

HONOLULU FIRE DEPARTMENT  
CITY AND COUNTY OF HONOLULU

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KIRK CALDWELL  
MAYOR



MANUEL P. NEVES  
FIRE CHIEF  
LIONEL CAMARA JR.  
DEPUTY FIRE CHIEF

February 22, 2019

The Honorable Carol Fukunaga, Chair  
and Members  
Public Information, Technology  
and Sustainability Committee  
Honolulu City Council  
530 South King Street, Room 202  
Honolulu, Hawaii 96813

Dear Chair Fukunaga and Councilmembers:

SUBJECT: Bill 96 (2018) Relating to Fire Safety

In response to your letter dated February 15, 2019, the Honolulu Fire Department (HFD) provides the following responses:

1. *List of condominiums subject to the Life Safety Evaluation (LSE) process under Ordinance 18-14 and the basis for inclusion in the LSE process (75-foot requirement, number of stories, etc.)*

An existing high-rise residential building is defined as any building that has floors used for human occupancy that are located more than 75 feet above the highest grade and contains dwelling units. This definition can be found within the Fire Code of the City and County of Honolulu, Chapter 20, Article 5, Section 20-5.1, as amended.

There are approximately 400 buildings within the City and County of Honolulu that are not sprinklered throughout and meet the definition of an existing high-rise residential building (see Attachment 1). Buildings with documentation proving they are not a high-rise are excluded from this list.

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2. *Number of condominium properties that have submitted written statements of intent to comply*

The HFD received 331 written statements of intent to comply from building associations and property managers.

3. *Number of condominium properties, subject to the LSE process, that have not yet submitted written statements of intent to comply*

Sixty-eight buildings that are subject to the LSE process have not submitted a written statement of intent to comply.

4. *Number of condominiums that are subject to the LSE process that have completed the LSE process, and are pending review by the HFD:*

Approximately 36 buildings are in the process of executing an LSE. Although the HFD receives the completed LSE, we do not approve or certify it.

5. *Number of condominiums that have completed the LSE process and review by HFD*

To date, the HFD received one LSE.

6. *List of licensed design professionals who have attended a workshop on the LSE form and process/procedure*

Attached (see Attachment 2) is a list of licensed design professionals who have requested and were provided informational sessions regarding Ordinance 18-14 and the LSE.

The HFD offers the following comments regarding the parameters of the LSE process:

1. *What are the obstacles/concerns that the HFD has had to deal with in using the LSE forms and processes/procedures?*

The HFD provided informational sessions for licensed design professionals, Apartment of Association Owners, and property managers, to provide clarification on Ordinance 18-14 and the LSE. Concerns were reviewed and LSE changes were made when applicable.

2. *How is the HFD resolving these obstacles/concerns?*

Please reference the attached LSE (see Attachment 3) for the following concerns addressed by the HFD:

- a. **Not Movable Category.** This defines an occupant who is not able to remove him/herself or be moved by others. The HFD will allow high-rise buildings to provide a fire emergency plan containing provisions that identify building occupants who require assistance and procedures acceptable to the Fire Chief for the safe evacuation of these occupants. This permits high-rise buildings to utilize the Normal or Limited Mobility category.
  - b. **Vertical Openings.** The licensed design professional may make a determination on a representative sampling amount.
  - c. **Class I Standpipes.** The scoring of no Class I standpipes in all required exits has changed from -5 to 0.
  - d. **Emergency Elevator Power.** An extra point for emergency elevator power was added.
3. *Of the 20 or so LSE forms that the HFD is reviewing or has reviewed to date, what building modifications does the department anticipate will be required?*

The most common building elements that are required to be maintained are repairing or updating fire alarm systems that are not compliant, ensuring vertical openings are provided with approved fire stopping material, and replacing noncompliant fire doors. High-rise buildings must plan for the eventual replacement of fire alarm systems and the maintenance of vertical openings and fire code requirements applicable at the time of construction.

4. *Have any of the building owners and property managers started any building modifications based on the LSE? If so, what are these modifications?*

Approximately 36 buildings are currently undergoing an LSE with a licensed design professional to ensure standpipes and fire pumps are adequate and properly maintained, correct fire hazards, replacing noncompliant fire doors, and address required fire-stopping material for vertical openings, such as plumbing shafts. Corrective actions were

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already mandated by the building and fire codes at the time these buildings were permitted.

5. *How has the HFD addressed the mobility, vertical openings and other issues raised earlier regarding the interpretation of criteria under the LSE process?*

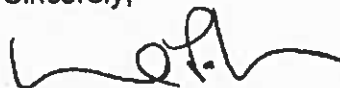
The Not Movable category has been removed from the LSE. With regard to Vertical Openings, the licensed design professional may make a determination on the representative sampling amount.

6. *How is the HFD adhering to Ordinance 18-14 while resolving these interpretation or criteria concerns and addressing the issues?*

The HFD continues to comply with and enforce Ordinance 18-14 and the Fire Code of the City and County of Honolulu, Chapter 20, Article 1, as amended. The HFD accomplishes this through plans checking, code enforcement inspections, consultations with licensed design professionals and property owners/managers, and public education visits to address criteria concerns and issues.

Should you have questions, please contact Assistant Chief Socrates Bratakos of our Support Services division at 723-7105 or [sbratakos@honolulu.gov](mailto:sbratakos@honolulu.gov).

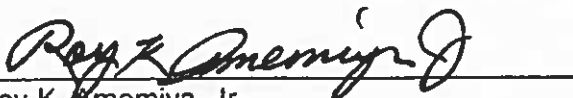
Sincerely,



MANUEL P. NEVES  
Fire Chief

Attachments

APPROVED:



Roy K. Amemiya, Jr.  
Managing Director

DRAFT 11/26/2018  
FIRE SAFETY EVALUATION WORKSHEET

Worksheet Cover Sheet	
<b>EVALUATION WORK SHEETS FOR THE FIRE AND LIFE SAFETY INDEX FOR EXISTING RESIDENTIAL HIGH-RISE BUILDINGS</b>	
FACILITY	BUILDING
FIRE COMPARTMENT(S) EVALUATED	
EVALUATOR	DATE
PURPOSE	
Complete this work sheet for each fire compartment (floor) Where conditions are the same in several fire compartments, one work sheet can be used for those fire compartments.	

HAVE A MAJORITY OF THE UNIT OWNERS VOTED TO OPT OUT OF REQUIRED SPRINKLER PROTECTION?  Yes  No << Answer by placing a "Yes" or "No" in the box on the left  
 THE SPRINKLER OPT-OUT VERSION OF THE LIFE SAFETY EVALUATION DOES NOT PROVIDE AN EQUIVALENT LEVEL OF LIFE SAFETY TO BUILDING OCCUPANTS AND FIRE FIGHTERS.

Existing highrise residential building means any building that has floors used for human occupancy located more than 75 feet above the highest grade and contains dwelling units.

**Table 1. Occupant and Firefighter Risk Parameters**

Risk Parameters		RISK PARAMETER VALUES				
1. RESIDENT EVACUATION CAPABILITY		MOBILITY STATUS	NORMAL OR LIMITED MOBILITY	REQUIRE ASSISTANCE	*If the building fire emergency plan contains provisions which identify those building occupants that require assistance and establish procedures acceptable to the Fire Chief for the safe evacuation of these occupants, the risk values for "Normal or Limited Mobility" can be used.	
ENTER (O1)	1.50	OCCUPANT RISK FACTOR (O1)	1.50	2.50		
ENTER (FF1)	1.60	FIREFIGHTER RISK FACTOR (FF1)	1.60	3.00		
2. OCCUPANT LOAD		RESIDENTS	1 TO 25	26 TO 50	51 TO 100	> 100
ENTER (O2)	1.10	OCCUPANT RISK FACTOR (O2)	1.00	1.10	1.20	1.30
ENTER (FF2)	1.10	FIREFIGHTER RISK FACTOR (FF2)	1.00	1.10	1.20	1.30
		The occupant load is _____ persons				
3. FIRE COMPARTMENT LOCATION (L)		FLOOR	9TH FLOOR OR LOWER	10TH TO 19TH	20TH TO 29TH	> 30TH
ENTER (O3)	1.40	OCCUPANT RISK FACTOR (O3)	1.10	1.20	1.30	1.40
ENTER (FF3)	2.00	FIREFIGHTER RISK FACTOR (FF3)	1.10	1.50	1.60	2.00
		Highest floor with residential dwellings is _____ floor.				

**Table 2. Risk Factor Calculations**

OCCUPANT RISK FACTOR (ORF)	O1	1.50	x	O2	1.10	x	O3	1.40	=	ORF	2.31
FIREFIGHTER RISK FACTOR (FFRF)	FF1	1.60	x	FF2	1.10	x	FF3	2.00	=	FFRF	3.52

**Table 3A and 3B. Building Status**

1.00	x	ORF	2.31	=	ORF	2.31
1.00	x	FFRF	3.52	=	FFRF	3.52

0.60	x	ORF	2.31	=	ORF	1.39
0.60	x	FFRF	3.52	=	FFRF	2.11

This facility is an existing building  
 OCCUPANT RISK FACTOR (ORF)   
 FIREFIGHTER RISK FACTOR (FFRF)

Table 4 Fire Safety Parameter Values

PARAMETER	CONSTRUCTION TYPE		NON-CONCRETE		REMARKS
	TYPE 1	TYPE 2	TYPE 3	TYPE 4	
1 CONSTRUCTION TYPE	TYPE 1 OR 2		TYPE 3	TYPE 4	
2 RESEARCH TRAIL	ONE END	CLASS 1	CLASS 2	CLASS 3	
3 CORRIDOR & SHELTER UNIT SEPARATION WALLS	NONE OR INCOMPLETE	1.2 m	1.225 m	1.2 m	
4 DOORS TO CORRIDOR	NO DOOR OR DOOR CONTAINS UNPROTECTED OPENINGS	1/2 hr FRP NO CLOSER	1 hr 1/2 hr FRP SOLID WOOD CORE WITH CLOSER	MINIMUM 22 MIN FRP WITH CLOSER	
5A INTERIOR (CORRIDOR)	NO STAIR	1/2 hr	1/2 hr	NO STAIR	
5B STAIRWELL (OR STAIR BALCONY) INTERIOR EXIT ACCESS	NO STAIR	NO STAIR	NO STAIR	NO STAIR	
6 VERTICAL OPENINGS	OPEN & 60 MIN	OPEN & 60 MIN	OPEN & 60 MIN	OPEN & 60 MIN	
7 HAZARDOUS AREAS	NONE	ENCLOSURE	ENCLOSURE	ENCLOSURE	
8 SMOKE MANAGEMENT	NONE	ENCLOSURE	ENCLOSURE	ENCLOSURE	
9 CORRIDOR ROUTE	NO STAIR	NO STAIR	NO STAIR	NO STAIR	
10 FIRE ALARM SYSTEM	NONE	DEPARTMENT	DEPARTMENT	DEPARTMENT	
11 SMOKE DETECTION	NONE	ENTIRE BUILDING	ENTIRE BUILDING	ENTIRE BUILDING	
12 AUTOMATIC SPRINKLERS	NONE	ENTIRE BUILDING	ENTIRE BUILDING	ENTIRE BUILDING	
13 SMOKE ALARMS	NONE	ENTIRE BUILDING	ENTIRE BUILDING	ENTIRE BUILDING	
14 STANDBY SYSTEM	NONE	ENTIRE BUILDING	ENTIRE BUILDING	ENTIRE BUILDING	
15 ELEVATORS	NO RECALL OR NO PASSENGER SERVICE	NO RECALL OR NO PASSENGER SERVICE	NO RECALL OR NO PASSENGER SERVICE	NO RECALL OR NO PASSENGER SERVICE	
16 EMERGENCY LIGHTING AND EXIT SIGNS	NO EMERGENCY LIGHTING	NO EMERGENCY LIGHTING	NO EMERGENCY LIGHTING	NO EMERGENCY LIGHTING	

\* Interior finish of Class 6 of type that is provided with a finish equipped by voluntary coating, providing a Class A rating, is acceptable.

\* For locations where there are no interior corridors, only exterior signage is required, and 1 point, regardless of exit type.

\* For buildings with exterior signage, buildings with 5 points for each of door type.

Line 10 where Parameter 9 is 2

The licensed design professional should determine the appropriate penalty points for each 10 points the value for the parameter.

\* For locations where there are no interior corridors, only exterior signage is required, and 1 point, except if there is no smoke detection.

\* For buildings which have pulled out of sprinkler protection per 2 points.

\* Extra for a standby system is only permitted if per Parameter 11 Automatic Standby value is 2 or 10.

NP: This worksheet and evaluation must be signed by user.

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FIRE SAFETY EVALUATION WORKSHEET

**Table 5 Individual Safety Evaluations**

FIRE SAFETY PARAMETER	COMPARTMENTATION FIRE SAFETY (S1)	EXTINGUISHMENT FIRE SAFETY (S2)	EGRESS FIRE SAFETY (S3)	GENERAL OCCUPANT SAFETY (S4)	GENERAL FIRE FIGHTER SAFETY (S5)
1. CONSTRUCTION	-2	-2		-2	-2
2. INTERIOR FINISH (Corridors and Exits)	3		3	3	3
3. CORRIDOR & DWELLING UNIT SEPARATION WALLS	0			0	0
4. DOORS TO CORRIDOR *	5		5	5	5
5. EXIT ACCESS*			-4	-4	-4
6. VERTICAL OPENINGS	2		2	2	2
7. HAZARDOUS AREAS	0	0		0	0
8. SMOKE MANAGEMENT			3	3	3
9. EGRESS ROUTES			0	0	0
10. FIRE ALARM SYSTEM					use 1/2 of Item 10 0.5
11. SMOKE DETECTION		3	3	3	3
12. AUTOMATIC SPRINKLERS		0	0	0	0
13. SMOKE ALARMS			2	2	
14. STANDPIPE SYSTEM		5			5
15. ELEVATORS					0
16. EMERGENCY LIGHTING AND EXIT SIGNS			2	2	2
<b>SUBTOTALS</b>	<b>8.0</b>	<b>7.0</b>	<b>16.0</b>	<b>15.0</b>	<b>17.5</b>
<b>ADDITIONAL FACTORS</b>			<b>OCCUPANT RISK FACTOR 1.39</b>	<b>OCCUPANT RISK FACTOR 1.39</b>	<b>FIREFIGHTER RISK FACTOR 2.11</b>
<b>TOTAL VALUE</b>	<b>S1 = 8.0</b>	<b>S2 = 7.0</b>	<b>S3 = 11.5</b>	<b>S4 = 10.8</b>	<b>S5 = 8.3</b>

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**Table 6 Minimum Required Fire Safety Indices**

	COMPARTMENT FIRE SAFETY S <sub>a</sub>	EXTINGUISHMENT FIRE SAFETY S <sub>b</sub>	EGRESS FIRE SAFETY S <sub>c</sub>	GENERAL OCCUPANT FIRE S <sub>d</sub>	FIRE FIGHTER SAFETY S <sub>e</sub>
	EXIST.	EXIST.	EXIST.	EXIST.	EXIST.
STANDARD INDICES	3	3	3	3	3
OPT-OUT INDICES	6	6	6	6	6

HAVE A MAJORITY OF THE UNIT OWNERS VOTED TO OPT OUT OF REQUIRED SPRINKLER PROTECTION

Yes This answer is from cell G17 in Table 1

IF THE ANSWER IS YES, THEN PROCEED WITH THE OPT OUT VERSION  
THE SPRINKLER OPT-OUT VERSION OF THE LIFE SAFETY EVALUATION DOES NOT PROVIDE AN  
EQUIVALENT LEVEL OF LIFE SAFETY TO BUILDING OCCUPANTS AND FIRE FIGHTERS.

S<sub>a</sub> =     S<sub>b</sub> =     S<sub>c</sub> =     S<sub>d</sub> =     S<sub>e</sub> =



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Table 7. Fire Compartment Safety Equivalency Evaluation						YES	NO	
CALCULATED FIRE SAFETY INDEX	MINIMUM REQUIRED FIRE SAFETY INDEX					Is C >= 0?		
<b>S1</b> COMPARTMENTATION FIRE SAFETY (S1)	less COMPARTMENT FIRE SAFETY (Sa)	8.0	-	<b>Sa</b> 6.0	=	<b>C</b> 2.0	X	
<b>S2</b> EXTINGUISHMENT FIRE SAFETY (S2)	less EXTINGUISHMENT FIRE SAFETY (Sb)	7.0	-	<b>Sb</b> 6.0	=	<b>E</b> 1.0	X	Is E >= 0?
<b>S3</b> EGRESS FIRE SAFETY (S3)	less EGRESS FIRE SAFETY (Sc)	11.50	-	<b>Sc</b> 8.00	=	<b>P</b> 3.50	X	Is P >= 0?
<b>S4</b> GENERAL OCCUPANT SAFETY (S4)	less GENERAL OCCUPANT SAFETY (Sd)	10.8	-	<b>Sd</b> 6.0	=	<b>G</b> 4.8	X	Is G >= 0?
<b>S5</b> FIRE FIGHTER SAFETY (S5)	less FIRE FIGHTER SAFETY (SE)	8.3	-	<b>Se</b> 6.0	=	<b>F</b> 2.3	X	Is F >= 0?

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**TABLE 8 CONCLUSIONS**

All of the checks in Table 7 are in the "Yes" column. The level of fire safety is acceptable.

One or more of the checks in Table 7 are in the "No" column. The level of fire safety is not acceptable.