Volusia County
FLORIDA

# Generator Installation Check List

## Per 2008 NEC, Article 702, Optional Standby Systems

**Contractor:** _____ **Permit #** _____

**Property Address** _____

| | |
|---|---|
| SERVICE SIZE | AMPS |
| GENERATOR SIZE | KW |
| GENERATOR | AMPS |
| SWITCH TYPE | AUTOMATIC/MANUAL |

| EXAMPLES: |
|---|
| 200AMPS |
| 20 KW |
| 85 AMPS |
| |

200 Automatic Transfer Switch

NEC. 2008 Article: 702.5(B)(2)(a) Automatic Transfer Equipment

Full Load: The stand by source shall be capable of supplying the full load that is transferred by the automatic transfer equipment.

**Provide Load Calculations for review. (2008 NEC 220.83 Existing Dwelling):**

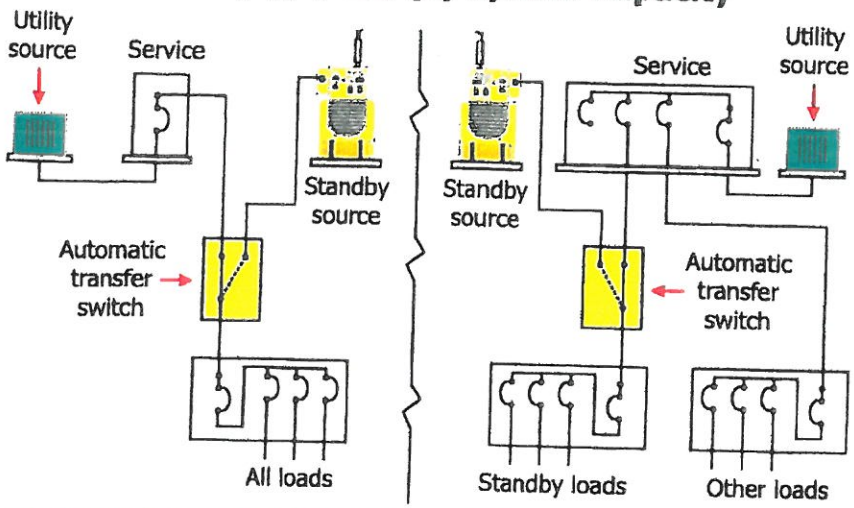
| | | EXAMPLES: |
|---|---|---|
| Square Feet of Living Area | Sq.Ft. | 3,726 Sq. Ft |
| Sq.Ft. of Living Area x 3va | | 11,178 |
| Kitchen Special @ 1,500 | | 2 Kitchen special @ 3,000 |
| Refrigerator @ | | 1 Refrigerator @1,500 |
| Laundry @ | | 1 Laundry @1,500 |
| Range @ | | 1 Range @8,000 |
| Water Heater | | 4,500 |
| Dishwasher | | 1,440 |
| Garbage Disposal | | 960 |
| Clothes Dryer | | 5,000 |
| AC/AHU | | Shedding- See Below* |
| Other Loads | | |
| | | |
| TOTAL | | 37,078 |
| | | |
| First 8k @ 100% = | | First 8k @ 100% = 8,000 |
| Remaining @ 40% = | Remaining @ 40% = | Remaining 29078 @ 40% = 11,631 |
| TOTAL | | 19,631 |
| | | 19631 / 240 = 81.79 amps |

**Provide Load shedding description and/or schematic.**

*The A/C systems are not included in these calculations because they will be added to the load shed portion of the transfer switch.

Note: Manual Transfer Equipment NEC. 702.5(B)(1)

## 702.5(B)(1) and (2) System Capacity




Where automatic transfer equipment is used, the source shall have a capacity to supply the full load transferred, unless an automatic load management system is employed that manages transferred load to within the source capacity.

# 702.5

**Capacity and Rating**
*NEC*, p. 611

**Proposal 13-168**
**Log 2741**
ROP, p. 782

**Comment 13-255**
**Log 114**
ROC, p. 470

REVISION

## Analysis and Effect

Recent natural disasters and events have resulted in the increase in generator installations for commercial and industrial applications and, specifically, for residential applications. These revisions provide clear direction about the capacity requirements of an optional standby source that uses automatic transfer. Substantiation with the proposal indicated that automatic transfer equipment is being installed with generators that have a capacity much less than the total load (often an entire panelboard) being transferred. There have been significant inconsistencies in interpretation of the minimum requirements that apply to automatic transfer switches applied in these situations. The revisions now require the standby source to have a minimum capacity to supply the full load that is transferred by an automatic transfer switch, unless there is a load management system employed that controls the amount of connected load on the standby power source. This revision provides needed clarification that should result in designs and installations of optional standby systems that provide sufficient source capacity that is directly related to the type of transfer equipment selected and load management system employed.

## Change at a Glance

Where optional standby sources are installed using automatic transfer equipment, the source must be able to carry the entire load served, unless automatic load management systems are installed.

## Code Language

### 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.

## Summary of Change

This section has been revised and reorganized to provide a logical layout and clarify the requirements. The revisions include rearranging the requirements into a list format that conforms to Section 2.1.5.1 of the *NEC Style Manual*.