



**TOPIC:** High-rise Construction - IBC/4/#1

**CODE:** Structural Specialty Code: 2007 Edition

**REVISED:** August 22, 2007           *[Paul L. Scarlett]*          , Director

**REFERENCE:** Sections 403.2 and 403.10, Chapter 34  
Structural Specialty Code

**SUBJECT:** High-rise Buildings: Standby Power and Secondary  
Water Supplies

**QUESTION:** What alternative designs may be used to provide emergency standby power and secondary water supplies in the alteration of existing high-rise buildings? Are these alternatives appropriate in other circumstances?

**RESPONSE:** The following alternate methods are acceptable for providing emergency standby power and secondary water supply for existing buildings that are classified as high-rise buildings under the current code and which are undergoing a renovation of 51% or more of the building area or where 33% or more of the building involves a change of occupancy. The alternatives for standby power provided in this guide may also be used to upgrade existing buildings containing an atrium.

Please note, the City and its power and water supply grids have not yet experienced the magnitude of earthquake for which the State Code requires buildings to be built. Because of this, there is no assurance that these grids will continue to function as intended, nor that the lines from the grids to the buildings will remain intact in a seismic event. It is critical during such times that standby power and secondary water remain available. It is therefore incumbent on the property owner to assess the potential risks associated with the use of the alternates allowed in this guide before making the choice to use them.

## **IBC/4/#1**

### **High-rise Buildings: Standby Power and Secondary Water Supplies**

**Page 2 of 2**

**August 22, 2007**

#### **Standby Power:**

Two alternatives are acceptable to the requirement that a standby power generating system be provided on the site:

1. Connect a standby power service, to the power grid, with an automatic transfer switch ahead of the main service disconnect; or
2. Provide two separate services from the secondary side of the power grid to the building which are connected together with an automatic transfer switch ahead of the main service disconnect.

The two service connections shall be from two separate transformer vaults under the right-of-way adjacent to the property lines. The two services (one for the main building service and one for the emergency service) shall enter the building separately and terminate in different rooms separated by a minimum of a one-hour, fire-resistive assembly. The services shall be interconnected by a lockable automatic transfer switch.

#### **Secondary Water Supply:**

One alternative is acceptable to the requirement that a secondary on-site water supply be provided on the site:

Provide two separate connections to the water supply grid. The connections shall be:

1. Separated by a valve on the water supply grid;
2. Located on the grid as far apart as practical; and
3. Are flexible enough to allow relative displacements at the soil/structure interface.

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Amended with new bureau name July 08, 2024.

Updates July 14, 2006 edition

Updates March 1, 1999 edition

Updates July 1, 1996 edition

Replaces Code Guide UBC/4/#1 which replaced Policy & Procedure #'s D-51 and D-5251 and D-52.