



**FORELL/ELSESSER ENGINEERS, INC.**  
Structural Engineers

July 21, 2016

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Design Engineer  
General Electric  
41 Woodford Avenue  
Plainville, CT 06062

Re: GE LV Transformers  
ASCE 7-10, 2015 IBC, 2016 CBC, and IEEE-693-2005 Seismic and Special Seismic Certification

Forell/Elmesser has reviewed shake table test reports 6982, 8036, 8428, and 2665-R prepared by Clark Testing Laboratory, which summarizes testing for the GE Low Voltage Transformers. The testing was performed according to both the requirements of ICC-ES AC156 and IEEE-693-2005 and demonstrated that the equipment satisfied testing requirements for  $I_p=1.5$ , Site Class D,  $a_p=1.0$ ,  $R_p=2.5$ , and  $Z/h = 1.0$ . In accordance with ASCE 7-10, which contains the seismic provisions of the 2015 International Building Code [IBC] and 2016 California Building Code [CBC], AC156 is an acceptable test procedure for determining the seismic certification of equipment. ASCE 7-10, Section 13.2.1.2.b allows for testing alone to be used to satisfy IBC and CBC seismic qualification requirements for electrical equipment.

Using AC156 procedures, F/E determined that the test results demonstrate the adequacy of the GE Low Voltage Transformers up to the peak ground seismicity ( $S_{DS}$ ) in the table below. Therefore, F/E concludes that the test data demonstrates that the GE Low Voltage Transformers are certified for installation in accordance with the seismic provisions of the 2015 IBC and 2016 CBC for any site with a site-specific  $S_{DS}$  equal or less than the attached  $S_{DS}$  table and at any location within a building.

Enclosure Type & Product Names	Mounting	NEMA Rating	kVA	Width	Depth	Height	Weight	$S_{DS}$ (g)	IEEE-693 Seismic Level
Vented/Non-Vented QL, QF, FC Transformore	Floor	1, 2	11-1000	19"-48"	16"-40"	27"-58"	50 - 4,290 lbs	2.19	High
	Wall Bracket	1, 2	11-112.5	19"-32"	17"-28"	27"-33"	50 - 800 lbs	2.08	High
							800 - 1,018 lbs	1.16	High
Encapsulated & Enclosed Servicenter	Floor	1, 2, 3R	5-30	11"-35"	11"-35"	27"-33"	50 - 500 lbs	2.42	High
	Wall Bracket	1, 2, 3R	5-30	11"-27"	11"-25"	27"-33"	50 - 500 lbs	2.5	High
Control Power IP	Floor	1, 2	0.05-3	3"-9"	3"-7"	3"-6"	2.5 - 50 lbs	2.31	High
	Wall	1, 2	0.05-3	3"-9"	3"-7"	3"-6"	2.5 - 50 lbs	1.91	High

Notes:

1. Rigid wall-bracket mounted refers to a transformer mounted to the wall via the wall bracket mounting kits.  
Rigid wall mounted refers to a transformer mounted directly to the wall without a wall bracket mounting kit.

Should you any questions or need further information please do not hesitate to contact us.

Thank you.

Sincerely,

FORELL/ELSESSER ENGINEERS, INC.

Marco Scanu, SE #4454, Principal

