period of 1½ hours, without the voltage applied to the load falling below 87½ percent of nominal voltage. Automotive-type batteries shall not be used. An automatic battery charging means shall be provided.

N **(5) Automatic Fuel Source Transfer.** Where dual fuel sources are used, means shall be provided for automatically transferring from one fuel source to another.

(D) Generator Set.

(1) Prime Mover-Driven. For a generator set driven by a prime mover approved by the authority having jurisdiction and sized in accordance with 701.4, means shall be provided for automatically starting the prime mover upon failure of the normal power source and for automatic transfer and operation of all required electrical circuits. A time-delay feature permitting a 15-minute setting shall be provided to avoid retransfer in case of short-time reestablishment of the normal source.

(2) Battery Power. Where a storage battery is used for control or signal power or as the means of starting the prime mover, it shall be suitable for the purpose and shall be equipped with an automatic charging means independent of the generator set.

(3) Outdoor Generator Sets. If an outdoor-housed generator set is equipped with a readily accessible disconnecting means in accordance with 445.18, and the disconnecting means is located within sight of the building or structure supplied, an additional disconnecting means shall not be required where ungrounded conductors serve or pass through the building or structure. Where the generator supply conductors terminate at a disconnecting means in or on a building or structure, the disconnecting means shall meet the requirements of 225.36.

The disconnecting means on an outdoor generator set can be used as the disconnecting means required in 225.31, provided the disconnecting means, and not just the generator, is readily accessible and is within sight of the building. [See the definitions of the terms *accessible, readily (readily accessible)* and *in sight from (within sight from) (within sight)* in Article 100.]

(E) Stored-Energy Power Supply Systems (SEPSS). Stored energy power supply systems shall comply with 701.12(E)(1) and (E)(2).

N **(1) Types.** Systems shall consist of one or more of the following system types:

a. Uninterruptible power supply (UPS)

Informational Note: See UL 1778, *Uninterruptable Power Systems*, and UL 924, *Emergency Lighting and Power Equipment*, for further information.

b. Fuel cell system
c. Energy storage system (ESS)
d. Storage battery
e. Other approved equivalent stored energy sources that comply with 701.12

N **(2) Fire Protection, Suppression, Ventilation, and Separation.** The systems in 701.12(E)(1) shall be installed with the fire protection, suppression, ventilation, and separation requirements specified in the manufacturer's instructions or equipment listing.

Informational Note: See NFPA 853-2020, *Standard for the Installation of Stationary Fuel Cell Power Systems*, and NFPA 855-2020, *Standard for the Installation of Stationary Energy Storage Systems*, for additional information on fire protection installation requirements.

(F) Separate Service. Where approved, by the authority having jurisdiction as suitable for use as a legally required source of power, an additional service shall be permitted. This service shall be in accordance with Article 230 and the following additional requirements:

(1) Separate overhead service conductors, service drops, underground service conductors, or service laterals shall be installed.
(2) The service conductors for the separate service shall be installed sufficiently remote electrically and physically from any other service conductors to minimize the possibility of simultaneous interruption of supply.

(G) Connection Ahead of Service Disconnecting Means. Where approved by the authority having jurisdiction, connections located ahead of and not within the same cabinet, enclosure, vertical switchgear section, or vertical switchboard section as the service disconnecting means shall be permitted. The legally required standby service shall be sufficiently separated from the normal main service disconnecting means to minimize simultaneous interruption of supply through an occurrence within the building or groups of buildings served.

Informational Note: See 230.82 for equipment permitted on the supply side of a service disconnecting means.

If a legally required standby system is supplied by a connection on the line side of the normal service disconnecting means, 230.82 requires that the tapped conductors be installed in accordance with all the requirements for service-entrance conductors and that the conductors terminate in equipment suitable for use as service equipment. Those requirements help ensure that the legally required standby system disconnecting means is rated for the fault current available from the utility.

Δ **(H) Microgrid Systems.** On-site sources, designated as legally required standby sources, shall be permitted to be connected to a microgrid system.

The system shall isolate the legally required standby system from all nonlegally required loads when the normal electric supply is interrupted or shall meet the requirements of 701.4(C). Interruption or partial or complete failure of the normal source(s) shall not impact the availability, capacity, and duration provided by the designated legally required standby sources.

The designated stored-energy legally required standby power source(s) of a microgrid system shall be permitted to