

CITY OF CHICAGO

DEPARTMENT OF BUILDINGS

REVISED RULES AND REGULATIONS FOR THE INSPECTION OF BUILDINGS AND PREPARATION OF LIFE SAFETY EVALUATION REPORTS TO COMPLY WITH THE REQUIREMENTS OF THE LIFE SAFETY ORDINANCE

Pursuant to Section 13-196-205 of the Chicago Building Code, I, S. L. Kaderbek, S.E., P.E., Commissioner of Buildings, on February 2, 2005, do hereby promulgate the following Revised Rules and Regulations for comment concerning governing the Life Safety Evaluation (LSE) inspection of buildings and the preparation of reports to comply with the requirements of the City of Chicago's Life Safety Ordinance including amendments to former Rules. Such Rules and Regulations shall become effective ten days after the date of this notice.

GENERAL

Rule 1: The Life Safety Evaluation (LSE) of a building must measure three major areas of safety which are as follows:

Fire Safety: This is a measure of the ability to contain a fire within the place of fire origin by passive means such as fire barriers, and to extinguish the fire through active means via either automatic sprinklers and/or manual fire department intervention. Fire safety is also determined by the fire endurance characteristics of the barriers, the structural stability of the building frame, the fire environment, the ability to detect and alarm a fire condition and the nature of the response to that alarm.

Means of Egress: This is a measure of the ability of building occupants to escape to a safe location within or outside of the building, in case of a fire. It is determined by the ability to detect and announce a fire condition, the character and availability of the emergency escape egress system and/or area of refuge, and the ability to communicate with the building occupants during and after a fire.

General Safety: This is a measure of the overall fire safety level of the building.

Rule 2: Building elements, systems or devices included in the evaluation must be properly designed, functional, properly maintained, and in compliance with the Chicago Building Code (CBC) in force at the time the building was built. To gain credit for a parameter, any new installation must comply with the applicable provisions of the current CBC.

Rules and Regulations for the Inspection of Buildings and the Preparation of Life Safety Evaluation Reports to Comply with the Requirements of the Life Safety Ordinance

DEFINITIONS

Rule 3: “Building Manager” shall be defined as the management firm retained by the owner to manage the building. In the case where no separate management firm has been retained, the building manager shall be the owner of the building.

Rule 4: “Design Professional” shall be defined as any State of Illinois Licensed Architect or Professional Engineer.

Rule 5: “Professional of Record” is defined as the design professional employed to perform the LSE and whose seal will be affixed to the LSE.

QUALIFICATIONS OF THE PROFESSIONAL OF RECORD

Rule 6: The Professional of Record employed to conduct the inspection for and prepare the LSE must be a State of Illinois Licensed Architect or Professional Engineer and so registered with active licenses with the State of Illinois Department of Financial and Professional Regulation. Sole proprietors acting as the Professional of Record must be State of Illinois Licensed Architects or Professional Engineers and be so registered with active licenses with the State of Illinois Department of Financial and Professional Regulation.

Rule 7: All subconsultants working under the Professional of Record’s direction must meet all minimum credential criteria associated with their area of expertise and involvement with the LSE.

BUILDING INSPECTIONS AND EVALUATION CRITERIA

Rule 8: A complete inspection shall be made of the entire interior of the building and, where appropriate for the evaluation or necessary to determine adequacy of means of egress, the building’s exterior as well. The inspection should be sufficiently complete to ensure that the findings are representative of the entire building’s character.

Rule 9: The LSE assumes that the building has functional standpipe systems as required by Section 13-196-190 of the CBC. If that is not the case, the LSE must note this fact and a standpipe system must be installed.

Rule 10: Except as noted herein, the parameters below are applicable to both residential and commercial buildings that are not fully sprinklered in accordance with the CBC. If a building contains **any non-transient residential units**, the building **must** be inspected and evaluated as a residential building using the residential parameters. **IN ORDER TO RECEIVE THE SCORING FOR A CATEGORY, THE ENTIRE BUILDING MUST MEET OR EXCEED THE CRITERIA FOR THE PARAMETER IN QUESTION.**

10.1 Building Height: Section 13-48-030

This parameter is evaluated in terms of Fire Safety, Means of Egress and General Safety. The height of the building, measured in feet, is included in the evaluation of *Fire Safety* because the time for the fire department to reach the fire area increases with building height, and because water pressure decreases with building height. It is included in *Means of Egress* because the ability of building occupants to totally and simultaneously evacuate the building in case of fire decreases with building height, and because the anxiety of some building occupants during a fire in a building may increase with building height.

Under the CBC, **a building must have a height greater than 80 feet to be considered a high rise building. A building having a height of exactly 80 feet is not a high rise building.** The maximum building height accessible to fire department aerial ladders is 100 feet. Two height categories are considered and are scored for the evaluation as follows:

- >100 feet 0
- >80 feet to 100 feet 4

10.2 Construction Type: Section 13-60-100

This parameter is evaluated in terms of Fire Safety, Means of Egress and General Safety. This parameter is the building construction type as defined in accordance with Table 6 (13-60-100) and Chapters 13-60 and 15-8 of the CBC for buildings constructed or governed by the CBC-2004. For other buildings, the equivalent construction classification of the pre-2004 edition of the CBC is applicable.

Buildings of Type IIIA construction require automatic sprinkler protection to achieve the maximum permitted height of 80 feet. This building construction type is not included under Section 13-196-206 of the CBC because it is not a high rise building and, because if it were over 80 feet in height, it would be required to be sprinklered.

The requirements of Chapter 15-8 of the CBC for “Protection of Stairs, Shafts and Vertical Openings” are not to be considered in an evaluation of this safety parameter. These floor openings and their protection features are separately evaluated under Paragraph 12.6, Vertical Openings. The values assigned to the various classes of construction are based upon the type of exterior walls of the subject building. The base values are for non-curtain wall construction. This is in recognition of the greater likelihood of non-fire stopped spaces between building floors and exterior walls in curtain wall construction.

Construction Type is evaluated in *Fire Safety* and *Means of Egress* because the structural stability of the building frame is of primary importance in the ability of

barriers to remain in place during a fire and provide areas of refuge. Three construction types are considered and scored as follows:

- Class IC 12 (Use 8 for curtain wall construction or if Paragraph 12.1 is 0)
- Class IB 14 (Use 12 for curtain wall construction)
- Class IA 16 (Use 14 for curtain wall construction)

Note: Other construction types are not permitted.

10.3 Compartment Area: Section 13-76-020, Table 5(13-48-080)

10.3.1 Residential. This parameter is evaluated in terms of Fire Safety, Means of Egress and General Safety. Only fire resistant compartments complying with Section 13-76-020 of the CBC are considered for this parameter. This parameter evaluates both the walls and floor/ceiling assemblies of the compartment enclosure. The life safety risk to occupants and to firefighters increases as the compartment size increases. As the compartment size increases, more of the building is involved, more occupants are exposed, and the fire size can increase. The increased fire size is a greater challenge to the fire department. The requirements for the mechanical air handling system are not considered in the evaluation of this safety parameter. It is separately evaluated under Paragraph 10.7, HVAC System.

In establishing the area values used in this safety parameter, first review the required floor area of Table 5(13-48-080) and the height reduction factors of Section 13-48-080. The safety parameter should be selected for the maximum compartment area. Because buildings of Types IA and IB construction are permitted to be of unlimited area, the minimum scores for these buildings are "0." The 7,500 sq. ft. area for buildings of Types IA and IB construction is estimated to be the maximum area firefighters can effectively control using an interior manual attack.

Walls that determine the boundary of the compartmented area **must be evaluated by reviewing all available plans and a site investigation by the Professional of Record to determine the fire resistance rating.** If the walls and their supporting construction do not meet the minimum required fire resistance rating or if the fire resistance rating cannot be determined, the entire floor of the building must be considered the compartmented area. The scoring

by construction type and the corresponding floor area of each construction type is as follows:

	<u>Area by Construction Type (sq. ft.)</u>	
Points	IA, IB	IC
-10	---	>28,000
-8	---	21,001 to 28,000
-6	---	15,001 to 21,000
0	≥10,000	7,501 to 15,000
6	7,501 to 10,000	5,001 to 7,500
8	≤ 7,500	≤ 5,000

10.3.2 Commercial. This parameter is evaluated in terms of Fire Safety, Means of Egress and General Safety. Only fire resistant compartments complying with Section 13-76-020 of the CBC are considered for this parameter. This parameter evaluates both the walls and floor/ceiling assemblies of the compartment enclosure. The life safety risk to occupants and to firefighters increases as the compartment size increases. As the compartment size increases, more of the building is involved, more occupants are exposed, and the fire size can increase. The increased fire size is a greater challenge to the fire department. The requirements for the mechanical air handling system are not considered in the evaluation of this safety parameter. It is separately evaluated under Paragraph 10.7, HVAC System.

In establishing the area values used in this safety parameter, first review the required floor area of Table 5(13-48-080) and the height reduction factors of Section 13-48-080. The safety parameter should be selected for the maximum compartment area. Because buildings of Types IA and IB construction are permitted to be of unlimited area, the minimum scores for these buildings are "0." The 7,500 sq. ft. area for buildings of Types IA and IB construction is estimated to be the maximum area firefighters can effectively control using an interior manual attack.

Walls that determine the boundary of the compartmented area **must be evaluated by reviewing all available plans and a site investigation by a qualified professional engineer or architect to determine the fire resistance rating.** If the walls and their supporting construction do not meet the minimum required fire resistance rating or if the fire resistance rating cannot be

determined, the entire floor of the building must be considered the compartmented area.

An additional one (1) point is added for buildings which have interior partitions, from floor to ceiling, and doors within each compartment because such buildings provide additional resistance to fire spread as opposed to an open office floor. The scoring by construction type and the corresponding floor area of each construction type is as follows:

Points ¹	<u>Area by Construction Type (sq. ft.)</u>	
	IA, IB	IC
-10	---	>28,000
-8	---	21,001 to 28,000
-6	---	15,001 to 21,000
0	≥10,000	7,501 to 15,000
6	7,501 to 10,000	5,001 to 7,500
8	≤ 7,500	≤ 5,000

¹Add one point if every compartment is sub-divided by fixed partitions, from floor to ceiling, with doors.

10.4 Separations:

10.4.1 **Residential; Dwelling Units Separation: Section 13-64-020.**

This parameter is evaluated in terms of Fire Safety, Means of Egress and General Safety. This parameter includes the fire resistance rating and degree of completeness of partitions or walls which separate dwelling units from each other on the floor. It is included in *Fire Safety* because it affects the likelihood that a fire will be contained to the space of origin and not spread from one dwelling unit to another. It is included in *Means of Egress* because the spread of fire and smoke into public corridors denies building occupants use of part of the means of egress.

The CBC requires dwelling units to be separated by partitions having at least a 1-hour fire resistance rating. The 1 hour separation does not apply to single dwelling unit floors, so single dwelling unit floors are to be scored the same as if the floors were separated as required by the CBC. The scoring by partition integrity and fire resistance is as follows:

- Incomplete partition, no doors,

- or doors not self-closing -5
- Less than 1 hour -2
- 1 to <2 hour, or full floor dwelling unit 0
- 2 hour or more (slab to slab or to non-combustible ceiling) 5

10.4.2 Commercial; Tenant Separations: Section 15-8-240. This parameter is evaluated in terms of Fire Safety, Means of Egress and General Safety. This parameter includes the fire resistance rating and degree of completeness of partitions or walls which separate tenants from each other on the floor. It is included in *Fire Safety* because it affects the likelihood that a fire will be contained to the space of origin and not spread from one tenant to another. It is included in *Means of Egress* because the spread of fire and smoke into public corridors denies building occupants use of part of the means of egress.

The CBC requires tenant to be separated by partitions having at least a 2-hour fire resistance rating. The 2 hour separation does not apply to single tenant floors, so single tenant floors are to be scored the same as if the floors were separated as required by the CBC. The scoring by partition integrity and fire resistance is as follows:

- Incomplete partition, no doors, or doors not self-closing -5
- Less than 1 hour -2
- 1 to <2 hour 0
- 2 hour or more (slab to slab or to non-combustible ceiling), or full floor tenant 5

10.5 Corridor Partitions/Walls: Sections 13-76-100 and 15-8-240

10.5.1 Residential; Sections 13-76-100 and 15-8-240. This parameter is evaluated in terms of Fire Safety, Means of Egress and General Safety. This parameter includes the fire resistance rating and degree of completeness of partitions or walls which separate public corridors from other spaces on the floor. Fire rated corridor walls must also have appropriately rated doors with self-closers or automatic closers. It is included in *Fire Safety* as a measure of fire containment, and in *Means of Egress* because the spread of fire and smoke into public corridors denies building occupants use of part of the means of egress.

Corridor walls must be 1-hour rated and doors to the dwelling units must have self-closing devices. Except for single dwelling unit floors which do not have public corridors are to be scored as having 1-hour partitions, the scoring for corridor walls is as follows:

- Incomplete partition, no doors, or doors not self-closing; includes transoms: -5
- Less than 1 hour (must be slab to slab) -2
- 1 hour or more rated partitions or full floor dwelling unit 0

10.5.2 Commercial; Section 15-8-240. This parameter is evaluated in terms of Fire Safety, Means of Egress and General Safety. This parameter includes the fire resistance rating and degree of completeness of partitions or walls which separate public corridors from other spaces on the floor. Fire rated corridor walls must also have appropriately rated doors with self-closers or automatic closers. It is included in *Fire Safety* as a measure of fire containment, and in *Means of Egress* because the spread of fire and smoke into public corridors denies building occupants use of part of the means of egress.

Except for single tenant floors which do not have public corridors are to be scored as having less than 1-hour partitions, the scoring for corridor walls is as follows:

- Incomplete partition, transoms, no doors, or doors not self-closing -5
- Less than 1 hour (must be slab to slab), Or full floor tenant -2
- 1 hour or more rated partitions 0

10.6 Vertical Openings: Section 15-8-120 to 180

This parameter is evaluated in terms of Fire Safety, Means of Egress and General Safety. This parameter measures the fire resistance rating and completeness of enclosures of vertical exits, hoistways, escalator openings, trash chutes and other shafts within the building, or openings between two or more floors. Mail chutes are excluded from consideration because of their limited size.

The fire resistance rating of the enclosure is to be evaluated considering the fire resistance of the structure. Vertical openings, such as escalators, that are protected in accordance with the current CBC requirements shall be deemed to be protected openings when evaluating this safety parameter. Atria are to be considered as an unprotected opening for this parameter because their associated life safety systems are evaluated by Paragraphs 10.8, 10.10 and 10.17. The CBC does not require fire dampers at ducted or non-ducted ventilation openings in fire rated shafts.

Nothing in this evaluation exempts the building owner from complying with the CBC ordinance requiring 1-hour fire rated doors and frames in existing residential buildings. The scoring for vertical openings based on rated protection is as follows:

Protection	No. of Interconnected Levels		
	2	3	4 or more
None	0	-8	-13 (see note)
Less than 1 hour	1	-5	-10
1 to <2 hour		1	1
2 hour or more			

Note: This parameter is to be scored “-24” for commercial buildings.

10.7 HVAC Systems: Sections 13-76-020 and 606

This parameter is evaluated in terms of Fire Safety, Means of Egress and General Safety. This safety parameter evaluates the number of floors served by an individual HVAC system. It is included in *Fire Safety* and *Means of Egress* on the basis that the duct work of an HVAC system, even if provided with fusible link operated fire dampers, can provide a means of fire and smoke to spread from an area of origin to other floors. The scoring for the number of floors served by an HVAC system is as follows:

- Greater than 5 floors 0
- 3 to 5 floors 2
- 2 floors 4
- 1 floor or none 5

10.8 Smoke Detection:

10.8.1 Residential: Sections 13-64-120 to 180, 13-76-040, 13-76-060, 13-196-100 and 606. This parameter is evaluated in terms of Fire Safety, Means of Egress and General Safety. This safety parameter evaluates the ability to detect smoke from a fire, based upon the location of smoke detectors in the building. The installation of smoke detectors, connected to audible alarms, provides early warning of a fire to occupants, thereby increasing the safety level in a building. Each dwelling unit requires at least one smoke detector in accordance with the provisions of the CBC.

To receive credit for smoke detection in HVAC return air systems, installations must meet the criteria of Section 13-76-040(a)(2) and Section 606 of the CBC. To receive credit for smoke detection in corridors, all public corridors must be protected and, on full dwelling unit floors, at least one smoke detector must be provided near each entrance to exit stairways. The scoring for the number and location of smoke detectors is as follows:

- None 0
- Each dwelling unit 4
- Each dwelling unit and elevator lobbies or corridors 5
- Each dwelling unit, elevator lobbies and corridors 6
- Each dwelling unit, elevator lobbies, corridors and HVAC returns 7
- Total space 10

10.8.2 Commercial: Sections 13-76-040, 13-76-060 and 606. This parameter is evaluated in terms of Fire Safety, Means of Egress and General Safety. This safety parameter evaluates the ability to detect smoke from a fire, based upon the location of smoke detectors in the building. The installation of smoke detectors, connected to audible alarms, provides early warning of a fire to occupants, thereby increasing the safety level in a building. Each tenant unit requires at least one smoke detector in accordance with the provisions of the CBC.

To receive credit for smoke detection in HVAC return air systems, installations must meet the criteria of Section 13-76-040(a)(2) and Section

606 of the CBC. To receive credit for smoke detection in corridors, all public corridors must be protected and, on full tenant floors, at least one smoke detector must be provided near each entrance to exit stairways. The scoring for the number and location of smoke detectors is as follows:

- None 0
- Elevator lobbies 2
- HVAC returns 2
- Public corridors and at stair doors of full floor tenants 3
- Elevator lobbies and HVAC returns 4
- Elevator lobbies and public corridors 5
- HVAC returns and public corridors 5
- Elevator lobbies, HVAC returns and public corridors 7
- Total space 10

10.9 Communications: Sections 13-76-030, 13-76-050, 13-196-204 and 13-196-210

This parameter is evaluated in terms of Fire Safety, Means of Egress and General Safety. This safety parameter evaluates the capability of the fire alarm system to provide information to, or receive information from, building occupants, and/or the fire department during a fire and to transmit fire alarm signals to the fire department via a central station alarm service. The voice communication systems must have a one-way communication system and/or a two-way fire department communication system.

Three versions of communication systems which comply with the CBC are recognized:

- Existing voice communication system and two-way fire department phone jacks per Section 13-196-210(e) of the CBC
- One-way and two-way voice communication systems in accordance with Section 13-196-204 of the CBC

- High rise fire alarm system with central station, two-way fire department phones, voice communication systems and fire command panel in accordance with Sections 13-76-030 and 13-76-050 of the CBC

Nothing in this evaluation exempts the building owner from complying with the CBC ordinance requiring voice communication systems in existing buildings. The scoring for one and two way voice communications systems is as follows:

- None 0
- Existing public address (P.A.) system throughout building 5
- Existing voice communication system and two-way fire department phone jacks in accordance with Section 13-196-210(e) of the CBC 10
- One-way and two-way voice communication systems in accordance with Section 13-196-204 of the CBC 10
- High rise fire alarm system with central station, two-way fire department phones, voice communication systems and fire command panel in accordance with Sections 13-76-030 and 13-76-050 of the CBC 16

10.10 Smoke Control: Sections 13-76-060, 13-76-100, and 13-160-380

This parameter is evaluated in terms of Means of Egress and General Safety. This parameter evaluates the ability to control the movement of smoke from a fire by natural or mechanical venting, or by exhaust and pressurization systems. Operable windows in dwelling units are recognized as a means to vent smoke. While Smoke Control provides beneficial aspects for *Fire Safety* for evaluation purposes, Smoke Control is only a factor in *Means of Egress* because reducing smoke concentration in egress paths and areas of refuge improves visibility and tenability of these areas. It can also provide improved visibility for the fire department's operations.

Some of the safety parameter alternatives require smoke detectors in order to achieve the specific value. Smokeproof tower construction must comply with the CBC. Pressurized stairways must be designed and installed according to nationally recognized practice, such as NPFA 92A, *Recommended Practice for Smoke-Control Systems*. The “sandwich” smoke control design is described in Section 13-76-060 of the CBC for the compartmentation option. The scoring for various smoke control options is as follows:

- None -5
- Operable windows (each dwelling unit) 2
- One smokeproof tower and operable windows (each dwelling unit) 3
- One stairway with exterior windows and operable windows in ea. dwelling unit 3
- All stairs are smokeproof towers or pressurized stairs or stairs having exterior windows; and operable windows in each dwelling unit 4
- Combined pressurization and exhaust (“sandwich” system) and operable windows (ea. dwelling unit); a smokeproof tower is required for buildings exceeding 264 feet in height 10 (Rule 10.8 must be ≥ 6 for residential or ≥ 7 for commercial)

10.11 Means of Egress Capacity and Number: Sections 13-160-050, 13-160-210, 13-196-050, and 13-196-084

This parameter is evaluated in terms of Means of Egress and General Safety. This parameter is only a factor in *Means of Egress* because the number of exit routes available to building occupants on the fire floor affects the ability that they can escape from a fire. Horizontal exits can provide a means of movement to a safe area without excessive travel distance. A larger number of exits also reduces the time needed to fully evacuate a building in a fire condition.

Exit details such as stairway dimensions and door dimensions must conform to the CBC. A dwelling unit or tenant space having a single exit is to be evaluated and scored as a dead end corridor (Rule 10.12) if the travel distance within the unit or space exceeds the maximum permitted by the CBC.

Nothing in this evaluation exempts the building owner from complying with the CBC ordinance requiring automatic stair unlocking systems or other approved alternatives per Section 13-196-084 for existing high rise buildings which have locked doors preventing reentry from the stairway.

10.11.1 Residential. The scoring for various means of egress in residential buildings is as follows:

One route only or stair doors not in compliance with Section 13-196-084	-40	
<u>TWO OR MORE ROUTES</u>	With Automatic Stair Unlocking or Approved Alternate per Section 13-196-084	With Stairs Unlocked Against Re-entry
Without horizontal exits	0	5
With horizontal exits	5	10
Number of exits provided exceeds requirements, and are remote from each other	5	10

10.11.2 Commercial. The scoring for various means of egress in commercial buildings is as follows:

One route only or stair doors not in compliance with Section 13-196-084	-40	
<u>TWO OR MORE ROUTES</u>	With Automatic Stair Unlocking or Approved Alternate per Section 13-196-084	With Stairs Unlocked Against Re-entry
Without horizontal exits	0	5
Excess capacity, 50% or more	2	7

With horizontal exits	5	10
Number of exits provided exceeds requirements, and are remote from each other	5	10

10.12 Dead End Corridors: Section 13-160-160

This parameter is evaluated in terms of Means of Egress and General Safety. This parameter is only a factor in *Means of Egress* because increasing the length of the travel path in which the building occupants are confined to a single means of travel increases the chances of fire blocking their escape.

Dead end corridors are to be evaluated according to the definition in the CBC. A dwelling unit or tenant space having a single exit is to be evaluated and scored as a dead end corridor if the travel distance within the unit or space exceeds the maximum permitted by the CBC.

10.12.1 Residential. The scoring in residential buildings for dead end corridors based on length is as follows:

- Dead end greater than 100 ft. -15
- Dead end 76 ft. to 100 ft. -10
- Dead end 51ft. to 75 ft -5
- Dead end 21 ft to 50 ft 0
- Dead end 20 ft or less 5

10.12.2 Commercial. The scoring in commercial buildings for dead end corridors based on length is as follows:

- Dead end greater than 150 ft. -15
- Dead end 114 ft. to 150 ft. -10
- Dead end 76ft. to 113 ft -5
- Dead end 21 ft to 75 ft 0
- Dead end 20 ft or less 5

10.13 Maximum Exit Access Travel Distance: Section 13-160-140, and 13-160-150

This parameter is evaluated in terms of Means of Egress and General Safety. This parameter is only a factor in *Means of Egress* because the longer the exit travel distance, the greater the possibility of entrapment in fire, or becoming lost, confused, or affected by smoke or heat before reaching a safe area.

The total exit access travel distance shall be measured from the most remote point in the building or the individual floor to the nearest exit in accordance with the criteria of the CBC.

10.13.1 Residential. The scoring for residential building exit access travel distance based on maximum travel distance is as follows:

- > 200 feet -15
- 151 to 200 feet -5
- 101 to 150 feet 0
- 51 to 100 feet 5
- 1 to 50 feet 10

10.13.2 Commercial. The scoring for commercial building exit access travel distance based on maximum travel distance is as follows:

- > 300 feet -15
- 151 to 300 feet -5
- 101 to 150 feet 0
- 51 to 100 feet 5
- 1 to 50 feet 10

10.14 Elevator Controls: Section 18-30-2600 and 13-196-270

This parameter is evaluated in terms of Fire Safety, Means of Egress and General Safety. This parameter is a factor in *Fire Safety* because it affects the ability of the Fire Department to reach the fire. It is included in *Means of Egress* because elevators equipped with the proper controls can be effectively used by the fire department to rescue building occupants from upper floors during a fire, and for fire fighting operations. Also, automatic elevator recall reduces the possibility of occupant exposure in elevator cabs to a fire on the fire floor. Nothing in this evaluation exempts the building owner from complying with the CBC requiring manual and automatic elevator recall in existing buildings. The scoring for elevator controls based on type provided is as follows:

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- None -7
- Fire department (manual) controls 0
- Automatic recall and
fire department (manual) controls 3 (Elev. lobby smoke detection reqd.)

10.15 Emergency Lighting: Section 13-76-080 and 13-160-690

This parameter is evaluated in terms of Means of Egress and General Safety and evaluates the availability and reliability of emergency lighting. It is a factor only in *Means of Egress* because of the difficulty of emergency egress without adequate lighting. Visibility in a fire condition is reduced due to buildup of smoke. Occupants can become disorientated and may not be able to follow the means of egress to safety when emergency lighting is not provided. "Emergency power" provides a secondary source of power, such as an emergency generator or battery powered units.

Nothing in this evaluation exempts the building owner from complying with the CBC requiring emergency lighting in existing buildings. The scoring for this parameter is as follows:

- No emergency power for emergency lighting -10
- Emergency power for emergency lighting 2

10.16 Mixed Occupancies: Table 3(13-56-280)

10.16.1 Residential. This parameter is evaluated in terms of Fire Safety and General Safety. This safety parameter evaluates the protection of occupancies more hazardous than dwelling units. It is a factor in *Fire Safety* because fire protection for occupancies more hazardous than dwelling units increases the possibility that fire barriers alone will not contain the fire in the area of origin and will make control of fires in dwelling units more difficult. The risk is even greater in residential buildings because occupants may be sleeping or not fully aware of the exposures elsewhere in the building. The scoring for this parameter based upon the integrity of the separation between occupancies is as follows:

- No protection -10
- Protected, but less than
CBC provisions -5

- No mixed occupancies,
or protected in accordance
with the CBC 0

10.16.2 Commercial. This parameter is evaluated in terms of Fire Safety and General Safety. This safety parameter evaluates the protection of occupancies more hazardous than business units. It is a factor in *Fire Safety* because fire protection for occupancies more hazardous than business units increases the possibility that fire barriers alone will not contain the fire in the area of origin and will make control of fires in tenant units more difficult. The scoring for this parameter based upon the integrity of the separation between occupancies is as follows:

- No protection -10
- Protected, but less than
CBC provisions -5
- No mixed occupancies,
or protected in accordance
with the CBC 0

10.17 Automatic Sprinklers: Sections 15-16-170, 13-196-180 and 13-196-205

This parameter is evaluated in terms of Fire Safety, Means of Egress and General Safety. This parameter is for the installation of automatic fire sprinklers in part of the building in conformance with the provisions of Section 15-16 of the CBC.

Sprinklers are a factor for *Fire Safety* because they reduce the rate of burning and resultant fire severity so that the spread beyond the area of origin is restricted. To a lesser extent, sprinklers are a factor in *Means of Egress* because the rate of burning and the amount of smoke produced is less than without sprinklers. Because the fire is smaller, occupants have more time for escape from the fire area. However, for evaluation purposes, the scoring under Means of Egress is divided by two.

To receive credit for sprinkler protection in corridors, all public corridors must be protected. Note that when scoring for this parameter under “Means of Egress” in Rule 11, the score is divided by “2”. The scoring for this parameter is as follows:

- None 0
- Corridors, including elevator
lobbies 6 (Rule 10.6 must be ≥ -10)

- Corridors, storage areas and elevator lobbies 12 (Rule 10.6 must be ≥ -10)

10.18 Auxiliary Uses: Section 13-56-250

This parameter is evaluated in terms of Fire Safety, Means of Egress and General Safety. **Rooms and spaces normally provided and incidental to the principal use of a building and under the same management and control are classified as auxiliary uses and are not considered a mixed occupancy.** Auxiliary uses are limited to a maximum of 5% of the area occupied by the principal use. The scoring for this parameter based on percentage of area occupied is as follows:

- Not in compliance with the CBC -10
- In compliance with the CBC 0

Rule 11: The scoring results of the LSE evaluation shall be entered into a MS Excel spreadsheet as shown below. Such spreadsheet shall be included as part of the final LSE Report submitted to the City.

LIFE SAFETY EVALUATION SAFETY PARAMETER SCORE

Building address: _____

Building owner: _____

Building owner address: _____

Building owner phone number: _____ Fax: _____

Building owner e-mail address: _____

Building manager (if different from owner): _____

Contact phone number: _____ Fax: _____

Professional of Record: _____

Professional of Record address: _____ Phone: _____

Safety Parameters	Fire Safety (FS)	Means of Egress (ME)	General Safety (GS)
10.1 Building Height			
10.2 Construction Type			
10.3.1 or 10.3.2 Compartment Area			

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10.4.1 Dwelling Unit Separations or 10.4.2 Tenant Separations			
10.5.1 or 10.5.2 Corridor Partitions/Walls			
10.6 Vertical Openings			
10.7 HVAC Systems			
10.8.1 or 10.8.2 Smoke Detection			
10.9 Communications			
10.10 Smoke Control	*****		
10.11.1 or 10.11.2 Exit Capacity	*****		
10.12.1 or 10.12.2 Dead End Corridors	*****		
10.13.1 or 10.13.2 Maximum Exit Travel	*****		
10.14 Elevator Controls			
10.15 Emergency Lighting	*****		
10.16.1 or 10.16.2 Mixed Occupancies		*****	
10.17 Automatic Sprinklers		÷ 2 =	
10.18 Auxiliary Uses			
TOTAL			
Building Score			
Minimum Passing Score - Residential	27(FS_R)	36(ME_R)	36(GS_R)
Minimum Passing Score- Commercial	25(FS_C)	22(ME_C)	22(GS_C)

Rule 12: The building scores from Rule 11 in each major area of Fire Safety (FS), Means of Egress (ME) and General Safety (GS) must meet the minimum passing scores based on the respective building type in order to demonstrate compliance. The table below shall be used to determine compliance. Perform the subtractions indicated and enter the differences. If the value is 0 or greater, compliance is demonstrated. This table shall be prepared in a MS Excel format and submitted with the final LSE Report.

LIFE SAFETY EVALUATION SUMMARY

Building address: _____

Building owner: _____

Building owner address: _____

Building owner phone number: _____ Fax: _____

Building owner e-mail address: _____

Building manager (if different from owner): _____

Contact phone number: _____ Fax: _____

Professional of Record: _____

Professional of Record address: _____ Phone: _____

				COMPLY	DOESN'T COMPLY
Fire Safety Score (FS)	less	Minimum Fire Safety (FS _R or FS _C)	≥ 0	FS □ - □ = □	
Means of Egress Score (ME)	less	Minimum Means of Egress (ME _R)	≥ 0	ME □ - □ = □	
General Safety Score (GS)	less	Minimum General Safety (GS _R)	≥ 0	GS □ - □ = □	

Rule 13: Building Inspections shall include a review of building plans and any changes to the building made subsequent to construction. The inspection shall compare the plans to actual field conditions and, where changes have been made, an evaluation made of the changes and their impact on the LSE.

Rule 14: Building Inspections shall include testing of building systems as they relate to the LSE. This shall include, but not be limited to:

- 14.1 Elevator recall systems
- 14.2 Fire alarm and smoke detector systems
- 14.3 One and two way communications systems
- 14.4 Door unlocking systems

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- 14.5 Sprinkler systems when present including testing of fire pumps
- 14.6 Emergency electrical systems
- 14.7 HVAC Systems (include a verbal description of the system/systems)

Rule 15: Where there is not sufficient evidence from either visual observation or review of building plans, the Professional of Record shall order the partial uncovering of walls, floors and ceilings to verify construction types.

Rule 16: The Professional of Record shall utilize photographs, field notes and measurements to substantiate all findings and recommendations based on the inspection.

REPORT PREPARATION AND SUBMITTAL

Rule 17: The Professional of Record shall prepare a written report describing the findings of the inspection and recommendations to be implemented. Two copies of said report and one electronic copy of the report in a PDF format shall be filed with the Building Manager except that the Scoring Summary Sheet shall be provided as a MS Excel electronic file.

Rule 18: The Professional of Record shall develop typical key plans that diagram any requirements that support the scoring requirements of the LSE. This shall include, but not be limited to: typical compartment areas; dwelling unit or tenant separations; corridors; and, vertical openings. If the scoring is based on a calculation, this information must be provided as well.

Rule 19: To the extent that scoring of a parameter is based on construction type including, but not limited to exterior, compartment, dwelling unit or tenant separations, corridors or vertical openings in walls, photographs of all areas showing finishes removed and keyed to typical floor plans shall be provided.

Rule 20: Testing of systems shall be in accordance with accepted standards such as ASTM or NFPA standards and such standards shall be cited in the report.

Rule 21: It shall be the responsibility of the Building Manager to file one approved copy of the report and one electronic copy of the report in a PDF format and the MS Excel file of the Scoring Summary Sheet with the Commissioner of Buildings no later than the close of business December 31, 2005. Sufficient time shall be allowed for the review of the report and the Commissioner of Buildings shall not be responsible for the failure to approve a report which has not been submitted in a timely manner. One copy of the report shall be retained by the Building Manager, at the building, as part of the building's permanent records.

Rule 22: The LSE Report shall be prepared as outlined below and contain, at minimum, the following information:

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- 22.1 Executive Summary** which summarizes the results of the LSE. The Executive Summary include a description of the building type; building height; building address; owner's name, address and telephone and facsimile number; building manager's name, address and telephone and facsimile number if applicable; and the terms of the engagement. The name of the Professional of Record shall be provided and a statement indicating that all work was performed under his or her personal direction is required. The Executive Summary shall clearly identify evaluation criteria for which the building is deficient and the correction of which would bring the building into sufficiency for fire safety, means of egress and general safety. If the building cannot be brought into compliance through alterations to the interior, then sprinklers must be recommended as the means of complying with the CBC.
- 22.2 Findings of Inspections and Ratings.** The inspection findings for each of the 18 evaluation criteria inspected in Rule 9 above shall be described in detail to support the recommended scoring for the criteria. This information shall be supported with sketches, plans and photographs that describe the conditions found in the inspection. Dimensioned plans for typical floors shall be provided.
- 22.3 Recommended Actions.** Based on the inspection findings and initial scoring for the LSE, all recommended changes to the building should be clearly delineated with the proposed rescoring for each action shown. The specific locations where the improvements are to take place and description of the work to be performed shall be provided. All recommendations and locations shall be summarized in a tabular format for easy reference. Where the Building Manager requires the preparation of cost estimates, these estimates shall be included as part of the tabular listing of all work.
- 22.4 Scoring Summary Sheet.** The individual scores for each of the 18 evaluation criteria shall be entered on to an Excel Spread Sheet. The Spread Sheet should be provided with a header that includes the building's address and date of inspection. The spreadsheet should include the initial scoring without any modifications, the minimum score for passing the LSE and the recommended rescoring based on changes to the building.
- 22.5 Statement of Work Performed and Certification.** The Report shall include the following statement at the end of the narrative portion of the document:

"The undersigned hereby certifies that the information contained in this Life Safety Evaluation is true and complete, that I have personally visited this building, reviewed all available plans and determined to the best of my ability that the nature of the building's construction and various systems, and that the inspections included herein were made under my supervision and

all criteria with respect to fire safety, means of egress and general safety were evaluated against the latest revisions to the Chicago Building Code as it applies to buildings of this type. It is my professional opinion that, with the implementation of any recommended improvements, the building complies with the applicable requirements of the Chicago Building Code”

The Professional of Record shall sign the statement and affix his or her professional seal to the signature.

22.6 Failure to meet minimum required LSE scores. When the LSE results for Fire Safety, Means of Egress or General Safety do not meet the minimum required score as defined in Rule 12 (having a score of less than zero), the Professional of Record shall be required to submit with the LSE a Life Safety Certified Proposal to bring the building into compliance with the CBC.

22.6.1 The Life Safety Certified Proposal shall outline a proposal to install sprinklers meeting the requirements of Chapter 15-16 and scheduled installation pursuant to Section 13-196-205 of the CBC, or modifications or installations that address the deficient area(s) of safety and, with rescoring, will result in scores that meet or exceed the minimum required scores in the areas of Fire Safety, Means of Egress or General Safety.

22.6.2 The Life Safety Certified Proposal shall include a timetable for completion of the modifications over a stipulated number of years, but in no case shall the timetable for compliance be later than January 1, 2012.

22.6.3 The Life Safety Certified Proposal shall include the following statement at the end of the narrative portion of the document:

“The undersigned hereby certifies that with full implementation of the modifications to the building recommended herein, the building meets or exceeds the minimum scoring for the Life Safety Evaluation criteria for Fire Safety, Means of Egress and General Safety and that the building will comply with the applicable requirements of the Chicago Building Code as of this date”

The Professional of Record shall sign the statement and affix his or her professional seal to the signature.

22.6.4 Prior to the start of construction, the Building Owner shall be responsible for securing all permits for all work recommended by the Life Safety Certified Proposal.

OTHER REQUIREMENTS

Rule 23: The Professional of Record shall attend any meetings directed by the Commissioner of Buildings and Fire relative to his review of the final report.

Rule 24: Notification Concerning Dangerous or Hazardous Conditions. If in the course of the inspection for the LSE, any imminently dangerous or hazardous conditions are uncovered, the Professional of Record shall immediately notify the Building's Management of the condition and any recommended action to correct the problem. Such notification shall be made verbally followed by a written letter. The Commissioner of Buildings and Fire shall also receive written notification.

-- END --