APPLICATION FOR OSHPD SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY	
APPLICATION #:	OSP – 0459 – 10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☒ New ☐ Renewal

Manufacturer Information

Manufacturer: Siemens Industry, Inc.

Manufacturer's Technical Representative: Fernando Orpano

Mailing Address: 1000 Deerfield Parkway, Buffalo Grove, IL 60089 USA

Telephone: 847 – 941 - 6176 Email: fernando.orpano@siemens.com

Product Information

Product Name: Variable Frequency Drives and Bypass Product Line

Product Type: Variable Frequency Drives and Bypasses

Product Model Number: See Attached
(List all unique product identification numbers and/or part numbers)

General Description: Variable Frequency Drives and Bypass units are used to control electrical motors for commercial application.

Mounting Description: Rigid Wall Mounted

Applicant Information

Applicant Company Name: W.E. Gundy & Associates, Inc.

Contact Person: Travis Soppe, SE

Mailing Address: 250 Bobwhite Ct, Suite 100, Boise, ID 83706

Telephone: (208) 342-5989 Ext. 115 Email: tsoppe@wegai.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: Travis Soppe Date: 2/29/2016

Title: Vice President Company Name: W.E. Gundy and Associates, Inc.

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

Company Name: W.E. Gundy & Associates

Name: Travis Soppe, SE California License Number: 6115

Mailing Address: 250 Bobwhite Ct, Suite 100, Boise, ID 83706

Telephone: (208) 342-5898 Ext. 115 Email: tsoppe@wegai.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: Clark Dynamic Testing Laboratory

Contact Name: Russell Matich

Mailing Address: 1801 Route 51 South, Jefferson Hills, PA 15025

Telephone: (412) 387-1004 Email: rmatich@clarktesting.com

Seismic Parameters

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

Design Basis of Equipment or Components (F_p/W_p) = 1.88

S_{DS} (Design spectral response acceleration at short period, g) = 2.5

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

R_p (Equipment or component response modification factor) = 6.0

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 Attached

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

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) = _____

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 System Matrix, UUT Summary Sheets, Subcomponent Certification Letter

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

Signature: _____ Date: May 6, 2016

Print Name: Timothy J. Piland Title: SSE

Special Seismic Certification Valid Up to : S_{DS} (g) = 2.50 z/h = 1

Condition of Approval (if applicable): _____

SIEMENS VARIABLE FREQUENCY DRIVER CERTIFIED PRODUCT LINE MATRIX

WEGAI
W.E. GUNDY & ASSOCIATES, INC.
STRUCTURAL & EARTHQUAKE ENGINEERING

Siemens ID/Catalog Number	Frame Size	Volt/HP	Width (in)	Depth (in)	Height (in)	Service Weight (lbs)	Representative UUT
BT300-001X2	FR4	230/1	5.04"	7.48"	13.2"	13.2	Extrapolated
BT300-001X4	FR4	460/1	5.04"	7.48"	13.2"	13.2	Extrapolated
BT300-00152	FR4	230/1.5	5.04"	7.48"	13.2"	13.2	Extrapolated
BT300-00154	FR4	460/1.5	5.04"	7.48"	13.2"	13.2	Extrapolated
BT300-002X2	FR4	230/2	5.04"	7.48"	13.2"	13.2	Extrapolated
BT300-002X4	FR4	460/2	5.04"	7.48"	13.2"	13.2	Extrapolated
BT300-003X2	FR4	230/3	5.04"	7.48"	13.2"	13.2	Extrapolated
BT300-003X4	FR4	460/3	5.04"	7.48"	13.2"	13.2	Extrapolated
BT300-004X2	FR4	230/4	5.04"	7.48"	13.2"	13.2	UUT-3a / b*
BT300-004X4	FR4	460/4	5.04"	7.48"	13.2"	13.2	Interpolated
BT300-005X2	FR5	230/5	5.67"	8.43"	16.5"	22.0	Interpolated
BT300-005X4	FR4	460/5	5.04"	7.48"	13.2"	13.2	Interpolated
BT300-00752	FR5	230/7.5	5.67"	8.43"	16.5"	22.0	Interpolated
BT300-00754	FR4	460/7.5	5.04"	7.48"	13.2"	13.2	Interpolated
BT300-010X2	FR5	230/10	5.67"	8.43"	16.5"	22.0	UUT-5a / b / c*
BT300-010X4	FR5	460/10	5.67"	8.43"	16.5"	22.0	UUT-1
BT300-015X2	FR6	230/15	7.68"	9.02"	21.9"	44.1	Interpolated
BT300-015X4	FR5	460/15	5.67"	8.43"	16.5"	22.0	Interpolated
BT300-020X2	FR6	230/20	7.68"	9.02"	21.9"	44.1	Interpolated
BT300-020X4	FR5	460/20	5.67"	8.43"	16.5"	22.0	Interpolated
BT300-025X2	FR7	230/25	9.33"	10.20"	26.0"	82.7	Interpolated
BT300-025X4	FR6	460/25	7.68"	9.02"	21.9"	44.1	Interpolated
BT300-030X2	FR7	230/30	9.33"	10.20"	26.0"	82.7	Interpolated
BT300-030X4	FR6	460/30	7.68"	9.02"	21.9"	44.1	Interpolated
BT300-040X2	FR7	230/40	9.33"	10.20"	26.0"	82.7	UUT-2
BT300-040X4	FR6	460/40	7.68"	9.02"	21.9"	44.1	Interpolated
BT300-050X4	FR7	460/50	9.33"	10.20"	26.0"	82.7	Interpolated
BT300-060X4	FR7	460/60	9.33"	10.20"	26.0"	82.7	Interpolated
BT300-075X4	FR7	460/75	9.33"	10.20"	26.0"	82.7	UUT-4a / b / c*

* Indicates the drive is a subcomponent of the bypass product matrix and was used in each a / b / c test configuration.
Volt = Unit Voltage
HP = Horsepower
Drive enclosures are available in both UL Type 1 and Type 12. See UUT summary sheets for enclosure details.
Note: The 230 Volt configuration was tested, however there is no difference in components for the entire range of 208-240 volts. The same is true for tested 460kV configuration and range of 380-480 volts.

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SIEMENS VARIABLE FREQUENCY BYPASS CERTIFIED PRODUCT LINE MATRIX

WEGAI
W.E. GUNDY & ASSOCIATES, INC.
STRUCTURAL & EARTHQUAKE ENGINEERING

Siemens ID/Catalog Number	Frame Size	Volt/HP	Width (in)	Depth (in)	Height (in)	Service Weight (lbs)	UUT
BTE/C-001X2	FR4	230/1	6.76"	9.85"	35.48"	50.0	Extrapolated
BTE/C-001X4	FR4	460/1	6.76"	9.85"	35.48"	50.0	Extrapolated
BTE/C-00152	FR4	230/1.5	6.76"	9.85"	35.48"	50.0	Extrapolated
BTE/C-00154	FR4	460/1.5	6.76"	9.85"	35.48"	50.0	Extrapolated
BTE/C-002X2	FR4	230/2	6.76"	9.85"	35.48"	50.0	Extrapolated
BTE/C-002X4	FR4	460/2	6.76"	9.85"	35.48"	50.0	Extrapolated
BTE/C-003X2	FR4	230/3	6.76"	9.85"	35.48"	50.0	Extrapolated
BTE/C-003X4	FR4	460/3	6.76"	9.85"	35.48"	50.0	Extrapolated
BTE/C-004X2	FR4	230/4	6.76"	9.85"	35.48"	50.0	UUT-3a / b
BTE/C-004X4	FR4	460/4	6.76"	9.85"	35.48"	50.0	Interpolated
BTE/C-005X2	FR5	230/5	6.76"	11.01"	44.10"	69.0	Interpolated
BTE/C-005X4	FR4	460/5	6.76"	9.85"	35.48"	50.0	Interpolated
BTE/C-00752	FR5	230/7.5	6.76"	11.01"	44.10"	69.0	Interpolated
BTE/C-00754	FR4	460/7.5	6.76"	9.85"	35.48"	50.0	Interpolated
BTE/C-010X2	FR5	230/10	6.76"	11.01"	44.10"	69.0	UUT-5a / b / c
BTE/C-010X4	FR5	460/10	6.76"	11.01"	44.10"	69.0	Interpolated
BTE/C-015X2	FR6	230/15	8.76"	11.57"	54.75"	112.0	Interpolated
BTE/C-015X4	FR5	460/15	6.76"	11.01"	44.10"	69.0	Interpolated
BTE/C-020X2	FR6	230/20	8.76"	11.57"	54.75"	112.0	Interpolated
BTE/C-020X4	FR5	460/20	6.76"	11.01"	44.10"	69.0	Interpolated
BTE/C-025X2	FR7	230/25	14.16"	12.70"	58.50"	187.0	Interpolated
BTE/C-025X4	FR6	460/25	8.76"	11.57"	54.75"	112.0	Interpolated
BTE/C-030X2	FR7	230/30	14.16"	12.70"	58.50"	187.0	Interpolated
BTE/C-030X4	FR6	460/30	8.76"	11.57"	54.75"	112.0	Interpolated
BTE/C-040X2	FR7	230/40	14.16"	12.70"	58.50"	187.0	Interpolated
BTE/C-040X4	FR6	460/40	8.76"	11.57"	54.75"	112.0	Interpolated
BTE/C-050X4	FR7	460/50	14.16"	12.70"	58.50"	187.0	Interpolated
BTE/C-060X4	FR7	460/60	14.16"	12.70"	58.50"	187.0	Interpolated
BTE/C-075X4	FR7	460/75	14.16"	12.70"	58.50"	187.0	UUT-4a / b / c

Volt = Unit Voltage
HP = Horsepower
Bypass enclosures are only available in UL Type 1.
Note: The 230 Volt configuration was tested, however there is no difference in components for the entire range of 208-240 volts. The same is true for tested 460kV configuration and range of 380-480 volts.

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SIEMENS VARIABLE FREQUENCY DRIVER & BYPASS CERTIFIED SUBCOMPONENT MATRIX

WEGAI
W.E. GUNDY & ASSOCIATES, INC.
STRUCTURAL & EARTHQUAKE ENGINEERING

Identification Number	Manufacturer	Description	Representative UUT
Power Supply			
PS3X-C24AFC	IDEK	24VDC supply	UUT-4a / b / c
Main Switch + Operator Mechanism			
OT80F3	ABB	Disconnect switch, 80A	UUT-3a
CFS364JN	Siemens	Disconnect switch, 200A	UUT-4c
Service Switch			
LBT3040	Siemens	Disconnect switch, Rotary 3-pole 40A	UUT-3a
LBT3060	Siemens	Disconnect switch, Rotary 3-pole 60A	Interpolated
LBT3080	Siemens	Disconnect switch, Rotary 3-pole 80A	Interpolated
LBT3100	Siemens	Disconnect switch, Rotary 3-pole 100A	UUT-3b
Circuit Breaker + Operator Mechanism			
HEG3B015L	Siemens	MCCB, 15A, 600V, 3 pole	UUT-5a
ED43B015L	Siemens	MCCB, 15A, 480V, 3 pole	UUT-3b
HEG3B020L	Siemens	MCCB, 20A, 600V, 3 pole	Interpolated
ED43B020L	Siemens	MCCB, 20A, 480V, 3 pole	Interpolated
HEG3B030L	Siemens	MCCB, 30A, 600V, 3 pole	Interpolated
ED43B030L	Siemens	MCCB, 30A, 480V, 3 pole	Interpolated
HEG3B050L	Siemens	MCCB, 50A, 600V, 3 pole	Interpolated
ED43B050L	Siemens	MCCB, 50A, 480V, 3 pole	Interpolated
HEG3B060L	Siemens	MCCB, 60A, 600V, 3 pole	Interpolated
ED43B060L	Siemens	MCCB, 60A, 480V, 3 pole	Interpolated
HEG3B070L	Siemens	MCCB, 70A, 600V, 3 pole	Interpolated
ED43B070L	Siemens	MCCB, 70A, 480V, 3 pole	Interpolated
HEG3B080L	Siemens	MCCB, 80A, 600V, 3 pole	Interpolated
ED43B080L	Siemens	MCCB, 80A, 480V, 3 pole	Interpolated
HEG3B090L	Siemens	MCCB, 90A, 600V, 3 pole	Interpolated
ED43B090L	Siemens	MCCB, 90A, 480V, 3 pole	Interpolated
HEG3B100L	Siemens	MCCB, 100A, 600V, 3 pole	Interpolated
ED43B100L	Siemens	MCCB, 100A, 480V, 3 pole	Interpolated
HEG3B110L	Siemens	MCCB, 110A, 600V, 3 pole	UUT-5b
ED43B110L	Siemens	MCCB, 110A, 480V, 3 pole	UUT-5c
LFK3B125L	Siemens	MCCB, 125A 3-Pole, 600V	Interpolated
LFK3B150L	Siemens	MCCB, 150A 3-Pole, 600V	UUT-4a
LFK3B200L	Siemens	MCCB, 200A 3-Pole, 600V	Interpolated
LFK3B250L	Siemens	MCCB, 250A 3-Pole, 600V	UUT-4b

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SIEMENS VARIABLE FREQUENCY DRIVER & BYPASS CERTIFIED SUBCOMPONENT MATRIX

WEGAI
W.E. GUNDY & ASSOCIATES, INC.
STRUCTURAL & EARTHQUAKE ENGINEERING

Identification Number	Manufacturer	Description	Representative UUT
Contactor			
3RT1015-1AK62	Siemens	120VAC, 60Hz, Size S00	UUT-3a / b
3RT2015-1AK62	Siemens	120VAC, 60Hz, Size S00	UUT-5a
3RT1016-1AK62	Siemens	120VAC, 60Hz, Size S00	Interpolated
3RT2016-1AK62	Siemens	120VAC, 60Hz, Size S00	Interpolated
3RT1017-1AK62	Siemens	120VAC, 60Hz, Size S00	UUT-3a / b
3RT2017-1AK62	Siemens	120VAC, 60Hz, Size S00	Interpolated
3RT2018-1AK62	Siemens	120VAC, 60Hz, Size S00	Interpolated
3RT1023-1AK60	Siemens	120VAC, 60Hz, Size S0	Interpolated
3RT2023-1AK62	Siemens	120VAC, 60Hz, Size S0	Interpolated
3RT1024-1AK60	Siemens	120VAC, 60Hz, Size S0	Interpolated
3RT2024-1AK62	Siemens	120VAC, 60Hz, Size S0	Interpolated
3RT1025-1AK60	Siemens	120VAC, 60Hz, Size S0	Interpolated
3RT2025-1AK62	Siemens	120VAC, 60Hz, Size S0	Interpolated
3RT1026-1AK60	Siemens	120VAC, 60Hz, Size S0	Interpolated
3RT2026-1AK62	Siemens	120VAC, 60Hz, Size S0	Interpolated
3RT2027-1AK62	Siemens	120VAC, 60Hz, Size S0	UUT-5b
3RT2028-1AK62	Siemens	120VAC, 60Hz, Size S0	Interpolated
3RT1033-1AK60	Siemens	120VAC, 60Hz, Size S2	UUT-5a / b / c
3RT1034-1AK60	Siemens	120VAC, 60Hz, Size S2	UUT-5a / b / c
3RT1035-1AK60	Siemens	120VAC, 60Hz, Size S2	Interpolated
3RT1036-1AK60	Siemens	120VAC, 60Hz, Size S2	Interpolated
3RT1044-1AK60	Siemens	120VAC, 60Hz, Size S3	Interpolated
3RT1045-1AK60	Siemens	120VAC, 60Hz, Size S3	UUT-4a / b / c
3RT1046-1AK60	Siemens	120VAC, 60Hz, Size S3	Interpolated
3RT1054-6AF36	Siemens	120VAC, 60Hz, Size S6	UUT-4a / b / c
3RT1055-6AF36	Siemens	120VAC, 60Hz, Size S6	Extrapolated
3RT1056-6AF36	Siemens	120VAC, 60Hz, Size S6	Extrapolated
Transformers			
MT0050A	Siemens	Transformer, Control, 50VA	UUT-3a / b, 5a / b / c
MT0100A	Siemens	Transformer, Control, 100VA	UUT-4a / b / c
Control Board			
70CVB01840	Vacon	Conventional Bypass Control Board	UUT-3a / b, 5a / b / c
70CVB01851	Vacon	Electronic Bypass Control Board	UUT-4a / b / c

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SIEMENS VARIABLE FREQUENCY DRIVER & BYPASS CERTIFIED SUBCOMPONENT MATRIX

WEGAI
W.E. GUNDY & ASSOCIATES, INC.
STRUCTURAL & EARTHQUAKE ENGINEERING

Identification Number	Manufacturer	Description	Representative UUT
LON Card			
VB00263	Vacon	Option board	UUT-3a / b, 4a / b / c
Overload Relay			
3RU1116-1DB0	Siemens	2.2-3.2A, 690V, 1NO+1NC, Size S00 Class 10	Extrapolated
3RU1116-1EB0	Siemens	2.8-4A, 690V, 1NO+1NC, Size S2 Class 10	Extrapolated
3RU1116-1FB0	Siemens	3.5-5A, 690V, 1NO+1NC, Size S2 Class 10	Extrapolated
3RU1116-1GB0	Siemens	4.5-6.3A, 690V, 1NO+1NC, Size S00 Class 10	Extrapolated
3RU1116-1HB0	Siemens	5.5-8A, 690V, 1NO+1NC, Size S00 Class 10	Extrapolated
3RU1116-1JB0	Siemens	7-10A, 690V, 1NO+1NC, Size S2 Class 10	Extrapolated
3RU1116-1KB0	Siemens	9-12A, 690V, 1NO+1NC, Size S00 Class 10	UUT-3a / b
3RU1126-4AB0	Siemens	11-16A, 690V, 1NO+1NC, Size S0 Class 10	Interpolated
3RU1126-4CB0	Siemens	17-22A, 690V, 1NO+1NC, Size S0 Class 10	Interpolated
3RU1126-4DB0	Siemens	20-25A, 690V, 1NO+1NC, Size S0 Class 10	Interpolated
3RU1136-4EB0	Siemens	22-32A, 460V, 1NO+1NC, Size S2 Class 10	Interpolated
3RU1136-4FB0	Siemens	28-40A, 690V, 1NO+1NC, Size S2 Class 10	UUT-5a / b / c
3RU1136-4HB0	Siemens	40-50A, 690V, 1NO+1NC, Size S2 Class 10	Interpolated
3RU1146-4KB0	Siemens	57-75A, 1000V, 1NO+1NC, Size S3 Class 10	Interpolated
3RU1146-4MB0	Siemens	80-100A, 1000V, 1NO+1NC, Size S3 Class 10	Interpolated
3RB2056-1FC2	Siemens	50-200A, 600V, 1NO+1NC, Size S6 Class 10	UUT-4a / b / c
3RB2066-1GC2	Siemens	55-250A, 600V, 1NO+1NC, Size S10/12 Class 10	Extrapolated

Notes:

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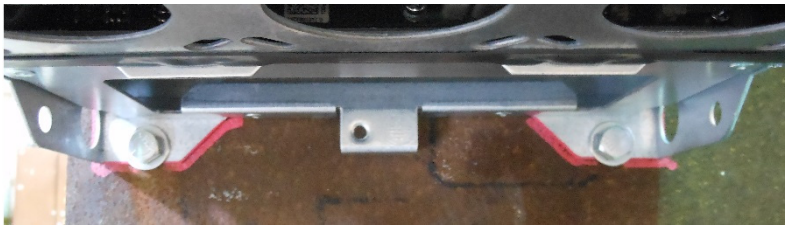
UUT-1	SECTION UNDER TEST SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Wall mounted with (4) 1/4"-20 Grade 5 bolts.



Manufacturer: Siemens

Product Line: Variable Frequency Drive

Identification Number: BT300-010X4

UUT Function: Drives are used to control motors for commercial applications.

UUT Description: The unit is comprised of UL Type 1 carbon steel enclosured drive.

UUT Component Description: Subcomponents are uniquely identifed by the listed Siemens Identification number.

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Fequency (Hz)		
	Enclosure Width	Enclosure Depth	Enclosure Height	FB	SS	V
22	5.7"	8.4"	16.5"	N/A	N/A	N/A

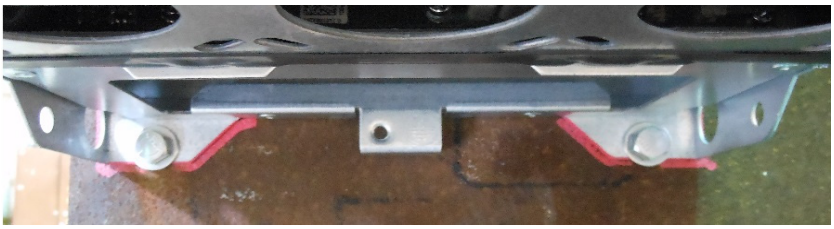
SEISMIC TEST PARAMETERS

Test Criteria	S_{DS}	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
ICC-ES AC156 2012	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT-2	SECTION UNDER TEST SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Wall mounted with (4) 5/16"-18 Grade 5 bolts.



Manufacturer: Siemens

Product Line: Variable Frequency Drive

Identification Number: BT300-040X2

UUT Function: Drives are used to control motors for commercial applications.

UUT Description: The unit is comprised of UL Type 12 carbon steel enclosured drive.

UUT Component Description: Subcomponents are uniquely identifed by the listed Siemens Identification number.

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Fequency (Hz)		
	Enclosure Width	Enclosure Depth	Enclosure Height	FB	SS	V
83	9.3"	10.2"	26.0"	N/A	N/A	N/A

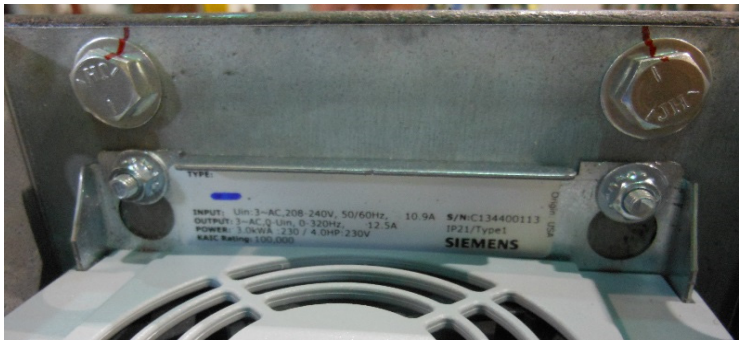
SEISMIC TEST PARAMETERS

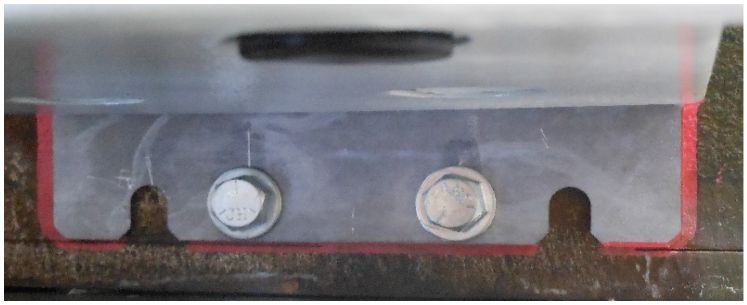
Test Criteria	S_{DS}	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
ICC-ES AC156 2012	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT-3a	SECTION UNDER TEST SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Wall mounted with (4) 5/16"-18 Grade 5 bolts.





Manufacturer: Siemens

Product Line: Variable Frequency Bypass

Identification Number: BTC-004X2

UUT Function: Drives and bypasses are used to control motors for commercial applications.

UUT Description: The unit is comprised of UL Type 1 carbon steel enclosured drive and bypass.

UUT Component Description: Steel enclosure housing a main switch (0T80F3), service switch (LBT3040), contactor (3RT1015-1AK62, 3RT1017-1AK62), transformer (MT0050A), control board (70CVB01840), LON Card (VB00263), overload relay (3RU1116-1kB0), and driver (BT300-004X2)

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Fequency (Hz)		
	Enclosure Width	Enclosure Depth	Enclosure Height	FB	SS	V
50	6.8"	9.9"	35.5"	N/A	N/A	N/A

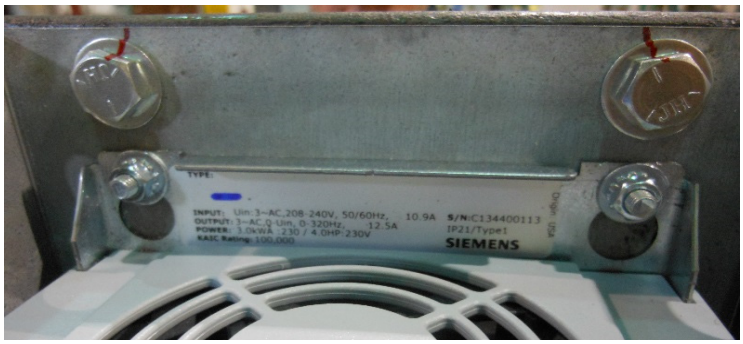
SEISMIC TEST PARAMETERS

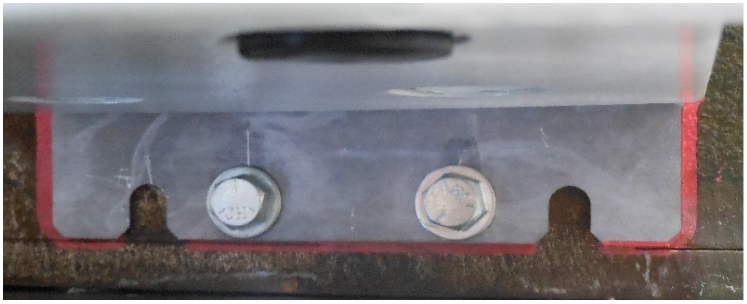
Test Criteria	S_{DS}	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
ICC-ES AC156 2012	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT-3b	SECTION UNDER TEST SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Wall mounted with (4) 5/16"-18 Grade 5 bolts.





Manufacturer: Siemens

Product Line: Variable Frequency Bypass

Identification Number: BTC-004X2

UUT Function: Drives and bypasses are used to control motors for commercial applications.

UUT Description: The unit is comprised of UL Type 1 carbon steel enclosured drive and bypass.

UUT Component Description: Steel enclosure housing a circuit breaker (ED43B015L), service switch (LBT3100), contactor (3RT1015-1AK62, 3RT1017-1AK62), transformer (MT0050A), control board (70CVB01840), LON Card (VB00263), overload relay (3RU1116-1kB0), and driver (BT300-004X2)

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Fequency (Hz)		
	Enclosure Width	Enclosure Depth	Enclosure Height	FB	SS	V
50	6.8"	9.9"	35.5"	N/A	N/A	N/A

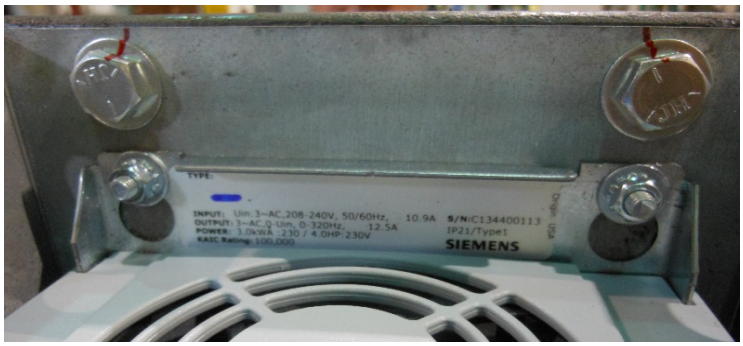
SEISMIC TEST PARAMETERS

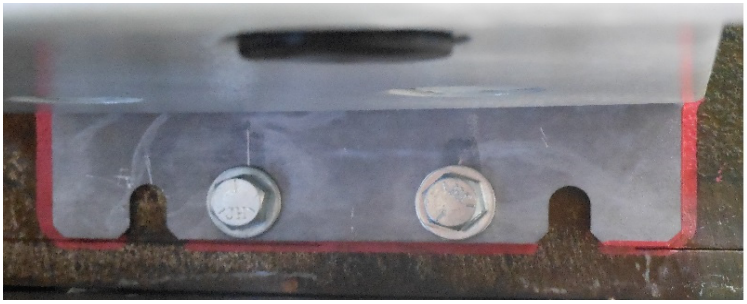
Test Criteria	S_{DS}	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
ICC-ES AC156 2012	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT-4a	SECTION UNDER TEST SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Wall mounted with (4) 3/8"-16 Grade 5 bolts.





Manufacturer: Siemens

Product Line: Variable Frequency Bypass

Identification Number: BTE-075X4

UUT Function: Drives and bypasses are used to control motors for commercial applications.

UUT Description: The unit is comprised of carbon steel enclosed UL Type 12 drive and UL Type 1 bypass.

UUT Component Description: Steel enclosure housing a power supply (PS3X-C24AFC), circuit breaker (LFK3B150L), contactor (3RT1045-1AK60, 3RT1054-6AK60), transformer (MT0100A), control board (70CVB01851), LON Card (VB00263), overload relay 3RB2056-1GC2), and driver (BT300-075X4)

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Fequency (Hz)		
	Enclosure Width	Enclosure Depth	Enclosure Height	FB	SS	V
187	14.2"	12.7"	58.5"	N/A	N/A	N/A

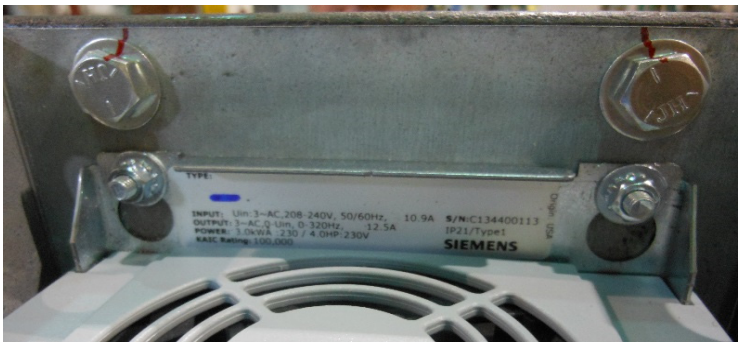
SEISMIC TEST PARAMETERS

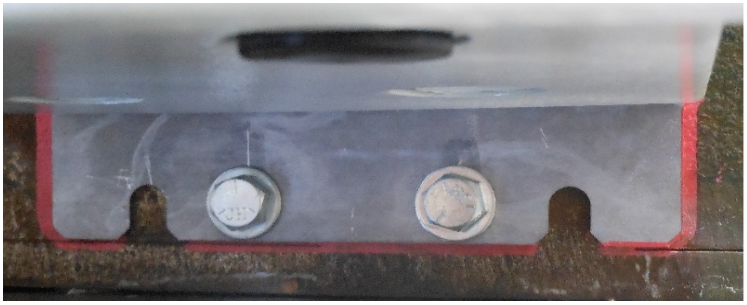
Test Criteria	S_{DS}	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
ICC-ES AC156 2012	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT-4b	SECTION UNDER TEST SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Wall mounted with (4) 3/8"-16 Grade 5 bolts.





Manufacturer: Siemens

Product Line: Variable Frequency Bypass

Identification Number: BTE-075X4

UUT Function: Drives and bypasses are used to control motors for commercial applications.

UUT Description: The unit is comprised of carbon steel enclosed UL Type 12 drive and UL Type 1 bypass.

UUT Component Description: Steel enclosure housing a power supply (PS3X-C24AFC), circuit breaker (LFK3B250L), contactor (3RT1045-1AK60, 3RT1054-6AK60), transformer (MT0100A), control board (70CVB01851), LON Card (VB00263), overload relay 3RB2056-1GC2), and driver (BT300-075X4)

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Fequency (Hz)		
	Enclosure Width	Enclosure Depth	Enclosure Height	FB	SS	V
187	14.2"	12.7"	58.5"	N/A	N/A	N/A

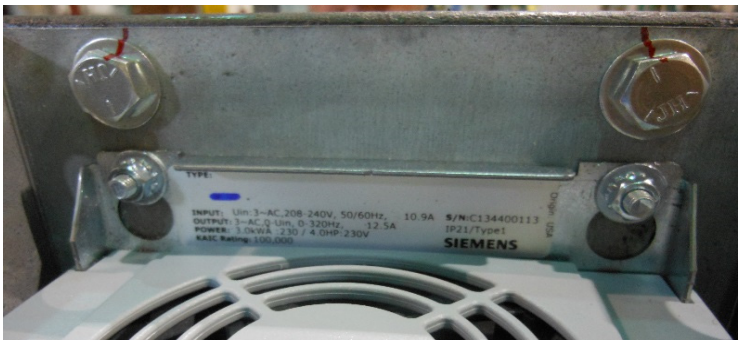
SEISMIC TEST PARAMETERS

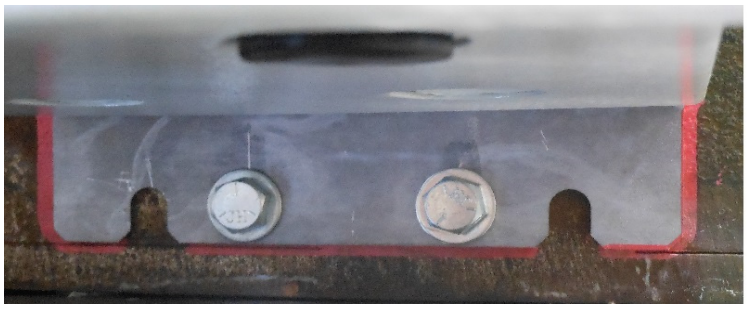
Test Criteria	S_{DS}	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
ICC-ES AC156 2012	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT-4c	SECTION UNDER TEST SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Wall mounted with (4) 3/8"-16 Grade 5 bolts.





Manufacturer: Siemens

Product Line: Variable Frequency Bypass

Identification Number: BTE-075X4

UUT Function: Drives and bypasses are used to control motors for commercial applications.

UUT Description: The unit is comprised of carbon steel enclosed UL Type 12 drive and UL Type 1 bypass.

UUT Component Description: Steel enclosure housing a power supply (PS3X-C24AFC), main switch (CFS364JN), contactor (3RT1045-1AK60, 3RT1054-6AK60), transformer (MT0100A), control board (70CVB01851), LON Card (VB00263), overload relay 3RB2056-1GC2), and driver (BT300-075X4)

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Fequency (Hz)		
	Enclosure Width	Enclosure Depth	Enclosure Height	FB	SS	V
187	14.2"	12.7"	58.5"	N/A	N/A	N/A

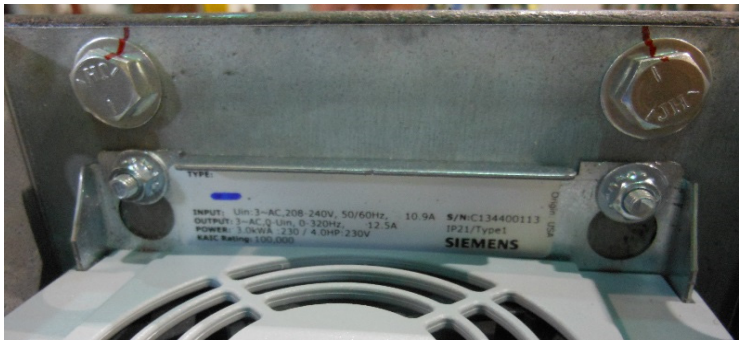
SEISMIC TEST PARAMETERS

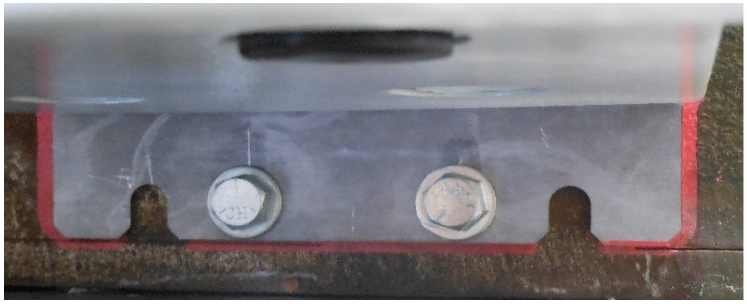
Test Criteria	S_{DS}	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
ICC-ES AC156 2012	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT-5a	SECTION UNDER TEST SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Wall mounted with (4) 5/16"-18 Grade 5 bolts.





Manufacturer: Siemens

Product Line: Variable Frequency Bypass

Identification Number: BTC-010X2

UUT Function: Drives and bypasses are used to control motors for commercial applications.

UUT Description: The unit is comprised of UL Type 1 carbon steel enclosured drive and bypass.

UUT Component Description: Steel enclosure housing a circuit breaker (HEG3B015L), contactor (3RT2015-1AK62, 3RT1033-1AK60, 3RT1034-1AK60), transformer (MT0050A), control board (70CVB01840), overload relay 3RU1136-4FB0), and drive (BT300-010X2)

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Fequency (Hz)		
	Enclosure Width	Enclosure Depth	Enclosure Height	FB	SS	V
69	6.8"	11.0"	44.1"	N/A	N/A	N/A

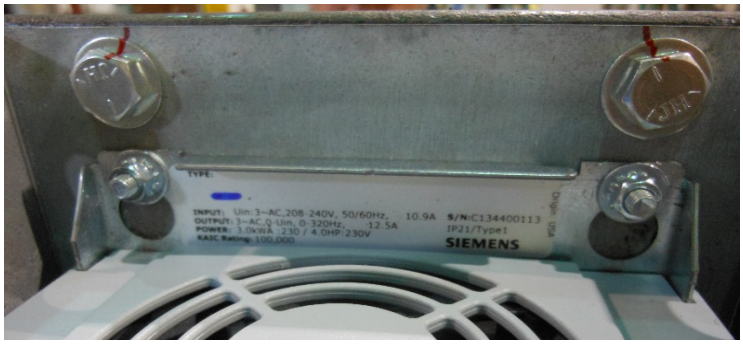
SEISMIC TEST PARAMETERS

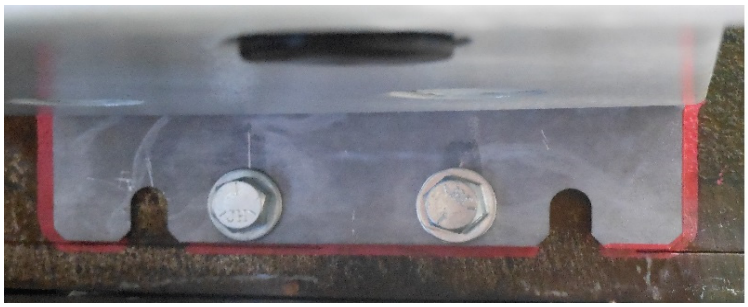
Test Criteria	S_{DS}	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
ICC-ES AC156 2012	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT-5b	SECTION UNDER TEST SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Wall mounted with (4) 5/16"-18 Grade 5 bolts.





Manufacturer: Siemens

Product Line: Variable Frequency Bypass

Identification Number: BTC-010X2

UUT Function: Drives and bypasses are used to control motors for commercial applications.

UUT Description: The unit is comprised of UL Type 1 carbon steel enclosured drive and bypass.

UUT Component Description: Steel enclosure housing a circuit breaker (HEG3B015L), contactor (3RT2027-1AK62, 3RT1033-1AK60, 3RT1034-1AK60), transformer (MT0050A), control board (70CVB01840), overload relay 3RU1136-4FB0), and drive (BT300-010X2)

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Fequency (Hz)		
	Enclosure Width	Enclosure Depth	Enclosure Height	FB	SS	V
69	6.8"	11.0"	44.1"	N/A	N/A	N/A

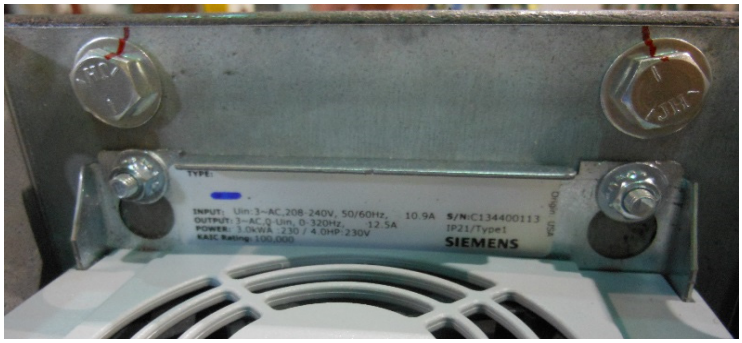
SEISMIC TEST PARAMETERS

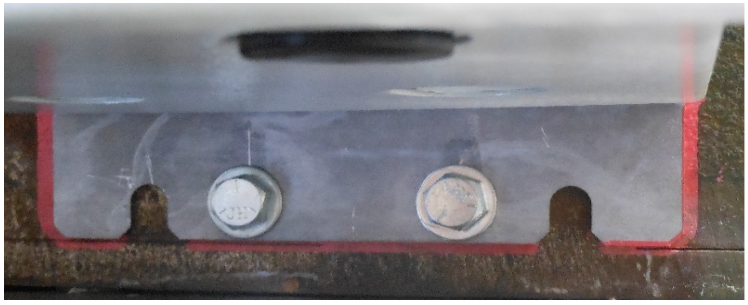
Test Criteria	S_{DS}	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
ICC-ES AC156 2012	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT-5c	SECTION UNDER TEST SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Wall mounted with (4) 5/16"-18 Grade 5 bolts.





Manufacturer: Siemens

Product Line: Variable Frequency Bypass

Identification Number: BTC-010X2

UUT Function: Drives and bypasses are used to control motors for commercial applications.

UUT Description: The unit is comprised of UL Type 1 carbon steel enclosured drive and bypass.

UUT Component Description: Steel enclosure housing a circuit breaker (ED43B110L), contactor (3RT1033-1AK60, 3RT1034-1AK60), transformer (MT0050A), control board (70CVB01840), overload relay 3RU1136-4FB0), and drive (BT300-010X2)

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Fequency (Hz)		
	Enclosure Width	Enclosure Depth	Enclosure Height	FB	SS	V
69	6.8"	11.0"	44.1"	N/A	N/A	N/A

SEISMIC TEST PARAMETERS

Test Criteria	S_{DS}	z / h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
ICC-ES AC156 2012	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.