

ZONE _____ OF _____ ZONES

FIRE/SMOKE ZONE* EVALUATION WORKSHEET FOR HEALTH CARE FACILITIES

2000 LIFE SAFETY CODE

FACILITY	BUILDING
ZONE(S) EVALUATED	
PROVIDER/VENDOR NO.	DATE OF SURVEY

COMPLETE THIS WORKSHEET FOR EACH ZONE. WHERE CONDITIONS ARE THE SAME IN SEVERAL ZONES, ONE WORKSHEET CAN BE USED FOR THOSE ZONES.

- Step 1:** Determine Occupancy Risk Parameter Factors - Use Table 1.
- A. For each Risk Parameter in Table 1, select and circle the appropriate risk factor value. Choose only one for each of the five Risk Parameters.

TABLE 1. OCCUPANCY RISK PARAMETER FACTORS						
Risk Parameters	Risk Factors Values					
1. Patient Mobility (<i>M</i>)	Mobility Status	Mobile	Limited Mobility	Not Mobile	Not Movable	
	Risk Factor	1.0	1.6	3.2	4.5	
2. Patient Density (<i>D</i>)	No. of Patients	1-5	6-10	11-30	>30	
	Risk Factor	1.0	1.2	1.5	2.0	
3. Zone Location (<i>L</i>)	Floor	1 st	2 nd or 3 rd	4 th to 6 th	7 th and Above	Basements
	Risk Factor	1.1	1.2	1.4	1.6	1.6
4. Ratio of Patients to Attendants (<i>T</i>)	<u>Patients</u> Attendant	<u>1-2</u> 1	<u>3-5</u> 1	<u>6-10</u> 1	<u>>10</u> 1	<u>One or More</u> None
	Risk Factor	1.0	1.1	1.2	1.5	4.0
5. Patient Average Age (<i>A</i>)	Age	Under 65 Years and Over 1 year			65 Years and Over 1 Year and Younger	
	Risk Factor	1.0			1.2	

- Step 2:** Compute Occupancy Risk Factor (F) - Use Table 2.
- A. Transfer the circled risk factor values from Table 1 to the corresponding blocks in Table 2.
- B. Compute F by multiplying the risk factor values as indicated in Table 2.

TABLE 2. OCCUPANCY RISK FACTOR CALCULATION						
	M	D	L	T	A	F
OCCUPANCY RISK	<input style="width: 30px; height: 20px;" type="text"/>	X <input style="width: 30px; height: 20px;" type="text"/>	X <input style="width: 30px; height: 20px;" type="text"/>	X <input style="width: 30px; height: 20px;" type="text"/>	X <input style="width: 30px; height: 20px;" type="text"/>	= <input style="width: 30px; height: 20px;" type="text"/>

- Step 3:** Compute Adjusted Building Status (R) - Use Table 2.
- A. If building is classified as "NEW" use Table 3A. If building is classified as "Existing" use Table 3B.
- B. Transfer the value of F from Table 2 to Table 3A or Table 3B as appropriate. Calculate R.
- C. Transfer R to the block labeled R in Table 7 on page 4 of the work sheet.

TABLE 3A. (NEW BUILDINGS)	
F	R
1.0 X <input style="width: 30px; height: 20px;" type="text"/>	= <input style="width: 30px; height: 20px;" type="text"/>

TABLE 3B. (EXISTING BUILDINGS)	
F	R
0.6 X <input style="width: 30px; height: 20px;" type="text"/>	= <input style="width: 30px; height: 20px;" type="text"/>

* FIRE/SMOKE ZONE is a space separated from all other spaces by floors, horizontal exlts, or smoke barrlers.

SURVEYOR SIGNATURE	TITLE	DATE
FIRE AUTHORITY SIGNATURE	TITLE	DATE

Step 4: Determine Safety Parameter Values - Use Table 4.

- A. Select and circle the safety value for each safety parameter in Table 4 that best describes the conditions in the zone. Choose only one value for each of the 13 parameters. If two or more appear to apply, choose the one with the lowest point value.

TABLE 4.								
Safety Parameters	Safety Parameters Values							
1. Construction Floor or Zone	Combustible Types III, IV, and V				NonCombustible Types I and II			
	000	111	200	211 + 2HH	000	111	222, 332, 433	
	First	-2	0	-2	0	0	2	2
	Second	-7	-2	-4	-2	-2	2	4
	Third	-9	-7	-9	-7	-7	2	4
4th and Above	-13	-7	-13	-7	-9	-7	4	
2. Interior Finish (Corridors and Exits)	Class C	Class B		Class A				
	-5(0) ^f	0(3) ^f		3				
3. Interior Finish (Rooms)	Class C	Class B		Class A				
	-3(1) ^f	1(3) ^f		3				
4. Corridor Partitions/Walls	None or Incomplete	<1/2 hour		≥1/2 to <1 hour		≥1 hour		
	-10(0) ^a	0		1(0) ^a		2(0) ^a		
5. Doors to Corridor	No Door	<20 min FPR		≥20 min FPR		≥20 min FPR and Auto Clos.		
	-10	0		1(0) ^d		2(0) ^d		
6. Zone Dimensions	Dead End			No Dead Ends >30 ft and Zone Length Is				
	>100 ft	>50 ft to 100 ft	30 ft to 50 ft	>150 ft	100 ft to 150 ft	<100 ft		
	-6(0) ^b	-4(0) ^b	-2(0) ^b	-2(0) ^c	0	1		
7. Vertical Openings	Open 4 or More Floors	Open 2 or 3 Floors		Enclosed with Indicated Fire Resist.				
				<1 hr	≥1 hr to <2 hr	≥2 hr		
	-14	-10		0	2(0) ^e	3(0) ^e		
8. Hazardous Areas	Double Deficiency		Single Deficiency		No Deficiencies			
	In Zone	Outside Zone		In Zone	In Adjacent Zone			
	-11	-5		-6	-2		0	
9. Smoke Control	No Control	Smoke Barrier Serves Zone		Mech. Assisted Systems by Zone				
				3				
	-5(0) ^c	0						
10. Emergency Movement Routes	<2 Routes		Multiple Routes					
		Deficient		W/O Horizontal Exit(s)	Horizontal Exit(s)	Direct Exit(s)		
	-8	-2		0	1	5		
11. Manual Fire Alarm	No Manual Fire Alarm			Manual Fire Alarm				
				W/O F.D. Conn.	W/F.D. Conn			
	-4			1	2			
12. Smoke Detection and Alarm	None	Corridor Only		Rooms Only	Corridor and Habit. Spaces	Total Spaces In Zone		
	0(3) ^g	2(3) ^g		3(3) ^g	4	5		
13. Automatic Sprinklers	None	Corridor and Habit. Space		Entire Building				
	0	8		10				

NOTE: ^a Use (0) where parameter 5 is -10.
^b Use (0) where parameter 10 is -8.
^c Use (0) on floor with fewer than 31 patients (existing buildings only)
^d Use (0) where parameter 4 is -10.

^e Use (0) where Parameter 1 is based on first floor zone or on an unprotected type of construction (columns marked "000" or "200")
^f Use () if the area of Class B or C interior finish in the corridor and exit or room is protected by automatic sprinklers and Parameter 13 is 0; use () if the room with existing Class C interior finish is protected by automatic sprinklers, Parameter 4 is greater than or equal to 1, and Parameter 13 is 0.
^g Use this value in addition to Parameter 13 if the entire zone is protected with quick-response automatic sprinklers.

For SI units: 1 ft = 0.3048 m

Step 5: Compute Individual Safety Evaluations – Use Table 5.

- A. Transfer each of the 13 circled Safety Parameter Values from Table 4 to every unshaded block in the line with the corresponding Safety Parameter in Table 5. For Safety Parameter 13 (Sprinklers) the value entered in the People Movement Safety column is recorded in Table 5 as 1/2 the corresponding value circled in Table 4.
- B. Add the four columns, keeping in mind that any negative numbers deduct.
- C. Transfer the resulting total values for S₁, S₂, S₃, S_G to blocks labeled S₁, S₂, S₃, S_G in Table 7 on page 4 of this sheet.

TABLE 5. INDIVIDUAL SAFETY EVALUATIONS				
Safety Parameters	Containment Safety (S ₁)	Extinguishment Safety (S ₂)	People Movement Safety (S ₃)	General Safety (S ₄)
1. Construction				
2. Interior Finish (Corr. and Exit)				
3. Interior Finish (Rooms)				
4. Corridor Partitions/Walls				
5. Doors to Corridor				
6. Zone Dimensions				
7. Vertical Openings				
8. Hazardous Areas				
9. Smoke Control				
10. Emergency Movement Routes				
11. Manual Fire Alarm				
12. Smoke Detection and Alarm				
13. Automatic Sprinklers			÷ 2 =	
Total Value	S₁=	S₂=	S₃=	S₄=

TABLE 6. MANDATORY SAFETY REQUIREMENTS (FOR USE IN HOSPITALS OR NURSING HOMES)						
Zone Location	Containment (S _a)		Extinguishment (S _b)		People Movement (S _c)	
	New	Exist.	New	Exist.	New	Exist.
1 st story	11	5	15(12) ^a	4	8(5) ^a	1
2 nd or 3 rd story ^b	15	9	17(14) ^a	6	10(7) ^a	3
4 th story or higher	18	9	19(16) ^a	6	11(8) ^a	3

- a. Use () in zones that do not contain patient sleeping rooms.
- b. For a 2nd story zone location in a sprinklered EXISTING facility, as an alternative to the mandatory safety requirement values set specified in the table, the following mandatory values *set* shall be permitted to be used: S_a=7, S_b=10, and S_c=7

Step 6: Determine Mandatory Safety Requirement Values - Use Table 6.

- Using the classification of the building (i.e., New or Existing) and the floor where the zone is located circle the appropriate value in each of the three columns in Table 6.
- Transfer the three circled values from Table 6 to the blocks marked S_a , S_b , and S_c in Table 7.
- For each row check "Yes" if the value in the answer block is zero or greater. Check "No" if the value in the answer block is a negative number.

TABLE 7. ZONE FIRE SAFETY EQUIVALENCY EVALUATION				Yes	No
Containment Safety (S_1)	minus	Mandatory Containment (S_a)	≥ 0	$S_1 - S_a = C$ <input type="text"/> - <input type="text"/> = <input type="text"/>	
Extinguishment Safety (S_2)	minus	Mandatory Extinguishment (S_b)	≥ 0	$S_2 - S_b = E$ <input type="text"/> - <input type="text"/> = <input type="text"/>	
People Movement Safety (S_3)	minus	Mandatory People Movement (S_c)	≥ 0	$S_3 - S_c = P$ <input type="text"/> - <input type="text"/> = <input type="text"/>	
General Safety (S_4)	minus	Occupancy Risk (R)	≥ 0	$S_4 - R = G$ <input type="text"/> - <input type="text"/> = <input type="text"/>	

TABLE 8. FACILITY FIRE SAFETY REQUIREMENTS WORKSHEET					
Complete one copy of this worksheet for each facility. For each consideration, select and mark the appropriate column.			Met	Not Met	Not Applic.
A.	Building utilities conform to the requirements of Section 9.1.				
B.	In new facilities only, life-support systems, alarms, emergency communication systems, and illumination of generator set locations are powered as prescribed by 18.5.1.2 and 18.5.1.3.				
C.	Heating and air conditioning systems conform with the air conditioning, heating, and ventilating systems requirements within Section 9.2, except for enclosure of vertical openings, which have been considered in Safety Parameter 7 of Worksheet 4.7.6.				
D.	Fuel-burning space heaters and portable electrical space heaters are not used.				
E.	There are no flue-fed incinerators.				
F.	An evacuation plan is provided and fire drills conducted in accordance with 18.7.1/18.7.2 and 19.7.1/19.7.2.				
G.	Smoking regulations have been adopted and implemented in accordance with 18.7.4 and 19.7.4.				
H.	Draperies, upholstered furniture, mattresses, furnishings, and decoration combustibility is limited in accordance with 18.7.5 and 19.7.5.				
I.	Fire extinguishers are provided in accordance with the requirements of 18.3.5.4 and 19.3.5.6.				
J.	Exit signs are provided in accordance with the requirements of 18.2.10.1 and 19.2.10.				
K.	Emergency lighting is provided in accordance with 18.2.9.1 or 19.2.9.				
L.	Standpipes are provided in all new high rise buildings as required by 18.4.2.				

CONCLUSIONS	
1.	<input type="checkbox"/> All of the checks in Table 7 are in the "Yes" column. The level of fire safety is at least equivalent to that prescribed by the <i>Life Safety Code</i> .*
2.	<input type="checkbox"/> One of more of the checks in Table 7 are in the "No" column. The level of fire safety is not shown by this system to be equivalent to that prescribed by the <i>Life Safety Code</i> .*
*The equivalency covered by this worksheet includes the majority of considerations covered by the <i>Life Safety Code</i> . There are a few considerations that are not evaluated by this method. These must be considered separately. These additional considerations are covered in Table 8, the "Facility Fire Safety Requirements Worksheet." One copy of this separate worksheet is to be completed for each facility.	

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0938-0242. The time required to complete this information collection is estimated to average 5 minutes per response, including the time to review instructions, search existing data resources, gather the data needed, and complete and review the information collection. If you have any comments concerning the accuracy of the time estimate(s) or suggestions for improving this form, please write to: CMS, Attn: PRA Reports Clearance Officer, 7500 Security Boulevard, Baltimore, Maryland 21244-1850.

