Guidelines for the Alteration, Repair, Addition, and Change of Occupancy of Existing Structures (Renovation, Restoration, and Rehabilitation)

Prepared as an overview of Chapter 34 of the 2002 Kentucky Building Code

This project has been accomplished as a result of financial assistance from the Kentucky Housing Corporation.

This guidebook encourages and supports reuse of existing buildings as approached in a code related perspective, and also dispels certain myths that rehabbing older buildings is neither profitable nor worthy. The Office of Housing, Buildings, and Construction and the Kentucky Housing Corporation are committed to preserving these older buildings that make up a significant portion of Kentucky's cultural heritage. Alterations, repairs, additions, and changes of occupancy are all covered in Chapter 34 of the 2002 Kentucky Building Code, which is based on the 2000 International Building Code published by the International Code Council.

Because of the special consideration given to certified historic buildings, their code compliance requirements have been significantly reduced, but not removed, in order to protect their historic identity. Historic designation can be certified on either a federal, state, or local level. If you are dealing with a designated historic structure, any changes should first be consulted with the Kentucky Heritage Council.

This guidebook also serves as an introduction to the building code processes. Compliance alternatives have been designed and presented in this work to allow measured deviation from the rules, so that life and fire safety are not jeopardized. An unreasonable expectation would be to assume that older buildings should meet modern code requirements for new construction.

The State of Kentucky contains a wealth of significant older buildings, many of them in downtown historic districts. The purpose of this guidebook is to remove the building code obstacle from the redevelopment process in order to reoccupy and reuse these architectural treasures.

The Chapter 34 process has been developed in order to accurately predict in advance which safety requirements are to be met in order to obtain a certificate of occupancy. The Chapter 34 process is a performance based approach that provides owners and architects the ability to focus on the strengths of the building while allowing them the flexibility to address the weaknesses and take the necessary steps to correct them. Previously the misconception existed that the entire building needed to be upgraded in order to meet the requirements of the code for new construction; this is neither accurate nor possible as many existing structures were constructed before the introduction of modern building codes. Mandatory code compliance can only be triggered when an existing structure undergoes a renovation, is altered, receives an addition, or has a change in use.

The cost ratio approach to code compliance has been eliminated, and no longer are rehabilitations categorized according to the amount of money being invested into the project. For example, when an old school in Shelbyville is to be converted into senior housing, a certain degree of code compliance is necessary in order to meet criteria for structural stability as well as life and fire safety criteria, regardless of how much money is being invested into the project.

One of the first aspects to address when dealing with code regulations is determining occupancy classification, as this information mandates the level of compliance a building must adhere to.

Different occupancies classifications contain unique risks, such as Residential use groups pose the risk that occupants could be asleep during an emergency situation, Assembly occupancies usually have large numbers of occupants, in unfamiliar settings, sometimes in dimly lit conditions such as theaters or restaurants. Sometimes older buildings contain more than one occupancy classification, which is regarded as a mixed-use condition.

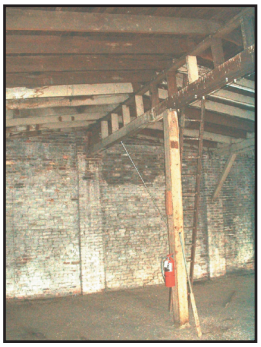
A preliminary meeting can prove vital to the compliance process in order to assure that all major code issues are being addressed. This preliminary meeting can settle the majority of differences that arise between code officials, owners, and design professionals to help expedite permit approval.

The most important aspect to consider when renovating an existing building is to address its structural integrity, especially if a building has been vacant for any period of time

Section 3409.4.1 of the 2002 Kentucky Building Code (KBC) states that the owner shall have a structural analysis of the existing building made to determine adequacy of structural systems for the proposed alteration, addition, or change of occupancy.

A structural analysis can be accomplished by following four steps, first determine what the minimum loads are as required by chapter 16, secondly, determine size and support loads of existing elements, thirdly, have a report created indicating the structural engineers recommendations, and fourth, submit documentation to the code official indicating structural stability, signed and sealed by a Kentucky registered professional engineer. The existing building shall be capable of supporting the minimum load requirements of Chapter 16 of the 2002 KBC as this structural analysis provides the owner and the code official with documentation that the building is structurally sound.

Another important aspect to consider is the determination of the construction type of the existing building, this specific categorization plays a large role in the amount of code requirements necessary for any reconstruction project. Determining appropriate construction type will classify the structure into a code category that allows certain criteria to be met based on general safety requirements. Most existing structures will fall into either 3B or 5B construction type because of all the wood used in the construction technique as determination of construction type deals with the amount of combustible material used in the assembly of the structure.



This building is an example of 3B construction type as the exterior masonry walls support the internal combustible wood framing.

One must also be concerned with the fire separation aspect of code compliance. This requirement deals with what is surrounding the existing structure and how that proximity will affect the existing building, its neighbors, and firefighter access. Fire escapes are also addressed in Chapter 34 section 3403, as their safe use can prove vital to the success of a project. Under certain conditions, both old and new fire escapes can be implemented into a project in order to satisfy egress requirements, especially where it may be technically infeasible to create a new interior stairway.

Existing stairways are unique to each building and space, thus Chapter 34 allows concessions to be made regarding their use. Section 3402.4 of the 2002 KBC states that the replacement of an existing stairway in an existing structure shall not be required to comply with the requirements of a new stairway as outlined in section 1003.3.3 where the existing space and construction design will not allow a reduction in pitch or slope.

Chapter 34 also addresses windows as any glazing that is removed from an existing building must be replaced with modern safety glass in order to provide as much protection as possible.

In addition to the 2002 Kentucky Building Code requirements, ADAAG, plumbing, electrical, NFPA 1, and NFPA 101 all need to be met in order to satisfy the requirements needed in order to issue a certificate of occupancy.

The intent of Kentucky's accessibility requirements is to comply with the Federal Fair Housing Act, which is the minimum standard allowed. Any new or replaced elements in an existing structure should be made to comply with accessibility guidelines, and certain housing renovations must adhere to federal guidelines for housing accessibility. Accessibility requirements for existing buildings provide the greatest challenge for both the design professional and the code official. "To the best extent possible" is a phrase that has been used to describe the degree to which accessibility requirements should be applied.

According to the 2003 International Existing Building Code, a situation is technically infeasible when an alteration of a building has little likelihood of being accomplished because the existing structural conditions require the removal or alteration of a load bearing member that is an essential part of the structural frame, or because other existing physical or site constraints prohibit modification or addition of elements, spaces or features which are in full and strict compliance with the minimum requirements for new construction and which are necessary to provide accessibility.

As certain aspects of existing buildings just cannot meet the requirements for new construction, many situations can be deemed technically infeasible. The determination of a technically infeasible situation can eliminate the need for a variance request and thus expedite the code approval process.

Compliance Alternatives

As the definition of technically infeasible allows for some give and take in the application of modern building codes, so to, does the compliance alternatives section of Chapter 34.

Section 3409.1 states that the provisions of the compliance alternatives section are intended to maintain or increase the current degree of public safety, health, and general welfare in existing buildings while permitting repair, alteration, addition, and change of occupancy without requiring full compliance with Chapters 2 through 33.

Neither the design professional nor the code official can physically inspect and evaluate every aspect of an existing building or structure, because many of its features may be concealed within the construction. It is therefore necessary to emphasize 18 items that can be evaluated.

These 18 critically important elements can be quantified and evaluated to determine the level of safety for an existing building. This type of analysis provides the designer and the code official with a rational basis for establishing the safety of an existing building without having physical access to every part of the building.

The 18 safety parameters are as follows: building height, building area, compartmentation, tenant and dwelling unit separation, corridor walls, vertical openings, HVAC systems, automatic fire detection, fire alarm systems, smoke control, means of egress capacity and number, dead ends, maximum travel distance to an exit, elevator control, means of egress emergency lighting, mixed occupancies, sprinklers, and incidental use areas.

The compliance alternatives section of chapter 34 evaluates these 18 safety parameters and scores each based on specific categorical requirements, which are then tallied on a summary sheet. Based on the results of the final score, the building either passes and receives a certificate of occupancy, or it is denied and a list of deficiencies is created showing which areas need to be addressed in order to meet the minimum code requirements.

These 18 safety parameters have been determined to be the most critical factors related to the minimum degree of life safety and property protection needed in an existing building.

The assigning of numerical values to each of the 18 safety parameters establishes a measurable quantity of what each of the parameters contributes to the overall safety of the building. Some evaluated parameters have a negative influence; others have a positive one. In total, the parameters may or may not result in an acceptable building score. The evaluation will determine whether the existing building has enough positive factors to overcome the negative parameters, or will indicate the negative factors that must be upgraded by alternate modifications (Section 3409.5, 2000 IBC Commentary).

Information regarding the descriptions of the compliance alternatives was compiled from the 2000 International Building Code Commentary, which provides explanations of the application of the 2000 International Building Code published by the International Code Council.

Building Height. The value for building height shall be determined by comparing the existing height of the building against the allowable height as determined by Table 503 in chapter 5. Table 503 serves as a datum level which allows for establishing a numerical height value for the existing building by comparing its actual height and its type of construction as represented by a construction factor (CF).Two height formulas for calculating the score are given. The formulas use the allowable height in both feet and stories from Table 503 and the height of the existing building. The denominator in the formula, 12.5, represents an average story height in feet.

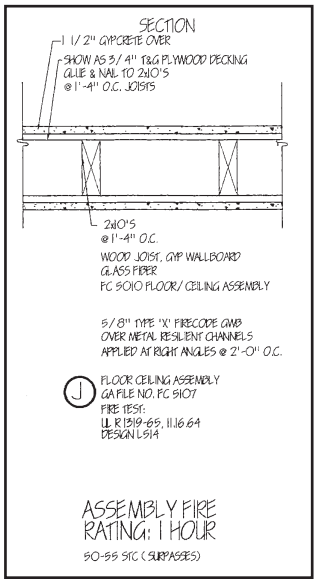
The maximum score for a building is 10.

Building Area. The building area section also takes into account the allowable area determined by the equivalent risk concept figures in Table 503. Using formulas to determine allowable area and area value, the final building area value is only allowed to be 50% of the fire safety score as listed in the mandatory safety scores (Table 3409.8)

Building area can be increased if the building has sprinklers and contains a certain amount of open perimeter in order to allow access for fire fighting vehicles and apparatus. The positive score is limited to prevent this one parameter from providing enough points to unjustifiably overcome too many deficiencies in other parameters.

Compartmentation. The compartmentation section deals with the compartments contained within an existing building by the effectiveness of the enclosing fire separation assemblies of both walls and floor/ceiling assemblies. Larger compartments are considered to be a greater safety risk than smaller compartments because the larger areas can become involved in a single fire incident affecting a greater portion of the building at one time. Table 3409.3 establishes values based on occupancy classification and compartment size. Specific code requirements for wall construction and floor ceiling construction must be followed / met in order to assure compliance.

The difficulty here lies in the determination of the fire resistance rating of the existing construction. If the fire resistance rating cannot be determined, the entire floor of an existing building must then be considered the compartment.



Tenant and Dwelling unit separation. The tenant and dwelling unit separation parameter is used to evaluate partitions in an existing building other than those used for the creation of compartments (section 3409.6.3) or the enclosure of corridors (section 3409.6.5). Table 3409.6.4 provides values for tenant space and dwelling unit separations that resist the spread of flames and smoke. The rationale for considering a non-fire resistance rated or incomplete separation as a safety liability is its unassumed role of impeding flame and smoke spread. Tenant and dwelling unit separations are categorized by the partitions being evaluated. The values for each category are listed in table 3409.6.4 by occupancy classification.

Corridor Walls. The corridor walls section evaluates the fire resistance rating and degree of completeness of walls which create corridors serving the floor. Corridor walls are evaluated as fire partitions possessing an adequate fire resistance rating and completeness to restrict fire and smoke migration into the corridor. Existing corridor walls require investigation and analysis to determine equivalency to code requirements.

Table 3409.6.5 assigns values to the different uses based on the relative degree of fire resistance and smoke resistance of corridor walls. Since corridors are enclosed (confined) spaces subject to the rapid buildup of smoke and heat, a degree of protection is necessary to minimize this hazard to the occupants egressing the building.

Vertical Openings. The vertical openings section evaluates the fire resisitance rating of vertical exit enclosures, hoistways, escalator openings, and other shaft enclosures within the building, and openings between two or more floors. Vertical openings are used to evaluate the fire resistance ratings of openings between floors of a building and between shaft enclosures, such as stairs, elevator hoistways, and escalator openings.

A formula is given to figure vertical opening value. Table 3409.6.6(1) assigns relative protection values based on the fire protection ratings of the vertical openings in a building. The lower the fire protection,the greater the hazard to the rest of the building.

HVAC systems. The HVAC systems section evaluates the ability of the HVAC system in order to resist the movement of smoke and fire beyond the point of origin. The systems evaluated in this section are those that use supply air, return air, or exhaust air.

For example, a typical building might have supply air ducts or shafts, return air ducts or shafts, toilet exhaust ducts or shafts and kitchen exhaust ducts or shafts, all of which are considered HVAC systems. All systems in the building are evaluated and the lowest score obtained by any of the systems is the score that must be assigned to the entire building. The five categories that must be used in the evaluation process are defined in this section, along with their applicable values. These values are not occupancy sensitive, since the spread of fire is dependent on the HVAC system present in the existing building, not on its occupancy classification.

Automatic Fire Detection. The automatic fire detection section evaluates the smoke detection capability based on the location and operation of automatic fire detectors. The use of detectors increases the safety in a building by providing early warning to occupants. To receive credit for the smoke detectors, they must be connected to audible alarms and installed in accordance with Section 907 and the International Mechanical Code. Table 3409.6.8 assigns values for each occupancy and the categories are based on the location and completeness of the smoke detectors. Since this will be a new introduction into the existing building, modern standards can be followed.

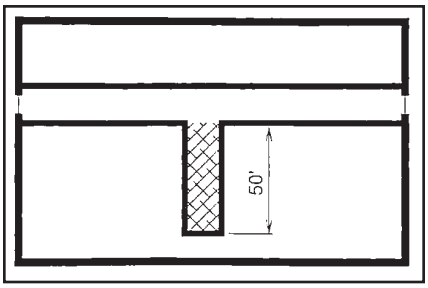
Fire Alarm Systems. The fire alarm systems section evaluates the capabilities of building fire alarm systems that are separate from the automatic fire detection system previously evaluated. A fire alarm system that is manually operated or activated by smoke detectors or sprinkler water

flow devices alerts the occupants to a fire situation. The fire alarm system will notify the occupants with visible or audible alarms so they may begin their egress and discharge from the building. Table 3409.6.9 gives values for each occupancy and type of fire alarm system provided. It reflects the idea that the presence of an alarm system in a building usually creates a safer condition for the occupants when compared to a building without a communication system.

Smoke Control. The smoke control section is used to evaluate characteristics that could limit smoke migration in the building, including operable windows, mechanical exhaust systems or pressurized stair or smoke proof enclosures. Table 3409.6.10 assigns values for each occupancy and category of smoke control in the building and indicates the relative risk to the building occupants if adequate smoke control methods are not provided in the building. The table and categories indicate that smoke control is extremely important in the exit stairs of a building.

Means of Egress Capacity and Number. The means of egress capacity and number section addresses the exit capacity and number of existing exits available to the building occupants. Before a building can be evaluated in this category and section 3409 in general, it must comply with the sections listed from Chapter 10. Evaluation of the means of egress capacity involves all egress components, including exit access, exits, and exit discharge. This evaluation is correlated to the requirements for the means of egress for new construction. Table 3409.6.11 assigns values for each occupancy and category, and gives credit for providing additional exits and exit capacities beyond the minimum.

Five categories must be evaluated along with the occupancy of the building in order to determine the score entered into Table 3409.7. The building code requires a building using fire escapes to use category A and its corresponding negative points. Although the code allows fire escapes to be used as an egress element in existing buildings, this is the least desirable option in any type of building.



Dead Ends. The dead ends section is used to evaluate dead end access conditions within the building. This section uses the terminology “confined to a single path of travel” and “a single direction of travel to reach an exit” for illustration. A typical corridor is a single path in which a building occupant can travel in two directions to reach exits. A dead end may be a single path, but the key feature of a dead end is that only one direction is available to reach an exit. When building occupants have only one direction of travel available, a potentially hazardous condition is created because they may become trapped if the direction of travel is blocked by fire or smoke.

This section addresses only dead ends that are a component of exit access travel, which is “that portion of a means of egress that leads to an entrance to an exit”. Table 3409.6.12 reflects the

relative degree of hazard associated with dead-end passageways and corridors. This is shown by the deficiency points that apply where a dead end exceeds 35 or 70 feet in an occupancy with a relatively high occupant load, such as an assembly occupancy.

Maximum Travel Distance To An Exit. The maximum travel distance to an exit section is used to evaluate the length of exit access travel to an approved exit. The maximum allowable access travel distance shall be determined in accordance with section 1004.2.4 of the 2002 KBC.

The exit access travel distance is measured from the most remote point in the building to the nearest exit. To determine the value to be assigned for maximum travel distances to an exit, the specified equation must be used. This equation allows a graduated scale to be used to evaluate compliance of an existing situation with new construction travel distance requirements.

Elevator Control. The elevator control section evaluates the passenger elevator equipment and controls that are available to the fire department to reach all occupied floors. Single story buildings are awarded a score of zero. Elevator recall controls shall be provided in accordance with the International Fire Code. Access must be provided to all occupied floors by passenger elevators for the purposes of this evaluation. Freight elevators cannot be considered, since they may be in locations not readily accessible for fire department use. Table 3409.6.14 assigns values based on the types of controls the elevators have, and the distance the elevators must travel to reach the floors they serve. The 25 foot threshold of elevator travel is based on the International Fire Code.

Elevator travel distance is based on the level where the elevator is accessed by the fire department. Usually, this is the ground floor or grade level floor and corresponds to the level where fire command stations or fire alarm system annunciator panels are located.

Any elevator that travels 25 feet or more must always be provided with Phase I and II recall capabilities. The categories that a building may be placed into range from buildings with no elevators, to buildings with elevators complying with new construction requirements and total elevator recall capability.

Means of Egress Emergency Lighting. The means of egress emergency lighting section evaluates the presence and reliability of means of egress emergency lighting. Illumination of the means of egress is essential at all times, especially during a fire condition because visibility will more than likely be reduced by the buildup of smoke.

Table 3409.6.15 is used to assess the relative risk to the occupants of the building when egress lighting is not adequate. The three categories of egress lighting are consistent with the requirements established by the International Fire Code. The table reinforces the idea that when a building is required to have two or more exits, lighting has more significance.

Mixed Occupancy. The mixed occupancy section shall evaluate the separation between the individual use groups , where a building has two or more occupancies that are not in the same occupancy classification (i.e. business and storage). This section is applicable only to separated mixed

occupancies, if a building is a single occupancy, the applicable value for this section is zero. Table 3409.6.16 addresses the relative risk of a building in or close to compliance with the provisions for separated mixed occupancies. The three different categories represent the three levels of separation that determine mixed occupancy value. Buildings with mixed occupancies have the potential to become more difficult to work with as code requirements increase when dealing with separation.

Sprinklers. The sprinklers section evaluates the ability to suppress a fire based on the installation of an automatic sprinkler system. Provisions are used to determine the amount of credit that can be applied to the evaluation for the installation of an automatic sprinkler system in an existing building. The evaluation of sprinklers in an existing building is based on whether an automatic sprinkler system is both required and installed.

The criteria used to determine when an automatic sprinkler system is required are tied to the same requirements for new construction. The determination of whether sprinklers are required in a building or a portion of a building must be done to correctly to determine the category applicable to the existing building. This factor encourages the installation of automatic sprinkler systems in existing buildings by providing substantial negative and positive points. Table 3409.6.17 lists the credit values for the respective categories, based on the occupancy being evaluated in the existing building. These six categories address all aspects, from existing buildings that are unsprinklered but are required to be sprinklered , to existing buildings that are sprinklered and are not required to be sprinklered. This greater range of points increases the flexibility in the use of this evaluation method. Obviously, the introduction of sprinklers into an existing building is the most effective way to satisfy the majority of code requirements.

Incidental Use. The incidental use section evaluates the protection of incidental use areas in accordance with section 302.1.1. This section includes an evaluation system for the separation/protection requirements indicated for specific occupancy areas in an existing building. If there are no specific occupancy areas in the building or fire area being evaluated, the value shall be zero. Table 302.1.1 must first be consulted to determine the level of separation/ protection required by the code for new construction.

TABLE 302.1.1
INCIDENTAL USE AREAS

ROOM OR AREA	SEPARATION[a]
Furnace room where largest piece of equipment is over 400,000 Btu per hour input	1 hour or provide automatic fire-extinguishing system
Boilers over 15 psi and 10 horsepower	1 hour or provide automatic fire-extinguishing system
Refrigerant machinery rooms	1 hour or provide automatic fire-extinguishing system
Automotive parking garage in other than Group R-3	2 hours; or 1 hour and provide automatic fire-extinguishing system
Incinerator rooms	2 hours and automatic sprinkler system
Paint shops, not classified as Group H, located in occupancies other than Group F	2 hours; or 1 hour and provide automatic fire-extinguishing systems
Laboratories and vocational shops, not classified as Group H, located in Group E and I-2 occupancies	1 hour or provide automatic fire-extinguishing system
Laundry rooms over 100 square feet	1 hour or provide automatic fire-extinguishing system
Storage rooms over 100 square feet	1 hour or provide automatic fire-extinguishing system
Group I-3 padded cells	1 hour or provide automatic fire-extinguishing system
Waste and linen collection rooms over 100 square feet	1 hour or provide automatic fire-extinguishing system
Stationary lead-acid battery systems having a liquid capacity of more than 100 gallons used for facility standby power, emergency power or uninterrupted power supplies	1-hour fire barriers and floor-ceiling assemblies in Group B, F, H, M, S and U occupancies. 2-hour fire barriers and floor-ceiling assemblies in Group A, E, I and R occupancies

For SI: 1 square foot = 0.0929 m^2, 1 pound per square inch = 6.9 kPa.
1 British thermal unit = 0.293 watts, 1 horsepower = 746 watts.
1 gallon = 3.785 L.

a. Where an automatic fire-extinguishing system is provided, it need only be provided in the incidental use room or area.

If the building designer chooses to separate/protect the small rooms or areas in an existing building in accordance with this table, the building is classified according to its main use. Because some existing buildings may have been designed in this fashion, an evaluation procedure has been added to account for the level of protection provided. The lowest score must be assigned to the building or fire area for the specific occupancy areas. Table 3409.6.18 provides a matrix of characteristics in order to determine values for specific occupancy areas.

Mixed Occupancies. The compliance alternatives section becomes a little more involved when a building is used for more than one type of occupancy (i.e. a retail store on the first floor, and apartments on the second floor). This is called a mixed occupancy situation, and must be evaluated using a slightly more complex process in order to determine overall safety of the building and its inhabitants. When mixed occupancies in an existing building are not separated by fire-resistance rated assemblies or fire walls meeting the most restrictive fire rating of the different occupancies, the entire evaluation must be based on the occupancy with the most restrictive requirements. The evaluation process considers the score for the various occupancies and applies the lowest score to the entire building. When the mixed occupancies are properly separated in compliance with Section 302.3.3, they are to be evaluated separately and the score for each occupancy will apply to each portion based on its use. Both height and area formulas are computed for each occupancy. If there are four different occupancies in the building, the values must be computed for each of the four occupancies. Each occupancy is required to meet only its own mandatory building score. When mixed occupancies are separated by fire walls complying with the requirements of section 705, separate buildings are created and must be evaluated separately for all 18 safety parameters.

The categories for mixed occupancies are: category a—minimum 1-hour fire barriers between occupancies, category b—fire barriers between occupancies in accordance with section 302.3.3, category c---fire barriers between occupancies having a fire resistance rating of not less than twice that required by section 302.3.3. For mixed occupancies, the following provisions shall apply: where the separation between mixed occupancies does not qualify for any category indicated in section 3409.6.16, the mandatory safety scores for the occupancy with the lowest general safety score in table 3409.8 shall be utilized. Where the separation between mixed occupancies qualifies for any category indicated in section 3409.6.16, the mandatory safety scores for each occupancy shall be placed against the evaluation scores for the appropriate occupancy.

Building Score. Table 3409.7 is the summary sheet containing all the relative attributes of the building. The summary sheet also contains a complete listing of the 18 safety parameters that have been evaluated. The upper portion of the summary sheet serves as a guide to the user to catalog and highlight existing building elements that relate to the 18 safety parameters and to the evaluation. The lower portion of the summary sheet is used to record the results of the 18 safety parameters that have been evaluated. These are added to produce the building score total values for fire safety (FS), means of egress (ME), and general safety (GS).

The mandatory safety scores section lists the minimum scores for fire safety, means of egress, and general safety that must be obtained from the evaluation of the 18 safety parameters to be acceptable as a building meeting the code's objectives for public safety and health. The mandatory safety values are based on the scores considered to be in compliance with the code for new construction. This is the zero-based concept. The scores have been determined as representing one level of compliance higher than the code's minimum requirements for new construction. The mandatory safety scores are consistent with the idea of establishing an equivalent level of safety,

even though the existing building is evaluated only for the 18 safety parameters (2000 IBC Commentary).

The mandatory safety score in Table 3409.8 shall be subtracted from the building score in Table 3409.7 for each category. Where the final score for any category equals zero or more, the building is in compliance with the requirements of this section for that category. Where the final score for any category is less than zero, the building is not in compliance with the requirements of this section. If the score in any one category is less than the mandatory safety score, the building is deemed to have failed and additional measures must be taken to bring the scores to a point that will at least equal the mandatory safety scores.

Conclusion

Unfortunately, this is a quite complicated process that can appear to be very intimidating, as the modern building code process is designed specifically for new construction techniques.

The compliance alternatives approach is heavily biased towards the additions of a full sprinkler system, smoke detectors and fire alarms which provide greater overall safety to the buildings occupants in the event of an emergency.

Each older building is unique in its own right and must be evaluated according to its strengths and weaknesses. The Chapter 34 process must be approached in a way that provides for the greatest possible safety and security for both the building and its occupants.

The intent of the guidebook is to remove the perception that buildings codes create an impassible hurdle for the renovation process, as rehabilitations are possible and can be completed affordably and safely. Gone are the days when the entire building must be brought up to the current code. Gone are the days when the cost of the estimated renovation determined the amount of necessary building code compliance. The flexibility and opportunity presented within the compliance alternatives section allows for the design professional and code official to work together in order to reach a compromise for the best interest of public safety.