



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP – 0625

OSHPD Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Siemens Industry, Inc.

Manufacturer's Technical Representative: Tom Hawkins

Mailing Address: 501 Fountain Parkway, Grand Prairie, TX 75050

Telephone: (817) 652-6460

Email: Tom_hawkins@siemens.com

Product Information

Product Name: Siemens Low Voltage Switchgear

Product Type: Metalclad Switchgear and Switchboard

Product Model Number: 2000A to 6000A Main Bus Sections – See attachment for identification number
(List all unique product identification numbers and/or part numbers)

General Description: Low Voltage is a rigid floor mounted low voltage metalclad switchgear that provides low voltage circuit protection.

Mounting Description: Rigid floor mounted

Applicant Information

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


Contact Person: Travis Soppe, SE

Mailing Address: 1199 Shoreline Dr, Suite 310, Boise, ID 83702

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.

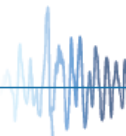
Signature of Applicant: 

Date: 10/25/2019

Title: President

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

"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: W.E. Gundy & Associates, Inc.

Name: Travis Soppe, SE California License Number: S6115

Mailing Address: 1199 Shoreline Dr, Suite 310, Boise, ID 83702

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): _____

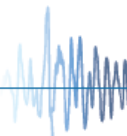
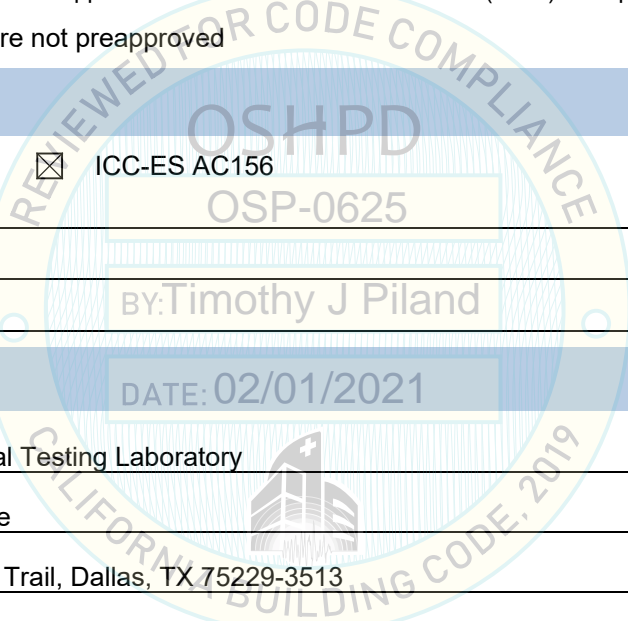
Testing Laboratory

Company Name: Environmental Testing Laboratory

Contact Name: Jeremy Lange

Mailing Address: 11034 Indian Trail, Dallas, TX 75229-3513

Telephone: (972) 247-9657 Email: Jeremy@etldallas.com





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FACILITIES DEVELOPMENT DIVISION**

Seismic Parameters

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

Design Basis of Equipment or Components (F_p/W_p) = 1.50, z/h = 1; 1.13, z/h = 0

S_{DS} (Design spectral response acceleration at short period, g) = 2.00, z/h = 1.0; 2.50, z/h = 0

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

I_p (Importance factor) = 1.5

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

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 Product Matrix, UUT Summary Sheets, Subcomponent Certification Letter

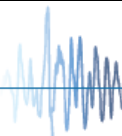
OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2025

Signature: Date: February 1, 2021

Print Name: Timothy J. Piland Title: SSE

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

Condition of Approval (if applicable): _____



SIEMENS LOW VOLTAGE SWITCHGEAR SEISMIC CERTIFIED PRODUCT LINE MATRIX



ID Number ^{1, 2, 5}	Frame Size and Pole	Section Ampere Range	Enclosure Width (in.)	Enclosure Depth (in.)	Enclosure Height (in.) ³	Max Weight (lbs)	Max CG (in)	Representative UUT ⁴
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Table 1: Low Voltage Switchgear Product Line - Single Section

RCLV-AUX	n/a	n/a	2000A-5000A	22-40	60-80	92-96	784	50	Extrapolated
RCLV-3P-2-1H	2	3	2000A-5000A	22-26	60-80	92-96	1800	42	Interpolated
RCLV-3P-2-1H	2	3	2000A-5000A	28-38	60-80	92-96	1800	52	Interpolated
FCLV-3P-2-1H	2	3	800A-3200A	22-30	39	92	1750	40	Interpolated
FCLV-3P-2-1H	2	3	800A-3200A	32-40	39	92	1750	56	Interpolated
RCLV-4P-2-1H	2	4	2000A	32	60	92	1887	58	UUT_x-3
FCLV-3P-2-2H	2	3	1600A-3200A	22-30	39	92	1750	40	Interpolated
FCLV-3P-2-2H	2	3	1600A-3200A	32-40	39	92	1750	56	Interpolated
FCLV-3P-2-2H	3	3	1600A-3200A	22-30	39	92	1800	40	Interpolated
FCLV-3P-2-2H	3	3	1600A-3200A	32-40	39	92	1800	54	Interpolated
FCLV-3P-2-3H	2	3	1600A-3200A	22-30	39	92	1800	40	Interpolated
FCLV-3P-2-3H	2	3	1600A-3200A	32-40	39	92	1800	54	Interpolated
FCLV-3P-2-3H	3	3	3200A-5000A	22-30	39	92	1800	40	Interpolated
FCLV-3P-2-3H	3	3	3200A-5000A	32-40	39	92	1800	54	Interpolated
FCLV-3P-2-4H	3	3	3200A-5000A	22-30	39	92	1800	40	Interpolated
FCLV-3P-2-4H	3	3	3200A-5000A	32-40	39	92	1800	54	Interpolated
FCLV-3P-2-4H	2	3	1600A-3200A	22-30	39	92	1750	40	Interpolated
FCLV-3P-2-4H	2	3	1600A-3200A	32-40	39	92	1750	56	Interpolated

General Notes:

¹ RCLV (rear connected) and FCLV (front connected) switchgear use the same construction and anchoring with the only difference being the switchgear depth.

² 96" includes 4" riser base for indoor configuration

³ The units were tested at different times and the subscripts on the UUTs reference the following seismic test reports:

x = 1018-202-R1-SG z = 1018-166

⁴ Switchgear with Type WL UL 489 Draw-Out Circuit breakers can be used in UL 891 Switchboards (Type RCS - RCLV Switchgear). The Type RCS switchboard is of the same configuration and construction as the low voltage switchgear.

SIEMENS LOW VOLTAGE SWITCHGEAR SEISMIC CERTIFIED PRODUCT LINE MATRIX



ID Number ^{1,2,5}	Frame Size and Pole	Section Ampere Range	Enclosure Width (in.)	Enclosure Depth (in.)	Enclosure Height (in.) ³	Max Weight (lbs)	Max CG (in)	Representative UUT ⁴	
Table 2: Low Voltage Switchgear Product Line - Ganged Sections									
RCLV-AUX	n/a	n/a	2000A-5000A	22-40	60-80	92-96	784	50	Extrapolated
RCLV-AUX	n/a	n/a	2000A	22	60	92	784	50	UUT_x-1b
RCLV-3P-2-1H	2	3	2000A-5000A	22-26	60-80	92-96	2100	54	Interpolated
RCLV-3P-2-1H	2	3	2000A-5000A	28-32	60-80	92-96	2600	54	Interpolated
RCLV-3P-2-1H	2	3	2000A-5000A	34-38	60-80	92-96	3000	56	Interpolated
FCLV-3P-3-1H	3	3	4000A	32	39	92	1376	52	UUT_z-2a
FCLV-3P-3-1H	3	3	4000A	40	39	92	1376	46	UUT_z-2c
FCLV-3P-3-1H	3	3	4000A	32	39	92	1694	54	UUT_z-2b
FCLV-3P-2-1H	2	3	800A-3200A	22-40	39	92	1750	54	Interpolated
RCLV-4P-2-1H	2	4	2000A	32	60	92	1887	58	UUT_x-1a
RCLV-4P-2-1H	2	4	2000A-5000A	32-34	60-80	92-96	3200	52	Interpolated
RCLV-4P-2-1H	2	4	2000A-5000A	36-38	60-80	92-96	3800	50	Interpolated
RCLV-4P-3-1H	3	4	4000A-6000A	40	60-80	92-96	3800	52	Interpolated
RCLV-4P-3-1H	3	4	5000A	40	60	96	3200	58	UUT_x-2a
RCLV-3P-2-2H	2	3	2000A-5000A	22-26	60-80	92-96	2100	54	Interpolated
RCLV-3P-2-2H	2	3	2000A-5000A	28-32	60-80	92-96	2600	54	Interpolated
RCLV-3P-2-2H	2	3	2000A-5000A	34-38	60-80	92-96	3000	56	Interpolated
FCLV-3P-2-2H	2	3	1600A-3200A	22-40	39	92	1750	54	Interpolated

General Notes:

¹ RCLV (rear connected) and FCLV (front connected) switchgear use the same construction and anchoring with the only difference being the switchgear depth.

² 96" includes 4" riser base for indoor configuration

³ The units were tested at different times and the subscripts on the UUTs reference the following seismic test reports:

x = 1018-202-R1-SG z = 1018-166

⁴ Switchgear with Type WL UL 489 Draw-Out Circuit breakers can be used in UL 891 Switchboards (Type RCS - RCLV Switchgear). The Type RCS switchboard is of the same configuration and construction as the low voltage switchgear.

SIEMENS LOW VOLTAGE SWITCHGEAR SEISMIC CERTIFIED PRODUCT LINE MATRIX



ID Number ^{1, 2, 5}	Frame Size and Pole		Section Ampere Range	Enclosure Width (in.)	Enclosure Depth (in.)	Enclosure Height (in.) ³	Max Weight (lbs)	Max CG (in)	Representative UUT ⁴
Table 2: Low Voltage Switchgear Product Line - Ganged Sections									
RCLV-4P-2-2H	2	4	2000A-5000A	32-34	60-80	92-96	3200	52	Interpolated
RCLV-4P-2-2H	2	4	2000A-5000A	36-38	60-80	92-96	3800	50	Interpolated
RCLV-3P-3-2H	3	3	4000A-6000A	32-34	60-80	92-96	3200	52	Interpolated
RCLV-3P-3-2H	3	3	4000A-6000A	36-38	60-80	92-96	3500	52	Interpolated
FCLV-3P-2-2H	3	3	1600A-3200A	22-40	39	92	1800	54	Interpolated
RCLV-4P-3-2H	3	4	4000A	40	60-80	92-96	3800	54	Interpolated
RCLV-3P-2-3H	2	3	2000A-5000A	22-26	60-80	92-96	2100	54	Interpolated
RCLV-3P-2-3H	2	3	2000A-5000A	28-32	60-80	92-96	2600	54	Interpolated
RCLV-3P-2-3H	2	3	2000A-5000A	34-38	60-80	92-96	3000	56	Interpolated
FCLV-3P-2-3H	2	3	1600A-3200A	22-40	39	92	2100	54	Interpolated
RCLV-4P-2-3H	2	4	2000A-5000A	32-34	60-80	92-96	3200	52	Interpolated
RCLV-4P-2-3H	2	4	2000A-5000A	36-38	60-80	92-96	3800	50	Interpolated
RCLV-3P-3-3H	3	4	4000A-5000A	32-34	60-80	92-96	3200	52	Interpolated
RCLV-3P-3-3H	3	4	4000A-5000A	36-38	60-80	92-96	3500	52	Interpolated
FCLV-3P-3-1H	3	3	5000A	32	39	92	1906	50	UUT_z-3a
FCLV-3P-3-1H	3	3	5000A	32	39	92	2224	54	UUT_z-3b
FCLV-3P-2-3H	3	3	3200A-5000A	22-40	39	92	2200	54	Interpolated
FCLV-3P-2-4H	3	3	3200A-5000A	22-30	39	92	2200	54	Interpolated

General Notes:

¹ RCLV (rear connected) and FCLV (front connected) switchgear use the same construction and anchoring with the only difference being the switchgear depth.

² 96" includes 4" riser base for indoor configuration

³ The units were tested at different times and the subscripts on the UUTs reference the following seismic test reports:

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⁴ Switchgear with Type WL UL 489 Draw-Out Circuit breakers can be used in UL 891 Switchboards (Type RCS - RCLV Switchgear). The Type RCS switchboard is of the same configuration and construction as the low voltage switchgear.

**SIEMENS LOW VOLTAGE SWITCHGEAR
SEISMIC CERTIFIED PRODUCT LINE MATRIX**



ID Number ^{1, 2, 5}	Frame Size and Pole		Section Ampere Range	Enclosure Width (in.)	Enclosure Depth (in.)	Enclosure Height (in.) ³	Max Weight (lbs)	Max CG (in)	Representative UUT ⁴
Table 2: Low Voltage Switchgear Product Line - Ganged Sections									
FCLV-3P-2-4H	3	3	3200A-5000A	32-40	39	92	2600	54	Interpolated
RCLV-3P-2-4H	2	3	2000A-5000A	22-26	60-80	92-96	2200	54	Interpolated
RCLV-3P-2-4H	2	3	2000A-5000A	28-32	60-80	92-96	2600	54	Interpolated
RCLV-3P-2-4H	2	3	2000A-5000A	34-38	60-80	92-96	3000	56	Interpolated
FCLV-3P-2-4H	2	3	1600A-3200A	22-40	39	92	1750	54	Interpolated
FCLV-3P-2-4H	2	3	3200A	22	39	92	2000	46	UUT_z-1a
FCLV-3P-2-4H	2	3	3200A	22	39	92	1191	50	UUT_z-1b
RCLV-4P-3-3H	2	4	2000A-5000A	32-34	60-80	92-96	3200	52	Interpolated
RCLV-4P-3-3H	2	4	2000A-5000A	36-38	60-80	92-96	3800	50	Interpolated
RCLV-4P-2-4H	2	4	5000A	32	60	96	3804	50	UUT_x-2b

General Notes:

¹ RCLV (rear connected) and FCLV (front connected) switchgear use the same construction and anchoring with the only difference being the switchgear depth.

² 96" includes 4" riser base for indoor configuration

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⁴ Switchgear with Type WL UL 489 Draw-Out Circuit breakers can be used in UL 891 Switchboards (Type RCS - RCLV Switchgear). The Type RCS switchboard is of the same configuration and construction as the low voltage switchgear.

**SIEMENS LOW VOLTAGE SWITCHGEAR CERTIFIED
SUBCOMPONENT MATRIX**



ID Number	Standard ⁵	Breaker Ampere	Frame Size	Breaker Type	Width (in.)	Depth (in.)	Height (in.)	Component WT (lbs) Min-Max	Representative UUT ⁴
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Table 3: 4-Pole Draw-Out Breakers

S2A416	ANSI / UL 1066	1600A	FS2	D/O 4P	23.2"	19.1"	22.5"	371	UUT _x -1a / UUT _x -3
H2A420	ANSI / UL 1066	2000A	FS2	D/O 4P	23.2"	19.1"	22.5"	408	UUT _x -2b
L2A432	ANSI / UL 1066	3200A	FS2	D/O 4P	23.2"	19.1"	22.5"	470	UUT _x -2b
S2A4xx H2A4xx L2A4xx	ANSI / UL 1066	800A to 3200A	FS2	D/O 4P	23.2"	19.1"	22.5"	370-470	Interpolation
L3A4xx M3A4xx	ANSI / UL 1066	4000A to 6000A	FS3	D/O 4P	36.0"	19.1"	22.5"	744	Interpolation
M3A450	ANSI / UL 1066	5000A	FS3	D/O 4P	36.0"	19.1"	22.5"	744	UUT _x -2a

Table 4: 3-Pole Draw-Out Breakers

S1D3xx L1D3xx	UL 489	800A to 2000A	FS1	D/O 3P	18.1"	19.1"	15.0"	245	Extrapolation
S2D308	UL 489	800A	FS2	D/O 3P	18.1"	19.1"	22.5"	245	UUT _z -1
L2A308	ANSI / UL 1066	800A	FS2	D/O 3P	18.1"	19.1"	22.5"	271	UUT _z -1
C2D312	UL 489	2000A	FS2	D/O 3P	18.1"	19.1"	22.5"	383	UUT _z -1
L2A320	ANSI / UL 1066	2000A	FS2	D/O 3P	18.1"	19.1"	22.5"	361	UUT _z -1
S2D3xx L2D3xx C2D3xx	UL 489	800A to 3000A	FS2	D/O 3P	18.1"	19.1"	22.5"	271-383	Interpolation

General Notes:

All drawout breaker weights include the weight of the cradle, rear wall & connectors.

6000A breaker are structurally the same as the 5000A

⁴ The units were tested at different times and the subscripts on the UUTs reference the following seismic test reports:

x = 1018-202-R1-SG z = 1018-166

⁵ Type WL UL 489 Draw-Out Circuit breakers can be used in UL 891 Switchboards (Type RCS - RCLV Switchgear)

**SIEMENS LOW VOLTAGE SWITCHGEAR CERTIFIED
SUBCOMPONENT MATRIX**



ID Number	Standard ⁵	Breaker Ampere	Frame Size	Breaker Type	Width (in.)	Depth (in.)	Height (in.)	Component WT (lbs) Min-Max	Representative UUT ⁴
Table 3: 3-Pole Draw-Out Breakers - cont'd									
N2A3xx S2A3xx H2A3xx L2A3xx	ANSI / UL 1066	800A to 3200A	FS2	D/O 3P	18.1"	19.1"	22.5"	271-361	Interpolation
F2A3xx	ANSI / UL 1066	800A to 2000A	FS2	D/O 3P	18.1"	24.1"	22.5"	339-379	Interpolation
L3D340	UL 489	4000A	FS3	D/O 3P	27.7"	19.1"	22.5"	584	UUT _z -2
L2D3xx C2D3xx	UL 489	4000A-5000A	FS3	D/O 3P	27.7"	19.1"	22.5"	584	Interpolation
H3A3xx L3A3xx M3A3xx	ANSI / UL 1066	4000A to 6000A	FS3	D/O 3P	27.7"	19.1"	22.5"	566	Interpolation
F3A3xx	ANSI / UL 1066	3200A to 5000A	FS3	D/O 3P	27.7"	19.1"	22.5"	531-566 lbs	Interpolation
L3A350	ANSI / UL 1066	5000A	FS3	D/O 3P	27.7"	19.1"	22.5"	566	UUT _z -3

General Notes:

All drawout breaker weights include the weight of the cradle, rear wall & connectors.

6000A breaker are structurally the same as the 5000A

⁴ The units were tested at different times and the subscripts on the UUTs reference the following seismic test reports:

x = 1018-202-R1-SG z = 1018-166

⁵ Type WL UL 489 Draw-Out Circuit breakers can be used in UL 891 Switchboards (Type RCS - RCLV Switchgear)

**SIEMENS LOW VOLTAGE SWITCHGEAR CERTIFIED
SUBCOMPONENT MATRIX**



Subcomponent ID	Manufacturer	Description	Width (in)	Depth (in)	Height (in)	Weight (lbs)	Representative UUT ⁴
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Table 5: Surge Protection Device

TPS3a0610	Siemens	TPS3-06 - 100 kA	11.5"	5"	10.75"	6.8	UUT _x -1 / UUT _z -2
TPS3a0615	Siemens	TPS3-06 - 150 kA	11.5"	5"	10.75"	6.8	Interpolation
TPS3a0620	Siemens	TPS3-06 - 200 kA	11.5"	5"	10.75"	6.8	Interpolation
TPS3a0625	Siemens	TPS3-06 - 250 kA	11.5"	5"	10.75"	6.8	Interpolation
TPS3a0630	Siemens	TPS3-06 - 300 kA	11.5"	5"	10.75"	6.8	Interpolation
TPS3a0640	Siemens	TPS3-06 - 400 kA	12.9"	5.6"	14.75"	9.6	UUT _x -2
TPS3a0650	Siemens	TPS3-06 - 500 kA	12.9"	5.6"	14.75"	9.6	UUT _z -3

Table 6: Voltage Transformers (VT)

Model 467	Phasetronics (TTL)	60Hz, 600V, 10kV Bill, 40VA	3.5"	3.8"	2.9"	2.5	Extrapolation
Model 468	Phasetronics (TTL)	60Hz, 600V, 10kV Bill, 75VA	3.6"	4"	2.8"	4	Extrapolation
Model 460	Phasetronics (TTL)	60Hz, 600V, 10kV Bill, 150VA	4.5"	3.5"	4.6"	7.75	Extrapolation
Model 456	Phasetronics (TTL)	60Hz, 600V, 10kV Bill, 500VA	6"	6.1"	6.5"	18.5	Extrapolation
Model 450	Phasetronics (TTL)	60Hz, 600V, 10kV Bill, 750VA	6"	6.5"	6"	25	UUT _z -1
Model 3VTN460	Phasetronics (TTL)	60Hz, 600V, 10kV Bill, 150VA	10.3"	4.73"	4.62"	30	UUT _x -2

Table 7: Control Power Transformers (CPT)

MT0500M	Siemens	500VA, 240/480-120/240	5.7"	5.3"	5.9"	19	UUT _x -2
MT1000M	Siemens	1000VA 240/480-120/240	6.6"	7"	6.4"	30	UUT _z -2
MT2000M	Siemens	2000VA, 240/480-120/240	6.3"	7"	8.2"	38	Interpolation
MT3000M	Siemens	3000VA, 240/480-120/240	8.7"	9"	7.1"	89	Interpolation
MT5000M	Siemens	5000VA, 240/480-120/240	8.7"	9"	8.6"	89	UUT _z -2

General Notes:

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 x = 1018-202-R1-SG z = 1018-166

SIEMENS LOW VOLTAGE SWITCHGEAR CERTIFIED SUBCOMPONENT MATRIX



Subcomponent ID	Manufacturer	Description	Width (in)	Depth (in)	Height (in)	Weight (lbs)	Representative UUT ⁴
Table 8: Siemens Current Transformers (CT)							
WLG4000NMCT23	Siemens	4000:5	10.0"	2.0"	5.5"	7.5	UUT _z -3
WLG5000NMCT23	Siemens	5000:5	10.0"	2.0"	5.5"	7.5	UUT _z -2
WLG1200NMCT23	Siemens	4W MDGF 1200:1 FS2/3	10.0"	2.0"	5.5"	7.5	Interpolation
WLG800NMCT23	Siemens	800:5	10.0"	2.0"	5.5"	7.5	Interpolation
WLG1200NMCT23	Siemens	1200:5	10.0"	2.0"	5.5"	7.5	Interpolation
WLG1600NMCT23	Siemens	1600:5	10.0"	2.0"	5.5"	7.5	Interpolation
WLG2000NMCT23	Siemens	2000:5	10.0"	2.0"	5.5"	7.5	Interpolation
WLG2500NMCT23	Siemens	2500:5	10.0"	2.0"	5.5"	7.5	Interpolation
WLG3000NMCT23	Siemens	3000:5	10.0"	2.0"	5.5"	7.5	Interpolation
WLG3200NMCT23	Siemens	3200:5	10.0"	2.0"	5.5"	7.5	Interpolation
WLG8005MCT2	Siemens	3P587-801 800:5	15.9"	2.0"	6.8"	20.0	UUT _z -1
WLGMDGFCT2	Siemens	4W MDGF 1200:1 FS2	15.9"	2.0"	6.8"	20.0	Interpolation
WLG12005MCT2	Siemens	3P587-122 1200:5	15.9"	2.0"	6.8"	20.0	Interpolation
WLG16005MCT2	Siemens	3P587-162 1600:5	15.9"	2.0"	6.8"	20.0	Interpolation
WLG20005MCT2	Siemens	3P587-202 2000:5	15.9"	2.0"	6.8"	20.0	Interpolation
WLG25005MCT2	Siemens	3P587-252 2500:5	15.9"	2.0"	6.8"	20.0	Interpolation
WLG32005MCT2	Siemens	3P587-322 3200:5	15.9"	2.0"	6.8"	20.0	Interpolation
WLGMDGFCT3	Siemens	4W MDGF 1200:1 FS3	25.5"	2.0"	6.8"	33.0	Interpolation
WLG32005MCT3	Siemens	3200:5	25.5"	2.0"	6.8"	33.0	Interpolation
WLG40005MCT3	Siemens	4000:5	25.5"	2.0"	6.8"	33.0	UUT _z -3
WLG50005MCT3	Siemens	5000:5	25.5"	2.0"	6.8"	33.0	Interpolation
WLG5000C100	Siemens	5000:5 C100 Rated	25.5"	2.0"	7.6	40.0	UUT _x -2

General Notes:

⁴ The units were tested at different times and the subscripts on the UUTs reference the following seismic test reports:

x = 1018-202-R1-SG z = 1018-166

**SIEMENS LOW VOLTAGE SWITCHGEAR CERTIFIED
SUBCOMPONENT MATRIX**



Subcomponent ID	Manufacturer	Description	Width (in)	Depth (in)	Height (in)	Weight (lbs)	Representative UUT ⁴
Table 9: ITI Current Transformers (CT)							
Model 19	ITI	50-400Hz, 0.6kV, BIL 10kV	6.0"	6.0"	2.9"	3	Extrapolation
Model 125	ITI	50-400Hz, 0.6kV, BIL 10kV	8.5"	8.5"	4.1"	3	Extrapolation
Model 126	ITI	50-400Hz, 0.6kV, BIL 10kV	10.5"	10.5"	4.4"	5.5	Extrapolation
Model 135	ITI	50-400Hz, 0.6kV, BIL 10kV	9.2"	9.2"	5.8"	18	UUT _z -2
Model 142	ITI	50-400Hz, 0.6kV, BIL 10kV	11.1"	11.5"	5.8"	31	UUT _z -2
Table 10: Human Machine Interface (HMI)							
6AV66461AD220A	Siemens	SIMATIC ITC2200	18"	15"	3"	15	UUT _z -2/ UUT _z -3
Table 11: High Resistance Ground (HRG)							
SPL48YK0000-NQ	Post Glover	480V WYE w/o Ethernet	25"	40"	13"	65	UUT _z -2
SPL48YK0000-NQ	Post Glover	480V Delta w/o Ethernet	25"	32"	13"	65	UUT _z -2
10033-RES	I-GARD	277V L/N 0.92 to 3.68 Resistor	18.5"	8.5"	25"	40	UUT _x -1
Table 12: Uninterruptible Power Supply (UPS)							
CPE1000	Minuteman	1000VA UPS	5.8"	15.8"	8.78"	34	UUT _x -2 / UUT _z -1
CPE3000	Minuteman	3000VA UPS	7.5"	17.8"	14.4"	79	UUT _z -3

General Notes:

⁴ The units were tested at different times and the subscripts on the UUTs reference the following seismic test reports:

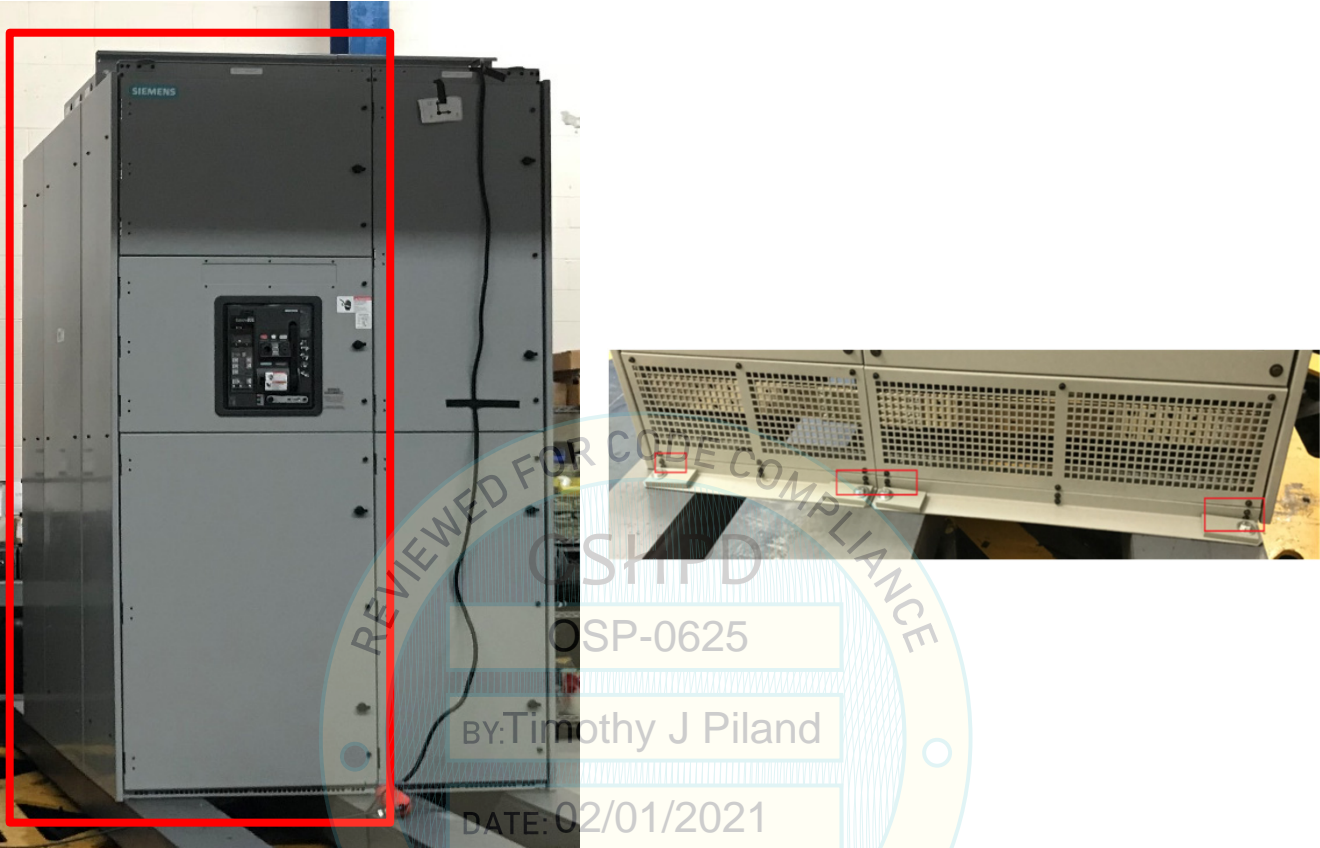
x = 1018-202-R1-SG z = 1018-166

UUT_x-1a

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with 4 - 1/2" diameter grade 5 bolts with 3/8" seismic washers.



Manufacturer: Siemens Industry, Inc.

Product Line: Low Voltage Switchgear

Identification Number: RCLV-4P-2-1H

Report Number: 1018-202-R1-SG

UUT Function: RCLV Switchgear provides low voltage circuit protection.

UUT Description: The unit is comprised of two mated NEMA 1/1A/2 carbon steel enclosures with 4-pole circuit breakers.

UUT Component Description: NEMA1 carbon steel enclosure, 4-pole bus, and (1) 1600A 4-pole circuit breaker, surge protection device (TPS3a0610), and high resistance ground (10033-RES).

UUT PROPERTIES

Weight (lb)	Dimensions (inches)				Natural Frequency (Hz)		
	Center of Gravity	Width	Depth	Height	FB	SS	V
1,887	58	32.0	60.0	92.0	4.68	6.48	15.98

SEISMIC TEST PARAMETERS

Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}
CBC 2019 / ICC-ES-AC156	2.00	1	1.5	3.2g	2.4g	-	-
CBC 2019 / ICC-ES-AC156	2.50	0	1.5	-	-	1.67g	0.67g

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_x-1b

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with 4 - 1/2" diameter grade 5 bolts with 3/8" seismic washers.



Manufacturer: Siemens Industry, Inc.

Product Line: Low Voltage Switchgear

Identification Number: RCLV-AUX

Report Number: 1018-202-R1-SG

UUT Function: RCLV Switchgear provides low voltage circuit protection.

UUT Description: The unit is comprised of two mated NEMA 1/1A/2 carbon steel enclosures with 4-pole circuit breakers.

UUT Component Description: NEMA1 carbon steel enclosure, 4-pole bus, and .

UUT PROPERTIES

Weight (lb)	Dimensions (inches)				Natural Frequency (Hz)		
	Center of Gravity	Width	Depth	Height	FB	SS	V
784	50	22.0	60.0	92.0	4.68	6.48	15.98

SEISMIC TEST PARAMETERS

Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}
CBC 2019 / ICC-ES-AC156	2.00	1	1.5	3.2g	2.4g	-	-
CBC 2019 / ICC-ES-AC156	2.50	0	1.5	-	-	1.67g	0.67g

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_x-2a

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with 4 - 1/2" diameter grade 5 bolts with 3/8" seismic washers.



Manufacturer: Siemens Industry, Inc.

Product Line: Low Voltage Switchgear

Identification Number: RCLV-4P-3-1H

Report Number: 1018-202-R1-SG

UUT Function: RCLV Switchgear provides low voltage circuit protection.

UUT Description: The unit is comprised of two mated NEMA 1/1A/2 carbon steel enclosures bolted together that bus, circuit breakers and 4" riser base.

UUT Component Description: NEMA1 carbon steel enclosure, 4-pole bus, and (1) 5000A 4-pole circuit breaker, surge protection device (TPSa0640), voltage transformer (3VTN460), control power transformer (MT0500M), current transformer (WLG5000C100), and power supply (CPE1000).

UUT PROPERTIES

Weight (lb)	Dimensions (inches)				Natural Frequency (Hz)		
	Center of Gravity	Width	Depth	Height	FB	SS	V
3,200	58	40.0	60.0	96.0	4.88	3.93	11.37

SEISMIC TEST PARAMETERS

Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}
CBC 2019 / ICC-ES-AC156	2.00	1	1.5	3.2g	2.4g	-	-
CBC 2019 / ICC-ES-AC156	2.50	0	1.5	-	-	1.67g	0.67g

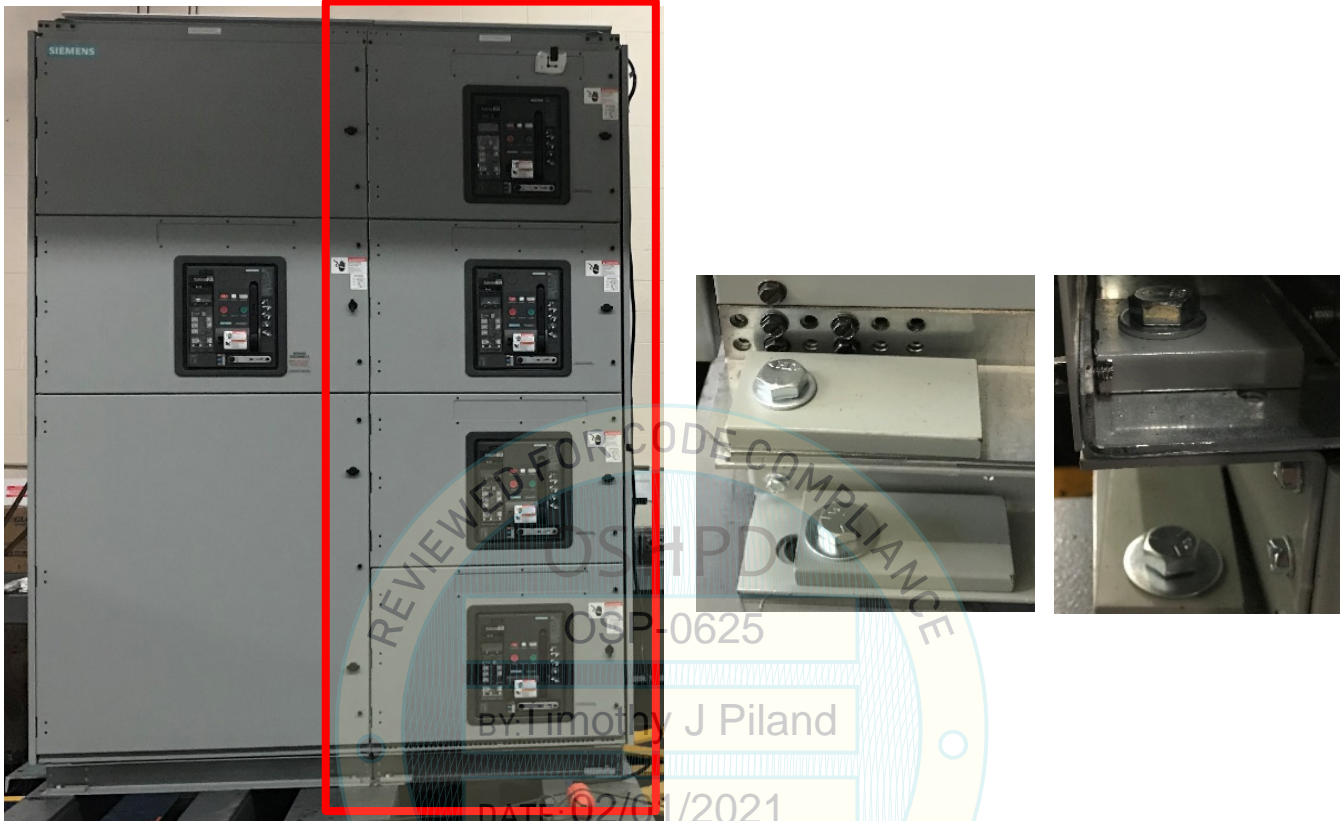
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT_x-2b

UNIT UNDER TEST (UUT) SUMMARY SHEET



Mounting Details: Floor mounted with 4 - 1/2" diameter grade 5 bolts with 3/8" seismic washers.



Manufacturer: Siemens Industry, Inc.

Product Line: Low Voltage Switchgear

Identification Number: RCLV-4P-2-4H

Report Number: 1018-202-R1-SG

UUT Function: RCLV Switchgear provides low voltage circuit protection.

UUT Description: The unit is comprised of two mated NEMA 1/1A/2 carbon steel enclosures bolted together that bus, circuit breakers and 4" riser base.

UUT Component Description: NEMA1 carbon steel enclosure, 4-pole bus, and (3) 2000A and (1) 3200A 4-pole circuit breaker.

UUT PROPERTIES

Weight (lb)	Dimensions (inches)				Natural Frequency (Hz)		
	Center of Gravity	Width	Depth	Height	FB	SS	V
3,804	50	32.0	60.0	96.0	4.88	3.93	11.37

SEISMIC TEST PARAMETERS

Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}
CBC 2019 / ICC-ES-AC156	2.00	1	1.5	3.2g	2.4g	-	-
CBC 2019 / ICC-ES-AC156	2.50	0	1.5	-	-	1.67g	0.67g

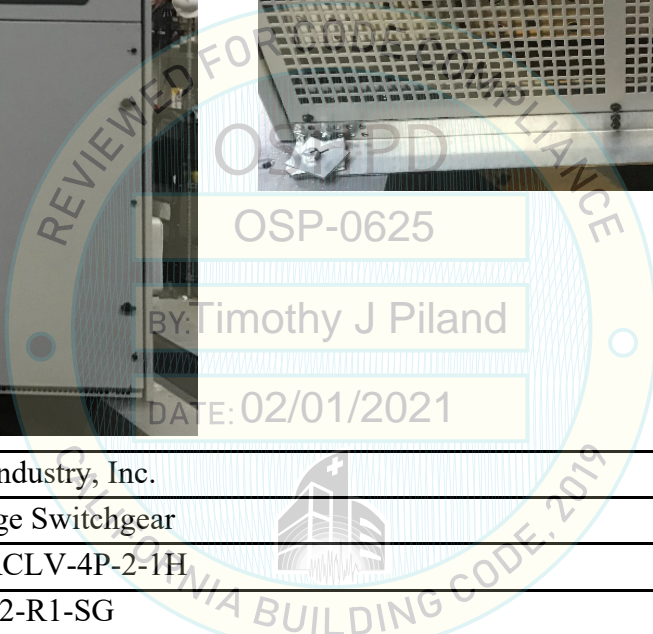
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT_x-3

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with 4 - 1/2" diameter grade 5 bolts with 3/8" seismic washers.



Manufacturer: Siemens Industry, Inc.
Product Line: Low Voltage Switchgear
Identification Number: RCLV-4P-2-1H
Report Number: 1018-202-R1-SG
UUT Function: RCLV Switchgear provides low voltage circuit protection.
UUT Description: The unit is comprised of one NEMA 1/1A/2 carbon steel enclosures with 4-pole circuit breakers.
UUT Component Description: NEMA1 carbon steel enclosure, 4-pole bus, and (1) 1600A 4-pole circuit breaker, surge protection device (TPS3a0610), and high resistance ground (10033-RES).

UUT PROPERTIES

Weight (lb)	Dimensions (inches)				Natural Frequency (Hz)		
	Center of Gravity	Width	Depth	Height	FB	SS	V
1,887	58	32.0	60.0	92.0	10.89	5.05	15.61

SEISMIC TEST PARAMETERS

Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}
CBC 2019 / ICC-ES-AC156	2.00	1	1.5	3.2g	2.4g	-	-
CBC 2019 / ICC-ES-AC156	2.50	0	1.5	-	-	1.67g	0.67g

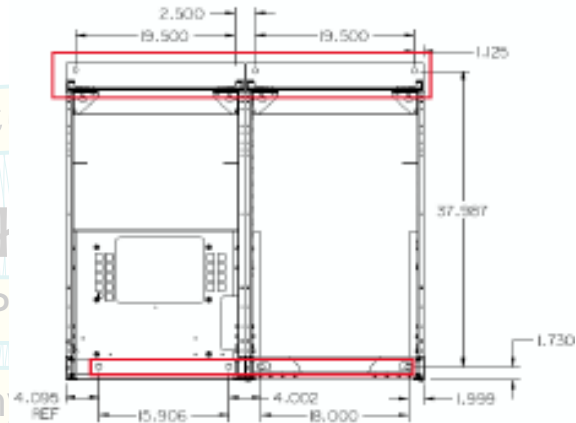
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT_z-1a

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with 4 - 1/2" diameter grade 5 bolts 1/2" seismic washers.



Floor Mount Locations

Manufacturer: Siemens Industry, Inc.

Product Line: Low Voltage Switchgear

Identification Number: FCLV-3P-2-4H

Report Number: 1018-166

UUT Function: FCLV Switchgear provides low voltage circuit protection.

UUT Description: The unit is comprised of two NEMA1 carbon steel enclosures with 3200A bus with circuit breakers.

UUT Component Description: NEMA1 carbon steel enclosure, 3200A copper bus, (2) UL 489 circuit breakers, (2) UL 1066 circuit breakers, (1) current transformer, (2) voltage transformers, and (1) UPS.

UUT PROPERTIES

Weight (lb)	Dimensions (inches)				Natural Frequency (Hz)		
	Center of Gravity	Width	Depth	Height	FB	SS	V
2,000	46	22.0	39.0	92.0	8.54	4.74	19.96

SEISMIC TEST PARAMETERS

Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}
CBC 2019 / ICC-ES-AC156	2.00	1	1.5	3.2g	2.4g	-	-
CBC 2019 / ICC-ES-AC156	2.50	0	1.5	-	-	1.67g	0.67g

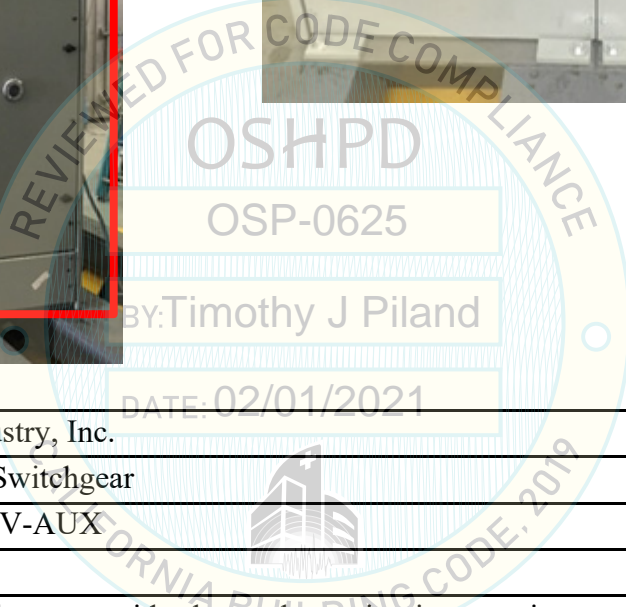
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT_z-1b

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with 4 - 1/2" diameter grade 5 bolts 1/2" seismic washers.



Manufacturer: Siemens Industry, Inc.
Product Line: Low Voltage Switchgear
Identification Number: FCLV-AUX
Report Number: 1018-166
UUT Function: FCLV Switchgear provides low voltage circuit protection.
UUT Description: The unit is comprised of two NEMA1 carbon steel enclosures with 3200A bus with circuit breakers.
UUT Component Description: NEMA1 carbon steel enclosure, 3200A copper bus, (1) current transformer (WLG8005MCT2), (2) voltage transformers (Model 450), and (1) UPS (CPE1000).

UUT PROPERTIES

Weight (lb)	Dimensions (inches)				Natural Frequency (Hz)		
	Center of Gravity	Width	Depth	Height	FB	SS	V
1,191	50	22.0	39.0	92.0	8.54	4.74	19.96

SEISMIC TEST PARAMETERS

Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}
CBC 2019 / ICC-ES-AC156	2.00	1	1.5	3.2g	2.4g	-	-
CBC 2019 / ICC-ES-AC156	2.50	0	1.5	-	-	1.67g	0.67g

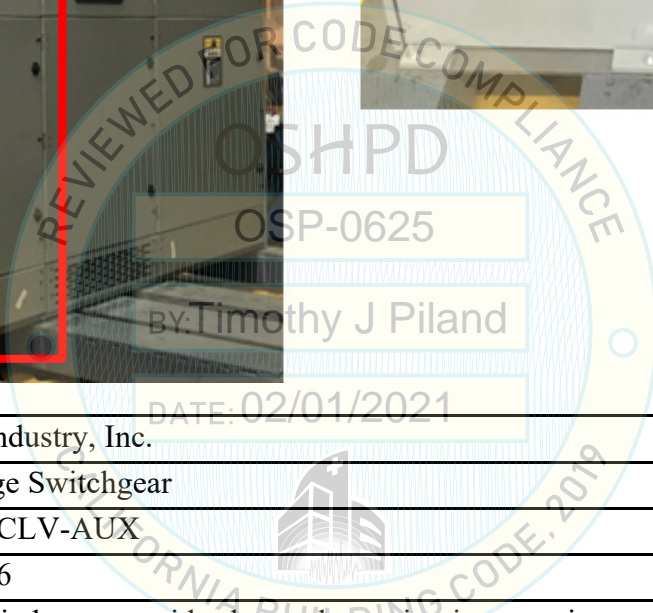
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT_z-2a

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with 4 - 1/2" diameter grade 5 bolts 1/2" seismic washers.



Manufacturer: Siemens Industry, Inc.

Product Line: Low Voltage Switchgear

Identification Number: FCLV-AUX

Report Number: 1018-166

UUT Function: FCLV Switchgear provides low voltage circuit protection.

UUT Description: The unit is comprised of three NEMA1 carbon steel enclosures with 4000A bus with circuit breaker.

UUT Component Description: NEMA1 carbon steel enclosure, 4000A copper bus, (1) current transformers (Model 135), (1) control power transformer (MT1000M), (1) human machine interface (6AV66461AD220A), and HRG (SPL48YK0000-NQ).

UUT PROPERTIES

Weight (lb)	Dimensions (inches)				Natural Frequency (Hz)		
	Center of Gravity	Width	Depth	Height	FB	SS	V
1,376	52	32.0	39.0	92.0	6.29	5.7	19.32

SEISMIC TEST PARAMETERS

Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}
CBC 2019 / ICC-ES-AC156	2.00	1	1.5	3.2g	2.4g	-	-
CBC 2019 / ICC-ES-AC156	2.50	0	1.5	-	-	1.67g	0.67g

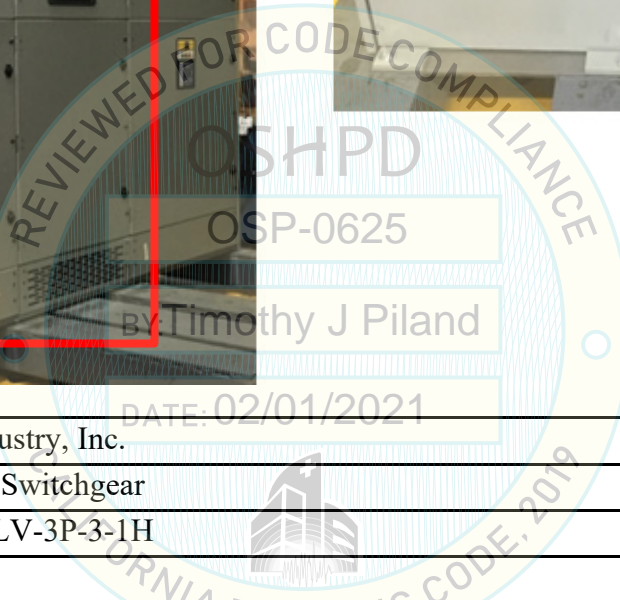
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT_z-2b

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with 4 - 1/2" diameter grade 5 bolts 1/2" seismic washers.



Manufacturer: Siemens Industry, Inc.

Product Line: Low Voltage Switchgear

Identification Number: FCLV-3P-3-1H

Report Number: 1018-166

UUT Function: FCLV Switchgear provides low voltage circuit protection.

UUT Description: The unit is comprised of three NEMA1 carbon steel enclosures with 4000A bus with circuit breaker.

UUT Component Description: NEMA1 carbon steel enclosure, 4000A copper bus, (1) UL 489 circuit breaker, (1) surge protection device (TPS3a0610), and (1) current transformers (WLG5000NMCT23)

UUT PROPERTIES

Weight (lb)	Dimensions (inches)				Natural Frequency (Hz)		
	Center of Gravity	Width	Depth	Height	FB	SS	V
1,694	54	32.0	39.0	92.0	6.29	5.7	19.32

SEISMIC TEST PARAMETERS

Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}
CBC 2019 / ICC-ES-AC156	2.00	1	1.5	3.2g	2.4g	-	-
CBC 2019 / ICC-ES-AC156	2.50	0	1.5	-	-	1.67g	0.67g

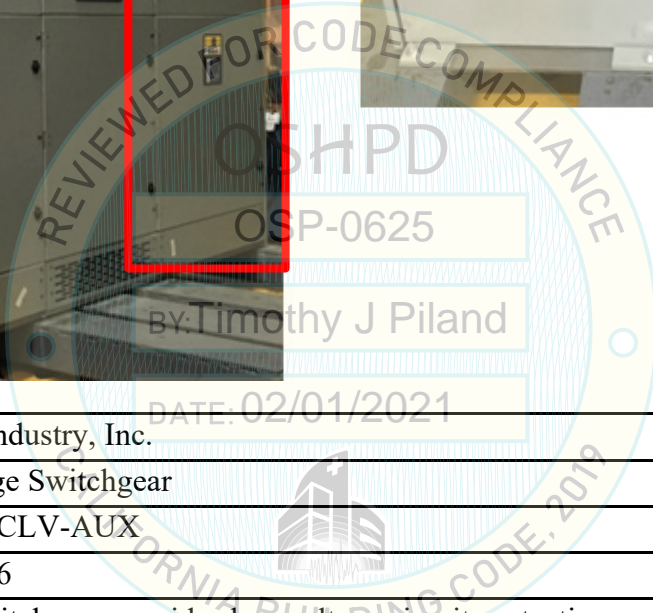
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT_{z-2c}

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with 4 - 1/2" diameter grade 5 bolts 1/2" seismic washers.



Manufacturer: Siemens Industry, Inc.

Product Line: Low Voltage Switchgear

Identification Number: FCLV-AUX

Report Number: 1018-166

UUT Function: FCLV Switchgear provides low voltage circuit protection.

UUT Description: The unit is comprised of three NEMA1 carbon steel enclosures with 4000A bus with circuit breaker.

UUT Component Description: NEMA1 carbon steel enclosure, 4000A copper bus, (1) current transformers (Model 135), (1) control power transformer (MT5000M), (1) human machine interface, and HRG (SPL48YK0000-NQ).

UUT PROPERTIES

Weight (lb)	Dimensions (inches)				Natural Frequency (Hz)		
	Center of Gravity	Width	Depth	Height	FB	SS	V
1,376	46	40.0	39.0	92.0	6.29	5.7	19.32

SEISMIC TEST PARAMETERS

Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}
CBC 2019 / ICC-ES-AC156	2.00	1	1.5	3.2g	2.4g	-	-
CBC 2019 / ICC-ES-AC156	2.50	0	1.5	-	-	1.67g	0.67g

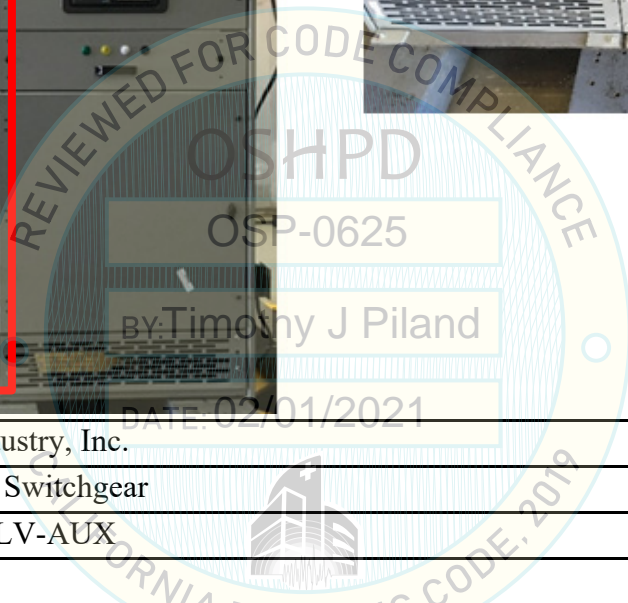
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT_z-3a

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with 4 - 1/2" diameter grade 5 bolts 1/2" seismic washers.



Manufacturer: Siemens Industry, Inc.

Product Line: Low Voltage Switchgear

Identification Number: FCLV-AUX

Report Number: 1018-166

UUT Function: FCLV Switchgear provides low voltage circuit protection.

UUT Description: The unit is comprised of two NEMA1 carbon steel enclosures with 5000A bus with circuit breaker.

UUT Component Description: NEMA1 carbon steel enclosure, 5000A copper bus, (2) current transformers (WLG40005MCT3, WLG4000NMCT23), and (1) UPS (CPE3000).

UUT PROPERTIES

Weight (lb)	Dimensions (inches)				Natural Frequency (Hz)		
	Center of Gravity	Width	Depth	Height	FB	SS	V
1,906	50	32.0	39.0	92.0	6.41	4.48	19.35

SEISMIC TEST PARAMETERS

Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}
CBC 2019 / ICC-ES-AC156	2.00	1	1.5	3.2g	2.4g	-	-
CBC 2019 / ICC-ES-AC156	2.50	0	1.5	-	-	1.67g	0.67g

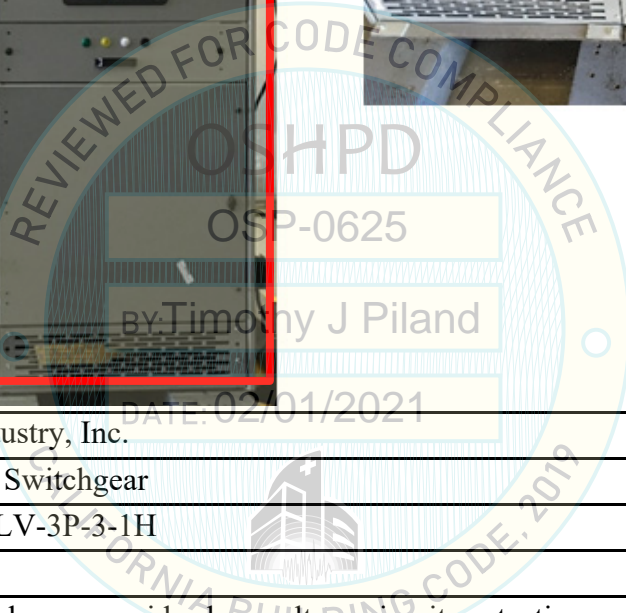
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT_z-3b

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with 4 - 1/2" diameter grade 5 bolts 1/2" seismic washers.



Manufacturer: Siemens Industry, Inc.

Product Line: Low Voltage Switchgear

Identification Number: FCLV-3P-3-1H

Report Number: 1018-166

UUT Function: FCLV Switchgear provides low voltage circuit protection.

UUT Description: The unit is comprised of two NEMA1 carbon steel enclosures with 5000A bus with circuit breaker.

UUT Component Description: NEMA1 carbon steel enclosure, 5000A copper bus, (1) UL 1066 circuit breaker, (1) surge protection device (TPSa0650), and (1) human machine interface (6AV66461AD220A).

UUT PROPERTIES

Weight (lb)	Dimensions (inches)				Natural Frequency (Hz)		
	Center of Gravity	Width	Depth	Height	FB	SS	V
2,224	54	32.0	39.0	92.0	6.41	4.48	19.35

SEISMIC TEST PARAMETERS

Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}
CBC 2019 / ICC-ES-AC156	2.00	1	1.5	3.2g	2.4g	-	-
CBC 2019 / ICC-ES-AC156	2.50	0	1.5	-	-	1.67g	0.67g

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.