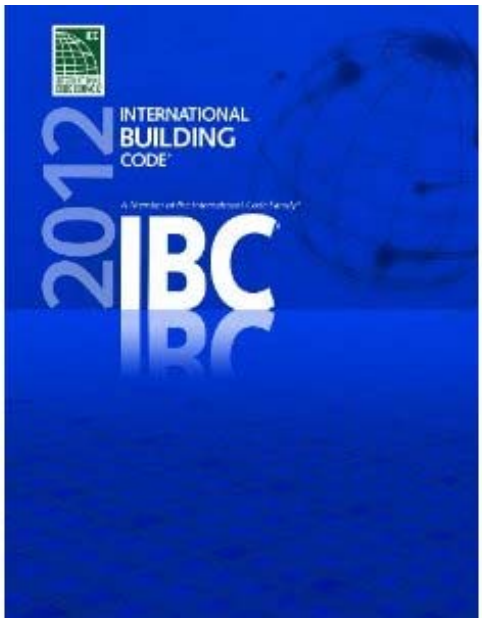
Evapco Engineering Flash

International Building Code (IBC): Know Your Design Requirements

Evaporative cooling equipment, including cooling towers, closed circuit coolers, and evaporative condensers, incorporate strict seismic and wind loading design standards. The International Building Code (IBC) defines how to calculate minimum ratings based on site-specific variables that include but are not limited to:

- Location (City, State, Zip Code)
- Site Classification
- Importance Factor
- Mounting (Rigid vs. Vibration Isolated)
- Occupancy Category
- Elevation
- Design Wind Speed
- Exposure Category



It may seem obvious to a structural engineer that a cooling tower on the roof of a hospital in San Francisco, California, requires a high seismic “g” force rating. Equally apparent is the need for high wind load ratings for a cooling tower, or closed circuit cooler providing comfort cooling to a resort and hotel in Miami, Florida.

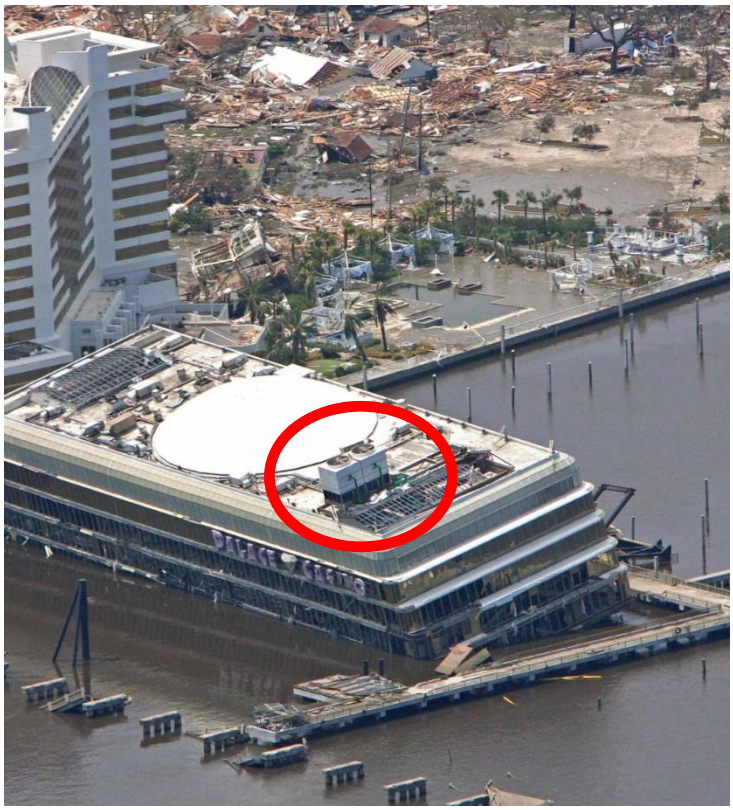
What about the seismic design requirements in Sacramento, California? Is Houston, Texas, an area where engineers should be concerned about wind load?

The IBC code may dictate that these moderate zones of seismic and wind activity require evaporative cooled equipment designs that are elevated enough to surpass the standard bill of material of many manufacturers.

Let's look at a couple of examples where the standard bill of materials would need to be modified to conform to IBC:

Wind Driven Application:

A cooling tower located on the roof of a five (5) story hospital on the coast of Gulfport, Mississippi (Zip Code: 39501) could require a cooling tower design that is capable of withstanding approximately 63 psf of wind loading. This wind loading demands an upgraded structural design from virtually all manufacturers of evaporative cooled equipment.

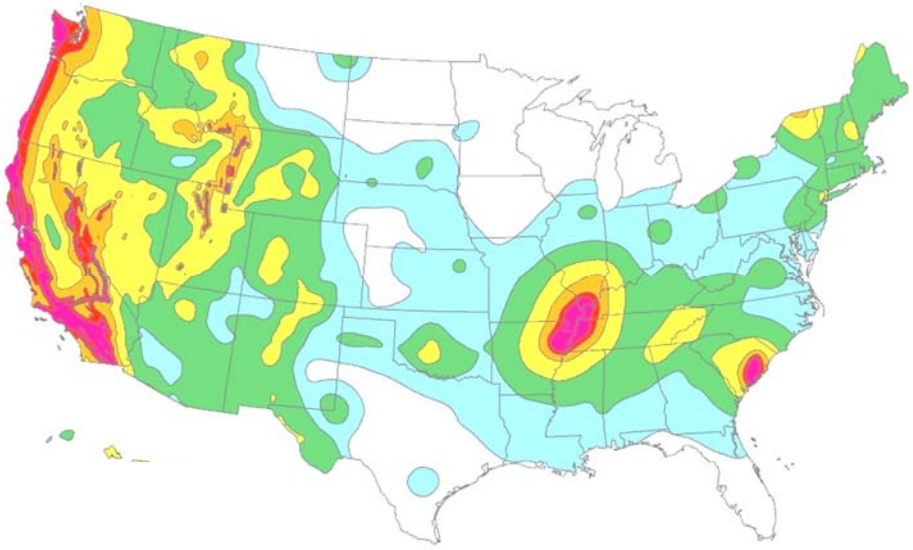


Seismic Driven Application:

A cooling tower on the roof (approximately 15 feet from grade) of a police station in Charleston, SC (Zip Code: 29406) requires the structural integrity to withstand over 2g's of seismic loading. This seismic rating would also require an additive cost from the manufacturer to meet code.

As you design building systems consider how IBC dictates not only your building design, but also all of the evaporative cooled equipment that is integral to its operation.

For more information on your specific IBC needs, please contact your local EVAPCO Sales Representative!



Seismic Design Map

Best Regards,

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