

EVACUATION DIFFICULTY INDEX

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6.1 General.

6.1.1

This chapter is part of an NFPA guide and, therefore, is not mandatory. The term *shall* in this chapter is used to indicate that if the provisions of the chapter are applied, the procedures mandated are to be followed to ensure the effectiveness of the system. For ease of reading, only the masculine pronoun is used; however, the contents of this chapter apply equally to females and males.

6.1.2

Chapter 33 (NFPA 101) specifies three sets of requirements for an existing facility based on its evacuation capability. The three levels of evacuation capability defined are *prompt*, *slow*, and *impractical*.

6.1.3

The evacuation capability shall be determined for the residents of a given facility who are living as a group and are provided with staff assistance prior to application of the fire protection requirements. This chapter describes one method for determining evacuation capability.

6.1.4

The evacuation capability for specific facilities, with residents living as a group with staff assistance, is determined by a mathematical method that includes the following:

1. (1)

Determining the evacuation assistance scores of the individual residents

2. (2)

Computing a relative level of evacuation difficulty faced by the resident of a specific facility based on the response capabilities of the staff

3. (3)

Adjusting for vertical egress travel

4. (4)

Calculating an evacuation capability score

6.1.5

Chapter 33 (NFPA 101) defines the three evacuation capability levels in terms of residents' performance in a timely response to an emergency evacuation with assistance from staff members or other residents. Utilization of this chapter provides a numerical score that can be translated into one of the three levels of evacuation capability.

6.1.6

The evacuation capability shall be permitted to be used with either Chapter 7 of this guide or Chapter 33 (NFPA 101).

6.2 Procedure for Determining Evacuation Capability.

6.2.1 Methodology.

Evacuation capability shall be determined via the worksheets included in Figure 6.8.

6.2.2 Evacuation Capability by Zones.

6.2.2.1

Small facilities (those with no more than 16 residents) shall have their evacuation capability scores based on all the residents and the available staff measured in accordance with the criteria for evaluating residents and staff in this chapter.

6.2.2.2

Large facilities (those with more than 16 residents) shall be permitted to have their evacuation capability score calculated on the basis of the entire building, as with small facilities, or on the basis of separate fire or smoke zones. The procedure providing the better (i.e., lower) evacuation capability score shall be permitted to be used. A fire or smoke zone is a portion of the building separated from all other portions of the building by one of the following:

1. (1)

Construction having at least 1-hour fire resistance

2. (2)

A smoke barrier conforming to the requirements of Section 8.5 (NFPA 101), with the smoke barriers constructed with at least a $\frac{1}{2}$ -hour fire resistance rating

3. (3)

In buildings protected throughout with an automatic sprinkler system, construction that is sound and smoke-resistant

6.2.3

If a building is zoned, each zone shall be evaluated separately. The evacuation capability score is based on the residents of that zone and the staff available to that zone in accordance with the staff rating criteria in this chapter.

6.2.4

Where using zones, a separate evacuation capability score shall be determined for zones that include common use spaces where the residents of more than one zone congregate for meals, recreation, or other purposes. In such cases, adjust the resident evacuation assistance scores as appropriate to reflect the different needs that residents might have under such conditions.

6.3 Rating Residents.

6.3.1

Worksheets 6.8.1 through 6.8.4 of Figure 6.8 are used for rating individual residents and also for recordkeeping purposes.

6.3.2

This method of determining evacuation capability has been designed to minimize speculation about how a resident might perform in an actual fire emergency by using ratings based on observed performance. Instead of speculating, raters who are not familiar enough with a resident to provide ratings confidently should consult with an individual who has observed the resident on a daily basis.

6.3.3

Due to the stress of an actual fire emergency, it is likely that some residents will not perform at full capacity. Therefore, ratings based on commonly observed examples of poor performance provide the best readily available indication of behavior that could be reduced by the unusually stressful conditions of an actual fire. All persons are less capable on some occasions, and the ratings should be based on examples of resident performance on a typical "bad" day. Ratings should not be based on rare instances of poor performance.

6.4 Rating Residents Using Worksheets 6.8.1 through 6.8.4.

6.4.1 Risk of Resistance (Line I of Worksheet 6.8.2).

6.4.1.1 General.

6.4.1.1.1

Line I rates the risk that the resident might resist leaving the facility during an emergency evacuation. Unless there is specific evidence that resistance might occur, the resident should be rated as “minimal risk.” If more than one rating applies, use the rating with the highest numerical score.

6.4.1.1.2

Specific evidence of resistance means that staff have had to use some physical force in the past. However, an episode of resistance should not be counted if it was the result of a situation that was different enough from an actual fire emergency that it probably does not predict behavior in such an emergency. For example, an incident in which a resident refuses to visit with parents probably does not predict behavior in an actual fire emergency and should not be counted as specific evidence. Resistance can be active (the resident might have struck a staff member or attempted to run away) or passive (the resident might have “gone limp” or hidden from staff members). Simply complaining or arguing is not considered resistance.

6.4.1.2 Minimal Risk.

This rating indicates that there is no specific evidence to suggest that the resident might resist an evacuation.

6.4.1.3 Risk of Mild Resistance.

This rating indicates that there is specific evidence that the resident might resist leaving the facility. Examples of specific evidence are as follows:

1. (1)

The resident has mildly resisted instructions from staff. Further, the resistance was brief or easily overcome by one staff member and occurred in a situation similar enough to a fire emergency to predict that the behavior could recur during an actual fire emergency.

2. (2)

The resident has hidden from the staff in a situation similar enough to a fire emergency to predict that the behavior could recur during an actual fire emergency. However, once found, the resident offered no further resistance.

6.4.1.4 Risk of Strong Resistance.

The resident might offer resistance that necessitates the full attention of one or more staff members. Examples of specific evidence of such risk include the following:

1. (1)

The resident has struggled vigorously in a situation similar enough to a fire emergency to predict that the behavior could recur during an actual fire emergency.

2. (2)

The resident has totally refused to cooperate in a situation that is similar enough to a fire emergency to predict that the behavior could recur during an actual fire emergency.

3. (3)

The resident has hidden in a situation that is similar enough to a fire emergency to predict that the behavior could recur during an actual fire emergency. Moreover, once found, the resident continued to offer resistance.

6.4.2 Impaired Mobility (Line II of Worksheet 6.8.2).

6.4.2.1 General.

6.4.2.1.1

Line II rates the physical ability of the resident to leave the facility. This rating should reflect the current physical environment in the building where the resident lives and should be based on the resident's lying awake on his bed. The resident is rated according to how easily he can leave, given the presence of factors such as physical barriers that hinder movement (e.g., stairs), his ability to get out of bed, or the chairs normally used. The resident should be given credit for being able to use devices that aid movement (e.g., wheelchairs, walkers, crutches, and leg braces). However, the rater shall be permitted to give credit for such devices only if the devices are always available for an emergency evacuation.

6.4.2.1.2

The resident should be rated on his ability to use the most accessible route out of the facility. For example, a resident who is "self-starting" when using the back door but who "needs limited assistance" to get out the front door would be rated as "self-starting."

6.4.2.1.3

The resident should be rated for performance while under the influence of any routinely administered medication that slows movement.

6.4.2.1.4

Where the resident needs physical assistance to make a timely evacuation, the rating of assistance needed is based on the degree of strength used by the staff member to assist the resident. Guiding or directing the resident by giving gentle pushes or leading by the hand is not considered physical assistance. If more than one rating applies, use the rating with the highest numerical score.

6.4.2.2 Self-Starting.

The resident is physically able to start and complete an evacuation without physical assistance.

6.4.2.3 Slow.

The resident prepares to leave and travels to the exit (or an area of refuge) at a speed significantly slower than normal. Specifically, the resident is rated "slow" if not able to prepare to leave and then travel from his sleeping room to the exit (or area of refuge) within 90 seconds.

6.4.2.4 Needs Limited Assistance.

The resident might need some initial or brief intermittent assistance but can accomplish most of the evacuation without assistance. An example of specific evidence of such mobility is that the resident is physically able to start and complete an evacuation, except that the resident needs help to accomplish the following:

1. (1)

Get into a wheelchair

2. (2)

Descend stairs

3. (3)

Get out of bed

4. (4)

Open a door

6.4.2.5 Needs Full Assistance or Very Slow.

The resident "needs full assistance" or is "very slow" as defined in 6.4.2.5.1 and 6.4.2.5.2.

6.4.2.5.1 Needs Full Assistance.

The resident either needs physical assistance from a staff member during most of the evacuation or must be assisted by staff in one of the following ways:

1. (1)

Carried from the facility

2. (2)

Helped into a wheelchair and wheeled out of the facility

3. (3)

Helped into leg braces and to descend the stairs

6.4.2.5.2 Very Slow.

The resident is very slow if the time necessary to prepare to leave and then travel from his sleeping room to the exit is so long that the staff usually assists the resident to evacuate. Specifically, the resident is rated very slow if unable to prepare to leave and then travel to the exit (or area of refuge) within 150 seconds.

6.4.3 Impaired Consciousness (Line III of Worksheet 6.8.2).

6.4.3.1 General.

6.4.3.1.1

Line III rates the risk that a resident could experience a partial or total loss of consciousness in a fire emergency. Unless there is specific evidence that loss of consciousness might occur during a fire emergency, the resident should be rated as "no significant risk."

6.4.3.1.2

Specific evidence is an indication that the resident has experienced some temporary impairment of consciousness of short duration (seconds or minutes) six or more times during the three months preceding the rating of the resident. Regardless of frequency, if there is specific evidence that loss of consciousness might be caused by the stress of a fire emergency, the resident should be rated as having impaired consciousness. An episode of partial loss of consciousness should be counted only if the impairment was severe enough to significantly interfere with the resident's ability to leave the facility. Do not count episodes where the loss of consciousness was the result of a temporary medical problem (e.g., a severe infection). If more than one rating applies, use the rating with the highest numerical score.

6.4.3.2 No Significant Risk.

The resident is not subject to loss of consciousness, or the resident has had fewer than six episodes of losing consciousness (partial and total) during the three months preceding the rating.

6.4.3.3 Partially Impaired.

The resident has had at least six episodes of losing consciousness in the preceding three months, of which the most severe episode was only a partial loss of consciousness; that is, the resident still is able to participate in an evacuation to some degree. Specific evidence that a resident should be rated in this category includes loss of consciousness resulting from mild (partial or petit mal) seizures, dizzy spells, intoxication, or any other partially incapacitating impairment of consciousness.

6.4.3.4 Totally Impaired.

The resident has had at least six episodes of losing consciousness in the preceding three months, the most severe episode involving total or severely incapacitating loss of consciousness; that is, the resident needs the full assistance of at least one staff member to get out of the building. Specific evidence that a resident should be rated in this category includes losses of consciousness resulting from severe (generalized or grand mal) seizures, fainting spells, intoxication, or other total or severely incapacitating loss of consciousness.

6.4.4 Need for Extra Help (Line IV of Worksheet 6.8.2).

6.4.4.1 General.

6.4.4.1.1

Line IV rates the possibility that more than one staff member might be needed to evacuate the resident. Specific evidence is a previous need for two or more persons to assist the resident and an indication that the resident could need assistance from two persons in a fire emergency.

6.4.4.1.2

When determining the need for additional assistance, the evaluator should disregard the physical strength or weakness of staff members. (For example, a large staff member who is exceptionally strong might be able to assist a resident alone, while a smaller staff member might be unable to assist the resident fully. However, there is no assurance that a staff member who is able to assist alone always will be able to respond to a resident requiring extra assistance.)

6.4.4.2 Needs at Most One Staff Member.

There is no specific evidence that the resident might need help from two or more persons in a fire emergency.

6.4.4.3 Needs Limited Assistance from Two Staff Members.

The resident might need some initial or brief intermittent assistance from two staff members, but otherwise needs help from no more than one. Specific evidence supporting this rating is that a resident needs assistance from no more than one person except to accomplish the following:

1. (1)

Getting into a wheelchair

2. (2)

Descending stairs

6.4.4.4 Needs Full Assistance from Two Staff Members.

The resident might need assistance from two staff members during most of an evacuation. Specific evidence of the need for assistance from two staff members follows:

1. (1)

Two persons are needed to carry the resident from the facility.

2. (2)

Two persons are needed to get the resident into a wheelchair and to get the wheelchair down a flight of stairs.

3. (3)

The resident might resist an evacuation vigorously, and two persons are needed to get the resident out of the facility.

6.4.5 Response to Instructions (Line V of Worksheet 6.8.2).

6.4.5.1 General.

Line V rates the resident's ability to receive, comprehend, and follow through with simple instructions during a staff-directed evacuation. Residents often do not respond equally well to all staff members; therefore, a resident should be rated on his responses to staff members whose directions he is least likely to follow. If more than one rating applies, use the rating with the highest numerical score.

6.4.5.2 Follows Instructions.

The resident usually can be depended on to receive, comprehend, remember, and follow simple instructions.

6.4.5.3 Requires Supervision.

The resident generally is capable of following instruction but is not dependable. Therefore, the resident might need to be guided, reminded, reassured, or otherwise accompanied during evacuation but does not require the exclusive attention of a staff member (e.g., a staff member can lead two or more residents who fit this classification simultaneously).

6.4.5.3.1

This category includes elderly persons who sometimes show early signs of senile dementia or Alzheimer's disease (e.g., confusion, disorientation, frequent "misplacement" of possessions) and young children who cannot be depended on to follow through with instructions.

6.4.5.3.2

Residents in this category generally are capable of following instructions except in one of the following situations:

1. (1)

The resident is deaf or hearing impaired and sometimes misinterprets communications from staff using sign language.

2. (2)

The resident sometimes forgets instructions after a brief period of time.

3. (3)

The resident is sometimes distracted or confused and fails to follow through with instructions.

4. (4)

The resident is sometimes groggy and might fail to listen carefully or follow through with instructions.

5. (5)

The resident is sometimes uncooperative without apparent good reason.

6. (6)

The resident is elderly and sometimes becomes "lost" in a familiar place.

7. (7)

The resident is a young child who might become frightened and not follow through with instructions.

6.4.5.4 Requires Considerable Attention or Might Not Respond.

6.4.5.4.1

The resident might fail to receive, understand, or follow through with instructions; that is, the resident might not respond to instructions or general guidance. Therefore, the resident might require most of the attention of a staff member during an evacuation.

6.4.5.4.2

This category includes elderly persons who have the symptoms of senile dementia or Alzheimer's disease (e.g., severe confusion, disorientation, very limited short-term memory).

6.4.5.4.3

Residents in this category might display one or more of the following characteristics:

1. (1)

The resident sometimes does not understand simple instructions.

2. (2)

The resident might not respond to instructions from a particular staff member.

3. (3)

The resident is sometimes emotionally upset and is therefore unwilling to follow instructions.

4. (4)

The resident is deaf or hearing impaired and the staff cannot communicate reliably with the resident.

5. (5)

The resident is very forgetful, easily confused, or easily distracted.

6.4.6 Waking Response to Alarm (Line VI of Worksheet 6.8.2).

6.4.6.1 General.

6.4.6.1.1

Line VI rates the risk that the fire alarm might fail to awaken the resident.

6.4.6.1.2

Residents should be rated as "response probable" unless any of the following conditions exists:

1. (1)

The building does not have an alarm system meeting the requirements of Chapter 33 (NFPA 101), or the alarm is not sufficiently loud where the resident sleeps (doors should be closed and barriers kept in place where determining the audibility of the fire alarm).

2. (2)

Medication taken by the resident before retiring differs in type or amount (i.e., medication is increased) from the medication taken during waking hours.

3. (3)

The resident has a readily apparent hearing impairment, or the resident's hearing aid is removed before sleeping.

4. (4)

There is specific evidence that the resident is an exceptionally sound sleeper. For example, the resident previously failed to be awakened by a particularly loud noise, and staff members have had to shake the resident vigorously to awaken him.

6.4.6.1.3

Where any of the conditions in 6.4.6.1.2 exist, the resident should be rated as “response not probable” unless the resident’s ability to wake up has been demonstrated. The demonstration of the resident’s ability to wake up in response to the fire alarm should be conducted after the first half hour of sleep and during the first three hours of sleep. In addition, the resident’s ability to wake up in response to the alarm should be demonstrated on two different nights under normal conditions (e.g., without hearing aid, under usual medications). Also, the resident should be alert enough to follow simple instructions within 1 minute after waking. To avoid waking other residents during the demonstrations of the capability of a particular resident, a device that makes a sound that is similar to, but not louder than, the fire alarm shall be permitted to be used (e.g., an alarm clock or clock radio with a sound similar to the fire alarm). Listed and approved tactile alarms shall be permitted as alternative devices used to demonstrate a hearing-impaired resident’s response probability.

6.4.6.2 Response Probable.

Either none of the conditions in 6.4.6.1.2 affect the resident, or, if any of the conditions exist, the resident’s ability to be awakened has been demonstrated.

6.4.6.3 Response Not Probable.

One or more of the conditions in 6.4.6.1.2 affect the resident, and either the resident has not been tested for the ability to be awakened by the fire alarm or the resident has failed to demonstrate the ability to be awakened by the fire alarm.

6.4.7 Response to Fire Drills (Line VII of Worksheet 6.8.2).

6.4.7.1 General.

6.4.7.1.1

Line VII rates the resident’s ability to leave the facility during fire drills, as demonstrated by the resident’s performance, without guidance or advice from the staff. A resident must demonstrate three separate responses reliably and without instructions or supervision to be rated “yes” in each case. The resident is rated “yes” only where he has been specifically trained or instructed in the desired reaction and has demonstrated the desired response in at least three of the last four fire drills in which a response was demonstrated. If the resident has not been involved in four fire drills, the rating shall be permitted to be “yes” only if the resident has demonstrated the desired response during the last two opportunities to demonstrate the response. Ratings are based on demonstrated performance, and any resident who has not been trained to participate in fire drills must be rated “no.”

6.4.7.1.2

This rating covers the ability of the resident to make decisions but does not relate to mobility, which is covered separately. For example, a resident might need assistance only in transferring from a bed to a wheelchair but otherwise can initiate and complete an evacuation promptly. Such a resident would be rated “yes” for “Initiates and Completes Evacuation Promptly” but would be rated “Needs Limited Assistance,” in Line II, Impaired Mobility.

6.4.7.1.3

Residents should be rated assuming that an emergency could occur when they are least likely to respond well. For most residents, this is after being awakened. Determining the rating should not include difficulties in actually awakening the resident, since there are great differences in how easily the same individual awakens at various times.

6.4.7.2 Initiates and Completes Evacuation Promptly.

The resident has demonstrated a proper response to an alarm or warning of a fire by starting and completing the evacuation without unnecessary delay. Specific evidence leading to a rating of “no” includes the following responses:

1. (1)

The resident might not react to the alarm until alerted by a staff member.

2. (2)

The resident spends an excessive amount of time preparing to leave (e.g., getting dressed, observing others).

3. (3)

The resident has a hearing impairment and, therefore, needs to be alerted by a staff member.

4. (4)

The resident is sometimes upset or confused and, therefore, might seek out a staff member before evacuating.

5. (5)

The resident consistently begins an evacuation but is easily distracted and needs some supervision.

6.4.7.3 Chooses and Completes Backup Strategy.

The resident has demonstrated the ability to select an alternative means of escape or has taken other appropriate action if the primary escape route is blocked. Specific evidence leading to a rating of "no" is where the resident is unlikely to select a good course of action if the primary escape route cannot be used; that is, the resident has not been trained to find alternative escape routes, find an area of refuge, or perform other appropriate action(s). Where the resident lacks the conceptual ability to understand fire hazards and blocked escape routes, and, therefore, requires supervision, the rating should be "no."

6.4.7.4 Remains at Designated Location.

The resident must have demonstrated willingness to remain at a designated safe location during fire drills. (The whereabouts of already evacuated residents needs to be confirmed to avoid dangerous return trips to look for residents who might have returned to buildings.)

6.4.7.4.1

Specific evidence leading to a "yes" for this rating includes the following:

1. (1)

The resident has been specifically trained to remain at a designated location in a safe area and has demonstrated this ability without the presence of staff members in three of the previous four fire drills.

2. (2)

The resident is physically immobile and, therefore, cannot leave the designated location.

3. (3)

The facility uses a motor vehicle (e.g., a van or bus) or a building that is detached and remote from the facility (i.e., another building or a remote garage) as the designated location, and the resident has demonstrated in three of the previous four fire drills the ability to remain there without the presence of a staff member.

4. (4)

The resident might tend to wander, but a reliable resident has been assigned to keep the wandering resident at the designated location without using any force or coercion. Furthermore, this arrangement has been demonstrated as effective in at least three of the previous four fire drills.

6.4.7.4.2

Specific evidence leading to a “no” for this rating includes the following:

1. (1)

The resident has not been trained to remain at a designated location without any staff supervision.

2. (2)

The resident has been trained to remain without staff supervision at a designated location but has failed to demonstrate this capability in three of the previous four fire drills.

6.5 Rating the Staff Shift (Worksheets 6.8.5 through 6.8.11).

6.5.1

This rating is intended to predict the promptness of response of a staff member who is present in the facility, at a given time (shift), and who is capable of assisting residents in an evacuation.

6.5.2

Before rating the staff shift, there are five basic requirements relative to the staff response capability, protection plans, and fire drills that shall be met. The determination of whether or not these requirements are met is recorded on Worksheet 6.8.8, Staff Shift Scores. If the corresponding requirements of 6.5.2.1 through 6.5.2.5 have been met, a “yes” rating should be given.

6.5.2.1

A protection plan shall have been promulgated, and all staff members considered in this rating shall have been trained in its implementation. Regardless of the staff's everyday competencies, they cannot be relied upon to innovate effective life safety actions under the extreme stress and time limitation of an actual fire emergency. Notwithstanding the facility's fire protection features, the staff must have a valid and practiced plan of action that can be put into effect immediately in an emergency. The protection plan should include the following features:

1. (1)

A description of all available evacuation, escape, and rescue routes and the procedures and techniques needed to evacuate all the residents using the various routes

2. (2)

A fundamental knowledge of fire growth, containment, and extinguishment necessary to make reasonable judgments about action priorities and viable egress routes

6.5.2.2

Staff shall be provided in accordance with 6.5.2.2.1 or 6.5.2.2.2.

6.5.2.2.1

The total available staff at any given time is able to handle the individual evacuation needs of each resident who might be in the facility. In calculating evacuation capability, it might be possible to have a ratio of staff to residents that appears to be favorable but that still is unacceptable under this system. This would be the case when a resident needs assistance from two staff members but only one staff member is present. Thus, the situation should be such that all residents can be evacuated by the available staff.

6.5.2.2.2

The facility meets the criteria for an evacuation capability level of “impractical,” the resident whose evacuation needs cannot be handled is in a sleeping room or other room that provides adequate refuge from fire outside the room, and there is at least one staff member present who can close the door to the room. For example, a very heavy resident is in a facility, meeting the criteria for impractical level of evacuation capability, with one available staff member who cannot transfer the resident from a bed to a wheelchair. Although the staff member is unable to meet all the resident's evacuation assistance needs, the sleeping room provides adequate refuge.

6.5.2.3

Every staff member considered in this rating shall be able to participate meaningfully in the evacuation of every resident. For example, a staff member who, due to his own disability, might be unable to assist one or more physically disabled residents shall not be included in the rating. However, if a staff member's disability does not limit his ability to assist the residents, then the staff member shall be permitted to be included in the rating.

6.5.2.4

All staff members considered in this rating shall be in the facility when on duty, except as otherwise permitted by 6.5.2.4.1 through 6.5.2.4.4. This rating is based on the assumption that there are staff present when residents are in the facility.

6.5.2.4.1

Unstaffed facilities, which are not covered by this system, shall be permitted to be assigned an evacuation capability level based on the demonstrated ability of the residents to meet the criteria of Chapter 33 (NFPA 101) without staff assistance.

6.5.2.4.2

Residents who receive only the most favorable ratings on Worksheet 6.8.3 for rating residents shall be permitted to be present in the facility without the presence of staff members.

6.5.2.4.3

A staff member shall be permitted to be at a location outside of the facility where his ability to respond to a fire emergency from the location is roughly equivalent to his response ability from within the facility. In determining equivalency, the authority having jurisdiction should consider the following:

1. (1)

Whether the fire alarm meets the minimum loudness criteria (see 6.5.3.2.2) at the locations outside the facility or whether another staff member who is required to remain in the facility can immediately report a fire emergency to the staff member who is outside

2. (2)

Travel time to the facility

3. (3)

Detection of fire cues (e.g., smoke, noises) from locations outside the facility

4. (4)

Whether the staff member will be notified immediately about which area of the facility has the fire emergency, if the staff member who is outside is required to report fire emergencies in more than one facility or fire zone

6.5.2.4.4

The authority having jurisdiction shall be permitted to grant partial credit (which shall not exceed the promptness of the response score that the staff member receives where required to remain in the facility) for staff members who are permitted at locations outside the facility and who have the ability to respond promptly.

6.5.2.5

Fire drills shall be conducted monthly, and at least 12 fire drills shall have been conducted during the previous year. A facility in operation for less than one year shall be permitted to have conducted a fire drill for each month of its operation.

6.5.3 Staff Shift Scores (Worksheet 6.8.8).

6.5.3.1

The purpose of this rating is to determine which staff shift is likely to be the least able to respond promptly to assist residents in an evacuation. If it is not obvious which staff shift will be the least able to respond, complete separate forms for each staff shift and use the staff shift having the lowest score.

6.5.3.2 Promptness of Response Scores (Worksheet 6.8.7).

6.5.3.2.1 Staff Availability.

This rating determines whether there are circumstances in which a staff member is less able to respond appropriately or might be delayed in his response to a fire emergency. A staff member shall be included in this rating only under the following conditions:

1. (1)

He is required to remain within the facility while on duty.

2. (2)

He sleeps less than 100 ft (30 m) from all locations in the portion of the facility being evaluated.

3. (3)

His travel time to any location in the portion of the facility being evaluated does not exceed 60 seconds.

6.5.3.2.1.1 Standby or Asleep.

This rating means that the staff member does not have specific duties that ensure an immediate response to the alarm but is otherwise available to assist in a timely manner. This includes live-in staff who might be asleep, showering, or otherwise unable to respond immediately.

6.5.3.2.1.2 Immediately Available.

This rating means that the staff member is required to be on duty to provide immediate assistance but is not required to remain in proximity to the residents (e.g., the staff member is allowed to wash clothes or do bookkeeping).

6.5.3.2.1.3 Immediately Available and Close By.

This rating means that the staff member, in addition to satisfying the requirement for "immediately available," also is required to remain in proximity to the residents except for brief periods of time.

6.5.3.2.1.4

If the facility is classed as "large" and has multiple fire or smoke zones, some staff members might have responsibilities for residents outside the fire or smoke zone being evaluated. If a staff member's duties include rescue of residents in the fire zone being evaluated, the staff member shall be permitted to be assigned partial or full promptness of response scores. The authority having jurisdiction shall assign the points based on the proximity of the staff member to the zones and the nature of his duties in a fire emergency. This credit shall be given only if there is a smoke detection system that alerts the staff member and a system or procedure for promptly informing the staff member of the general location of the fire.

6.5.3.2.1.5

Individual residents shall be permitted to be assigned responsibilities similar to those of staff members to assist other residents during fire emergencies. The authority having jurisdiction shall be permitted to assign these individual residents as many as eight points for promptness of response, based on their capabilities and responsibilities.

6.5.3.2.2 Alarm Effectiveness.

This rating determines whether smoke detector-activated alarm devices are loud enough to alert the staff to a fire emergency dependably.

6.5.3.2.2.1 Assured.

To be rated “assured,” the alarm shall be “easily noticeable” in all locations where the staff member is permitted, regardless of his rating on the promptness of response factor. “Easily noticeable” means the alarm shall be a minimum of 55 dBA measured at ear level. The authority having jurisdiction shall be permitted to require the alarm to be louder than 55 dBA where background noises could interfere with alarm audibility. For example, the alarm might need to be more than 55 dBA to be heard over noise such as from a washing machine in the laundry or a television in the day room. If there are staff who are permitted to sleep, the alarm shall be a minimum of 70 dBA measured at “pillow” level in any area where the staff might be asleep. The alarm shall be activated by smoke detectors, an automatic sprinkler system, or both. If the facility has smoke detectors meeting the requirements of Chapter 33 (NFPA 101), the smoke detectors shall activate the alarm. If the facility has an automatic sprinkler system whose fire protection properties are considered in the evaluation of the facility, activation of the sprinkler system shall activate the alarm.

6.5.3.2.2.2 Not Assured.

The alarm does not satisfy the conditions specified under “assured.” Doors that normally are closed during the staff shift being rated should be closed when determining the loudness of the fire alarm. Any other barriers that could reduce the loudness of the fire alarm also shall be in place.

6.6 Rating the Facility (Worksheet 6.8.9).

6.6.1

The vertical distance from sleeping rooms to a floor level with exits might affect the risk because of the time and difficulty in moving on the stairs.

6.6.2 Special Terminology.

6.6.2.1 Direct Exit.

Direct exit shall mean that there is no more than one step between the inside of the facility and either (1) ground level outside or (2) a level area outside the facility that is at least 32 ft² (3 m²). This level area might be a porch or a stairway landing. Where the vertical distance is greater than one step, a ramp shall be permitted to be used to comply with this definition.

6.6.2.2 Vertical Distance.

Vertical distance shall refer to the greatest number of floors that separate any resident sleeping room from its nearest direct exit.

6.6.3 All Sleeping Rooms on Floors with Direct Exit.

Every room where residents sleep is on a floor with at least one direct exit. Examples of facilities that fall within this category include the following:

1. (1)

A one-story building without sleeping rooms in the basement

2. (2)

A two-story building without sleeping rooms on the second floor

3. (3)

A split-level building with direct exits at each level

4. (4)

A two-story building with sleeping rooms on the second floor that has an exterior stairway from the second floor, with a landing at the second floor that is greater than 32 ft² (3 m²)

6.6.4 Any Sleeping Room One Floor from Exit.

There is at least one room where residents sleep in which the shortest vertical distance to a direct exit is one floor. Examples of facilities that fall within this category include the following:

1. (1)

A two-story building with sleeping rooms on the second floor, in the basement, or both

2. (2)

A one-story building where all the exits have stairs that lead to grade without a landing or porch of, at minimum, 32 ft² (3 m²)

6.6.5 Any Sleeping Room Two or More Floors from Exit.

There is at least one room where residents sleep in which the shortest vertical distance to a direct exit is two or more floors. Buildings that fall within this category include the following:

1. (1)

A three-story building with sleeping rooms on the third floor and no exterior fire escape

2. (2)

A three-story building with sleeping rooms on the third floor that has an exterior stairway from the third floor, but where the landing at the third floor is less than 32 ft² (3 m²)

6.6.6 Facilities in an Apartment House.

If the facility is located in an apartment house and the unit containing the facility requires ascending or descending stairs to move from any sleeping room to the door to the corridor, a score of 1.2 for "vertical distance from sleeping rooms to exit" should be assigned. In all other apartments, the score for vertical distance from sleeping rooms to exits is 1.0.

6.7 Determining Evacuation Capability (Worksheet 6.8.10).

6.7.1

When the scores for the residents, the staff, and the vertical travel distances have been determined, the scores are entered on Worksheet 6.8.10 and the calculation made to obtain a numerical result.

6.7.2

The numerical evacuation capability score then is translated into a level of evacuation capability of either "prompt," "slow," or "impractical" and recorded on Worksheet 6.8.11. This evacuation capability is a valid assessment that shall be permitted to be used in Chapter 7 of this guide or in Chapter 33 (NFPA 101).

6.8 Worksheets for Rating Residents.

The worksheets for rating residents use a seven-step process found in Figure 6.8.

Figure 6.8 Worksheets for Rating Residents.

WORKSHEET 6.8.1 COVER SHEET Worksheet for Rating Residents																																																
Resident's name _____		Evaluator _____																																														
Facility _____		Zone _____		Date _____																																												
Write any explanatory remarks here:																																																
<div style="text-align: center; margin-top: 20px;"> WORKSHEET 6.8.2 RATING THE RESIDENT ON THE RISK FACTORS </div> <p style="font-size: small;">Rate the resident on each of the factors below by checking the one circle for each risk factor that best describes the resident. For the first six factors, write the scores for the circles checked in the appropriate score boxes in the far right column. For "Response to Fire Drills," write the three checked scores in the large circles. Write the sum of the three scores in the large box on the right.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%; padding: 5px;"> I. Risk of Resistance (Check only one) </td> <td style="width: 15%; padding: 5px;"> Minimal Risk <input type="radio"/> score=0 </td> <td style="width: 15%; padding: 5px;"> Risk of Mild Resistance <input type="radio"/> score=6 </td> <td style="width: 15%; padding: 5px;"> Risk of Strong Resistance <input type="radio"/> score=20 </td> <td style="width: 40%;"></td> </tr> <tr> <td style="padding: 5px;"> II. Impaired Mobility (Check only one) </td> <td style="padding: 5px;"> Self-Starting <input type="radio"/> score=0 </td> <td style="padding: 5px;"> Slow <input type="radio"/> score=3 </td> <td style="padding: 5px;"> Needs Limited Assistance <input type="radio"/> score=6 </td> <td style="padding: 5px;"> Needs Full Assistance or Very Slow <input type="radio"/> score=20 </td> </tr> <tr> <td style="padding: 5px;"> III. Impaired Consciousness (Check only one) </td> <td style="padding: 5px;"> No Significant Risk <input type="radio"/> score=0 </td> <td style="padding: 5px;"> Partially Impaired <input type="radio"/> score=6 </td> <td style="padding: 5px;"> Totally Impaired <input type="radio"/> score=20 </td> <td></td> </tr> <tr> <td style="padding: 5px;"> IV. Need for Extra Help (Check only one) </td> <td style="padding: 5px;"> Needs at Most One Staff <input type="radio"/> score=0 </td> <td style="padding: 5px;"> Needs Limited Assistance from 2 Staff <input type="radio"/> score=30 </td> <td style="padding: 5px;"> Needs Full Assistance from 2 Staff <input type="radio"/> score=40 </td> <td></td> </tr> <tr> <td style="padding: 5px;"> V. Response to Instructions (Check only one) </td> <td style="padding: 5px;"> Follows Instructions <input type="radio"/> score=1 </td> <td style="padding: 5px;"> Requires Supervision <input type="radio"/> score=3 </td> <td style="padding: 5px;"> Requires Considerable Attention/Might Not Respond <input type="radio"/> score=10 </td> <td></td> </tr> <tr> <td style="padding: 5px;"> VI. Waking Response to Alarm (Check only one) </td> <td style="padding: 5px;"> Response Probable <input type="radio"/> score=0 </td> <td style="padding: 5px;"> Response Not Probable <input type="radio"/> score=6 </td> <td colspan="2"></td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%; padding: 5px;"> VII. Response to Fire Drills (Without guidance or advice from staff) </td> <td style="width: 30%; padding: 5px;"> Initiates and Completes Evacuation Promptly </td> <td style="width: 15%; padding: 5px;"> Yes <input type="radio"/> score=0 </td> <td style="width: 15%; padding: 5px;"> No <input type="radio"/> score=8 </td> <td rowspan="3" style="width: 10%; text-align: center; vertical-align: middle;"> <input type="radio"/> + <input type="radio"/> + <input type="radio"/> </td> <td rowspan="3" style="width: 10%;"></td> </tr> <tr> <td style="padding: 5px;"></td> <td style="padding: 5px;"> Chooses and Completes Back-up Strategy </td> <td style="padding: 5px;"> Yes <input type="radio"/> score=0 </td> <td style="padding: 5px;"> No <input type="radio"/> score=4 </td> </tr> <tr> <td style="padding: 5px;"></td> <td style="padding: 5px;"> Remains at Designated Location </td> <td style="padding: 5px;"> Yes <input type="radio"/> score=0 </td> <td style="padding: 5px;"> No <input type="radio"/> score=6 </td> </tr> </table> <div style="display: flex; justify-content: space-between; align-items: flex-end; margin-top: 10px;"> <div style="font-size: x-small;">(For use with NFPA 101A-2013/NFPA 101-2012)</div> <div style="text-align: right;"> <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">Sum of These Three Scores</div> <div style="border: 1px solid black; width: 50px; height: 50px; display: flex; align-items: center; justify-content: center; font-size: 24px;"> </div> </div> <div style="text-align: right; margin-top: 5px;">(p. 1 of 4)</div> </div> </div>					I. Risk of Resistance (Check only one)	Minimal Risk <input type="radio"/> score=0	Risk of Mild Resistance <input type="radio"/> score=6	Risk of Strong Resistance <input type="radio"/> score=20		II. Impaired Mobility (Check only one)	Self-Starting <input type="radio"/> score=0	Slow <input type="radio"/> score=3	Needs Limited Assistance <input type="radio"/> score=6	Needs Full Assistance or Very Slow <input type="radio"/> score=20	III. Impaired Consciousness (Check only one)	No Significant Risk <input type="radio"/> score=0	Partially Impaired <input type="radio"/> score=6	Totally Impaired <input type="radio"/> score=20		IV. Need for Extra Help (Check only one)	Needs at Most One Staff <input type="radio"/> score=0	Needs Limited Assistance from 2 Staff <input type="radio"/> score=30	Needs Full Assistance from 2 Staff <input type="radio"/> score=40		V. Response to Instructions (Check only one)	Follows Instructions <input type="radio"/> score=1	Requires Supervision <input type="radio"/> score=3	Requires Considerable Attention/Might Not Respond <input type="radio"/> score=10		VI. Waking Response to Alarm (Check only one)	Response Probable <input type="radio"/> score=0	Response Not Probable <input type="radio"/> score=6			VII. Response to Fire Drills (Without guidance or advice from staff)	Initiates and Completes Evacuation Promptly	Yes <input type="radio"/> score=0	No <input type="radio"/> score=8	<input type="radio"/> + <input type="radio"/> + <input type="radio"/>			Chooses and Completes Back-up Strategy	Yes <input type="radio"/> score=0	No <input type="radio"/> score=4		Remains at Designated Location	Yes <input type="radio"/> score=0	No <input type="radio"/> score=6
I. Risk of Resistance (Check only one)	Minimal Risk <input type="radio"/> score=0	Risk of Mild Resistance <input type="radio"/> score=6	Risk of Strong Resistance <input type="radio"/> score=20																																													
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	Chooses and Completes Back-up Strategy	Yes <input type="radio"/> score=0	No <input type="radio"/> score=4																																													
	Remains at Designated Location	Yes <input type="radio"/> score=0	No <input type="radio"/> score=6																																													

Figure 6.8 Continued

WORKSHEET 6.8.3 DETERMINING THE RESIDENT'S OVERALL NEED FOR ASSISTANCE			
<p>Compare the numbers in the seven score boxes filled in on Worksheet 6.8.2. Take the highest score from the score boxes and write it in the box at the right.</p> <p>Notes:</p>			<p>Evacuation Assistance Score</p> <div style="border: 1px solid black; width: 80px; height: 30px; margin: 0 auto;"></div>
WORKSHEET 6.8.4 RESIDENT SCORES			
Resident Name	Evac. Assistance Score	Resident Name	Evac. Assistance Score
Evacuation Assistance Score	Total	Evacuation Assistance Score	Total

(For use with NFPA 101A-2013/NFPA 101-2012)
(p. 2 of 4)

Figure 6.8 Continued

WORKSHEET 6.8.5 COVER SHEET			
Staff Shift Score			
Facility _____	Zone _____		
Evaluator _____	Date _____		
Staff Shift: From _____	To _____		

WORKSHEET 6.8.6 STAFF RESPONSE AND TRAINING		
	Yes	No
A protection plan has been promulgated and all staff members considered in this rating have been trained in its implementation. <i>(See 6.5.2.1.)</i>	<input type="checkbox"/>	<input type="checkbox"/>
The total available staff at any given time is able to handle the individual evacuation needs of each resident who is in the facility. <i>(See 6.5.2.2.)</i>	<input type="checkbox"/>	<input type="checkbox"/>
Every staff member considered in this rating can meaningfully participate in the evacuation of every resident. <i>(See 6.5.2.3.)</i>	<input type="checkbox"/>	<input type="checkbox"/>
All staff members considered in this rating are required to be in the facility when on duty, except as permitted. <i>(See 6.5.2.4.)</i>	<input type="checkbox"/>	<input type="checkbox"/>
At least 12 fire drills were conducted during the previous year. <i>(See 6.5.2.5.)</i>	<input type="checkbox"/>	<input type="checkbox"/>

All items must score "Yes" before proceeding.

WORKSHEET 6.8.7 PROMPTNESS OF RESPONSE SCORES		
Staff Availability	Alarm Effectiveness	
	Assured	Not Assured
Standby or asleep	16	2
Immediately available	20	2
Immediately available and close by	20	10

WORKSHEET 6.8.8 STAFF SHIFT SCORES			
Staff Name	Promptness of Response Score	Staff Name	Promptness of Response Score
Staff Shift Score	Total	Staff Shift Score	Total

(For use with NFPA 101A-2013/NFPA 101-2012) (p. 3 of 4)

Figure 6.8 Continued

WORKSHEET 6.8.9 RATING THE FACILITY			
	Vertical Distance from Sleeping Rooms to Exits		
	All SR on Floors with Direct Exit	Any SR One Floor from Exit	Any SR Two or More Floors from Exit
Small Facility ^a	<input type="radio"/> Score 0.8	<input type="radio"/> Score 1.0	<input type="radio"/> Score 1.2
Large Facility or Apartment ^b	<input type="radio"/> Score 1.0		

^a Small facilities have 16 or fewer residents.
^b See 6.6.6 for apartments.

WORKSHEET 6.8.10 CALCULATION OF EVACUATION CAPABILITY SCORE			
Total Resident Evacuation Assistance Score (Worksheet 6.8.4) <div style="border: 1px solid black; width: 60px; height: 25px; margin: 5px auto;"></div>	X	Vertical Distance from Sleeping Room to Exit (Worksheet 6.8.9) <div style="border: 1px solid black; width: 60px; height: 25px; margin: 5px auto;"></div>	
			=
		<div style="border: 1px solid black; width: 60px; height: 25px; margin: 5px auto;"></div> Staff Shift Score (Worksheet 6.8.8)	<div style="border: 1px solid black; width: 120px; height: 60px; margin: 5px auto;"></div> Evacuation Capability Score (go to Worksheet 6.8.11)

WORKSHEET 6.8.11 EVACUATION CAPABILITY SCORE		
Evacuation Capability Score	Level of Evacuation Capability	Evacuation Capability for this Facility or Zone
≤1.5	Prompt	
>1.5 to ≤5.0	Slow	
>5.0	Impractical	

(For use with NFPA 101A-2013/NFPA 101-2012)
(p. 4 of 4)

6.8.1 Step 1 — Complete the Cover Sheet Using Worksheet 6.8.1.

See Figure 6.8.

6.8.2 Step 2 — Read Section 6.3 and Section 6.4, then Fill out Worksheets 6.8.2 and 6.8.3.

Complete both forms for each resident, basing the ratings on commonly observed examples of poor performance.

6.8.3 Step 3 — Compute the Total Resident Evacuation Assistance Score.

The following steps should be taken:

1. (1)

List each resident's name on Worksheet 6.8.4. Use a separate scoresheet for each zone being rated. Use additional scoresheets for a large number of residents.

2. (2)

Enter the score for each resident from Worksheet 6.8.3 that was completed for him.

3. (3)

Total the scores for all residents in the facility or zone being rated, as appropriate.

6.8.4 Step 4 — Consider Prequalifications Related to Computing.

The following steps should be taken:

1. (1)

Complete the cover sheet in Worksheet 6.8.5.

2. (2)

Complete Worksheet 6.8.6 for the time of day, week, and so on when the combined ratings for staff and residents yield the highest score. This usually is late at night. Where it is not obvious which staff shift will score highest, complete separate forms for each staff shift and utilize the highest score. Read Section 6.5 before filling out this form.

6.8.5 Step 5 — Determine the Staff Shift Score.

Note that in large facilities, staff members might be responsible for assisting residents in a fire or smoke zone but also might have responsibilities for residents in other zones. (See Section 6.5.) The following steps should be taken:

1. (1)

On Worksheet 6.8.8, list the names of staff members who are required to be on duty in the facility during the shift being rated.

2. (2)

Determine whether the effectiveness of the alarm is "assured" or "not assured." (See 6.5.3.2.2.)

3. (3)

Using the values from Worksheet 6.8.7, determine each staff member's "promptness of response score" for the shift being rated. Enter each staff member's name and score in the appropriate spaces on Worksheet 6.8.8.

4. (4)

Total the "promptness of response scores" for the shift rated.

6.8.6 Step 6 — Rate the Facility Using Worksheet 6.8.9.

Rate the facility by checking the circle that indicates the vertical distance a resident must travel from a sleeping room (SR) to an exit.

6.8.7 Step 7 — Determine Evacuation Capability.

Determine the facility's evacuation capability, using Worksheet 6.8.10. Calculate the score by multiplying the Total Resident Evacuation Assistance Score (Worksheet 6.8.4) by the Vertical Distance from Sleeping Room to Exit (Worksheet 6.8.9) and then dividing by the Staff Shift Score (Worksheet 6.8.8). The evacuation capability is determined and recorded in Worksheet 6.8.11.