



## **26 3213 – Alternate Power Sources**

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### Emergency Power Types:

- **Battery Racks:** It is rare that we use this type of alternate power source. If the designer believes a rack of emergency batteries is the appropriate power source contact BSU Engineering to get written approval before proceeding.
- **Individual Battery Packs:** For some buildings we will consider battery packs that are located in each emergency exit/egress light. These buildings are typically smaller classroom/office buildings that do not have standby generator.
- **Generators:** For most larger and all residence hall buildings this is our first choice. Generators are to be diesel powered with the skid mounted fuel tank under the generator. The tank should hold enough fuel for 24 hours of operation. Each distinct emergency power system load (defined below) should have a separate automatic transfer switch.
- **System Classifications (from the IBC and the Indiana Building Code):** Emergency Power Loads are defined as having power available within 10 seconds of the failure of the normal supply. Standby Power Loads are defined as having power available within 60 seconds of the failure of the normal supply.

### Items Considered Emergency Power Loads:

The generator should be sized to carry at least the following items (emergency power loads):

- Emergency exit lighting (including exit signs and means of egress illumination)
- Emergency Voice/Alarm Communication Systems
- Fire Alarm and Automatic Fire Detection Systems including Metasys panel
- Elevator car lighting in underground or high rise buildings
- Occupancies with highly toxic and toxic materials and those containing pyrophoric materials such as silane gas.
- Sump pumps where they are protecting emergency power or communications from flood damage.

### Items Considered Standby Power Loads:

- Smoke control systems
- MDF/IDF room equipment
- Sump pumps other than described on emergency power
- Elevators (including accessible means of egress elevators)
- Fume hood exhausts and air handling units: our goal is to operate these systems as necessary to prevent negative pressure situations or the accumulation of toxic fumes in buildings.

### Additional Power System Information

In buildings equipped with a fire pump, Ball State requires that the pump be connected to the building transformer prior to the main building disconnect through a separate transfer switch. Any additional loads connected to the alternate power source should have a transfer switch

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separate from those listed above. Supplementary information regarding emergency and standby loads is located in Chapter 27 of the International Building Code. Provide a separate service disconnect for the fire pump feeder so the pump can be de-energized without de-energizing the building pad mounted transformer.

### Battery Pack Requirements

- Battery packs should not be used in building equipped with a standby generator.
- Prefer non-self diagnostic battery packs. BSU has a PM program in place to test twin head battery lights and battery backed exit signs.
- Prefer twin head emergency lights over battery ballasted fluorescent or battery backed LED fixtures.