

Informational Note No. 1: Battery equipment suppliers can provide information about available fault current on any particular battery model.

- (3) An arc-flash label in accordance with acceptable industry practice

Informational Note No. 2: See NFPA 70E-2021, *Standard for Electrical Safety in the Workplace*, for assistance in determining the severity of potential exposure, planning safe work practices, determining arc-flash labeling, and selecting personal protective equipment.

- (4) Date the calculation was performed

706.16 Connection to Energy Sources. The connection of an ESS to sources of energy shall comply with 706.16(A) through (F).

(A) Source Disconnect. A disconnect that has multiple sources of power shall disconnect all energy sources when in the off position.

(B) Identified Interactive Equipment. ESS that operate in parallel with other ac sources shall use inverters that are listed and identified as interactive.

(C) Loss of Interactive System Power. Upon loss of a primary source of power, an ESS with a utility-interactive inverter shall comply with the requirements of 705.40.

(D) Unbalanced Interconnections. Unbalanced ac connections between an ESS and other ac electric power production sources shall be in accordance with 705.45

- Δ **(E) Other Energy Sources.** The connection of an ESS to other energy sources shall be in accordance with 705.12.

(F) Stand-Alone Operation. Where the output of an ESS is capable of operating in stand-alone mode, the requirements of 710.15 shall apply.

See also

Section 710.1 and associated commentary for more information on power production sources operating in stand-alone mode being used as the alternate source for an optional standby system

Part III. Installation Requirements

706.20 General.

- Δ **(A) Ventilation.** Provisions appropriate to the energy storage technology shall be made for sufficient diffusion and ventilation of any possible gases from the storage device, if present, to prevent the accumulation of an explosive mixture. Ventilation of an ESS shall be permitted to be provided in accordance with the manufacturer's recommendations and listing for the system.

Informational Note No. 1: See NFPA 855-2020, *Standard for the Installation of Stationary Energy Storage Systems*, for technology-specific guidance. Not all ESS technologies require ventilation.

Informational Note No. 2: See IEEE 1635-2018/ASHRAE Guideline 21-2018, *Guide for the Ventilation and Thermal Management of Batteries for Stationary Applications*, as a source for design of ventilation of batteries.

(B) Dwelling Units. An ESS for one- and two-family dwelling units shall not exceed 100 volts dc between conductors or to ground.

Exception: Where live parts are not accessible during routine ESS maintenance, a maximum ESS voltage of 600 volts dc shall be permitted.

(C) Spaces About ESS Components.

(1) General. Working spaces for ESS shall comply with 110.26 and 110.34.

(2) Space Between Components. ESSs shall be permitted to have space between components in accordance with the manufacturer's instructions and listing.

Informational Note: Additional space may be needed to accommodate ESS hoisting equipment, tray removal, or spill containment.

706.21 Directory (Identification of Power Sources). ESS shall be indicated by markings or labels that shall be in accordance with 110.21(B).

- Δ **(A) Facilities with Utility Services and ESS.** Plaques or directories shall be installed in accordance with 705.10.

(B) Facilities with Stand-Alone Systems. Plaques or directories shall be installed in accordance with 710.10.

Part IV. Circuit Requirements

706.30 Circuit Sizing and Current.

(A) Maximum Rated Current for a Specific Circuit. The maximum current for the specific circuit shall be calculated in accordance with 706.30(A)(1) through (A)(5).

(1) Nameplate-Rated Circuit Current. Circuit current shall be the rated current indicated on the ESS nameplate(s) or system listing. Where the ESS has separate input (charge) and output (discharge) circuits or ratings, these shall be considered individually. Where the same terminals on the ESS are used for charging and discharging, the rated current shall be the greater of the two.

(2) Inverter Output Circuit Current. The maximum current shall be the inverter continuous output current rating.

(3) Inverter Input Circuit Current. The maximum current shall be the continuous inverter input current rating when the inverter is producing rated power at the lowest input voltage.

(4) Inverter Utilization Output Circuit Current. The maximum current shall be the continuous ac output current rating of the inverter when the inverter is producing rated power.

(5) DC to DC Converter Output Current. The maximum current shall be the dc-to-dc converter continuous output current rating.

- Δ **(B) Conductor Ampacity.** The ampacity of the output circuit conductors of the ESS(s) connected to the wiring system serving the loads to be serviced by the system shall not be less than the