APPLICATION FOR HCAI SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP-0840

HCAI Special Seismic Certification Preapproval (OSP)

Type: [X] New [ ] Renewal

Manufacturer Information

Manufacturer: Siemens Industry, Inc.

Manufacturer's Technical Representative: Scott McClelland

Mailing Address: 3617 Parkway Lane, Peachtree Corners, GA 30092

Telephone: (678) 982-2353 Email: mcclelland.scott@siemens.com

Product Information

Product Name: Enclosed Fusible Switches

Product Model Number(s): See attachment

Product Category: Power Isolation and Correction Systems

Product Sub-Category: Power Isolation and Correction Systems

General Description: Metal enclosed fusible switches with integrated surge protection / relays with remote operation capabilities.

Mounting Description: Wall Mounted Rigid -

Tested Seismic Enhancements: Seismic enhancements made to the test units and/or modifications required to address anomalies during the tests shall be incorporated into the production units.

Applicant Information

Applicant Company Name: WE Gundy & Associates, Inc

Contact Person: Travis Soppe

Mailing Address: PO Box 9121, Boise, ID 83707

Telephone: (208) 342-5989 Email: tsoppe@wegai.com

Title: President

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

Company Name: W.E. GUNDY & ASOCIATES INC.

Name: Travis Soppe California License Number: S6115

Mailing Address: P.O. Box 9121, Boise, ID 83707

Telephone: (208) 342-5989 Email: tsoppe@wegai.com

Certification Method

☐ GR-63-Core ☒ ICC-ES AC156 ☐ IEEE 344 ☐ IEEE 693 ☐ NEBS 3

☐ Other (Please Specify):

Testing Laboratory

Company Name: ENVIRONMENTAL TESTING LABORATORIES, INC. (ETL)

Contact Person: Jeremy Lange

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

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

Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 1.50 for SDS = 2.0 at z/h = 1 and 1.13 for SDS = 2.5 at z/h = 0

S_{DS} (Design spectral response acceleration at short period, g) = 2.00 (z/h = 1.0) and 2.50 (z/h = 0.0)

a_p (Amplification factor) = 2.5

R_p (Response modification factor) = 6.0

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

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

Natural frequencies (Hz) = See Attachment

Overall dimensions and weight = See Attachment

HCAI Approval (For Office Use Only) - Approval Expires on 04/11/2031

Date: 4/11/2025

Name: Mohammad Karim Title: Supervisor, Health Facilities

Special Seismic Certification Valid Up to: S_{DS} (g) = 2.0 z/h = 1

Condition of Approval (if applicable):

TABLE 1	SIEMENS ENCLOSED FUSIBLE SWITCH CERTIFIED PRODUCT LINE MATRICES	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Elevator Control Switches - ECS
Fusible Shunt Trip Switches - STF
Fusible Safety Switches w/ Integrated SPD - HF

Identification Number[1,2]	Ampreage	NEMA Rating	[3]Dimensions (in)			Weight (lb)	Representative UUT
			Width	Depth	Height		
HF16xCxJ	30A	1/3R/12	16.8	6.6	33	64	extrapolated
HF26xCxJ	60A	1/3R/12	16.8	6.6	33	64	extrapolated
HF36xCxJ	100A	1/3R/12	16.8	6.6	33	66	extrapolated
STF1xxxxxJ	30A	1/3R/12	16.8	6.6	33	70	extrapolated
STF2xxxxxJ	60A	1/3R/12	16.8	6.6	33	70	extrapolated
STF3xxxxxJ	100A	1/3R/12	16.8	6.6	33	72	extrapolated
ECS1TxRxxxxA	30A	1	16.8	6.4	31.1	71	extrapolated
ECS2TxRxxxxA	60A	1	16.8	6.4	31.1	71	extrapolated
ECS3TxRxxxxA	100A	1	16.8	6.4	31.1	73	extrapolated
ECS3T1R1RNA	**100A**	**1**	**16.7**	**6.4**	**31.1**	**76**	**UUT-1**
ECS1TxRxxJxxA	30A	3R/12	16.8	6.6	33	72	interpolated
ECS2TxRxxJxxA	60A	3R/12	16.8	6.6	33	72	interpolated
ECS3TxRxxJxxA	100A	3R/12	16.8	6.6	33	74	interpolated
HF46xCxJ	200A	1/3R/12	23.3	7.4	37.4	86	interpolated
STF4xxxxxJ	200A	1/3R/12	23.3	7.4	37.4	92	interpolated
ECS4TxRxxJxxA	200A	1/3R/12	23.3	7.4	37.4	94	interpolated
HF56xCxJ	400A	1/3R/12	23.3	7.4	48	130	interpolated
STF5xxxxxJ	400A	1/3R/12	23.3	7.4	48	136	interpolated
ECS5TxRxxJxxA	400A	1/3R/12	23.3	7.4	48	138	interpolated
ECS5T1R1RJNCA	**400A**	**1/3R/12**	**23.4**	**7.4**	**48**	**138**	**UUT-2**

Notes:

[1] All components are manufactured by Siemens and the part numbers listed uniquely identify type of component, manufacturer, and material of construction for each sub-componenent within the tested unit.

[2] The enclosed fusible switch configurations utilize the same carbon steel enclosures and internal subcomponents and . The Elevator Control Switch (ECS) configurations contain the most subcomponents in the listing and the Fusible Shunt Trip Switch (STF) / Fusible Safety Switch w/ Integrated SPD (HF) configurations are identical with fewer intenal subcomponents.

ECS*: Fusible power switch with remote operation (OFF only) and internal relays for integration with building fire alarm system
HF*: Fusible power switch with integrated surge protection
STF*: Fusible power switch with remote operation (OFF only)

[3] Dimensions listed are main enclosure box dimensions and do not include handles or anchor tabs that extend beyond the box.

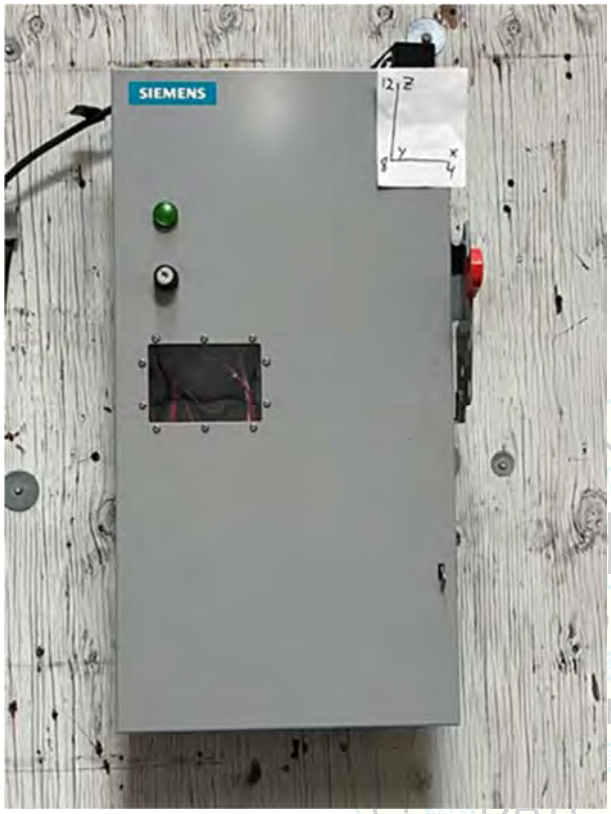
SEISMIC CERTIFICATION LIMITS

System Component	Code	S_{DS} (g)	z / h	I_P	a_P	R_P	Ω_0	F_P / W_P
Enclosed Switches	CBC 2022	2.0	1	1.50	2.5	6.0	2.0	1.50
		2.5	0					1.13

TABLE 2	SIEMENS ENCLOSED FUSIBLE SWITCH CERTIFIED SUBCOMPONENT MATRIX	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING		
Elevator Control Switches - ECS **Fusible Shunt Trip Switches - STF** **Fusible Safety Switches w/ Integrated SPD - HF**				
ID/Catalog Number	Manufacturer	Description	Weight (lbs)	Representative UUT
Relays				
3TX71175HF13C	SIEMENS	120 VAC 4P Ice Cube Relay	< 1	UUT-1 / UUT-2
Molded Case Switch				
3VA51101BB310AA0	SIEMENS	100A	3	UUT-1
3VA5	SIEMENS	30A-400A	3 - 12	interpolated
3VA53401BB310AA0	SIEMENS	400A	12	UUT-2
Control Power Tansformers				
KT8100	SIEMENS	100VA	6	UUT-1
Selector Switch / Pilot Light				
3SU1	SIEMENS	Selector Switch / Pilot Light	< 1	UUT-1 / 2
Fuse Block				
HBB22	SIEMENS	30A Load Base QTY 2	1.8	extrapolated
HBB62	SIEMENS	60A Load Base QTY 2	2.0	interpolated
HBB63	SIEMENS	100A Load Base QTY 2	2.0	UUT-1
US2:R507013	SIEMENS	200A Fuse Block Assy	2.2	interpolated
US2:R507012	SIEMENS	400A Fuse Block Assy	7.0	UUT-2
Surge Protective Device				
TPS403	SIEMENS	TPS4 Surge Prodective Device	< 1	UUT-2
Neutral Kit				
N125X	SIEMENS	30-100A	0.8	UUT-1
HN64	SIEMENS	200A	0.6	interpolated
HN656A	SIEMENS	400A	1.6	UUT-2
Ground Lug				
HG61234	SIEMENS	30-200A	< 1	UUT-1
HG656A	SIEMENS	400A	< 1	UUT-2
Fuses				
A4J100	Mersen	100A	< 1	UUT-1
A4J	Mersen	30-400A	< 1	interpolated
A4J400	Mersen	400A	< 1	UUT-2

UUT-1	UNIT UNDER TEST (UUT) SUMMARY SHEET	WEGAI W.E. Gundy & Associates, Inc. Structural & Earthquake Engineering

Mounting Details: Rigid wall mounted with (3) 1/4" grade 5 bolts



DATE: 04/11/2025

Manufacturer: Siemens	**Test Location:** ETL, Dallas TX
Product Line: Enclosed Fusible Switch - ECS	**Test Date:** October 2024
Component: ECS3T1R1RNA	**Report Number:** 17491-Rev.1

UUT Function: Power interruption for equipment and circuit protection

UUT Description: 100A elevator control switch configuration in wall mounted NEMA 1 enclosure containing 3TX71175HF13C Relay, 3VA51101BB310AA0 Switch, KT8100 CPT, 3SU1 Switch, HBB63 Fuse Block, N125X Neutral Kit, HG61234 Ground Lug, and A4J100 Fuse

UUT PROPERTIES

Weight (lb)	Enclosure Box Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
76	16.7	6.4	31.1	NA	NA	NA

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S_{DS} (g)	z / h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2022 / ICC-ES AC156	2.00	1	1.5	3.20	2.40	-	-
	2.50	0	1.5	-	-	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	UNIT UNDER TEST (UUT) SUMMARY SHEET	WEGAI W.E. Gundy & Associates, Inc. Structural & Earthquake Engineering

Mounting Details: Rigid wall mounted with (4) 1/4" grade 5 bolts

Manufacturer: Siemens	**Test Location:** ETL, Dallas TX
Product Line: Enclosed Fusible Switch - ECS	**Test Date:** October 2024
Component: ECS5T1R1RJNCA	**Report Number:** 17491-Rev.1
UUT Function: Power interruption for equipment and circuit protection	
UUT Description:	400A elevator control switch configuration in wall mounted NEMA 12 / 3R enclosure containing 3TX71175HF13C Relay, 3VA53401BB310AA0 Switch, 3SU1 Switch, US2:R507012 Fuse Block, TPS403 Surge Protective Device, HN6565A Neutral Kit, HG656A Ground Lug, and A4J400 Fuse

UUT PROPERTIES

Weight (lb)	Enclosure Box Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
138	23.4	7.4	48.0	NA	NA	NA

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S_{DS} (g)	z / h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2022 / ICC-ES AC156	2.00	1	1.5	3.20	2.40	-	-
	2.50	0	1.5	-	-	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.