



FORELL/ELSESSER ENGINEERS, INC.
Structural Engineers

January 29, 2020

Lee Woollen
Global Product Manager
ABB, Inc.
2000 Centre Green Way
Cary, NC 27513-5756 USA

Re: BreakMaster Load Interrupter Switchgear
ASCE 7-16, 2018 IBC, 2019 CBC and IEEE-693-2018 Seismic and Special Seismic Certification

Forell/Elmesser has reviewed shake table test reports 5989, 3380, 10154, and 15-01425 prepared by Clark Testing Laboratory (formerly Astro Nuclear/Dynamics, Inc.), which summarizes testing for the BreakMaster Load Interrupter Switchgear. The testing was performed according to both the requirements of ICC-ES AC156 and IEEE-693 and demonstrated that the equipment satisfied testing requirements for $I_p=1.5$, Site Class D, $a_p=2.5$, $R_p=6.0$, and $Z/h = 1.0$. In accordance with ASCE 7-16, which contains the seismic provisions of the 2018 International Building Code [IBC] and 2019 California Building Code [CBC], AC156 is an acceptable test procedure for determining the seismic certification of equipment. ASCE 7-16, 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 Load Interrupter Switchgear up to the peak ground seismicity (S_{DS}) in the table below. Therefore, F/E concludes that the test data demonstrates that the BreakMaster Load Interrupter Switchgear are certified for installation in accordance with the seismic provisions of the 2018 IBC and 2019 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.

BreakMaster Load Interrupter Switchgear						
Ampacity	Width	Depth	Height	Weight	$S_{DS}(g)$	IEEE-693 Seismic Level
600A-1200A	15"-40"	50"-60"	60"-127"	1,608 lbs max.	2.41	High
600A-1200A	15"-44"	50"-60"	80"-99"	2,800 lbs max.	2.06	High

Notes:

1. Enclosures are indoor (NEMA-1) or outdoor (NEMA-3R) enclosures
2. Dimensions are for individual sections. Sections may be installed alone or bayed together.
3. The height includes the top hat box 32" high, NEMA 3R units are 99", NEMA 1 units are 90"
4. All enclosures are rigid floor mounted

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

