICC-ES AC156 | 2.46 | 1.0 | 1.5 | 3.94 | 2.95 | 1.64 | 0.66 |

Test Mounting Details

UUT-2 was floor-mounted onto the Shake table surface using four (4) 1/2" Grade 5 bolts using the unit's mounting hole provisions.



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.



UNIT UNDER TEST (UUT) Summary Sheet

UUT-3

Q0007.0; Q0007-04-01-01

| Model Line | Model Number | Manufacturer |
|--------------------------------|-------------------------------|--------------|
| Low Voltage Switchgear Systems | 4H-B/B/B/B-3P & 1H-B/X/C/C-3P | ASCO |

Product Construction Summary

Rigid floor mounted, 11 GA carbon steel, painted, NEMA Type 1

Options / Subcomponent Summary

Breaker: NW08N/L/H, NW50L/H; Transformer: 142, 3VTN460277FF, CG0500480120F, S34036, S48182, S48897; Meter: 629269-001; Power Supply: VIMBW301, VIMW301; Relay: 267566, CAD50BD, LADN04, RH2BULDC24V, SH2B05, SY4S02F1; Controller: HE200ACM530-17, HE800DIM310-17, HE800DQM306-17, HE800ETN250-17, HE800GCM911, HE800RCS250-17; Switch: 985436, 985437, CHM1D, 629800-004, CA10A231600FT1, CA10A232600FT1, CA10A252600FT1, EDS205, EDS316MMST

UUT Properties

| Weight [lbs] | Dimensions [in] | | | Lowest Nat. Freq. [Hz] | | |
|----------------|-------------------|-------|--------|--------------------------|-----|----|
| | Length | Width | Height | F-B | S-S | V |
| 8000 | 84 | 66 | 110 | 4.7 | 2.5 | 28 |

UUT Highest Passed Seismic Run Information

| Building Code | Test Criteria | S _{DS} | z/h | I _p | A _{FLX-H} | A _{RIG-H} | A _{FLX-V} | A _{RIG-V} |
|---------------|---------------|-----------------|-----|----------------|--------------------|--------------------|--------------------|--------------------|
| CBC 2016 | ICC-ES AC156 | 2.46 | 1.0 | 1.5 | 3.94 | 2.95 | 1.64 | 0.66 |

Test Mounting Details

UUT-3 was floor-mounted onto the Shake table surface using twelve(12) 1/2" Grade 5 bolts using the unit's mounting hole provisions.



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.



UNIT UNDER TEST (UUT) Summary Sheet

UUT-4

STI/2014-09; UUT1

| Model Line | Model Number | Manufacturer |
|--------------------------------|-----------------|--------------|
| Low Voltage Switchgear Systems | 6H-B/B/B/B/B-3P | ASCO |

Product Construction Summary

Rigid floor mounted, 11 GA carbon steel, painted, NEMA Type 3R

Options / Subcomponent Summary

Breaker: P-FRAMEG/J/K/L

UUT Properties

| Weight [lbs] | Dimensions [in] | | | Lowest Nat. Freq. [Hz] | | |
|----------------|-------------------|-------|--------|--------------------------|------|------|
| | Length | Width | Height | F-B | S-S | V |
| 3700 | 84 | 40 | 101 | 4.7 | 14.6 | 18.7 |

UUT Highest Passed Seismic Run Information

| Building Code | Test Criteria | S _{DS} | z/h | I _p | A _{FLX-H} | A _{RIG-H} | A _{FLX-V} | A _{RIG-V} |
|---------------|---------------|-----------------|-----|----------------|--------------------|--------------------|--------------------|--------------------|
| CBC 2016 | ICC-ES AC156 | 2.0 | 1.0 | 1.5 | 3.20 | 2.40 | 1.34 | 0.54 |
| | | 2.5 | 0.0 | 1.5 | 2.50 | 1.00 | 1.68 | 0.68 |

Test Mounting Details

UUT-4 was floor-mounted onto the Shake table surface using six (6) 1/2" Grade 8 bolts using the unit's mounting hole provisions.



All units were filled with contents and maintained structural integrity and functionality after AC-156 test.