ENB-15.16 - Highrise Buildings: Standby Power and Secondary Water Supplies - UBC/4/#1

HIGHRISE BUILDINGS: STANDBY POWER AND SECONDARY WATER SUPPLIES
Administrative Rule Adopted by Bureau Pursuant to Rule-Making Authority
ARB-ENB-15.16

TOPIC: Highrise Construction - UBC/4/#1

CODE: Structural Specialty Code: 1998 Edition

REVISED: March 1, 1999

REFERENCE: Section 403 - Structural Specialty Code

SUBJECT: Highrise 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 renovation of existing highrise buildings. Are these alternatives appropriate in other circumstances?

RESPONSE: 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, ahead of the main service disconnecting means with an automatic transfer switch; or

2. Provide two separate services from the secondary side of the power grid to the building which are connected together ahead of the main service disconnecting means with an automatic transfer switch.

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.

Application

These alternatives are not equivalent to the code requirements for standby power and secondary water supply for new buildings, but may be considered in the renovation of existing buildings constructed before current highrise standards. The alternatives for standby power may also be used to upgrade existing buildings containing an atrium.

Consideration

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.

HISTORY
Updates July 1, 1996 edition
Replaces Code Guide UBC/4/#1 which replaced Policy & Procedure #â€™s D-51 and D-52.
Revised March 1, 1999
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