For Components and Cladding:

1. Analytical Procedure for buildings and building appurtenances [Chapter 30]
2. Wind Tunnel Procedure for all buildings and other structures [Chapter 31]

A "simplified method" for which the designer can select wind pressures directly from a table without any calculation, when the building meets all the requirements for application of the method, is provided for designing buildings using the Directional Procedure (Chapter 27, Part 2), the Envelope Procedure (Chapter 28, Part 2) and the Analytical Procedure for Components and Cladding (Chapter 30).

Limitations. The provisions given under Section 26.1.2 apply to the majority of site locations and buildings and structures, but for some projects, these provisions may be inadequate. Examples of site locations and buildings and structures (or portions thereof) that may require other approved standards, special studies using applicable recognized literature pertaining to wind effects, or using the wind tunnel procedure of Chapter 31 include

1. Site locations that have channeling effects or wakes from upwind obstructions. Channeling effects can be caused by topographic features (e.g., a mountain gorge) or buildings (e.g., a neighboring tall building or a cluster of tall buildings). Wakes can be caused by hills or by buildings or other structures.
2. Buildings with unusual or irregular geometric shape, including barrel vaults, and other buildings whose shape (in plan or vertical cross-section) differs significantly from the shapes in Figs. 27.4-1, 27.4-2, 27.4-7, 28.4-1, and 30.4-1 to 30.4-7. Unusual or irregular geometric shapes include buildings with multiple setbacks, curved facades, or irregular plans resulting from significant indentations or projections, openings through the building, or multi-tower buildings connected by bridges.
3. Buildings with response characteristics that result in substantial vortex-induced and/or torsional dynamic effects, or dynamic effects resulting from aeroelastic instabilities such as flutter or galloping. Such dynamic effects are difficult to anticipate, being dependent on many factors, but should be considered when any one or more of the following apply:
   i. The height of the building is over 400 ft.
   ii. The height of the building is greater than 4 times its minimum effective width $B_{\min}$, as defined below.
   iii. The lowest natural frequency of the building is less than $n_1 = 0.25$ Hz.
   iv. The reduced velocity $\dfrac{\overline{V}_{\overline{z}}}{n_1 B_{\min}} > 5$ where $\overline{z} = 0.6h$ and $\overline{V}_{\overline{z}}$ is the mean hourly velocity at height $\overline{z}$.

   The minimum effective width $B_{\min}$ is defined as the minimum value of $\sum h_i B_i / \sum h_i$ considering all wind directions. The summations are performed over the height of the building for each wind direction, h_i, is the height above grade of level i, and B_i is the width at level i normal to the wind direction.
4. Bridges, cranes, electrical transmission lines, guyed masts, highway signs and lighting structures, telecommunication towers, and flagpoles.

When undertaking detailed studies of the dynamic response to wind forces, the fundamental frequencies of the structure in each direction under consideration should be established using the structural properties and deformational characteristics of the resisting elements in a properly substantiated analysis, and not utilizing approximate equations based on height.

Shielding. Due to the lack of reliable analytical procedures for predicting the effects of shielding provided by buildings and other structures or by topographic features, reductions in velocity pressure due to shielding are not permitted under the provisions of this chapter. However, this does not preclude the determination of shielding effects and the corresponding reductions in velocity pressure by means of the wind tunnel procedure in Chapter 31.

C26.2 DEFINITIONS

Several important definitions given in the standard are discussed in the following text. These terms are used throughout the standard and are provided to clarify application of the standard provisions.

BUILDING, ENCLOSED; BUILDING OPEN; BUILDING PARTIALLY ENCLOSED: These definitions relate to the proper selection of internal pressure coefficients, (GC_{pi}). "Open" and "partially enclosed" buildings are specifically defined. All other buildings are considered to be "enclosed" by definition, although there may be large openings in two or more walls. An example of this would be a parking garage through which the wind can easily pass but which meets neither the definition for an open nor a partially enclosed building. The internal pressure coefficient for such a building would be ±0.18, and the internal