

Toolbox Talks

NFPA 70 Portable Generator Specifications Part 1

NFPA 70: **ARTICLE 702** Optional Standby Systems

I. General

- **702.1 Scope:** The provisions of this article apply to the installation and operation of optional standby systems.
- The systems covered by this article consist of those that are permanently installed in their entirety, including prime movers, and those that are arranged for a connection to a premises wiring system from a portable alternate power supply.
- **702.2 Definition: Optional Standby Systems.** Those systems intended to supply power to public or private facilities or property where life safety does not depend on the performance of the system. Optional standby systems are intended to supply on-site generated power to selected loads either automatically or manually.
 - ✓ Informational Note: Optional standby systems are typically installed to provide an alternate source of electric power for such facilities as industrial and commercial buildings, farms, and residences and to serve loads such as heating and refrigeration systems, data processing and communications systems, and industrial processes that, when stopped during any power outage, could cause discomfort, serious interruption of the process, damage to the product or process, or the like.
- **702.5 Capacity and Rating.**
 - (A) Available Short-Circuit Current.** Optional standby system equipment shall be suitable for the maximum available short-circuit current at its terminals.
 - (B) System Capacity.** The calculations of load on the standby source shall be made in accordance with Article 220 or by another approved method.
 - (1) Manual Transfer Equipment.** Where manual transfer equipment is used, an optional standby system shall have adequate capacity and rating for the supply of all equipment intended to be operated at one time. The user of the optional standby system shall be permitted to select the load connected to the system.
 - (2) Automatic Transfer Equipment.** Where automatic transfer equipment is used, an optional standby system shall comply with (2)(a) or (2)(b).
 - (a) Full Load.** The standby source shall be capable of supplying the full load that is transferred by the automatic transfer equipment.

(b) Load Management. Where a system is employed that will automatically manage the connected load, the standby source shall have a capacity sufficient to supply the maximum load that will be connected by the load management system.

- **702.6 Transfer Equipment.** Transfer equipment shall be suitable for the intended use and designed and installed so as to prevent the inadvertent interconnection of normal and alternate sources of supply in any operation of the transfer equipment. Transfer equipment and electric power production systems installed to permit operation in parallel with the normal source shall meet the requirements of Article 705 .
- Transfer equipment, located on the load side of branch circuit protection, shall be permitted to contain supplemental overcurrent protection having an interrupting rating sufficient for the available fault current that the generator can deliver. The supplementary overcurrent protection devices shall be part of a listed transfer equipment.
- Transfer equipment shall be required for all standby systems subject to the provisions of this article and for which an electric utility supply is either the normal or standby source.
 - ✓ *Exception: Temporary connection of a portable generator without transfer equipment shall be permitted where conditions of maintenance and supervision ensure that only qualified persons service the installation and where the normal supply is physically isolated by a lockable disconnecting means or by disconnection of the normal supply conductors.*
- **702.7 Signals.** Audible and visual signal devices shall be provided, where practicable, for the following purposes.
 - (1) Derangement.** To indicate derangement of the optional standby source.
 - (2) Carrying Load.** To indicate that the optional standby source is carrying load.
 - ✓ *Exception: Signals shall not be required for portable standby power sources.*



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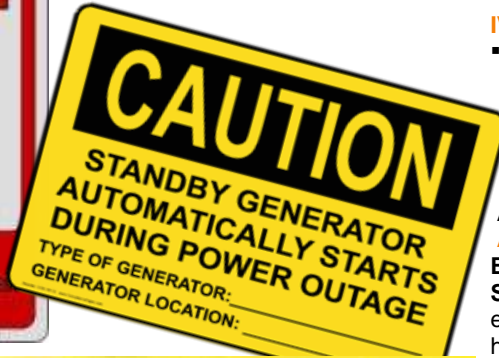
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NFPA 70 Portable Generator Specifications Part 2

702.8 Signs.

(A) Standby. A sign shall be placed at the service-entrance equipment that indicates the type and location of on-site optional standby power sources. A sign shall not be required for individual unit equipment for standby illumination.

(B) Grounding. Where the grounded circuit conductor connected to the optional standby power source is connected to a grounding electrode conductor at a location remote from the optional standby power source, there shall be a sign at the grounding location that identifies all optional standby power and normal sources connected at that location.



Automatic Standby Generator Located on the Premises.

Disconnect Located: _____

Generator Located: _____



For Assistance, Call DMT Electric at (603) 458-2577

II. Circuit Wiring

702.9 Wiring Optional Standby Systems. The optional standby system wiring shall be permitted to occupy the same raceways, cables, boxes, and cabinets with other general wiring.

III. Grounding

702.10 Portable Generator Grounding.

(A) Separately Derived System. Where a portable optional standby source is used as a separately derived system, it shall be grounded to a grounding electrode in accordance with 250.30.

(B) Non-separately Derived System. Where a portable optional standby source is used as a non-separately derived system, the equipment grounding conductor shall be bonded to the system grounding electrode.

IV. Sources of Power

702.11 Outdoor Generator Sets. Where an outdoor housed generator set is equipped with a readily accessible disconnecting means 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. The disconnecting means shall meet the requirements of 225.36.

Also from NFPA 70:

ARTICLE 700

Emergency Systems

Scope: Emergency systems are those systems legally required and classed as emergency by municipal, state, federal, or other codes, or by any governmental agency having jurisdiction.

Definition: Relay, Automatic Load Control. A device used to energize switched or normally-off lighting equipment from an emergency supply in the event of loss of the normal supply, and to de-energize or return the equipment to normal status when the normal supply is restored.

ARTICLE 701

Legally Required Standby Systems

Scope: The systems covered by this article consist only of those that are permanently installed in their entirety, including the power source.

Definition: Those systems required and so classed as legally required standby by municipal, state, federal, or other codes or by any governmental agency having jurisdiction. These systems are intended to automatically supply power to selected loads (other than those classed as emergency systems) in the event of failure of the normal source.