414.2.3

Fire Wall Use for Control Areas

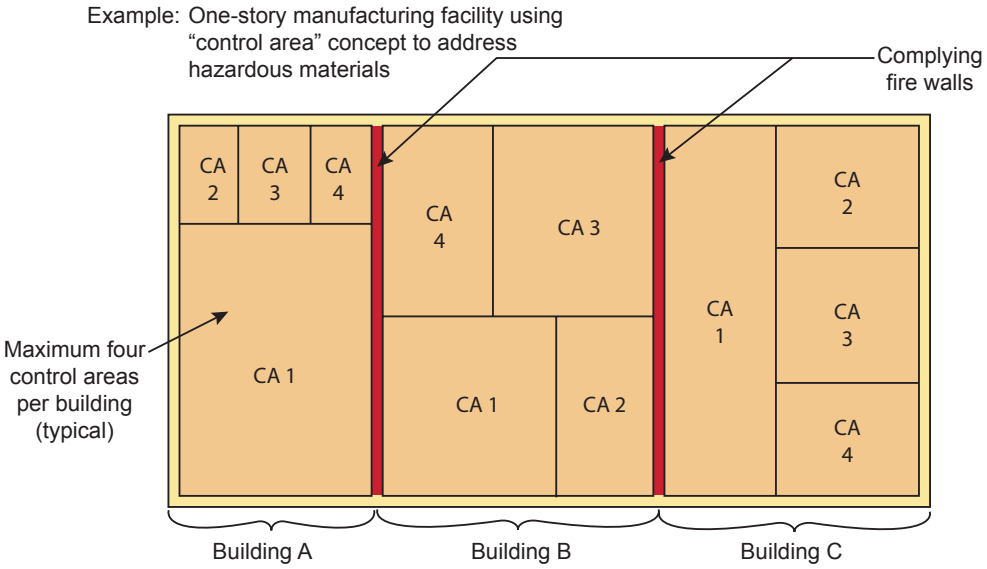
CHANGE TYPE: Addition

CHANGE SUMMARY: The scoping limitations of a fire wall's use to create separate buildings have been expanded through a new allowance for the number of control areas permitted.

2021 CODE TEXT: **414.2.3 Number.** The maximum number of control areas within a building shall be in accordance with Table 414.2.2. For the purposes of determining the number of control areas within a building, each portion of a building separated by one or more fire walls complying with Section 706 shall be considered a separate building.

CHANGE SIGNIFICANCE: Occupancy classifications of buildings containing hazardous materials are based on the maximum allowable quantities (MAQs) concept. As established in IBC Tables 307.1(1) and 307.1(2), the maximum amounts are identified for the various hazardous materials based on a variety of conditions. Where the MAQs are exceeded, the uses are to be classified as Group H occupancies. In those cases where the amounts do not exceed the MAQs, a classification other than Group H that best represents the building's use is assigned. It is often quite desirable to the designer that an occupancy classification of other than Group H be assigned due to the restrictive nature of the code when it regulates high-hazard uses. A fundamental method of maintaining a non-Group H condition is the creation of control areas.

Control areas are portions of a building that contain hazardous materials in amounts that do not exceed the MAQs and that are separated from other areas containing hazardous materials by fire-resistant construction. Any combination of hazardous materials, up to the MAQs, is permitted in a control area. The intent is that each control area is regulated for MAQs rather than the building as a whole, thereby increasing the amounts of hazardous materials that can be present without triggering a Group H classification. However, there is a limit to the number of control areas that



can be created in a building as set forth in Table 414.2.2. For example, in a single-story building no more than four control areas can be provided. Therefore, a Group H classification will be mandated where the quantities of hazardous materials require the creation of more than four control areas. The use of one or more fire walls to create separate buildings is now applicable to the control area concept, allowing the permissible number of control areas to be increased. Where a structure is divided into separate buildings through the use of complying fire walls, each such separate building may now contain the maximum number of control areas permitted by Table 414.2.2.

The primary purpose of fire walls as regulated by Section 706 is to create separate buildings under one roof, providing an opportunity for the designer to regulate each of these buildings independently rather than as the entire structure. This highly regulated fire-resistance-rated vertical separation provides the necessary independence so that the portion of the structure on each side of the fire wall can be regulated individually. However, the application of the separate building concept is very limited. Section 503.1 mandates that a fire wall only creates separate buildings for the purposes of determining area limitations, height limitations and type of construction. This very short list, which reflects the scoping limitations of a fire wall's use to create separate buildings, has been expanded through a new allowance applicable to the limitation on the number of control areas permitted. As a result, an increased amount of hazardous materials may now be present without classification as a Group H occupancy where fire walls divide a structure into separate buildings.