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# Fire Safety for Students With Disabilities at Institutions of Higher Education

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Prepared under Department  
of Homeland Security Fire  
Prevention and Safety Grant  
EMW-2007-FP-01856

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## **1 Executive Summary**

On May 12, 2008, the Michael H. Minger Foundation was awarded a Fire Prevention and Safety Grant (grant EMW-2007-FP-01856) by the Department of Homeland Security to conduct a review of fire safety policies relating to students with disabilities at a variety of institutions of higher education across the country. A broad selection of institutions was chosen ranging from large to small, public, private, urban, and rural. In addition to the policy review, a review of the applicable requirements in national model building, fire and life safety codes in relation to accessibility and egress for people with disabilities was undertaken.

To accomplish this, the following actions were implemented:

- A steering committee of thirteen national experts was formed to help guide the project
- A fire safety specialist was retained to conduct a review of national fire, building and life safety codes
- A survey was developed and distributed to 225 schools
- A series of meetings were held by grant staff to learn more about the issues of fire safety for students with disabilities
- Web-based research was undertaken to identify resources and information relevant to the grant project

The conclusions in this report were drawn from a survey of colleges and universities (which will be referred to by the generic term “schools”) and from an analysis of model building, fire and life safety codes. Over 200 schools were identified across the nation as a representative sample and asked to fill out an online survey. Fifty responded and provided the information for this report. Based on this response, the reader is cautioned that this is not necessarily a scientific sampling of the over 4,000 institutions across the country but is, instead, a snapshot of policies and procedures at a variety of schools. We strove to include a diversity of schools (public/private, large/small, geographically diverse) to ensure a wide variety of conditions, policies and procedures among the respondents.

It is important to clarify the term “disability” that is used throughout this report. According to one report, there are over 60 definitions of the word disability in Federal regulations which points to the difficulty with reaching consensus on how to apply the term. For the purposes of this report, the word “disability” (unless clarified further in the text) refers to a person with either a physical, sensory, cognitive or learning disability.

As was learned in the course of this research, there is a lack of consistency among the schools surveyed in terms of how they are approaching the issue of fire safety for students with disabilities. Further compounding this is the range of cognitive disabilities that exist and the difficulty to develop broad, yet focused and effective, procedures for these students.

There are three entities involved in fire safety for all students, including those with disabilities: the school, the local fire department/community and the student. Each has a specific role and function, yet they are all intertwined when it comes to taking a holistic approach.

The school has the responsibility for ensuring that the built environment meets the applicable codes and the requirements detailed in state and local building codes and in the American with Disabilities Act (ADA). It is also responsible for developing policies, procedures and training relating to fire safety for all students, staff and faculty, including those with disabilities. The school may have its own first responders whose plans and operations must be integrated with external responders.

The fire department/community is responsible for responding to, controlling and mitigating emergencies. Depending upon the jurisdiction, the fire department may also have the responsibility for building

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construction plan review, inspections and fire prevention education and training. Additional jurisdictional authority can include the local building or state building departments.

The student has responsibility for his or her personal safety at all times, no matter where he or she may be - in the residence hall, classroom, a restaurant or a movie theater. At all times, it is incumbent upon the student to have a basic awareness of his or her surroundings and what actions to take in the event of an emergency. This is true of all students, with or without disabilities, and is a life-long skill that they need to master and apply.

Students with disabilities also have the responsibility to identify themselves to the schools so that any necessary procedures can be developed or implemented to either notify the student of an emergency or to assist in evacuation or sheltering-in-place if necessary. The schools then have a responsibility to notify the first responders and/or the local fire department of the presence of a student with disabilities so that they, in turn, can also develop procedures for ensuring the safety of the students as well as the first responders during an emergency.

The question arises as to how to best arrive at an acceptable level of fire safety that encompasses all of these aspects and responsibilities in an effective manner. It is hoped that through the results of this project, schools and communities will work together towards effective solutions.

## **1.1 Findings**

### **1.1.1 Identifying students with disabilities**

One of the issues of greatest concern that emerged as a part of this study is that a school cannot take action to prepare for an emergency in relation to a student's disability unless the student self-identifies as needing assistance. While the school can prepare, in general, for emergencies involving students with disabilities, unless the student specifically identifies as needing assistance, the school cannot develop alert and evacuation contingencies that meet the needs of a specific student. This is an area where there is a lack of full agreement as to what the ADA exactly requires as to identifying students with disabilities and requires further study. (NOTE: The modern building codes address a number of access and egress requirements relating to mobility impairment. However, there is more needed in the areas relating to cognitive disabilities).

### **1.1.2 Absence of consistency and understanding among schools**

For a number of schools, there was a noted absence of consistency and understanding in regards to the importance of fire safety for students with disabilities and the need for focused procedures and education. Some schools relied upon the local fire department to provide any training that was determined by the school to be needed. Others had procedures in place such as a list of names of students with disabilities in the fire alarm panel that first responders could use during an incident. This is a procedure that assumes the student is in that room (as in a residential occupancy), which certainly is not the case at all times, and may cause the incident commander to divert resources during an emergency, placing other occupants and emergency responders at risk.

A number of schools reported there are no specific provisions in place or the person on campus responsible for disability services was not aware of any required procedures for addressing fire safety for students with disabilities. The model codes do address issues of fire drills in occupancies found at schools (i.e., residence halls), but are silent when it comes to issues relating to fire safety for students with disabilities.

This indicates the lack of a coordinated and holistic approach to fire safety for the population of students with disabilities. As on any campus, there are different departments responsible for different areas (fire safety, disabilities, housing, physical plant, student services, and facilities management). However, there appeared to be a disconnect between these departments in addressing the vital need for emergency response for students with disabilities. In fact, several of the respondents to the survey stated that the first time they had a conversation with the department responsible for fire safety was while gathering information for the survey.

### **1.1.3 Absence of uniform, broadly-distributed information**

In conducting research for this project, no national campus fire safety programs that included information for students with disabilities were found. There are a number of campus fire safety education programs that have been developed over the past few years due to the increased awareness of the importance of campus fire safety, but none of them included information for students with disabilities. This apparently was not a deliberate oversight; it was just not a topic that was considered in the development of these programs.

#### **1.1.4 Absence of details in model codes pertaining to students with disabilities and fire safety**

Many of the building, fire and life safety codes address the issue of building accessibility through references to the American National Standards Institute (ANSI) A117.1 *Standard on Accessible and Usable Buildings and Facilities* which is the most commonly referenced standard on building accessibility for people with disabilities. However, there is a noted lack of information regarding how to accommodate the needs of the full spectrum of the disabled population, particularly those with cognitive disabilities, when it comes to evacuating a building, particularly in the area of procedures to be followed in providing information or assistance to people with disabilities. This is a combination of both the built environment, design features (such as means of egress, areas of refuge, etc.) and building operations where it is necessary to have a procedure in place to assist people with disabilities in ensuring their safety.

The provisions associated with mobility disabilities have been addressed within the documents with the referencing of an independent standard associated with accessibility, ICC/ANSI A117.1, *Accessible and Usable Buildings and Facilities*, and incorporating additional provisions within the respecting documents. It was also noted that the individual states have additional accessible guidelines and requirements that may be applicable.

Specific provisions associated with occupants with cognitive disabilities have not been addressed within these applicable documents. This finding is based on the recognition that these documents were developed on the principals of establishing minimum requirements from which the intended building occupants will have an appropriate and reasonable response that is associated with that of a "general public population."

The documents establish minimum requirements for particular occupancies for the determination and notification of an emergency condition to the building occupant but it is recognized that the occupants of these facilities will generally be able to respond without additional assistance.

The construction, compartmentation and suppression requirements for particular occupancies that limit the fire spread are provided when it is determined that the occupant's response may be delayed such as those found in residential occupancies where they sleep and may have a delay in response. Newly constructed residential occupancies consisting of multiple dwelling units within a structure are required to be protected by a fire sprinkler system. The installation of a fire sprinkler system provides benefits to all occupants and especially those with mobility and cognitive disabilities by increasing the available time to react and respond to an emergency and by limiting the effects of the fire emergency.

Training and educational requirements are detailed within the fire codes for particular occupancies. Each use or occupancy establishes the applicable minimum requirements related to the building's occupants and/or employees. These requirements are generally related to the evacuation of the facility in the event of an emergency. There is no direct referencing within these training or educational requirements that the cognitive disabilities or abilities of the occupants are to be identified and addressed.

### **1.1.5 Absence of awareness of the importance of fire safety specifically for students with disabilities**

As with fire safety for the general population, the ultimate responsibility lies with the individual in ensuring his or her personal safety. This is accomplished by raising the awareness of the importance of selecting housing, schooling and workplace environments that have an acceptable level of fire safety both in design and operation. The individual is also responsible for knowing what actions to take in the event of an emergency, no matter where they are. The awareness of fire safety as an issue in selecting on- or off-campus housing needs to be included in housing information for students and their families who are involved in housing decisions. This awareness can only come through education and training and this is a shared responsibility between the individual, the school and the fire department/community.

A review of the responses to the questions posed in the survey regarding policies and procedures for assisting students with disabilities during emergencies revealed that many respondents simply answered "none" or "don't know". Since the survey was directed to the office on each campus that dealt with disability issues, it is of concern that 1) there may not be any policies in place and/or 2) that this office is not aware or familiar with these policies and/or 3) there is no assigned internal department to specifically address this issue. This suggests that schools may not be addressing the needs of this segment of the population as completely as may be needed.

## **1.2 Recommendations**

### **1.2.1 Clarify the legal requirements and restrictions when dealing with emergency planning for students with disabilities.**

There were two specific areas identified through the course of this project that need clarification:

- The responsibility of a school for providing a tailored fire safety plan in response to a student who does not self-identify as having a disability or requiring special assistance.
- The ability of a school to restrict where students may live based on their disability.

In both cases, there were no definitive answers that could be found and more clarity and guidance is needed for schools to use in developing their policies and practices for students with disabilities.

### **1.2.2 Raise awareness among administrators**

School administrators must be made aware of the importance of being able to provide effective fire safety procedures for students with disabilities that address all levels and types of physical and cognitive disabilities. Since the students can be at any location on the campus at any time, it is important that there are policies and procedures in place to provide the student with the needed level of fire safety in all buildings - housing, academic, administrative, support and other locations on campus. Furthermore, it is critical that this awareness be made across the different departments within the institution's structure that will deal with the various aspects of a disabled student's academic experience (housing, office of disabilities, public safety and student services). It is also vitally important that the student understand their role in interacting with these fire safety provisions, whether they are built-in features or policies and procedures.

### **1.2.3 Develop effective model procedures**

There is a wide diversity of procedures reported by schools in addressing the fire safety needs of students with disabilities – or none at all. While it is impossible to develop a “one size fits all” solution to the myriad of disabilities associated with students that may be enrolled at a school, particularly in the area of cognitive disabilities, guidance documents that would serve as models would be invaluable in helping a school develop policies and procedures.

### **1.2.4 Engage the student**

Fire safety is a shared responsibility between the school (a safe environment, effective policies and procedures, a well-trained staff), the community (well-trained and prepared emergency responders) and the individual person. As with all students, with or without disabilities, the individual is ultimately responsible for his or her own fire safety. It is vitally important for the student with a disability to be aware of his or her surroundings at all times, what actions need to be taken if an emergency breaks out and to be prepared at all times with the knowledge of how to react. Most importantly, the student needs to be able to react immediately whenever there is a perceived or real threat.

### **1.2.5 Implement code changes**

One of the most significant results of this project was identifying a need for changes in the model building, fire and life safety codes in regards to all people with disabilities, not just students. For a number of years the codes have been working towards achieving universal access which provides everyone with the ability to access a building or facility, no matter what their disability may be. One area that the codes are not as clear in relation to students with disabilities is what action they are to take when an emergency occurs and there is the need for emergency evacuation. While much of the built environment focuses on design of the building, egress, fixed and passive fire protection, there is an absence of information on procedures and policies for evacuation for occupants to take if they are disabled or for other non-disabled occupants to assist in an evacuation.

The building codes and fire codes have addressed building usability for a mobility impaired occupant. It is recognized that these provisions will generally be applicable to only those buildings that have been built since the accessibility requirements became mandatory starting in the early 1980's or have had some level of renovation performed on an existing structure. At the completion of the review of this report, it will be noticed that the model building and fire codes do not specifically address those occupants that may have cognitive disabilities. The current code provisions have been developed with the assumption that the general public occupant in these occupancies will be able to respond to the emergency and the emergency notification with appropriate action without assistance and in some occupancies without any additional training being provided. Training and educational requirements within the fire codes should be enhanced so that the building occupants with cognitive disabilities are included and the appropriate training and/or information can be provided to assist in their appropriate response to an emergency event in a given building.

As a result, a series of code changes have been proposed for the International Code Council Building Code and Property Management Code (see section 5 of this report for more details).

### **1.2.6 Develop resources**

As noted earlier, there is an absence of broadly-distributed information and education resources available for schools to use in providing fire safety education and training to students with disabilities. While it is difficult (if not impossible) to develop a "one size fits all" approach to fire safety since each school is going to be different because of their staffing, built environment and available emergency resources, it would be extremely helpful to have some templates available that schools can use in developing their own tailored educational programs based on fundamental concepts associated with teaching students with disabilities.

## **2 Project Overview**

### **2.1 About the Michael H. Minger Foundation**

The Foundation was formed to honor the life of Michael H. Minger following his tragic death in an arson fire at Murray State University on September 18, 1998. The purpose of the Foundation is to raise awareness and better educate the millions of students attending colleges and universities across the nation about fire safety. The Michael H. Minger Memorial Foundation was established to also address the special needs of students with cognitive and sensory disabilities and how campus communities can better serve this group of students. The Foundation strives to improve fire safety on college and university campuses and, through these endeavors, save lives.

### **2.2 Advisory Committee**

To help in guiding the progress of this grant, an Advisory Committee was formed of experts with a diversity of backgrounds. Regular teleconferences were held with this Committee to keep them apprised of the grant progress and for the project to benefit from their experience and their access to institutions of higher education.

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Nancy Trench  
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## **2.3 Project Management**

Overseeing the grant was a project management team that was comprised of Gail Minger, president of the Michael H. Minger Foundation and Ed Comeau, owner of writer-tech.com and publisher of Campus Firewatch.

Mrs. Minger lost her son, Michael, in a residence hall arson fire in 1998 and since that time has become a strong advocate for campus fire safety. She is a recognized national expert in the field and has been instrumental in effecting change in Kentucky with the passage of the Michael Minger Act and nationally as well. She is a member of the Board of Advisors for Security on Campus, the Board of Directors for the Center for Campus Fire Safety and is Founding Advisory Board Member for Common Voices, a fire safety advocacy organization comprised of fire safety survivors and parents which was awarded the Paul Sarbanes Fire Service Safety Leadership Award. She is also the recipient of the Jeanne Clery Advocate of the Year Award.

Mr. Comeau is the former chief fire investigator for the National Fire Protection Association, current publisher of Campus Firewatch, and founder and former director of the non-profit Center for Campus Fire Safety. He is the author of the chapter on campus fire safety for the NFPA Fire Protection Handbook and organizer of the annual National Campus Fire Safety Month campaign each September. He has worked on a number of educational programs including *To Hell and Back: College Fire Survival* and *Graduation: Fatally Denied*. He was selected to serve on the U.S. Department of Education committee developing the regulations for the Campus Fire Safety Right-to-Know Law as a representative of the Minger Foundation.

Engineering support was provided by Walter Sterling who is a fire safety specialist with over 20 years of extensive experience in developing and implementing model building, fire and life safety codes. He has served as a fire protection consultant in the private sector and was a senior fire protection specialist with the National Fire Protection Association where he served on a number of committees and code panels.

### **3 Project Methodology**

This grant involved two major activities:

- Conducting a survey of current practices being used at schools in the area of fire safety for students with disabilities.
- Conducting an analysis of current building, fire and life safety codes in the area of fire safety for students with disabilities as it relates to institutions of higher education.

Before embarking on these surveys, it was felt that it would be useful to develop an understanding of disability since there is a broad spectrum of disabilities that include mobility, sensory and cognitive impairments. The project management team had a series of meetings with disability professionals and also attended several conferences focusing on the issues facing this demographic. In addition, research was conducted into various aspects of disabilities and definitions.

#### **3.1 Definition of disabilities**

There is no single, consistent, definition of "disability." According to one compilation prepared for the Interagency Committee on Disability Research, there are 67 different references to disability in the Federal Code ([http://www.icdr.us/documents/Disability\\_definitions\\_2003\\_%20final\\_Aug19.doc](http://www.icdr.us/documents/Disability_definitions_2003_%20final_Aug19.doc)).

In 2008, an update to the American with Disabilities Act (ADA) was enacted that included an updated definition in response to litigation. The following information was developed by the Department of Education's Frequently Asked Questions ( <http://www.ed.gov/about/offices/list/ocr/504faq.html>) in response to this change.

##### **STUDENTS PROTECTED UNDER SECTION 504** of the Rehabilitation Act of 1973

Section 504 covers qualified students with disabilities who attend schools receiving Federal financial assistance. To be protected under Section 504, a student must be determined to: (1) have a physical or mental impairment that substantially limits one or more major life activities; or (2) have a record of such impairment; or (3) be regarded as having such.

##### **What is a physical or mental impairment that substantially limits a major life activity?**

The determination of whether a student has a physical or mental impairment that substantially limits a major life activity must be made on the basis of an individual inquiry. The Section 504 regulatory provision at 34 C.F.R. 104.3(j)(2)(i) defines a physical or mental impairment as any physiological disorder or condition, cosmetic disfigurement, or anatomical loss affecting one or more of the following body systems: neurological; musculoskeletal; special sense organs; respiratory, including speech organs; cardiovascular; reproductive; digestive; genito-urinary; hemic and lymphatic; skin; and endocrine; or any mental or psychological disorder, such as mental retardation, organic brain syndrome, emotional or mental illness, and specific learning disabilities. The regulatory provision does not set forth an exhaustive list of specific diseases and conditions that may constitute physical or mental impairments because of the difficulty of ensuring the comprehensiveness of such a list.

Major life activities, as defined in the Section 504 regulations at 34 C.F.R. 104.3(j)(2)(ii), include functions such as caring for one's self, performing manual tasks, walking, seeing, hearing, speaking, breathing, learning, and working. This list is not exhaustive. Other functions can be major life activities for purposes of Section 504. In the Amendments Act (see FAQ 1), Congress provided additional examples of general activities that are major life activities, including eating, sleeping, standing, lifting, bending, reading, concentrating, thinking, and communicating. Congress also provided a non-exhaustive list of examples of "major bodily functions" that are major life activities, such as the functions of the immune system, normal cell growth, digestive, bowel, bladder, neurological, brain, respiratory, circulatory, endocrine, and reproductive functions. The Section 504 regulatory provision, though not as comprehensive as the

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Amendments Act, is still valid – the Section 504 regulatory provision's list of examples of major life activities is not exclusive, and an activity or function not specifically listed in the Section 504 regulatory provision can nonetheless be a major life activity.

### **Does the meaning of the phrase "qualified student with a disability" differ on the basis of a student's educational level, i.e., elementary and secondary versus postsecondary?**

Yes. At the elementary and secondary educational level, a "qualified student with a disability" is a student with a disability who is: of an age at which students without disabilities are provided elementary and secondary educational services; of an age at which it is mandatory under state law to provide elementary and secondary educational services to students with disabilities; or a student to whom a state is required to provide a free appropriate public education under the Individuals with Disabilities Education Act (IDEA).

At the postsecondary educational level, a qualified student with a disability is a student with a disability who meets the academic and technical standards requisite for admission or participation in the institution's educational program or activity.

### **Does the nature of services to which a student is entitled under Section 504 differ by educational level?**

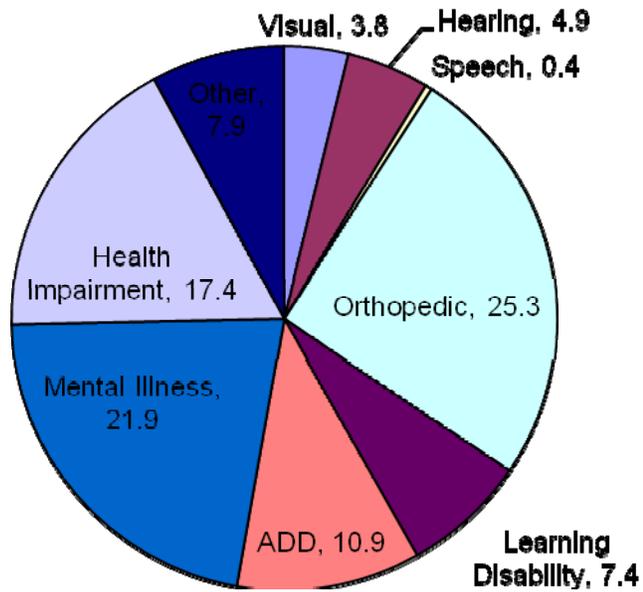
Yes. Public elementary and secondary recipients are required to provide a free appropriate public education to qualified students with disabilities. Such an education consists of regular or special education and related aids and services designed to meet the individual educational needs of students with disabilities as adequately as the needs of students without disabilities are met.

At the postsecondary level, the recipient is required to provide students with appropriate academic adjustments and auxiliary aids and services that are necessary to afford an individual with a disability an equal opportunity to participate in a school's program. Recipients are not required to make adjustments or provide aids or services that would result in a fundamental alteration of a recipient's program or impose an undue burden.

Given that there is a lack of consistency in definitions, there is also a disparity in how many people can be considered disabled. This is even more complicated in the world of cognitive disabilities.

According to the U.S. Department of Education, approximately 11 percent of undergraduate population reports that they have some type of disability as outlined in the following tables.

**Types of disabilities among students reporting having a disability by %**



**Figure 1** Types of disabilities among students reporting having a disability

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**Table 1 Percentage of undergraduates who reported some type of disability and among those who did, the percentage distribution, by type of disability and selected institutional and student characteristics: 2003–04**

Specific Institutional and student characteristics	Among students with disabilities							Attention deficit disorder	Mental illness/depression	Health impairment/s/problems	Other <sup>2</sup>
	Any <sup>1</sup> disabilities	Visual	Hearing	Speech	Orthopedic	learning disability					
U.S. total (excluding Puerto Rico)	11.3	3.8	5.0	0.4	25.4	7.5	11.0	21.9	17.3	7.8	
Total (50 states, DC, and Puerto Rico)	11.3	3.8	4.9	0.4	25.3	7.4	10.9	21.9	17.4	7.9	
4-year sector <sup>3</sup>											
Public and private not-for-profit	10.0	3.6	4.6	0.5	23.3	6.7	13.8	24.9	16.4	6.2	
Public	9.9	3.9	3.9	0.6	23.1	7.1	14.8	24.1	16.7	6.0	
Private not-for-profit	10.4	3.0	6.2	0.4	23.7	6.1	11.6	26.6	15.6	6.8	
Institution type <sup>3</sup>											
Public	11.4	4.1	4.8	0.5	24.7	7.7	11.1	21.5	17.4	8.1	
Less-than-2-year	14.8	3.4	7.9	0.8	37.1	8.0	10.3	10.3	16.8	5.6	
2-year	12.4	4.3	5.4	0.5	25.4	8.1	8.9	20.2	17.9	9.5	
4-year non-doctorate-granting	11.0	5.0	4.2	0.4	27.3	6.5	13.6	21.5	16.7	4.9	
4-year doctorate-granting	9.3	3.2	3.6	0.7	20.3	7.4	15.6	25.8	16.8	6.7	
Private not-for-profit	10.4	3.1	6.2	0.4	23.6	6.1	11.5	26.6	15.7	6.8	
Less-than-4-year	12.0	3.6	6.2	#	22.5	5.8	9.2	27.0	19.0	6.8	
4-year non-doctorate-granting	11.2	2.6	6.4	0.3	26.8	6.9	9.1	24.8	14.9	8.3	
4-year doctorate-granting	9.0	4.0	5.9	0.6	17.5	4.4	16.7	30.1	17.0	3.8	
Private for-profit	13.2	2.3	5.3	0.1	30.7	7.3	7.7	18.6	20.6	7.4	
Private for-profit less-than-2-year	12.5	3.7	6.4	0.1	25.8	7.3	7.4	23.5	18.7	7.2	
Private for-profit 2 years or more	13.6	1.7	4.8	0.0	33.0	7.2	7.9	16.4	21.5	7.5	
More than one institution	10.8	4.3	3.4	0.2	27.7	7.5	11.9	20.9	16.5	7.6	
Attendance intensity											
Any full-time	10.7	3.4	4.7	0.5	23.1	8.2	12.7	22.7	17.7	6.9	
Exclusively part-time	12.5	4.5	5.4	0.3	28.8	6.2	8.0	20.5	17.0	9.3	

# Fire Safety for Students with Disabilities at Institutions of Higher Education

Prepared under DHS Fire Prevention and Safety Grant EMW-2007-FP-01856

**Table 1 (continued) Percentage of undergraduates who reported some type of disability and among those who did, the percentage distribution, by type of disability and selected institutional and student characteristics: 2003–04—Continued**

Specific Institutional and student characteristics	Among students with disabilities									
	Any disabilities <sup>1</sup>	Visual	Hearing	Speech	Orthopedic	learning disability	Attention deficit disorder	Mental illness/depression	Health impairments/problems	Other <sup>2</sup>
<b>Gender</b>										
Male	11.2	4.0	5.5	0.6	25.8	8.3	14.5	19.1	14.7	7.4
Female	11.4	3.7	4.5	0.3	24.9	6.8	8.3	23.9	19.4	8.2
<b>Race/ethnicity<sup>4</sup></b>										
White	11.7	3.6	5.0	0.3	24.3	7.6	12.6	22.6	16.8	7.3
Black	10.7	4.2	4.3	0.2	29.6	6.1	5.8	18.7	21.9	9.3
Hispanic	10.9	4.7	6.6	0.4	25.3	8.2	9.1	20.8	16.1	8.8
Asian	7.1	6.8	4.8	2.1	24.0	6.6	7.2	28.3	11.7	8.4
American Indian	14.6	5.1	5.3	3.3	33.8	4.3	4.2	14.6	22.9	6.6
Pacific Islander	9.1	2.6	9.1	#	35.6	2.1	9.8	26.0	10.2	4.6
Multiple races	14.8	2.5	1.1	0.9	23.4	9.4	9.8	22.4	21.6	9.0
Other	15.0	1.6	2.2	0.7	26.8	7.7	12.7	17.0	20.7	10.5
<b>Dependency status</b>										
Dependent	9.0	4.3	4.3	0.7	17.1	10.8	18.6	22.9	14.3	7.0
Independent	13.6	3.6	5.4	0.3	30.6	5.3	5.9	21.2	19.5	8.4
<b>Age as of 12/31/03</b>										
18 years or younger	8.6	4.4	6.6	1.4	16.4	9.4	21.0	21.7	13.9	5.4
19–23 years	9.2	3.8	4.1	0.5	17.0	10.3	16.8	25.7	14.4	7.5
24–29 years	10.1	4.1	5.5	0.4	24.1	7.5	9.4	21.8	19.2	8.2
30–39 years	13.9	4.1	3.9	0.6	27.9	6.0	5.1	24.4	18.9	9.2
40 years or older	20.3	3.3	6.4	#	41.7	3.0	2.7	13.4	21.6	8.1

# Fire Safety for Students with Disabilities at Institutions of Higher Education

Prepared under DHS Fire Prevention and Safety Grant EMW-2007-FP-01856

**Table 1 (continued) Percentage of undergraduates who reported some type of disability and among those who did, the percentage distribution, by type of disability and selected institutional and student characteristics: 2003–04—Continued**

Specific Institutional and student characteristics	Among students with disabilities									
	Any disabilities <sup>1</sup>	Visual	Hearing	Speech	Orthopedic	learning disability	Attention deficit disorder	Mental illness/depression	Health impairments/problems	Other <sup>2</sup>
<b>Income</b>										
Lowest 25 percent	12.5	3.8	4.4	0.6	22.3	5.8	8.8	25.1	19.8	9.4
Middle 50 percent	11.2	4.0	4.8	0.3	25.2	8.7	10.8	21.3	17.9	7.1
Highest 25 percent	10.4	3.6	6.0	0.6	29.0	6.8	13.5	19.3	13.6	7.6
<b>Parents' education</b>										
High school diploma or less	12.1	3.5	5.8	0.4	29.7	6.7	6.9	19.1	19.2	8.6
Some postsecondary education	11.4	4.0	4.4	0.5	25.0	7.2	9.5	22.5	17.3	9.6
Bachelor's degree or higher	10.5	4.1	4.6	0.4	21.0	8.2	16.4	24.1	15.5	5.9
<b>Employment while enrolled</b>										
Did not work	13.1	3.8	4.4	0.8	25.5	6.3	9.7	23.1	18.7	7.8
Part-time	10.2	3.9	4.6	0.5	21.5	9.1	14.3	23.2	15.4	7.5
Full-time (35 or more hours/week)	11.3	3.8	5.8	0.1	29.5	6.6	8.0	19.3	18.6	8.4

# Rounds to zero.

<sup>1</sup> Includes students who reported having a “long-lasting” condition such as blindness, deafness, or a severe vision or hearing impairment; a condition that limits “one or more of the basic physical activities such as walking, climbing stairs, reaching, lifting, or carrying”; or who responded they had any other physical, mental, or emotional condition that lasted 6 or more months and who had difficulty doing one of the following five activities: getting to school, getting around campus, learning, dressing, or working at a job.

<sup>2</sup> Respondent reported a disability other than those listed.

<sup>3</sup> Refers to NPSAS institution only.

<sup>4</sup> Black includes African American, Hispanic includes Latino, American Indian includes Alaska Native, Pacific Islander includes Native Hawaiian, and Other includes respondents having origins in a race not listed. Race categories exclude Hispanic origin unless specified.

NOTE: Detail may not sum to totals because of rounding. Standard error tables are available at <http://nces.ed.gov/das/library/reports.asp>.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 2003–04 National Postsecondary Student Aid Study (NPSAS:04).

Table drawn from Profile of Undergraduates in U.S. Postsecondary Education Institutions: 2003-2004 with a special analysis of Community College Students, Statistical Analysis Report, Table 6.1, pp 134 – 136.

## Fire Safety for Students with Disabilities at Institutions of Higher Education

Prepared under DHS Fire Prevention and Safety Grant EMW-2007-FP-01856

While the following information from the U.S. Census Bureau does not apply directly to college-age students, it does provide an overview of the scope of the disability issue in the nation. This has ramifications because it can be indicative of the students of the future who may be coming into institutions and who may require assistance in some manner.

### Number of Americans With a Disability Reaches 54.4 Million

[http://www.census.gov/Press-Release/www/releases/archives/income\\_wealth/013041.html](http://www.census.gov/Press-Release/www/releases/archives/income_wealth/013041.html)

About one in five U.S. residents - 19 percent - reported some level of disability in 2005, according to a U.S. Census Bureau report released today. These 54.4 million Americans are roughly equal to the combined total populations of California and Florida.

- Both the number and percentage of people with disabilities were higher than in 2002, the last time the Census Bureau collected such information. At that time, 51.2 million, or 18 percent, reported a disability.
- Among those with a disability, 35 million, or 12 percent of the population, were classified as having a severe disability, according to [Americans With Disabilities: 2005](#) [PDF].
- Nearly half (46 percent) of people age 21 to 64 with a disability were employed, compared with 84 percent of people in this age group without a disability. Among those with disabilities, 31 percent with severe disabilities and 75 percent with nonsevere disabilities were employed. People with difficulty hearing were more likely to be employed than those with difficulty seeing (59 percent compared with 41 percent).
- A portion of people with disabilities — 11 million age 6 and older — needed personal assistance with everyday activities. These activities include such tasks as getting around inside the home, taking a bath or shower, preparing meals and performing light housework.

#### Other important findings:

- Among people 15 and older, 7.8 million (3 percent) had difficulty hearing a normal conversation, including 1 million being unable to hear at all. Although not part of the definition of disability used in the report, 4.3 million people reported using a hearing aid.
- Roughly 3.3 million people, or 1 percent, age 15 and older used a wheelchair or similar device, with 10.2 million, or 4 percent, using a cane, crutches or walker.
- Nearly 7.8 million people age 15 and older had difficulty seeing words or letters in ordinary newspaper print, including 1.8 million being completely unable to see.
- More than 16 million people had difficulty with cognitive, mental or emotional functioning. This included 8.4 million with one or more problems that interfere with daily activities, such as frequently being depressed or anxious, trouble getting along with others, trouble concentrating and trouble coping with stress.
- The chances of having a disability increase with age: 18.1 million people 65 and older, or 52 percent, had a disability. Of this number, 12.9 million, or 37 percent, had a severe disability. For people 80 and older, the disability rate was 71 percent, with 56 percent having a severe disability.
- Among people 16 to 64, 13.3 million, or 7 percent, reported difficulty finding a job or remaining employed because of a health-related condition.
- Among people 25 to 64 with a severe disability, 27 percent were in poverty, compared with 12 percent for people with a nonsevere disability and 9 percent for those without a disability.
- Median monthly earnings were \$1,458 for people with a severe disability, \$2,250 for people with a nonsevere disability and \$2,539 for those with no disability.
- Parents reported that 228,000 children under age 3, or 2 percent, had a disability. Specifically, they either had a developmental delay or difficulty moving their arms or legs. In addition, there were 475,000 children 3 to 5 years, or 4 percent, with a disability, which meant they had either a developmental delay or difficulty walking, running or playing.
- There were 4.7 million children 6 to 14, or 13 percent, with a disability. The most prevalent type was difficulty doing regular schoolwork (2.5 million, or 7 percent).

# **Fire Safety for Students with Disabilities at Institutions of Higher Education**

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The Survey of Income and Program Participation produces national-level estimates for the U.S. resident population and subgroups, and allows for the observation of trends over time, particularly of selected characteristics such as income, eligibility for and participation in transfer programs, household and family composition, labor force behavior and other associated events.

## **3.2 School Survey**

In organizing this grant, it was noticed that schools lacked consistency in their approaches and even awareness of how they are to provide fire safety for students with disabilities. A survey of schools to determine what their current practices were towards providing fire safety for students with disabilities would be instrumental in giving a national "snapshot."

## **3.3 Engineering Analysis**

The goal of this analysis was to identify any potential gaps in the codes that could be addressed and to provide a better understanding for schools on the existing requirements. Another focus was the built environment where students are housed on campuses as well as the academic and other types of structures students may occupy.

## **3.4 Site Visits**

Several site visits were undertaken to learn more directly from schools and experts. These included:

Landmark University

Putney, Vermont

Dawn Hubbard

Director of Safety and Security

Northeastern University

Boston, MA

Association on Higher Education and Disability

Richard Allegra

Director of Professional Development

Marshall University

Huntington, West Virginia

Dr. Barbara Becker-Cottrill, Director of the West

Virginia Autism Training Center

Marc Ellison, Program Coordinator for the

College Program for Students with Asperger's

Syndrome

Gallaudet University

Washington, DC

Dr. Meloyde Batten-Mickens, Executive Director

Dept. of Public Safety/Facilities/Transportation

at Gallaudet University

Organization for Autism Research (OARS)

Arlington, Virginia

Dr. Peter Gerhardt, President and Chair of

Scientific Council

Michael Maloney, Executive Director of OAR

Disability Access Review and Advisory

Committee (DARAC)

Chicago, Illinois

University of the Cumberlands

Williamsburg, Kentucky

President Jim Taylor

Vice President of Student Affairs Michael

Colegrove

Emergency Preparedness for Persons with

Disabilities and Special Needs

ANSI Homeland Security Standards Panel and

the National Fire Protection Association

Gallaudet University

Washington, DC

## **4 Survey of practices**

### **4.1 Objective**

One of the issues identified in preparing this grant and throughout the research was the lack of consistency among schools in what is believed to be required or a good practice when it comes to fire safety for students with disabilities. A survey was undertaken to ascertain what schools are currently practicing in fire safety for students with disabilities.

### **4.2 Design of survey tool**

The Advisory Committee worked on developing questions that would be effective in gathering the desired information and went through several iterations. To accomplish the survey, an online survey tool was developed using Survey Monkey. Six schools agreed to participate in a beta test and as a result of this feedback the questions were refined by the Advisory Committee before being launched.

### **4.3 Questions asked**

The following questions were included in the survey.

1. School name
2. School address
3. School Website
4. Football Athletic Conference (if you don't know, select "Unknown." If you do not belong to a conference, please select "Not Applicable." If your conference is not listed, please select "Other.")
5. Are you a...
  - Historically Black College and University (HBCU)
  - Tribal College
  - Hispanic Serving Institution
6. Type of institution
  - Public
  - Private
7. What is the school's full-time enrollment (undergraduate and graduate)
8. Address of the office of disabilities
9. What type of services does the school's office of disabilities offer?
10. How many people staff this office (full-time equivalents)

#### *Clarification on cognitive disabilities*

*(This is to help you in answering the following questions)*

*People with cognitive disabilities reflect a range of unique abilities and needs. Data from the U.S. Census Bureau reports 14.3 million people over the age of 15 with a mental disability. Within this group are people with developmental disabilities, learning disabilities, autism, acquired brain injuries, and diseases of aging such as Alzheimer's.*

*In the following question, disabilities that affect a person's awareness, memory, concentration, perception, organizational skills, problem-solving abilities and ability to learn, process information, communicate, and make decisions are cognitive. People with cognitive disabilities may need modified content or alternate formats for fire safety information.*

# **Fire Safety for Students with Disabilities at Institutions of Higher Education**

*Prepared under DHS Fire Prevention and Safety Grant EMW-2007-FP-01856*

11. How many students does this office serve with each of the following disabilities (if unknown, leave blank. If none, please enter a 0.)
  - Developmental/cognitive disabilities
  - Mobility impairments
  - Visual/hearing impairments
  - Developmental impairments
  - Psychiatric impairments
12. Who does this office report to?
13. What is the office's annual budget? (Enter a whole number without a dollar sign, comma or decimal point)
14. What policies/procedures are used for determining housing for students with disabilities? (If this policy is available online please provide the URL)
15. What number of students with disabilities are housed in each of these occupancies? (If unknown, please leave blank. If none, please enter a 0.)
  - School owned/operated/managed housing (i.e., residence halls, Greek housing under school control, etc.)
  - Greek housing not under the school administration
  - Off-campus housing (housing not under school administration)
16. Is any type of specialized training or education in regards to fire safety provided to students with disabilities?
17. What type of specialized training is provided to staff (resident assistants, resident directors, etc.) in regards to addressing the evacuation and emergency needs of students with disabilities?
18. What policies/procedures are in place for evacuating students with mobility impairments?
19. What policies/procedures are in place for evacuating students with sensory impairments (deaf, hard of hearing, low vision, blind)?
20. What policies/procedures are in place for evacuating students with cognitive impairments?
21. What coordination/training is done with the local fire department/rescue services in regards to procedures for evacuating students with disabilities?
22. What policies/procedures are in place for evacuating students with disabilities in academic buildings?
23. Please provide the URL(s) for any information, resources or procedures that you may have in place at your school.
24. Your contact information in the event that we need to follow up with specific questions.
25. Please provide us with any additional information that you may think would be useful for this project.

## **4.4 Methodology for selecting schools**

In selecting schools efforts were made to get a diversity of representation in the following areas:

- Public/private
- Large/small enrollment
- Athletic conferences (to allow for peer comparison)
- Geographic diversity (at least one school per state)
- Historically Black College or University
- Hispanic Serving Institutions

A total of 225 schools were identified from a list obtained from the U.S. Department of Education online database. Each school was contacted to identify a point of contact within the office of disabilities and an initial email was sent to this person asking for their participation. Throughout the following four months these offices were contacted on a regular basis by either email or telephone to encourage their participation in the project. A total of 50 schools provided responses.

**Fire Safety for Students with Disabilities at Institutions of Higher Education**  
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**4.5 Aggregate results**

The survey was answered by 50 schools of the 225 contacted. The following are the numerical and summaries of the anecdotal responses to the questions. A critical part of the survey was a commitment to not uniquely identify any of the respondents in the final report in order to encourage participation.

Questions 1, 2 and 3 asked for identifying information such as the school's name, address, etc.

Question 4 Football Athletic Conference (44 responses)

	<b>Response Count</b>
American Southwest Conference	0
Appalachian Athletic Conference	0
Atlantic 10 Conference	0
Atlantic Coast Conference	0
Big East Conference	1
Big Sky Conference	3
Big South Conference	0
Big Ten Conference	0
Big Twelve Conference	2
Capital Athletic Conference	0
Centennial Conference	0
Central Atlantic Collegiate Conf	0
Central Intercollegiate Athletic Assoc	0
Central States Football League	0
College Conference of Illinois and Wisc	0
Colonial Athletic Association	0
Conference USA	2
Dakota Athletic Conference	0
Division I Independents	0
Division I-A Independents	0
Division I-AA Independents	0
Division II Independents	0
Division III Independents	1
Eastern College Athletic Conference	0
Empire Eight	1
Florida Sun Conference	0
Freedom Football Conference	0
Frontier Conference	0
Gateway Football Conference	0
Golden State Athletic Conference	0
Great Lakes Intercollegiate Ath Conf	0
Great Lakes Valley Conference	0
Great Northwest Athletic Conference	0
Great Plains Athletic Conference	0
Great South Athletic Conference	0
Gulf South Conference	1
Heart of America Athletic Conference	0
Heartland Collegiate Athletic Conference	0

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Heartland Conference	0
Illini-Badger Intercollegiate Football Conference	0
Independent Great Lakes Region	0
Iowa Intercollegiate Athletic Conf	0
Ivy Group	0
Kansas Collegiate Athletic Conf	0
Lone Star Conference	0
Metro Atlantic Athletic Conference	0
Michigan Intercollegiate Athletic Assoc	0
Mid-America Intercollegiate Ath Assoc	1
Mid-American Conference	1
Middle Atlantic States Athletic Corporation	0
Mid-Eastern Athletic Conference	1
Mid-South Conference	1
Mid-States Football Association	0
Midwest Classic Conference	0
Midwest Conference	0
Minnesota Intercollegiate Ath Conf	1
Mountain West Conference	1
New England Football Conference	0
New England Small College Ath Conf	1
New Jersey Athletic Conference	0
North Central Intercollegiate Athletic Conf	0
North Coast Athletic Conference	0
Northeast 10 Conference	0
Northeast Conference	0
Northern Athletics Conference	0
Northern Sun Intercollegiate Conference	2
Northwest Conference	0
Not applicable	12
Ohio Athletic Conference	0
Ohio Valley Conference	1
Old Dominion Athletic Conference	0
Pacific-10 Conference	1
Patriot League	0
Pennsylvania Athletic Conference	0
Pennsylvania State Athletic Conference	0
Pioneer Football League	0
Presidents' Athletic Conference	0
Red River Athletic Conference	0
Rocky Mountain Athletic Conference	0
South Atlantic Conference	0
Southeastern Conference	3
Southern California Intercoll Ath Conf	0
Southern Collegiate Athletic Conference	3
Southern Conference	0
Southern Intercollegiate Athletic Conf	0
Southland Conference	0
Southwestern Athletic Conference	0
St. Louis Intercollegiate Ath Conf	0

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State University of New York Ath Conf	1
Sun Belt Conference	2
University Athletic Association	0
Upper Midwest Athletic Conference	0
Upstate Collegiate Athletic Association	0
USA South Athletic Conference	0
West Virginia Intercollegiate Athletic Conf	1
Western Athletic Conference	0
Wisconsin Intercollegiate Ath Conf	0
Other (please specify)	4
<b>answered question</b>	<b>44</b>

### 5. Are you a:

	Response Count
Historically Black College and University	1
Hispanic Serving Institution	2

### 6. Type of Institution

	Response %
Public	57%
Private	43%

**Questions 7-10 were information about the address and services offered by the Office of Disabilities.**

**Fire Safety for Students with Disabilities at Institutions of Higher Education**  
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11 How many students does this office service with each of the following disabilities? (45 responses)

	Response Average
Developmental/cognitive disabilities	195
Mobility impairments	33
Visual/hearing impairments	20
Developmental impairments	7
Psychiatric impairments	52

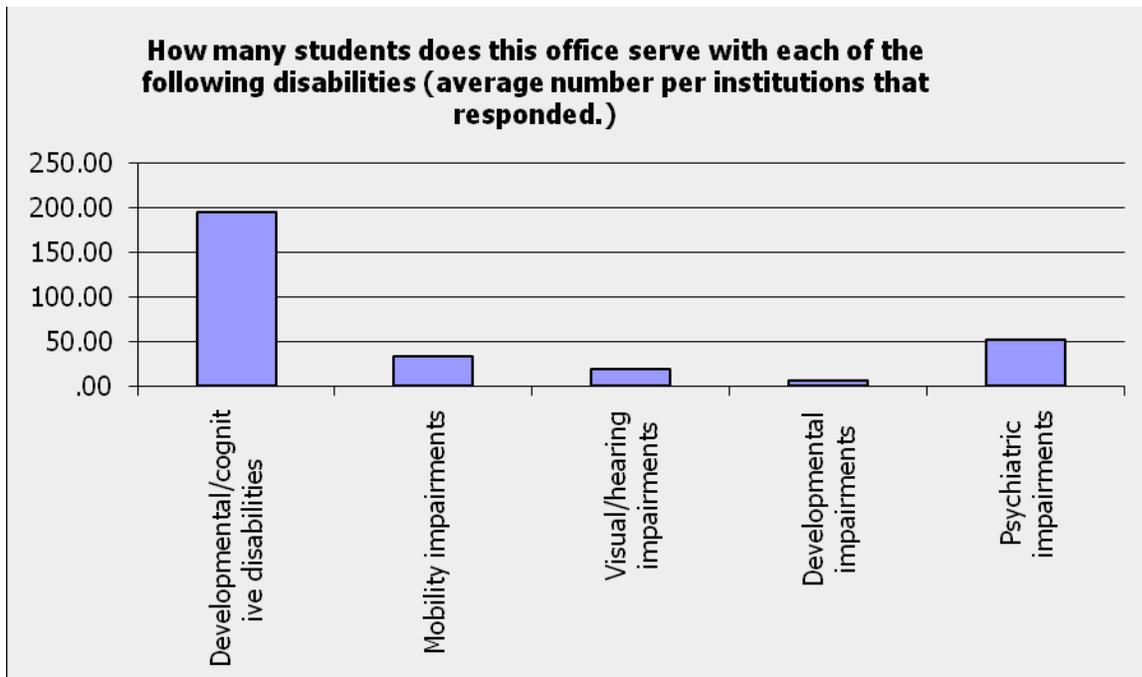


Figure 2 Number of students served with disabilities

Question 12 was regarding the reporting structure of the office. The answers were too inconsistent for reporting.

13. What is the office of disability service's annual budget? (37 responses)

Answer Options	Response Average
Annual budget	\$166,223.70
<i>answered question 37</i>	

## Fire Safety for Students with Disabilities at Institutions of Higher Education

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### 14. What policies/procedures are used for determining housing for students with disabilities?

One of the issues that arose was that of where students with disabilities are housed, particularly those with mobility impairments. A number of the schools do require that at least freshmen, and in some cases, sophomores as well, live in university housing. If a student self-identifies as needing special accommodations due to a disability then the request is addressed to determine the best course of action for meeting their individual needs. This may require documentation from a physician as part of the process, and some schools appear to have a structured process in place for handling the needs of students with disabilities. However, other schools do not have an established procedure in place and in at least one response it was noted that it is addressed on a case-by-case basis without any formal written policy or procedure.

Several schools responded by reporting that their policy is to house students with mobility impairments on the first floor with the logic being that it will be easier to evacuate them or for emergency personnel to reach them if needed. When the legality of this practice was asked informally of the Department of Justice Disability Rights Section, an interpretation was offered that this might be considered discriminatory based on the following reference:

**II-3.2000 Denial of participation.** The ADA, like other civil rights statutes, prohibits the denial of services or benefits on specified discriminatory grounds. Just as a government office cannot refuse to issue food stamps or other benefits to an individual on the basis of his or her race, it cannot refuse to provide benefits solely because an individual has a disability. (The American with Disabilities Act, Title II Technical Assistance Manual, Covering State and Local Government Programs and Services, <http://www.ada.gov/taman2.html>)

This question was posed to a number of campus officials on a campus fire safety list serv as to what is their current practice and interpretation of requirements and it would appear that there is no consensus on the requirements among those that responded. The following responses were received:

- *The short answer is that housing is a social program (not a place to sleep) and there are programs (special interest housing, living learning environments, honors, ...) that are not available on the first floor so we offer all students including students with disabilities the option of living where they want. We discuss emergency evacuation options and build the best possible plan with the student, including but not limited to assignment to the first floor if that is what the student chooses. Students being immortal will generally choose based on social not emergency considerations. When we build and renovate space our goal is to have accessible rooms on every floor to avoid having an inaccessible program on an upper floor.*
- *At least 1 dorm room per floor, per wing is permanent set-up to meet the ADA requirements for the building's fire alarm system.*
- *We used to make them live on the first floor but over the past couple of years they can and do live though out the buildings. I do talk with them concerning evacuation hazards but they say they have the right to live where they want and you (meaning the university) must make it safe for me to stay here.*
- *Our ADA Coordinator has repeatedly echoed the same sentiment you raise in your email. Mobility challenged students are free to live on whatever floor they wish, providing that the necessary accommodations are made.*

In one communication, the school reported that they had undergone an audit by the Office of Civil Rights from the Department of Education. As a result, they have modified rooms on each floor in the residence hall and, if requested and available, the student is placed in one of these rooms.

# Fire Safety for Students with Disabilities at Institutions of Higher Education

Prepared under DHS Fire Prevention and Safety Grant EMW-2007-FP-01856

15. What number of students with disabilities are housed in each of these occupancies? (27 responses)

	Response Average
School owned/operated/managed housing (i.e., residence halls, Greek housing under school control, etc.)	86
Greek housing not under the school administration	2
Off-campus housing (housing not under school administration)	56

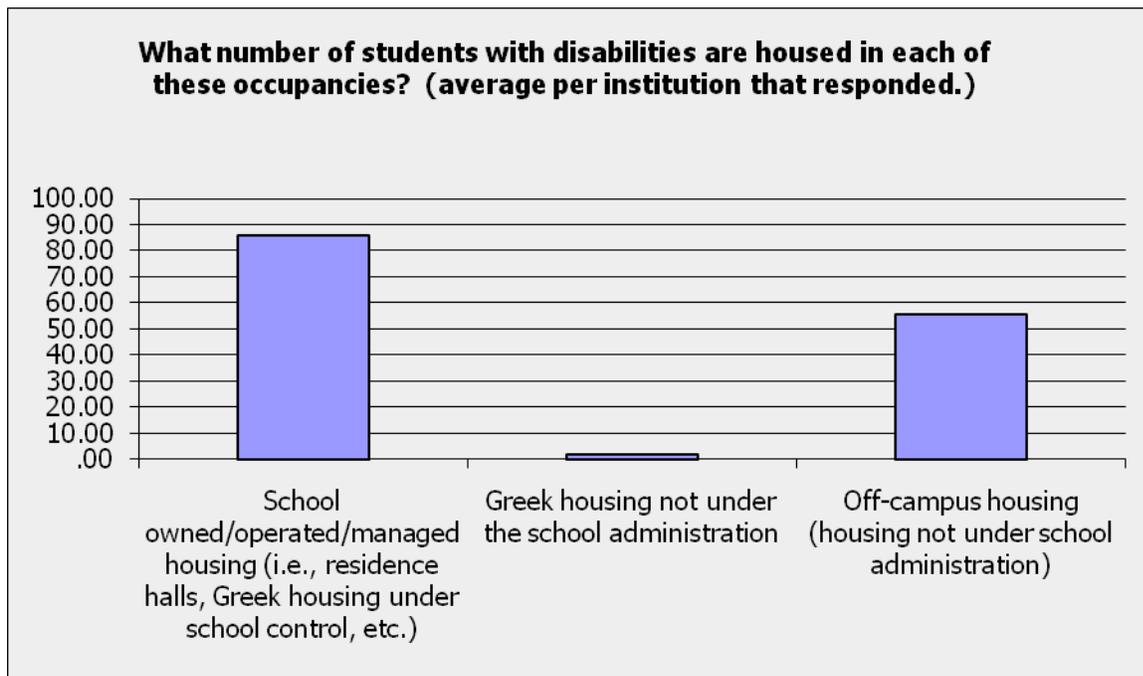


Figure 3 Number of students housed in occupancies

## Fire Safety for Students with Disabilities at Institutions of Higher Education

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### 16. Is any type of specialized training or education in regards to fire safety provided to students with disabilities? (46 responses)

Out of the 46 responses to this question, 28 replied that they did not provide any specialized type of training or were not aware of any specialized type of training being provided to students with disabilities.

As with many of the responses to the survey, the responses varied from "no" or "They (students with disabilities) get the same information as everyone else," to a more comprehensive response such as that below.

*"The ADA/504 Compliance Coordinator and the directors of Campus Safety, Health and Safety and Residential Life and residence hall directors meet with all students with mobility impairments upon moving into the residence halls. Emphasis is placed on student independence and self advocacy, being aware of one's needs, developing a personal plan, communicating one's plan to roommates, residential hall staff, faculty, etc. Information about general fire safety, general campus emergency response/planning processes/procedures, etc. is shared with students. Those professional staff in attendance also offer to work with students as they develop their personal plan."*

Other responses included:

- Having a list of students with disabilities in the fire alarm panel for the fire department to use during an incident
- Several schools had purchased evacuation chairs for moving students with disabilities down stairs and were planning on having training
- Some of the training is done informally, one-on-one with the student

### 17. What type of specialized training is provided to staff (resident assistants, resident directors, etc.) in regards to addressing the evacuation and emergency needs of students with disabilities? (42 responses)

An integral part of any campus fire safety program is the level of fire safety training that is provided to the residential staff. This can include what are typically called resident assistants or RAs (upper-class students living in the residence halls, typically one per floor who oversee that floor or area), resident directors, or RDs (typically, graduate students or full-time professionals that live in a residence hall and oversee the RAs) and other professional staff. The RAs and RDs are a primary part of providing fire safety education to the students in their charge and also have the opportunity to recognize and initiate corrective action for any problems that may impact fire safety.

The majority of the responses indicated that there was no specialized training given to the staff. Out of the 42 responses to this question, only 15 identified any specialized type of training. Sample responses included:

- *We do not encourage student workers to evacuate students with disabilities, but to alert emergency personnel who are already informed as to where those who may need special assistance are living.*
- *Highly individualized based upon student capability, preference and need*
- *At this point no specialized training is provided - residence hall staff is made aware of students with disabilities and that they may need to pay extra attention.*
- *Any student who has special needs or is disabled is identified and resident life staff, maintenance crew, etc. are aware of their location and are trained to assist as needed in an emergency.*
- *A list of students with disabilities is provided to hall staff and the students needs are discussed with the student with disabilities. In the event of an alarm those students are checked on first to assist with evacuation.*

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### 18. What policies/procedures are in place for evacuating students with mobility impairments?

Some of the responses to this question stated that students in wheelchairs or with mobility impairments are housed on the first floor of the residence hall. As stated earlier in this report, this may be in conflict with an informal opinion offered by the Department of Justice in that this is a discriminatory practice.

One school used what is referred to as a "red card" program. This is a voluntary program where upon request from a student with a disability, he or she will be given a red card and his or her name will be maintained on a list in the fire alarm control panel. When a fire alarm sounds, the student is instructed to give the card to someone who is evacuating and then to move to the nearest area of refuge. The person holding the red card is instructed to evacuate and then give the card to the first emergency responder encountered who will then look at the list in the fire alarm control panel to determine the location of the disabled student. However, this assumes that the student with disability is in their usual location and would be in the closest area of refuge. This very well could be an incorrect assumption and may cause emergency personnel to be deployed to the incorrect location, delaying any needed rescue operations.

Another response was that the school uses the protocols that are used in nursing homes. However, these protocols may assume a higher level of built-in fire protection, such as automatic suppression systems, than may exist in a residence hall and that there are well-trained staff on duty 24/7. There may not necessarily be appropriate parallels between the two types of occupancies and subsequent procedures.

One policy attempted to address the needs with the following statement on their website regarding evacuation for students with disabilities:

- *If there is not immediate danger (obvious smoke or fire), a person with limitations should either stay in place or be moved to an emergency exit stairwell. Please inform Campus Safety PHONE NUMBER LISTED the location of the individual.*
- *If there is imminent damage and evacuation cannot be delayed, the person with a disability should be carried or helped from the building in the best and fastest manner.*
- *The person with the disability is the best authority as to how to be moved out of the building. The best procedure is to let professional emergency personnel assist in the evacuation.*

The policy is silent on exactly who will assist the person in the event of imminent danger and how they will accomplish this in regards to training, specialized evacuation equipment, etc.

Several responses stated that rooms are to be visited by resident staff whenever a fire alarm sounds. In one case, the university's safety policy specifically directs the resident assistant and a student designated by the resident assistant as "fire assistant" to check all of the rooms and then report to a command post with their results.

Following the 2000 fire at Seton Hall University in South Orange, New Jersey, that claimed the lives of three students, the federal Occupational Safety and Health Administration issued a citation against Seton Hall University for requiring the staff (RAs) to investigate and assist with evacuation but did not provide them with adequate personal protective equipment to accomplish this task. As a result, a number of schools changed their procedures in that RAs evacuate the building along the shortest route possible and do not go through the building verifying that students have evacuated.

#### ***OSHA citation issued to Seton Hall University following the fatal fire that claimed the lives of three freshmen***

*Section 5(a)(1) of the Occupational Safety and Health Act of 1970: The employer did not furnish employment (sic) and a place of employment which were free from recognized hazards that were causing or likely to cause death or serious physical harm to employees in that employees were exposed to fire and smoke inhalation. a)Seton Hall Dormitories:Employer failed to implement a*

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*procedure that would properly protect employees from fire and smoke who were required to investigate the cause of fire alarms. Violation observed on or about 4/17/00. Among other methods, feasible and acceptable methods to correct this hazard include the following:*

- 1. Have all fire alarms in student dorms connected directly to the South Orange Fire Department, eliminating the need to have the Resident Assistants (RA's) with the (stick) determine the cause of the alarm, allowing occupants of the dormitory, including any employees, to evacuate safely.*
- 2. Fully evaluate and take appropriate actions to eliminate the risks and hazards associated with the fire alarm verifying (sic) procedure. Particular attention must focus on communications of employees during the fire alarm verification process with other emergency personnel and must focus on training employees fully and specifically and describe limitations of employee action to be taken by employees required to verify fire alarms. (OSHA Report ID 0214200, Citation 01001, issued 7/10/00)*

One response stated that "the two students with mobility issues are the first to be brought out in the case of fire." However, the respondent did not state how this was done or by whom. This type of response is indicative of the need for policies and procedures that would provide guidance on how the occupants (both disabled and non-disabled) are to react to an emergency situation.

Nine of the respondents reported depending upon a list of students with disabilities as their policy. This list is either maintained in the fire alarm control panel in the residence hall, maintained at the public safety offices or provided to the local fire department. However, as stated earlier, this assumes that at the time of the emergency the student is located in their assigned room, which may not necessarily be the case. Furthermore, this student may not be at risk from exposure to the fire and not require immediate attention whereas there may be other occupants at a greater risk and in need of immediate attention or rescue. Diverting resources to check on the undetermined location of an occupant that may or may not be at risk places other occupants and emergency personnel at a greater risk and limits the ability of the incident commander to effectively deploy resources.

### **Academic Buildings**

The responses were similar for evacuation policies regarding academic buildings where either there were no policies in place, the policies were unknown or the schools rely on procedures such as having a list of the location of students with disabilities. Several respondents also stated that the professors would be responsible for assisting with the evacuation (NOTE: In the model codes, an academic building would be classified as a Business Occupancy which have specific requirements in regards to policies and procedures for training and evacuation.)

#### **19. What policies/procedures are in place for evacuating students with sensory impairments (deaf, hard of hearing, low vision, blind)?**

For the most part, there were no specific policies cited for evacuation procedures for students with sensory impairments. A number of the respondents refer to the policies or answers provided under Question 18 (mobility impairments), or that it is handled on a case-by-case basis. Other respondents said that the individual student's residence rooms are provided with strobe/horn alerting devices but did not articulate a policy for how evacuation is handled for these students.

#### **20. What policies/procedures are in place for evacuating students with cognitive impairments?**

A number of the same procedures or responses were cited for the question regarding evacuation policies for students with disabilities. Out of the 34 responses, 18 stated that there were no policies or they were not aware of any special policies for evacuating students with cognitive impairments.

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### **21. What coordination/training is done with the local fire department/rescue services in regards to procedures for evacuating students with disabilities?**

A number of the responses to this question were either general in nature in that the fire department works with the school on evacuation policies or were not necessarily specific to those regarding students with disabilities. As with many of the other questions, a number of the responses were of the "none" or "don't know" nature (23 of 42 responses or 55 percent).

This indicates a large gap in terms of either an absence of specific training or lack of awareness on the part of the office dealing with disabilities which may have a detrimental impact on the level of fire safety being provided to students with disabilities.

Some of the answers given, as in the other questions, may not be the most effective solutions. One answer was that the school provides the fire department with a list of students and that these students are checked first by the fire department during an alarm. During an emergency response, especially in the beginning stages of an incident, the fire department has extremely limited resources and personnel to deal with an incident until more is known. Diverting personnel to check on an individual that may or may not be in danger could place more occupants and first responders in danger.

### **22. What policies/procedures are in place for evacuating students with disabilities in academic buildings?**

Responses were similar to those under Question 18 (mobility impairments) where the policies used in residence halls were cited. Other responses included that the professors were responsible for assisting, and, again, there were a number of "none" or "don't know" responses to this question (18 of 42 responses or 43 percent). Other responses cited the same policies used in the residence halls or standards university policies.

### **25. Please provide us with any additional information that you may think would be useful for this project.**

This question provided some of the more telling insights into the issues facing disabilities professionals. The following are some of these responses (they have been edited for clarity and to ensure confidentiality).

*For question # 11 It was difficult to know where to include certain students who need to be included in the list above. For instance, under "Mobility impairments" I chose to include a student with CP whose mobility is somewhat limited, but who uses no assistant devices (e.g. wheelchair) to get where he needs to go; I did not include a student whose mobility is somewhat "normal" but whose heart arrhythmia could limit mobility in a crisis situation. Several years ago, a student w/Aspergers and I had discussions with Campus Safety regarding the impact of this condition on interactions with authority figures such as Campus Safety and police. Last summer I forwarded to Campus Safety an article from PepNet on fire safety issues for students with hearing impairments. In 2007 I forwarded to Campus Safety a brochure for first responders from <http://cdd.unm.edu/products/tips3rdedition.pdf> and added the following message: "Since we have had (and currently have) students with Asperger's Syndrome (one of the autism spectrum disorders), I found the part about dealing with people with autism to be most interesting and helpful." Thank you for doing this survey. It has helped tremendously to raise awareness around campus concerning safety issues for students with hidden disabilities.*

I am a supporter of universal design, the process of creating an environment in which accessibility is included in the original design. This paradigm includes emergency preparedness. I want our school's emergency policies and procedures to include information regarding accessibility so that any person with a disability will be included in the emergency preparedness plans. I did not answer question 11 because many of the students who are registered with my

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office have more than one disability (e.g., AD/HD and anxiety, LD and fibromyalgia). The numbers I would report would not portray an accurate picture.

*We are working on our current evacuation policy and I believe our new policy will be available by May. I am also working very closely with an engineer on a project that would address the evacuation issues for students with physical disabilities. I believe the device we are creating will help students from a spectrum of different disabilities more efficiently and safely in emergency situations. I recognize there is large problem surrounding evacuation safety for individuals disabilities. I believe the information you are gathering will greatly help highlight the current problems students with disabilities face. From the research I have done in this area, I found that Public Safety departments might have more information than Disability Services, you might want to consider contacting PS departments as well. I would like to thank you and applaud you for your hard work and dedication to such a great cause!!!*

This is an excellent survey and provides much needed consideration for students with invisible disabilities. Fire training is done with all students on each floor of each residence hall each semester. This would be an ideal time for all students to have the opportunity to ask for special assistance during an emergency. It is important to consider the fact that students have the option to make their needs made in the residence halls and/or disability services. This is why it is important for housing to be in the forefront and create policy that allows an avenue for any student to request special assistance.

*Fire safety for students with disabilities is probably not anything different than fire safety for all students. We are not able to track where all students are on campus so it would be difficult to know what fire safety personnel would have to do other than to make sure everyone was safe. I would expect that fire personnel would know how to do that with people with disabilities.*

The college has recently developed more extensive emergency preparedness procedures that will be published and implemented this spring. This includes more specific information regarding evacuation of individuals with disabilities than is included on our current emergency preparedness website.

*It has been very difficult for my office to be taken seriously by campus security as I believe that the issue of emergency planning for people with disabilities is not a priority for most administrations that are not directly involved with this population. My sense is that campus security is still trying to "catch up" with the events of the past years and will not make such planning a priority. Despite generally good relationships, I have no success in moving that office in the desired direction. I wonder if this is an issue other disability service offices face as well. Please share any results/guidelines form this project! Thank you*

## **5 Model Code Review**

### **5.1 Objective**

The objective of conducting a review of the model building/fire/life safety codes was to ascertain what provisions were included that addressed the specific needs of students with disabilities and what requirements may be incumbent upon the schools to meet with these provisions. What was recognized is that these codes often focus on the issues of mobility impaired and, to a degree, sensory-impaired occupants. This review was undertaken to ascertain to what extent these codes also focused on the issues of students with cognitive impairments as well.

### **5.2 Methodology**

A Request for Proposals (RFP) was developed by the project manager and a fire protection engineer who is a member of the Steering Committee. Proposals were solicited and reviewed and a fire protection specialist was retained.

### **5.3 Codes reviewed**

The following codes were reviewed as part of this process:

- International Code Council
  - International Building Code
  - International Fire Code
  - International Maintenance Code
- National Fire Protection Association
  - Life Safety Code
  - Uniform Fire Code

### **5.4 Findings**

The first phase of this code analysis involved reviewing existing model building, fire and life safety codes to identify relevant and key code provisions. The review includes analysis of the model building, fire safety and fire prevention codes that are currently in use on college and university campuses that address fire safety, life safety, and other emergency conditions with respect to the needs of students with cognitive and physical disabilities for the following items:

- a. Determination of an emergency condition
- b. Notification of an emergency condition to occupants
- c. Construction, compartmentation or suppression provisions
- d. Training or education requirements for occupants.

This report was developed based on reviews of the *International Building Code* (IBC- 2006 ed.), *International Fire Code* (IFC- 2006 ed.), *NFPA Life Safety Code* (NFPA 101- 2006 ed.) and the *Uniform Fire Code* (NFPA 1- 2006 ed.). It is recognized that there are other editions of the above mentioned documents but the 2006 editions were identified as the ones that were most frequently adopted by applicable state agencies. This review encompasses those occupancies that are generally associated with a college or university campus which include residential, public assembly, business and mercantile uses.

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When reviewing the findings, it is important to understand the development and the end use application of the above mentioned documents with respect to the objectives as noted in the grant. These documents have been developed on the principals of establishing minimum requirements to provide nationally recognized good practices for a reasonable level of safety, property protection and public welfare from fire and other hazards. These minimum code requirements are developed in concert with what is considered appropriate and reasonable responses by the intended building occupants to the event of an emergency and the ability to react accordingly.

The reviews of the applicable building and fire codes found that:

1. The provisions associated with mobility disabilities have been addressed within the documents with the referencing of an independent standard associated with accessibility, ICC/ANSI A117.1, *Accessible and Usable Buildings and Facilities*, and incorporating additional provisions within the respecting documents. It was also noted that the individual states have additional accessible guidelines and requirements that may be applicable.
2. Specific provisions associated with occupants with cognitive disabilities have not been addressed within these applicable documents. This finding is based on the recognition that these documents were developed on the principals of establishing minimum requirements from which the intended building occupants will have an appropriate and reasonable response that is associated with that of a "general public population".
3. The documents establish minimum requirements for particular occupancies for the determination and notification of an emergency condition to the building occupant but it is recognized that the occupants of these facilities will generally be able to respond without additional assistance.
4. The construction, compartmentation and suppression requirements for particular occupancies that limit the fire spread are provided when it is determined that the occupant's response may be delayed such as those found in residential occupancies where they sleep and may have a delay in response. Newly constructed residential occupancies consisting of multiple dwelling units within a structure are required to be protected by a fire sprinkler system. The installation of a fire sprinkler system provide benefits to all occupants and especially those with mobility and cognitive disabilities by increasing the available time to react and respond to an emergency and by limiting the effects of the fire emergency.
5. Training and educational requirements are detailed within the fire codes for particular occupancies. Each use or occupancy establishes the applicable minimum requirements related to the building's occupants and/or employees. These requirements are generally related to the evacuation of the facility in the event of an emergency. There is no direct referencing within these training or educational requirements that the cognitive disabilities or abilities of the occupants are to be identified and addressed.

The building codes and fire codes have addressed building usability for a mobility impaired occupant. It is recognized that these provisions will generally be applicable to only those buildings that have been built since the accessibility requirements became mandatory starting in the early 1980's or have had some level of renovation performed on an existing structure. At the completion of the review of this report, it will be noticed that the model building and fire codes do not specifically address those occupants that may have cognitive disabilities. The current code provisions have been developed with the assumption that the general public occupant in these occupancies will be able to respond to the emergency and the emergency notification with appropriate action without assistance and in some occupancies without any additional training being provided. Training and educational requirements within the fire codes should be enhanced so that the building occupants with cognitive disabilities are included and the appropriate training and/or information can be provided to assist in their appropriate response to an emergency event in a given building.

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## 5.5 Code Proposals

As a result of this code analysis, a series of code changes were proposed to the International Code Council's (ICC) International Fire Code (IFC) and International Property Management Code (IPMC). These included:

Code	Proposal
International Fire Code (IFC)	This proposal will call for placing a posted evacuation plan in each residence hall room. Currently, there is no such requirement in the International Fire Code for residence halls.
International Fire Code	This proposal will call for placing an evacuation plan showing evacuation routes and areas of refuge assistance, if provided, on each floor at the main entrance(s) to the floor in residence halls. Currently, no such requirement exists.
International Fire Code	Language is being added to an existing section regarding fire safety plans. The new section reads: "Emphasis shall be given to identifying individuals with mobility and cognitive disabilities and integrating their special needs into fire safety plans." Currently there is no such requirement.
International Property Management Code (IPMC)	The IPMC is a handbook for building owners and operators to use in operating the building. This proposal is being modified to integrate the changes proposed above and provides for harmonization between the IPMC and the IFC.

A hearing is scheduled on all of the ICC code proposals on October 24 to November 4, 2009 in Baltimore, Maryland.

## **6 Review of national campus fire safety education programs**

### **6.1 Objective**

The objective of reviewing national campus fire safety education programs was to ascertain if there was a focus on fire safety for students with disabilities. There are only three known national campus fire safety education programs in use. The first is "Get Out and Stay Alive" which is being distributed by the U.S. Fire Administration. Another was developed by the People's Burn Foundation under a Department of Homeland Security Fire Prevention and Safety Grant called "To Hell and Back: College Fire Survival" and its website, [www.igot2kno.org](http://www.igot2kno.org). The other is the Firewise Campus seminar and workbook, also developed under a DHS grant by the Center for Campus Fire Safety. The author of this report was involved in the development of To Hell and Back: College Fire Survival through its entirety and Campus Firewise in the initial stages of development.

### **6.2 National programs identified**

#### **6.2.1 Get Out and Stay Alive**

Get Out and Stay Alive was developed in the late 1990's following a series of tragic fires across the nation in student-related housing. It was developed by the Eau Claire Fire Department under contract to the U.S. Fire Administration. This was one of the first national-level programs and focused on case studies involving students that had been killed in campus-related fires across the nation and is comprised of a video and two-page, tri-fold brochure.

The video and supporting material can be ordered online through the US Fire Administration's website at [www.usfa.dhs.gov](http://www.usfa.dhs.gov).

In reviewing the video and associated printed material available through the U.S. Fire Administration, no mention is made of fire safety procedures or education addressing students with disabilities.

#### **6.2.2 To Hell and Back: College Fire Survival**

THB:College Fire Survival was developed by a team of national experts in a variety of disciplines, ranging from insurance to burn prevention, under a Department of Homeland Security Fire Prevention and Safety Grant by the People's Burn Foundation. This project is comprised of a 17-minute long DVD with a hypothetical scenario of a fire during a party in an off-campus house that kills two students. Even though this was a hypothetical scenario for the purposes of making this video, it is a realistic one that is seen many times in fatal campus-related fires across the nation.

The purpose of this project was to develop a DVD-based training program that was then distributed to over 35,000 schools and fire departments across the nation to use in educating students about fire safety. The companion website, [www.igot2kno.org](http://www.igot2kno.org), was designed as an extension of the DVD and provided the fire safety educator with additional resources using a different delivery platform. However, there was no one involved whose primary focus was disabilities and this was not an issue that was brought up at all during the development or production phase.

The DVD can be ordered, for free, from the People's Burn Foundation at [www.peoplesburnfoundation.org](http://www.peoplesburnfoundation.org) or (877) 814-2024. The online component is available at [www.igot2kno.org](http://www.igot2kno.org).

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### **6.2.3 Firewise Campus**

Firewise Campus was developed under a Department of Homeland Security Fire Prevention and Safety Grant by the Center for Campus Fire Safety. It is designed to provide the campus fire safety officer with a "toolbox" of resources that he or she can use in delivering fire safety training. This program is delivered through a series of multi-day seminars held across the country. In the two years of the program, 20 seminars have been held for approximately 600 campus fire safety officers (one seminar per FEMA region for 30 individuals).

This program is not available for purchase or download and is delivered only through the seminars to qualified participants, according to the Center for Campus Fire Safety, and they declined to provide a copy of the program for review. As of the date of this report, the grant for delivering this program had concluded and there are no additional educational programs scheduled.

### **6.2.4 National Fire Protection Association**

The National Fire Protection Association (NFPA) is recognized as a leading organization for developing fire safety education material. Little of their material focuses on campuses and there is none that focuses specifically on fire safety for students with disabilities in higher education.

However, the NFPA has taken a position of developing material focusing specifically on people with disabilities and much of this could be used in the academic environment. This document, "Emergency Evacuation Planning Guide for People with Disabilities," provides guidance on developing evacuation plans. Another document, "Personal Emergency Evacuation Planning Tool for School Students with Disabilities, July 2007," provides information focusing primarily on the K-12 age group.

In addition, the NFPA publishes a free, quarterly newsletter on disabilities called e-Access. More information on this resource is available at [www.nfpa.org](http://www.nfpa.org).

## **7 Overall Findings**

### ***7.1 Identifying students with disabilities***

One of the issues of greatest concern that emerged as a part of this study is that a school cannot take action to prepare for an emergency in relation to a student's disability unless the student self-identifies as needing assistance. While the school can prepare, in general, for emergencies involving students with disabilities, unless the student specifically identifies as needing assistance, the school cannot develop alert and evacuation contingencies that meet the needs of a specific student. This is an area where there is a lack of full agreement as to what the ADA exactly requires as to identifying students with disabilities and requires further study. (NOTE: The modern building codes address a number of access and egress requirements relating to mobility impairment. However, there is more needed in the areas relating to cognitive disabilities).

### ***7.2 Absence of consistency and understanding among schools***

For a number of schools, there was a noted absence of consistency and understanding in regards to the importance of fire safety for students with disabilities and the need for focused procedures and education. Some schools relied upon the local fire department to provide any training that was determined by the school to be needed. Others had procedures in place such as a list of names of students with disabilities in the fire alarm panel that first responders could use during an incident. This is a procedure that assumes the student is in that room (as in a residential occupancy), which certainly is not the case at all times, and may cause the incident commander to divert resources during an emergency, placing other occupants and emergency responders at risk.

A number of schools reported there are no specific provisions in place or the person on campus responsible for disability services was not aware of any required procedures for addressing fire safety for students with disabilities. The model codes do address issues of fire drills in occupancies found at schools (i.e., residence halls), but are silent when it comes to issues relating to fire safety for students with disabilities.

This indicates the lack of a coordinated and holistic approach to fire safety for the population of students with disabilities. As on any campus, there are different departments responsible for different areas (fire safety, disabilities, housing, physical plant, student services, and facilities management). However, there appeared to be a disconnect between these departments in addressing the vital need for emergency response for students with disabilities. In fact, several of the respondents to the survey stated that the first time they had a conversation with the department responsible for fire safety was while gathering information for the survey.

### ***7.3 Absence of uniform, broadly-distributed information***

In conducting research for this project, no national campus fire safety programs that included information for students with disabilities were found. There are a number of campus fire safety education programs that have been developed over the past few years due to the increased awareness of the importance of campus fire safety, but none of them included information for students with disabilities. This apparently was not a deliberate oversight; it was just not a topic that was considered in the development of these programs.

## **7.4 Absence of details in model codes pertaining to students with disabilities and fire safety**

Many of the building, fire and life safety codes address the issue of building accessibility through references to the American National Standards Institute (ANSI) A117.1 *Standard on Accessible and Usable Buildings and Facilities* which is the most commonly referenced standard on building accessibility for people with disabilities. However, there is a noted lack of information regarding how to accommodate the needs of the full spectrum of the disabled population, particularly those with cognitive disabilities, when it comes to evacuating a building, particularly in the area of procedures to be followed in providing information or assistance to people with disabilities. This is a combination of both the built environment, design features (such as means of egress, areas of refuge, etc.) and building operations where it is necessary to have a procedure in place to assist people with disabilities in ensuring their safety.

The provisions associated with mobility disabilities have been addressed within the documents with the referencing of an independent standard associated with accessibility, ICC/ANSI A117.1, *Accessible and Usable Buildings and Facilities*, and incorporating additional provisions within the respecting documents. It was also noted that the individual states have additional accessible guidelines and requirements that may be applicable.

Specific provisions associated with occupants with cognitive disabilities have not been addressed within these applicable documents. This finding is based on the recognition that these documents were developed on the principals of establishing minimum requirements from which the intended building occupants will have an appropriate and reasonable response that is associated with that of a "general public population."

The documents establish minimum requirements for particular occupancies for the determination and notification of an emergency condition to the building occupant but it is recognized that the occupants of these facilities will generally be able to respond without additional assistance.

The construction, compartmentation and suppression requirements for particular occupancies that limit the fire spread are provided when it is determined that the occupant's response may be delayed such as those found in residential occupancies where they sleep and may have a delay in response. Newly constructed residential occupancies consisting of multiple dwelling units within a structure are required to be protected by a fire sprinkler system. The installation of a fire sprinkler system provide benefits to all occupants and especially those with mobility and cognitive disabilities by increasing the available time to react and respond to an emergency and by limiting the effects of the fire emergency.

Training and educational requirements are detailed within the fire codes for particular occupancies. Each use or occupancy establishes the applicable minimum requirements related to the building's occupants and/or employees. These requirements are generally related to the evacuation of the facility in the event of an emergency. There is no direct referencing within these training or educational requirements that the cognitive disabilities or abilities of the occupants are to be identified and addressed.

### ***7.5 Absence of awareness of the importance of fire safety specifically for students with disabilities***

As with fire safety for the general population, the ultimate responsibility lies with the individual in ensuring his or her personal safety. This is accomplished by raising the awareness of the importance of selecting housing, schooling and workplace environments that have an acceptable level of fire safety both in design and operation. The individual is also responsible for knowing what actions to take in the event of an emergency, no matter where they are. The awareness of fire safety as an issue in selecting on- or off-campus housing needs to be included in housing information for students and their families who are involved in housing decisions. This awareness can only come through education and training and this is a shared responsibility between the individual, the school and the fire department/community.

A review of the responses to the questions posed in the survey regarding policies and procedures for assisting students with disabilities during emergencies revealed that many respondents simply answered "none" or "don't know". Since the survey was directed to the office on each campus that dealt with disability issues, it is of concern that 1) there may not be any policies in place and/or 2) that this office is not aware or familiar with these policies and/or 3) there is no assigned internal department to specifically address this issue. This suggests that schools may not be addressing the needs of this segment of the population as completely as may be needed.

## **8 Recommendations**

### ***8.1 Clarify the legal requirements and restrictions when dealing with emergency planning for students with disabilities.***

There were two specific areas identified through the course of this project that need clarification:

- The responsibility of a school for providing a tailored fire safety plan in response to a student who does not self-identify as having a disability or requiring special assistance.
- The ability of a school to restrict where students may live based on their disability.

In both cases, there were no definitive answers that could be found and more clarity and guidance is needed for schools to use in developing their policies and practices for students with disabilities.

### ***8.2 Raise awareness among administrators***

School administrators must be made aware of the importance of being able to provide effective fire safety procedures for students with disabilities that address all levels and types of physical and cognitive disabilities. Since the students can be at any location on the campus at any time, it is important that there are policies and procedures in place to provide the student with the needed level of fire safety in all buildings - housing, academic, administrative, support and other locations on campus. Furthermore, it is critical that this awareness be made across the different departments within the institution's structure that will deal with the various aspects of a disabled student's academic experience (housing, office of disabilities, public safety and student services). It is also vitally important that the student understand their role in interacting with these fire safety provisions, whether they are built-in features or policies and procedures.

### ***8.3 Develop effective model procedures***

There is a wide diversity of procedures reported by schools in addressing the fire safety needs of students with disabilities – or none at all. While it is impossible to develop a “one size fits all” solution to the myriad of disabilities associated with students that may be enrolled at a school, particularly in the area of cognitive disabilities, guidance documents that would serve as models would be invaluable in helping a school develop policies and procedures.

### ***8.4 Engage the student***

Fire safety is a shared responsibility between the school (a safe environment, effective policies and procedures, a well-trained staff), the community (well-trained and prepared emergency responders) and the individual person. As with all students, with or without disabilities, the individual is ultimately responsible for his or her own fire safety. It is vitally important for the student with a disability to be aware of his or her surroundings at all times, what actions need to be taken if an emergency breaks out and to be prepared at all times with the knowledge of how to react. Most importantly, the student needs to be able to react immediately whenever there is a perceived or real threat.

## **8.5 Code changes**

One of the most significant results of this project was identifying a need for changes in the model building, fire and life safety codes in regards to all people with disabilities, not just students. For a number of years the codes have been working towards achieving universal access which provides everyone with the ability to access a building or facility, no matter what their disability may be. One area that the codes are not as clear in relation to students with disabilities is what action they are to take when an emergency occurs and there is the need for emergency evacuation. While much of the built environment focuses on design of the building, egress, fixed and passive fire protection, there is an absence of information on procedures and policies for evacuation for occupants to take if they are disabled or for other non-disabled occupants to assist in an evacuation.

The building codes and fire codes have addressed building usability for a mobility impaired occupant. It is recognized that these provisions will generally be applicable to only those buildings that have been built since the accessibility requirements became mandatory starting in the early 1980's or have had some level of renovation performed on an existing structure. At the completion of the review of this report, it will be noticed that the model building and fire codes do not specifically address those occupants that may have cognitive disabilities. The current code provisions have been developed with the assumption that the general public occupant in these occupancies will be able to respond to the emergency and the emergency notification with appropriate action without assistance and in some occupancies without any additional training being provided. Training and educational requirements within the fire codes should be enhanced so that the building occupants with cognitive disabilities are included and the appropriate training and/or information can be provided to assist in their appropriate response to an emergency event in a given building.

As a result, a series of code changes have been proposed for the International Code Council Building Code and Property Management Code (see section 5 of this report for more details).

## **8.6 Develop resources**

As noted earlier, there is an absence of broadly-distributed information and education resources available for schools to use in providing fire safety education and training to students with disabilities. While it is difficult (if not impossible) to develop a "one size fits all" approach to fire safety since each school is going to be different because of their staffing, built environment and available emergency resources, it would be extremely helpful to have some templates available that schools can use in developing their own tailored educational programs based on fundamental concepts associated with teaching students with disabilities.

## **9 Resources**

There is a wealth of resources available regarding disability issues. The problem is finding those that are focused on fire safety for students with disabilities; those are scarce. It is hoped that through this project the awareness of this issue will be raised, leading to more research, education and materials being provided.

### **9.1 Federal Government**

American With Disabilities Act ADA Home Page

[www.ada.gov](http://www.ada.gov)

ADA Title II Technical Assistant Manual

Covering state and local government programs and services

<http://www.ada.gov/taman2.html>

Department of Education

Office of Civil Rights

<http://www.ed.gov/about/offices/list/ocr/504faq.html>

### **9.2 Organizations**

The following are organizations identified through this grant. This is by no means a complete list and their inclusion does not constitute endorsement of their services or information. The descriptive text of each organization is taken from their website.

ACT Now

[http://www.northampton.edu/office/st\\_services/disability/act/](http://www.northampton.edu/office/st_services/disability/act/)

The mission of ACT Now is to facilitate a successful transition from secondary to post secondary education for students with disabilities through the delivery of transition curriculum to empower students with the knowledge and skills needed to navigate their postsecondary roles.

Association on Higher Education and Disabilities

<http://www.ahead.org/>

AHEAD is a professional membership organization for individuals involved in the development of policy and in the provision of quality services to meet the needs of persons with disabilities involved in all areas of higher education.

American Association of People with Disabilities

<http://www.aapd-dc.org/>

The American Association of People with Disabilities (AAPD), the country's largest cross-disability membership organization, organizes the disability community to be a powerful voice for change – politically, economically, and socially. AAPD was founded in 1995 to help unite the diverse community of people with disabilities, including their family, friends and supporters, and to be a national voice for change in implementing the goals of the Americans with Disabilities Act (ADA).

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### **DBTAC**

Disability and Business Technical Assistance Center

<http://www.adata.org/index.html>

The mission of the DBTAC National Network of ADA Centers is to assist individuals and entities with rights and responsibilities under the ADA voluntarily and effectively comply with the act's regulations.

### **DO-IT**

Disabilities, Opportunities, Internetworking and Technology

<http://www.washington.edu/doi/>

DO-IT serves to increase the participation of individuals with disabilities in challenging academic programs and careers. It promotes the use of computer and networking technologies to increase independence, productivity, and participation in education and employment.

### **Heath Resource Center**

Online clearinghouse on postsecondary education for individuals with disabilities

George Washington University

<http://www.heath.gwu.edu/>

The HEATH Resource Center is an online clearinghouse on postsecondary education for individuals with disabilities. The HEATH Resource Center Clearinghouse has information for students with disabilities on educational disability support services, policies, procedures, adaptations, accessing college or university campuses, career-technical schools, and other postsecondary training entities.

### **Interagency Committee on Disability Research**

[www.icdr.us](http://www.icdr.us)

The Interagency Committee on Disability Research (ICDR) facilitates the effective exchange of information on disability and rehabilitation research activities among its member agencies. We coordinate activities that span the areas of assistive technology and universal design; medical rehabilitation; data and statistics; employment; and community participation. The ICDR:

- Collects input from stakeholders to inform planning;
- Identifies emerging research areas;
- Assesses gaps and duplications in existing research; and
- Makes recommendations to strengthen the federal research agenda.

On our site you will find information about ICDR activities and products, and links to important research reports and resources from across the federal government.

### **International Code Council**

[www.iccsafe.org](http://www.iccsafe.org)

Improving the Accessibility of Buildings for People with Disabilities

<http://www.iccsafe.org/safety/accessibility/index.html>

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National Fire Protection Association  
[www.nfpa.org](http://www.nfpa.org)

All of the following material is available for free through the NFPA website.

- Emergency Evacuation Planning Guide for People with Disabilities
- Personal Emergency Evacuation Planning Tool for School Students with Disabilities, July 2007 (This document focuses primarily on students in the K-12 range. However, there is a checklist at the end of the document that would also be applicable in the higher education environment in helping to identify specific needs for a student with disability.)

NFPA also offers a free, online quarterly newsletter focusing on people with disabilities called e-Access

## **10 Appendix**

### ***10.1 Case Study – Fatal Fire, Central Missouri State University***

On January 3, 1997 at 10:24 am, a fire broke out at Central Missouri State University in Warrensburg, Missouri. The fire claimed the life of one occupant, David Cogswell, who was confined to a motorized wheelchair.

The fire occurred on the second story of the residence hall in room 205. The victim lived in room 212 which was located 85 feet to the west of the room of origin. During the fire, fire fighters encountered the victim's electric wheelchair in the doorway to his room. Cogswell was found at 10:53 am lying on the floor in the corridor another 32 feet to the west of his room, or 117 feet to the west of the room of origin. He was approximately 30 feet from a set of double doors that would have led to an exit stairway. Rescue personnel extricated the victim and began emergency medical treatment at the scene. He was then transported to an area hospital where he subsequently died.

According to officials, it appeared that Cogswell attempted to escape from his room by using his wheelchair. However, the wheelchair became lodged in the doorframe of the doorway and the victim then tried to crawl down the corridor to escape the fire when he was overcome by smoke. In the subsequent investigation and according to officials, it appeared that the wheelchair had to be aligned in a very specific way for there to be sufficient clearance through the door opening. There was a report of damage to the door opening that had occurred over time and corresponded to an axle bolt on the wheelchair, possibly indicating the close tolerances for passing through the door opening.

***10.2 Code Analysis Report***

**Michael H. Minger Foundation Fire  
Prevention & Safety Grant**

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**Fire and Life Safety Engineering Code Review**

Research and Edited by  
Walter Sterling

## **10.2.1 Executive Summary for Engineering Code Review**

The following report was developed in response to the first phase of the objectives of the Michael H. Minger Foundation Grant to review the practices used at colleges and universities in regards to protecting students with cognitive and physical disabilities. The first phase involved reviewing existing model building, fire and life safety codes to identify relevant and key code provisions. The review includes analysis of the model building, fire safety and fire prevention codes that are currently in use on college and university campuses that address fire safety, life safety, and other emergency conditions with respect to the needs of students with cognitive and physical disabilities for the following items:

- a. Determination of an emergency condition
- b. Notification of an emergency condition to occupants
- c. Construction, compartmentation or suppression provisions
- d. Training or education requirements for occupants.

This report was developed based on reviews of the *International Building Code* (IBC- 2006 ed.), *International Fire Code* (IFC- 2006 ed.), *NFPA Life Safety Code* (NFPA 101- 2006 ed.) and the *Uniform Fire Code* (NFPA 1- 2006 ed.). It is recognized that there are other editions of the above mentioned documents but the 2006 editions were identified as the ones that were most frequently adopted by applicable state agencies. This review encompasses those occupancies that are generally associated with a college or university campus which include residential, public assembly, business and mercantile uses.

When reviewing the findings, it is important to understand the development and the end use application of the above mentioned documents with respect to the objectives as noted in the grant. These documents have been developed on the principals of establishing minimum requirements to provide nationally recognized good practices for a reasonable level of safety, property protection and public welfare from fire and other hazards. These minimum code requirements are developed in concert with what is considered appropriate and reasonable responses by the intended building occupants to the event of an emergency and the ability to react accordingly.

The reviews of the applicable building and fire codes found that:

1. The provisions associated with mobility disabilities have been addressed within the documents with the referencing of an independent standard associated with accessibility, ICC/ANSI A117.1, *Accessible and Usable Buildings and Facilities*, and incorporating additional provisions within the respecting documents. It was also noted that the individual states have additional accessible guidelines and requirements that may be applicable.
2. Specific provisions associated with occupants with cognitive disabilities have not been addressed within these applicable documents. This finding is based on the recognition that these documents were developed on the principals of establishing minimum requirements from which the intended building occupants will have an appropriate and reasonable response that is associated with that of a "general public population".
3. The documents establish minimum requirements for particular occupancies for the determination and notification of an emergency condition to the building occupant but it is recognized that the occupants of these facilities will generally be able to respond without additional assistance.
4. The construction, compartmentation and suppression requirements for particular occupancies that limit the fire spread are provided when it is determined that the occupant's response may be delayed such as those found in residential occupancies where they sleep and may have a delay in response. Newly constructed residential occupancies consisting of multiple dwelling

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units within a structure are required to be protected by a fire sprinkler system. The installation of a fire sprinkler system provide benefits to all occupants and especially those with mobility and cognitive disabilities by increasing the available time to react and respond to an emergency and by limiting the effects of the fire emergency.

5. Training and educational requirements are detailed within the fire codes for particular occupancies. Each use or occupancy establishes the applicable minimum requirements related to the building's occupants and/or employees. These requirements are generally related to the evacuation of the facility in the event of an emergency. There is no direct referencing within these training or educational requirements that the cognitive disabilities or abilities of the occupants are to be identified and addressed.

In conclusion, the building codes and fire codes have addressed building usability for a mobility impaired occupant. It is recognized that these provisions will generally be applicable to only those buildings that have been built since the accessibility requirements became mandatory starting in the early 1980's or have had some level of renovation performed on an existing structure. At the completion of the review of this report, it will be noticed that the model building and fire codes do not specifically address those occupants that may have cognitive disabilities. The current code provisions have been developed with the assumption that the general public occupant in these occupancies will be able to respond to the emergency and the emergency notification with appropriate action without assistance and in some occupancies without any additional training being provided. Training and educational requirements within the fire codes should be enhanced so that the building occupants with cognitive disabilities are included and the appropriate training and/or information can be provided to assist in their appropriate response to an emergency event in a given building.

## **10.2.2 Michael H. Minger Foundation Fire Prevention & Safety Grant**

This report was developed in response to the first phase of the objectives of this grant with a goal of reviewing the practices used at colleges and universities in regards to protecting students with cognitive and physical disabilities. The first phase reviews existing model building, fire and life safety codes to identify relevant and key code provisions. The review includes analysis of the model building, fire safety and fire prevention codes that are currently in use on college and university campuses that address fire safety, life safety, and other emergency conditions with respect to the needs of students with cognitive and physical disabilities.

The following report is set up to address the noted objectives of the grant which addresses the following items during the code review:

1. Determination of an emergency condition.
2. Notification of an emergency condition to campus personnel and students.
  - a. Specific notification means or methods for individuals with disabilities.
  - b. Assistance to be provided by staff.
3. Construction, compartmentation, or suppression that limits fire spread to allow adequate time for students with disabilities to move to a point of safety or be sheltered in place that is aimed at protecting students with cognitive or mobility disabilities.
4. Training or education requirements for campus staff or students; in identifying students with disabilities and planning for their safety in an emergency.

### **10.2.2.1 A. General overview of referenced documents in review**

This report was developed based on the *International Building Code (IBC- 2006 ed.)*, *International Fire Code (IFC- 2006 ed.)*, *NFPA Life Safety Code (NFPA 101- 2006 ed.)* and the *Uniform Fire Code (NFPA 1- 2006 ed.)*. It is recognized that there are other editions of the above mentioned documents but the 2006 editions were identified as the ones that were most frequently adopted by government agencies and are the latest published editions at the time of this survey. When reviewing the findings, it is important to understand the development and the end use application of the above mentioned documents with respect to the objectives as noted in the grant. These documents have been developed on the principals of establishing minimum requirements to provide nationally recognized good practices for a reasonable level of safety, property protection and public welfare from fire and other hazards. These minimum code requirements are developed in concert with what is considered appropriate and reasonable responses by the intended building occupants to the event of an emergency and the ability to react accordingly.

The following excerpts are from the reviewed documents on their intent and purpose statements:

**International Building Code (IBC)** -This document is used by jurisdictions, generally a building department, to establish the minimum building and life safety requirements for new building construction. This document can be considered a construction document.

**IBC - 101.3 Intent.** The purpose of this code is to establish the minimum requirements to safeguard the public health, safety and general welfare through structural strength, means of egress facilities, stability, sanitation, adequate light and ventilation, energy conservation, and safety to life and property from fire and other hazards attributed to the built environment and to provide safety to fire fighters and emergency responders during emergency operations.

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**Life Safety Code (NFPA 101)** - This document is used by jurisdictions, generally a fire marshal's office and fire departments, to establish minimum life safety requirements for new and existing buildings. This document can be considered a construction and maintenance or operation document.

**NFPA 101 - 1.1.2 Danger to Life from Fire.** The Code addresses those construction, protection, and occupancy features necessary to minimize danger to life from the effects of fire, including smoke, heat, and toxic gases created during a fire.

**NFPA 101 - 1.2 Purpose.** The purpose of this Code is to provide minimum requirements, with due regard to function, for the design, operation, and maintenance of buildings and structures for safety to life from fire. Its provisions will also aid life safety in similar emergencies.

**International Fire Code (IFC)** - This document is used by jurisdictions, generally fire marshal's office or fire department, to establish the minimum requirements for new and existing buildings and is a companion document to the IBC. This document can be considered a maintenance and operational document that is generally used in conjunction with a building code for construction requirements.

**IFC -101.3 Intent.** The purpose of this code is to establish the minimum requirements consistent with nationally recognized good practice for providing a reasonable level of life safety and property protection from the hazards of fire, explosion or dangerous conditions in new and existing buildings, structure and premises and to provide safety to fire fighters and emergency responders during emergency operations.

**Uniform Fire Code (NFPA 1)** - This document is used by jurisdictions, generally a fire marshal's office or a fire department, to establish the minimum requirements associated with fire protection and prevention provisions including extracted material from other NFPA documents. This document can be considered a maintenance and operational document and generally used in conjunction with a building code or life safety code

**NFPA 1 - 1.2 Purpose.** The purpose of this Code is to prescribed minimum requirements necessary to establish a reasonable level of fire and life safety and property protection from the hazards created by fire, explosion, and dangerous conditions.

The minimum requirements established by these referenced documents have specific provisions that are related to the type of occupancy that will be associated within a building or facility. These minimum provisions were developed on the understanding that the occupants of these facilities are considered the general public and they will be able to respond and react in what is considered a normal manner. There are other considerations that are taken into account such as the occupant capacities in public assembly occupancies or a building configuration associated with underground or high-rise facilities that will have additional code provisions required to establish a minimum level of safety. This example recognizes possible extended egress times or occupant flow patterns.

It is also recognized that some facilities will have an occupancy where the occupants may not be able to perform what is considered a reasonable response to an emergency condition and thus the codes have established occupancy specific requirements. Some of these occupancies, for example are healthcare and residential board and care, which have occupants that due to their individual physical and mental capabilities will require some level of assistance, from simple encouragement to full assistance, during an emergency. These occupancies can include additional fire protection features such as a requirement for the installation of a fire sprinkler system, additional fire alarm system provisions, rated building construction, additional building subdivisions or minimum staffing levels.

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The review was based on the code provisions associated with those occupancies that are generally associated or found on a college or university campus which can include residential (Group R-2, dormitory), public assembly (P/A, Group A-3), business (B), and mercantile (M) occupancies. This report does not specifically list all the general construction elements that will be required within the built environment as it is provided for all occupants regardless of the occupant's individual capabilities to be able to respond to an emergency. Examples of some of these features include:

- construction provisions related to minimum building construction requirements for height and areas, the minimum enclosure ratings for floor openings
- opening protective ratings and penetration requirements
- means of egress and provisions associated with general design criteria for egress components
- interior finish provisions.

The report has a goal of highlighting those provisions that are most applicable to those occupancies that are generally associated with colleges and universities with the intent of the objective of identifying the protection being provided for students with cognitive and physical disabilities.

## 10.2.2.2 B. Occupancies Defined

The following occupancies as previously identified are generally associated or located on a college or university campuses that are available for use by students. The main headings of the following entries, B.1 through B.4, reflect the general classification of the specific occupancy followed by the definition of the occupancy as found within the model codes.

### B.1 Residential (Group R-2, Dormitory).

**IBC and IFC** - Residential Group R includes, among others, the use of a building or structure, or a portion thereof, for sleeping purposes when not classified as an Institutional Group I or when not regulated by the *International Residential Code* in accordance with [Section 101.2](#). Residential occupancies shall include the following:

**R-2** Residential occupancies containing sleeping units or more than two dwelling units where the occupants are primarily permanent in nature, including:

Apartment houses  
Boarding houses (not transient)  
Convents  
Dormitories  
Fraternities and sororities  
Hotels (nontransient)  
Monasteries  
Motels (nontransient)  
Vacation timeshare properties

**NFPA 101 and NFPA 1- Residential** - An occupancy that provides sleeping accommodations for the purpose other than health care or detention and correctional.

**Dormitory** – a building or a space in a building in which group sleeping accommodations are provided for more than 16 people who are not members of the same family in one room, or a series of closely associated rooms, under joint occupancy and single management, with or without meals, but without individual cooking facilities.

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## B.2 Public Assemblies (Group A-3).

**IBC and IFC - Group A-3** Assembly are uses intended for worship, recreation or amusement and other assembly uses not classified elsewhere in Group A, including, but not limited to a given list:

- Amusement arcades
- Art galleries
- Bowling alleys
- Places of religious worship
- Community halls
- Dance halls (not including food or drink consumption)
- Exhibition halls
- Gymnasiums (without spectator seating)
- Indoor swimming pools (without spectator seating)
- Indoor tennis courts (without spectator seating)
- Lecture halls
- Libraries

**NFPA 101 and NFPA 1– Public Assembly** An occupancy used for a gathering of 50 or more persons for deliberation, worship, entertainment, eating, drinking, amusement, awaiting transportation, or similar uses. An annex note – lists possible assembly uses that include college and university classrooms with 50 persons or more.

## B.3 Business (Group B)

**IBC and IFC - Business Group B** occupancy includes, among others, the use of a building or structure, or a portion thereof, for office, professional or service-type transactions, including storage of records and accounts. Educational occupancies for students above the 12<sup>th</sup> grade.

**NFPA 101 and NFPA 1– Business** An occupancy used for the transaction of business other than mercantile. An annex note lists– college and university instructional buildings, classrooms under 50 persons, and instructional laboratories as being considered Business Occupancies.

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## B.4 Mercantile (Group M)

**IBC and IFC-** Mercantile **Group M** occupancy includes, among others, buildings and structures or a portion thereof, for the display and sale of merchandise, and involves stocks of goods, wares or merchandise incidental to such purposes and accessible to the public.

**NFPA 101 and NFPA 1– Mercantile** An occupancy used for the display and sale of merchandise. Class A – gross area of 30,000 sq. ft. or more or occupying three floors for sales; Class B – gross area between 3,000 to 30,000 sq. ft or occupying less than three floors for sales; Class C – gross area less than 3,000 sq. ft. and occupying a single story.

### 10.2.2.3 C. Code References for Occupancies Associated with College Campuses.

The objectives of the grant have been divided into the following categories and each of these is provided with the appropriate code references in the following tables. The referenced code text may have been abbreviated for clarity when appropriate in the tables.

1. Determination of an emergency condition.
2. Notification of an emergency condition to campus personnel and students.
  - a. Specific notification means or methods for individuals with disabilities.
  - b. Assistance to be provided by staff.
3. Construction, compartmentation, or suppression that limits fire spread to allow adequate time for students with disabilities to move to a point of safety or be sheltered in place that is aimed at protecting students with cognitive or mobility disabilities.
4. Training or education requirements for campus staff or students; in identifying students with disabilities and planning for their safety in an emergency.

#### C.1. Determination of an emergency condition.

It is recognized that the codes have established minimum requirements that limit conditions that can develop during normal operations or functions which will create an emergency condition. The presence of an emergency can be discovered by occupants who can manually initiate an alarm or automatically by the activation of the detection or suppression systems. The occupant response can be the manual activation of the building fire alarm system (manual pull station) or the initiating of a response via some form of communication to alert the appropriate individuals for predetermined actions. The automatic notification operation would occur when a fire alarm system via the operation of an automatic detection or fire suppression system(s) operation which would initiate a predetermined notification sequence for occupants and emergency personnel. Generally on a college or university campus, the determination of an emergency condition is accomplished via the building fire alarm system.

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Table C.1(a) Residence (Group R-2, Dormitory)

<p><b>IBC</b></p>	<p><b>907.2.9 Group R-2.</b> A manual fire alarm system shall be provided in buildings with dwelling units located three or more stories above the level of exit discharge; dwelling unit located more than one story below the level of exit discharge; building contains more than 16 dwelling units with exceptions for buildings up to two stories in height where the dwelling unit, attics and corridors have 1 hour fire partitions and each dwelling units has an exit directly to a public way; or those buildings protected throughout by an automatic fire sprinkler system with notification appliances operating on sprinkler flow; or buildings do not have interior corridors serving dwelling units and have an automatic fire sprinkler system with dwelling egress doors opening directly to an exterior exit access leading to an exit.</p> <p><b>907.2.10 Single- and multiple-station smoke alarms.</b> Listed single- and multiple-station smoke alarms shall be installed in accordance with the provisions of this code and the household fire-warning equipment provisions of NFPA 72, <i>Fire Alarm Code</i>.</p>
<p><b>IBC con't</b></p> <p><b>NFPA 101 - New Residential Occupancy</b></p> <p><b>Existing Residential Occupancy</b></p>	<p><b>28.3.4.1 General.</b> A fire alarm system shall be provided.</p> <p><b>28.3.4.4</b> A corridor smoke detection system provided in buildings other than those protected by a fire sprinkler system.</p> <p><b>28.3.4.5</b> Single station smoke alarm install in every guest room and every living area and sleeping room within a guest suite.</p> <p><b>29.3.4.1 General.</b> A fire alarm system shall be provided in buildings other than those where each guest room has exterior exit access in accordance with 7.5.3 and the building does not exceed three stories in height.</p> <p><b>29.3.4.5</b> Single-station smoke alarm shall be provided in every guest room and every living area and sleeping room within the guest suite.</p> <p><b>29.3.4.5.1</b> Smoke alarms not required to be interconnected.</p> <p><b>29.3.4.5.2</b> Single-station smoke alarms without a secondary (standby) power source shall be permitted</p>
<p><b>IFC</b></p> <p><b>Smoke alarms</b></p>	<p><b>907.2.9 Group R-2.</b> A manual fire alarm system shall be provided in buildings with dwelling units located three or more stories above the level of exit discharge; dwelling unit located more than one story below the level of exit discharge; building contains more than 16 dwelling units with exceptions for buildings up to two stories in height where the dwelling unit, attics and corridors have 1 hour fire partitions and each dwelling units has an exit directly to a public way; or those buildings protected throughout by an automatic fire sprinkler system with notification appliances operating on sprinkler flow; or buildings do not have interior corridors serving dwelling units and have an automatic fire sprinkler system with dwelling egress doors opening directly to an exterior exit access leading to an exit.</p> <p><b>907.2.10.1.2</b> Single or multiple-station smoke alarms shall be installed outside of each sleeping area, in each room used for sleeping purposes, in each story within a dwelling unit including the basement.</p>
<p><b>NFPA 1</b></p>	<p><b>20.8.1</b> References NFPA 101 for applicable provisions for new and existing residential occupancies.</p>

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**Table C.1(b) Public Assembly (Group A-3)**

<b>IBC</b>	<b>907.2.1</b> A manual fire alarm system shall be provided in Group A occupancies having an occupant load of 300 or more.
<b>NFPA 101</b> - New P/A Occupancy Existing P/A Occupancy	<b>12.3.4.1</b> Assembly occupancies with occupant loads of more than 300 shall be provided a fire alarm system. <b>13.3.4.1</b> Assembly occupancies with occupant loads of more than 300 shall be provided a fire alarm system or where the AHJ determines the requirement is not required as adequate alternative provisions exist.
<b>IFC</b>	<b>907.2.1</b> A manual fire alarm system shall be provided in Group A occupancies having an occupant load of 300 or more. Manual fire alarm boxes are not required in buildings protected throughout by a fire sprinkler system.
<b>NFPA 1</b>	<b>20.1.1</b> References NFPA 101 for applicable provisions for new and existing public assembly occupancies.

**Table C.1(c) Business.**

<b>IBC</b>	<b>907.2.2</b> A manual fire alarm system shall be provided in Group B occupancies having an occupant load of 500 or more or 100 persons above or below the lowest level of exit discharge.
<b>NFPA 101</b> New Business Occupancy Existing Business Occupancy	<b>38.3.4.1</b> A fire alarm system shall be provided in all business occupancies where the building is two or more stories in height above the level of exit discharge; 50 or more total occupants above or below the level of exit discharge; or a total of 300 or more occupants. <b>39.3.4.1</b> A fire alarm system shall be provided in all business occupancies where the building is two or more stories in height above the level of exit discharge; 100 or more total occupants above or below the level of exit discharge; or a total of 1000 or more occupants
<b>IFC</b>	<b>907.2.2</b> A manual fire alarm system shall be provided in Group B occupancies having an occupant load of 500 or more or 100 persons above or below the lowest level of exit discharge. No manual pull stations required in buildings protected by a fire sprinkler system.
<b>NFPA 1</b>	<b>20.13.1</b> References NFPA 101 for applicable provisions for new and existing occupancies.

**Table C.1(d) Mercantile.**

<b>IBC</b>	<b>907.2.7</b> A manual fire alarm system shall be provided in Group M occupancies having an occupant load of 500 or more or 100 persons above or below the lowest level of exit discharge.
<b>NFPA 101</b> New Mercantile Occupancy Existing Mercantile Occupancy	<b>36.3.4.1</b> Class A mercantile (30,000 sq. ft. or 3 story) shall be provided with a fire alarm system. <b>37.3.4.1</b> Class A mercantile (30,000 sq. ft. or 3 story) shall be provided with a fire alarm system
<b>IFC</b>	<b>907.2.7</b> A manual fire alarm system shall be provided in Group M occupancies having an occupant load of 500 or more or 100 persons above or below the lowest level of exit discharge. No manual pull stations required in buildings protected by a fire sprinkler system.
<b>NFPA 1</b>	<b>20.12.1</b> References NFPA 101 for applicable provisions for new and existing mercantile occupancies.

# Fire Safety for Students with Disabilities at Institutions of Higher Education

Prepared under DHS Fire Prevention and Safety Grant EMW-2007-FP-01856

## C.2. Notification of an emergency condition to campus personnel and students

The requirements within the codes to provide a notification of an emergency condition to campus personnel and students with disabilities for the occupancies under review are primarily dependent upon installed audible and visual notification appliances associated with the building's fire alarm system. The occupancies identified in the report do not generally identify or incorporate in the occupancy specific requirements the interaction of the available staff, if any, to assist in responding to an emergency. The general evacuation of all staff and occupants is what is considered the normal procedure for these occupancies.

**Table C.2(a) Residential (Group R-2, Dormitory)**

<b>IBC</b>	<p><b>907.9.1.1 Public and common areas.</b> Visible alarm notification appliances shall be provided in public areas and common areas.</p> <p><b>907.10.2</b> Audible alarm notification appliances shall be provided with distinctive sound above the average ambient sound level in every occupied space within the building.</p> <p><b>907.9.1.4 Group R-2.</b> In Group R-2 occupancies required by Section 907 to have a fire alarm system, all dwelling units and sleeping units shall be provided with the capability to support visible alarm notification appliances in accordance with ICC/ANSI A117.1, <i>Accessible and Usable Buildings and Facilities</i></p>
<p><b>NFPA 101</b> New Residential Occupancy</p> <p>Existing Residential Occupancy General alarm provisions</p>	<p><b>28.3.4.3.1</b> Occupant notification shall be provided automatically per 9.6.3.</p> <p><b>28.3.4.3.2</b> Positive alarm sequence permitted</p> <p><b>28.3.4.3.3</b> Guest rooms and guest suites specifically required and equipped to accommodate hearing-impaired individuals shall be provided with a visible notification appliance.</p> <p><b>28.3.4.3.4</b> Occupiable areas, other than guest rooms and guest suites, visible notification appliances shall be provided.</p> <p><b>29.3.4.3.1</b> Occupant notification shall be provided automatically per 9.6.3</p> <p><b>29.3.4.3.2</b> Positive alarm sequence and presignal systems permitted.</p> <p><b>9.6.3.5</b> Notification signals for occupants to evacuate shall be audible and visible signals per NFPA 72, <i>Fire Alarm Code</i> and ICC/ANSI A117.1, <i>Accessible and Usable Buildings and Facilities</i>.</p> <p><b>9.6.3.6.1</b> General evacuation alarm signal shall operate throughout the building.</p>
<b>IFC</b>	<p><b>907.10.1.1</b> Visible alarm notification appliances shall be provided in public areas and common areas. Exception for alterations where it is required except where an existing fire alarm system is upgraded or replaced or a new system is installed.</p> <p><b>907.10.1.4</b> Group R-2 when required to have a fire alarm system shall have a system with the capabilities to support visible alarm notification appliance in all dwelling units and sleeping units</p> <p><b>907.10.2</b> Audible alarm notification appliances shall be provided with distinctive sound above the average ambient sound level in every occupied space within the building.</p>
<b>NFPA 1</b>	<p><b>20.8.1</b> References NFPA 101 for applicable provisions for new and existing residential occupancies.</p>



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Table C.2(c) Business

<b>IBC</b>	<b>907.9.1.1</b> Visible alarm notification appliances shall be provided in public areas and common areas. Exception for alterations where it is not required except where an existing fire alarm system is upgraded or replaced or a new system is installed. <b>907.9.2</b> Audible alarm notification appliances shall be provided with distinctive sound above the average ambient sound level in every occupied space within the building.
<b>NFPA 101</b> New Business Occupancy  Existing Business Occupancy	<b>38.3.4.3</b> Fire alarm system shall activate a general alarm throughout the building or activate an alarm signal in a continuously attended location to initiate emergency action via live voice public address system announcements or other accepted notifications per 9.6.3 <b>39.3.4.3</b> Fire alarm system shall activate a general alarm throughout the building or activate an alarm signal in a continuously attended location to initiate emergency action via live voice public address system announcements or other accepted notifications per 9.6.3
<b>IFC</b>  <b>IFC</b> con't	<b>907.10.1.1</b> Visible alarm notification appliances shall be provided in public areas and common areas. Exception for alterations where it is not required except where an existing fire alarm system is upgraded or replaced or a new system is installed. <b>907.10.2</b> Audible alarm notification appliances shall be provided with distinctive sound above the average ambient sound level in every occupied space within the building.
<b>NFPA 1</b>	<b>20.13.1</b> References NFPA 101 for applicable provisions for new and existing business occupancies.

Table C.2(d) Mercantile

<b>IBC</b>	<b>907.9.1.1</b> Visible alarm notification appliances shall be provided in public areas and common areas. Exception for alterations where it is not required except where an existing fire alarm system is upgraded or replaced or a new system is installed. <b>907.10.2</b> Audible alarm notification appliances shall be provided with distinctive sound above the average ambient sound level in every occupied space within the building.
<b>NFPA 101</b> New Mercantile Occupancy Existing Mercantile Occupancy  General alarm provisions	<b>36.3.4.3.1</b> If a Class A mercantile, shall activate an alarm in accordance with 9.6.3 throughout the occupancy or activate an alarm signal at a continuous attended location to initiate emergency action. <b>37.3.4.3.1</b> If a Class A mercantile, shall activate an alarm in accordance with 9.6.3 throughout the occupancy or activate an alarm signal at a continuous attended location to initiate emergency action. <b>9.6.3.5</b> Notification signals for occupants to evacuate shall be audible and visible signals per NFPA 72, <i>Fire Alarm Code</i> and ICC/ANSI A117.1, <i>Accessible and Usable Buildings and Facilities</i> . <b>9.6.3.6.1</b> General evacuation alarm signal shall operate throughout the building.
<b>IFC</b>	<b>907.10.1.1</b> Visible alarm notification appliances shall be provided in public areas and common areas. Exception for alterations where it is not required except where an existing fire alarm system is upgraded or replaced or a new system is installed. <b>907.10.2</b> Audible alarm notification appliances shall be provided with distinctive sound above the average ambient sound level in every occupied space within the building.
<b>NFPA 1</b>	<b>20.12.1</b> References NFPA 101 for applicable provisions for new and existing mercantile occupancies.

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### **C.3 Construction, Compartmentation, or Suppression**

The identified occupancies associated with a college campus were reviewed with the objective to determine those particular provisions for an occupancy that limits the effects of a fire to allow adequate time for students with disabilities to move to a point of safety or be sheltered in place. The general building construction provisions for height and area, and occupancy separations are not included due to the type of occupancies being reviewed which take into consideration a general population that can be considered able bodied and mobile population. Compartmentation was reviewed with the provisions relating to corridors and building subdivision requirements.

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Prepared under DHS Fire Prevention and Safety Grant EMW-2007-FP-01856

Table C.3(a) Residential (Group R-2, Dormitory)

<p><b>IBC</b></p>	<p><b>1017 Corridor</b>, Table 1017.1, when serving more than 10 occupants, a minimum ½ hour rating with a fire sprinkler system is installed and not permitted in buildings without a fire sprinkler system.  <b>Table 715.3</b> Fire door rating, 20 minute rated opening protective in 1/2 hour rated corridors.  <b>708.1 General.</b> The following wall assemblies shall comply with this section for walls separating dwelling units in the same building and walls separating sleeping units in occupancies in Group R-1 hotel, R-2 and I-1 occupancies.  <b>708.3 Fire-resistance rating.</b> The fire-resistance rating of the walls shall be at least 1 hour for dwelling unit and sleeping unit separations and in buildings of Type IIB, IIIB and VB construction the separation walls shall have fire-resistance ratings of not less than ½ hour in buildings equipped throughout with an automatic sprinkler system no minimum building subdivision requirements noted.  <b>903.2.7 Group R.</b> An automatic sprinkler system installed in accordance with Section 903 shall be provided throughout all buildings with a Group R fire area.</p>
<p><b>NFPA 101</b> New Residential Occupancy</p> <p>Existing Residential Occupancy</p> <p><b>NFPA 101</b> con't Existing Residential Occupancies</p>	<p><b>28.3.6.1</b> Walls of exit access corridors shall be 1 hour rated or ½ hour rated with a fire sprinkler system installed.  <b>28.3.6.2</b> Doors that open unto an exit access corridor shall be a minimum 20 minute fire protection rating and be self closing and self latching.  <b>28.3.7</b> In buildings without a fire sprinkler system the dormitory and guest rooms shall be separated from other dormitory or guest rooms by 1 hour and ½ hour in buildings protected by a fire sprinkler system.  <b>28.3.5</b> All buildings protected by a fire sprinkler system except those that have guest rooms with doors opening directly outside at grade or have an exterior ways of exit access per 7.5.3 up to three stories in height.  <b>29.3.6.1</b> Walls of exit access corridors shall be 1/2 hour rated or no hourly rating and openings resisting the passage of smoke when a fire sprinkler system is installed.  <b>29.3.6.2</b> Doors that open unto an exit access corridor shall be a minimum 20 minute fire protection rating or constructed to resist the passage of smoke with latches. All doors shall be self closing and self latching.  <b>29.3.7</b> subdivision of building spaces, in buildings without a fire sprinkler system installed throughout or in the corridors the floors with guest rooms shall be divided into not less than two smoke compartments of the approximately same size.  <b>29.3.7.2</b> No subdivision (smoke barrier) when each guest room is provided with an exterior ways of exit access arranged per 7.5.3.  <b>29.3.7.3</b> No subdivision (smoke barrier) when the aggregate corridor length is not more than 150 ft on each floor.  <b>29.3.7.4</b> Additional smoke barriers required when travel distance from the guest room door to a smoke barrier exceeds 150 ft.  <b>29.3.5</b> High-rise buildings protected by a fire sprinkler system except those that have guest rooms with doors having an exterior ways of exit access per 7.5.3.</p>
<p><b>IFC</b></p>	<p><b>1017 Corridor</b>, Table 1017.1, when serving more than 10 occupants, a minimum ½ hour rating with a fire sprinkler system is installed and not permitted in buildings without a fire sprinkler system.  Reference to IBC 708 for opening protective ratings (noted above)  No subdivision requirements for floor space  <b>903.2.7</b> New Group R protected throughout by a fire sprinkler system.</p>
<p><b>NFPA 1</b></p>	<p><b>20.8.1</b> References NFPA 101 for applicable provisions for new and existing residential occupancies.</p>

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Table C.3(b) Public Assembly (Group A-3)

<p><b>IBC</b></p>	<p><b>1017 Corridor</b>, Table 1017.1, when serving more than 30 occupants, no minimum hour rating when a fire sprinkler system is installed and 1 hour rating in buildings without a fire sprinkler system.  <b>Table 715.3</b> Fire door rating, 20 minute rated opening protective in 1 hour rated corridors.          No minimum building subdivision requirements noted  <b>903.2.1 Group A.</b> An automatic sprinkler system shall be provided throughout buildings and portions thereof used as Group A occupancies as provided in this section. The automatic sprinkler system shall be provided throughout the floor area where the Group A occupancy is located, and in all floors between the Group A occupancy and the level of exit discharge.  <b>903.2.1.3 Group A-3.</b> An automatic sprinkler system shall be provided for Group A-3 occupancies where the fire area exceeds 12,000 square feet, has an occupant load of 100 or more, or the fire area is located on a floor other than the level of exit discharge.</p>
<p><b>NFPA 101</b> New P/A Occupancy   <b>NFPA 101</b> con't New P/A Occupancy           Existing P/A Occupancy</p>	<p><b>12.3.6</b> Corridor rating of 1 hr when used by more than 30 people to be provided unless the assembly occupancy discharges 50% to the exterior, protected by an automatic fire sprinkler system, serving only one assembly room or a total smoke detection system.          No minimum building subdivision requirements noted.  <b>12.3.5.2</b> Buildings with an occupant load of 300 protected by an automatic fire sprinkler system throughout the story containing the assembly, any floor below the assembly and all intervening floors to the level of exit discharge if the assembly is located below the level of exit discharge.  <b>12.1.6</b> Fire sprinkler system required depending on type of building construction, location of assembly and assembly occupant load.  <b>13.3.6</b> Corridors - no special requirements.          No minimum building subdivision requirements noted.  <b>13.3.5.2</b> Buildings with an area of 15,000 sq. ft. used for exhibition or display protected by an automatic fire sprinkler system.  <b>13.1.6</b> Fire sprinkler system required depending on type of building construction, location of assembly and assembly occupant load.</p>
<p><b>IFC</b></p>	<p><b>1017 Corridor</b>, Table 1017.1, when serving more than 30 occupants, no minimum hour rating with a fire sprinkler system is installed and 1 hour rating in buildings without a fire sprinkler system.          Reference to IBC 708 for opening protective ratings.          No building subdivision provisions noted.  <b>903.2.1.3</b> new Group A-3, fire sprinkler system provided for fire areas exceeding 12,000 sq. ft., more than 300 occupants in a fire area, or when the assembly is located on a floor other than the level of exit discharge.</p>
<p><b>NFPA 1</b></p>	<p><b>20.1.1</b> References NFPA 101 for applicable provisions for new and existing public assembly occupancies.</p>

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Table C.3(c) Business

<p><b>IBC</b></p>	<p><b>1017 Corridor</b>, Table 1017.1, when serving more than 30 occupants, no minimum hour rating when a fire sprinkler system is installed and 1 hour rating in buildings without a fire sprinkler system.  <b>Table 715.3</b> Fire door rating, 20 minute rated opening protective in 1 hour rated corridors.  <b>No minimum</b> building subdivision requirements noted.  <b>No fire sprinkler</b> requirements except for new high-rise facilities per Table 903.2.13 (75 ft in height)</p>
<p><b>NFPA 101</b> New Business Occupancy</p> <p><b>NFPA 101</b> cont</p> <p>Existing Business Occupancy</p>	<p><b>38.3.6</b> Corridors used for access to exits shall be 1 hour unless the exits are available from an open floor area, space occupied by a single tenant or when the building is protected by a fire sprinkler system.  <b>Table 8.3.4.2</b> - 20 minute rated opening protective in 1 hour rated corridors.  <b>38.3.7</b> subdivision of building space, no requirements  <b>38.3.5</b> Extinguishment Requirements, no requirement for automatic fire sprinkler system except for high-rise facilities greater than 75 ft in height, portable fire extinguishers required.  <b>39.3.6</b> No requirements for a corridor separation.  <b>39.3.7</b> subdivision of building space. No requirement.  <b>39.3.5</b> Extinguishment Requirements, no requirement for automatic fire sprinkler system except for high-rise facilities greater than 75 ft in height, portable fire extinguishers required.</p>
<p><b>IFC</b></p>	<p><b>1017 Corridor</b>, Table 1017.1, when serving more than 30 occupants, no minimum hour rating with a fire sprinkler system and 1 hour rating in buildings without a fire sprinkler system installed.  Reference to IBC 708 for opening protective ratings.  <b>No subdivision</b> requirements noted.  <b>No fire sprinkler</b> requirements except for new high-rise facilities per 914.3.1 (75 ft in height).</p>
<p><b>NFPA 1</b></p>	<p><b>20.13.1</b> References NFPA 101 for applicable provisions for new and existing business occupancies.</p>

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Table C.3(d) Mercantile

<p><b>IBC</b></p>	<p><b>1017 Corridor</b>, Table 1017.1, when serving more than 30 occupants, no minimum hour rating when a fire sprinkler system is installed and 1 hour rating in buildings without a fire sprinkler system.  Table 715.3 Fire door rating, 20 minute rated opening protective in 1 hour rated corridors.  <b>903.2.6</b> new mercantile, fire sprinklers required for fire areas exceeding 12,000 sq. ft., greater than 3 stories above grade or combined area of 24,000 sq. ft.</p>
<p><b>NFPA 101</b> New Mercantile Occupancy</p> <p>Existing Mercantile Occupancy</p>	<p><b>36.3.6</b> Corridors used for access to exits shall be 1 hour unless the exits are available from an open floor area, space occupied by a single tenant or when the building is protected by a fire sprinkler system.  <b>Table 8.3.4.2</b> - 20 minute rated opening protective in 1 hour rated corridors.  <b>36.3.7</b> subdivision of building space, no requirements  <b>36.3.5</b> Fire sprinklers provided in buildings three story or more, areas exceeding 12,000 sq. ft., areas used for merchandise below grade exceeding 2,500 sq. ft., and in mixed occupancies  <b>37.3.6</b> no requirements for a corridor separation  <b>37.3.7</b> subdivision of building space, no requirement  <b>37.3.5</b> Other than single story buildings satisfying a street floor definition, fire sprinklers are to be provided in occupancies with a story over 15,000 sq. ft., gross area over 30,000 sq. ft., and stories below the level of exit discharge exceeding 2,500 sq. ft.</p>
<p><b>IFC</b></p>	<p><b>1017 Corridor</b>, Table 1017.1, when serving more than 30 occupants, no minimum hour rating with a fire sprinkler system is installed and 1 hour rating in buildings without a fire sprinkler system.  Reference to IBC 708 for opening protective ratings  No subdivision requirements noted  <b>903.2.6</b> new mercantile, fire sprinklers required for fire areas exceeding 12,000 sq. ft., greater than 3 stories above grade or combined area of 24,000 sq. ft.</p>
<p><b>NFPA 1</b></p>	<p><b>20.12.1</b> References NFPA 101 for applicable provisions for new and existing mercantile occupancies.</p>

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**C.4 Training or education requirements**

Occupancies associated with college campuses were reviewed to determine the minimum requirements required for the available staff and when appropriate, provisions that the building occupants to be trained and drilled in fire drills and be aware of other fire prevention concepts.

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Table C.4(a) Residential (Group R-2. Dormitory)

<b>IBC</b>	<b>None identified</b> – provisions are related to the fire code application.
<p><b>NFPA 101</b> New Residential Occupancy</p> <p>Existing residential Occupancy</p> <p><b>NFPA 101</b> con't Existing Residential Occupancy</p>	<p><b>28.7.3 Drills in Dormitories.</b> Emergency egress and relocation drills shall be regularly conducted in accordance with Section 4.7.</p> <p><b>28.7.4.1</b> A floor diagram reflecting the actual floor arrangement, exit locations, and room identification shall be posted in a location and manner acceptable to the AHJ on, or immediately adjacent to, every guest room door in every resident room in dormitories.</p> <p>Annex note <b>A.28.7.4.1</b> Floor diagrams should reflect the actual floor arrangement and should be oriented with the actual direction to the exits.</p> <p><b>28.7.4.2</b> Fire safety information shall be provided to allow guests to make the decision to evacuate to the outside, to evacuate to an area of refuge, to remain in place, or to employ any combination of the three options.</p> <p>Annex note <b>A.28.7.4.2</b> Factors for developing the fire safety information include such items as construction type, suppression systems, alarm and detection systems, building layout, and building HVAC systems.</p> <p><b>29.7.3 Drills in Dormitories.</b> Emergency egress and relocation drills shall be regularly conducted in accordance with Section 4.7.</p> <p><b>29.7.4.1</b> A floor diagram reflecting the actual floor arrangement, exit locations, and room identification shall be posted in a location and manner acceptable to the AHJ on, or immediately adjacent to, every guest room door in every resident room in dormitories.</p> <p>Annex note <b>A.29.7.4.1</b> Floor diagrams should reflect the actual floor arrangement and should be oriented with the actual direction to the exits.</p> <p><b>29.7.4.2</b> Fire safety information shall be provided to allow guests to make the decision to evacuate to the outside, to evacuate to an area of refuge, to remain in place, or to employ any combination of the three options.</p> <p>Annex note <b>A.29.7.4.2</b> Factors for developing the fire safety information include such items as construction type, suppression systems, alarm and detection systems, building layout, and building HVAC systems.</p> <p><b>4.7 Fire Drills.</b></p> <p><b>4.7.1 Where Required.</b> Emergency egress and relocation drills conforming to the provisions of this Code shall be conducted as specified by the provisions of Chapter 11 through Chapter 42 or by the appropriate action of the AHJ. Drills shall be designed in cooperation with the local authorities.</p> <p><b>4.7.2 Drill Frequency.</b> Emergency egress and relocation drills where required by Chapter 11 through Chapter 42 or the AHJ, shall be held with sufficient frequency to familiarize occupants with the drill procedure and to establish conduct of the drill as a matter of routine. Drills shall be suitable procedures to ensure that all persons subject to the drill participate.</p> <p><b>4.7.3 Orderly Evacuation.</b> When conducting drills, emphasis shall be placed on orderly evacuation rather than on speed.</p> <p><b>4.7.4 Simulated Conditions.</b> Drills shall be held at expected and unexpected times and under varying conditions to simulate the unusual conditions that can occur in an actual emergency.</p> <p><b>4.7.5 Relocation Area.</b> Drill participants shall relocate to a predetermined location and remain at such location until a recall or dismissal signal is given.</p>
<b>IFC</b>	<p><b>404.2</b> An approved fire safety and evacuation plan shall be prepared and maintained for Group R-2 college and university buildings.</p> <p>Table 405.2 Drill Frequency, four annually drills for all occupants.</p> <p><b>408.3</b> Group R-2 college and university buildings shall comply with the requirements of Sections 408.3.1 and 408.3.3 and Sections 401 through 406.</p> <p><b>408.3.1 First emergency evacuation drill.</b> The first emergency evacuation drill of each school year shall be conducted within 10 days of the beginning of classes.</p>

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IFC con't Residential	<p><b>408.3.3 Time of day.</b> Emergency evacuation drills shall be conducted at different hours of the day or evening, during the changing of classes, when the school is at assembly, during the recess or gymnastic periods, or during other times to avoid distinction between drills and actual fires. In Group R-2 college and university buildings, one required drill shall be held during hours after sunset or before sunrise.</p> <p><b>408.9.1 Emergency guide.</b> A fire emergency guide shall be provided which describes the location, function and use of fire protection equipment and appliances accessible to residents, including fire alarm systems, smoke alarms, and portable fire extinguishers. The guide shall also include an emergency evacuation plan for each dwelling unit.</p> <p><b>408.9.3 Distribution.</b> A copy of the emergency guide shall be given to each tenant prior to initial occupancy.</p> <p><b>404.3 Contents.</b> Fire safety and evacuation plan contents shall be in accordance with Sections 404.3.1 and 404.3.2.</p> <p><b>404.3.1 Fire evacuation plans.</b> Fire evacuation plans shall include the following:</p> <ol style="list-style-type: none"><li>1. Emergency egress or escape routes and whether evacuation of the building is to be complete or, where approved, by selected floors or areas only.</li><li>2. Procedures for employees who must remain to operate critical equipment before evacuating.</li><li>3. Procedures for accounting for employees and occupants after evacuation has been completed.</li><li>4. Identification and assignment of personnel responsible for rescue or emergency medical aid.</li><li>5. The preferred and any alternative means of notifying occupants of a fire or emergency.</li><li>6. The preferred and any alternative means of reporting fires and other emergencies to the fire department or designated emergency response organization.</li><li>7. Identification and assignment of personnel who can be contacted for further information or explanation of duties under the plan.</li><li>8. A description of the emergency voice/alarm communication system alert tone and preprogrammed voice messages, where provided.</li></ol> <p><b>404.3.2 Fire safety plans.</b> Fire safety plans shall include the following:</p> <ol style="list-style-type: none"><li>1. The procedure for reporting a fire or other emergency.</li><li>2. The life safety strategy and procedures for notifying, relocating, or evacuating occupants.</li><li>3. Site plans indicating the following:<ol style="list-style-type: none"><li>3.1. The occupancy assembly point.</li><li>3.2. The locations of fire hydrants.</li><li>3.3. The normal routes of fire department vehicle access.</li></ol></li><li>4. Floor plans identifying the locations of the following:<ol style="list-style-type: none"><li>4.1. Exits.</li><li>4.2. Primary evacuation routes.</li><li>4.3. Secondary evacuation routes.</li><li>4.4. Accessible egress routes.</li><li>4.5. Areas of refuge.</li><li>4.6. Manual fire alarm boxes.</li><li>4.7. Portable fire extinguishers.</li><li>4.8. Occupant-use hose stations.</li><li>4.9. Fire alarm annunciators and controls.</li></ol></li><li>5. A list of major fire hazards associated with the normal use and occupancy of the premises, including maintenance and housekeeping procedures.</li><li>6. Identification and assignment of personnel responsible for maintenance of systems and equipment installed to prevent or control fires.</li></ol>
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	<p>7. Identification and assignment of personnel responsible for maintenance, housekeeping and controlling fuel hazard sources.</p> <p><b>405.1 Emergency Evacuation Drills.</b> General. Emergency evacuation drills complying with the provisions of this section shall be conducted at least annually in the occupancies listed in Section 404.2 or when required by the fire code official. Drills shall be designed in cooperation with the local authorities.</p> <p><b>405.2 Frequency.</b> Required emergency evacuation drills shall be held at the intervals specified in Table 405.2 or more frequently where necessary to familiarize all occupants with the drill procedure.</p> <p><b>405.4 Time.</b> Drills shall be held at unexpected times and under varying conditions to simulate the unusual conditions that occur in case of fire.</p> <p><b>406.1 Employee Training and Response Procedures.</b> General. Employees in the occupancies listed in Section 404.2 shall be trained in the fire emergency procedures described in their fire evacuation and fire safety plans. Training shall be based on these plans and as described in Section 404.3.</p> <p><b>406.2 Frequency.</b> Employees shall receive training in the contents of fire safety and evacuation plans and their duties as part of new employee orientation and at least annually thereafter. Records shall be kept and made available to the fire code official upon request.</p> <p><b>406.3.2 Evacuation training.</b> Employees shall be familiarized with the fire alarm and evacuation signals, their assigned duties in the event of an alarm or emergency, evacuation routes, areas of refuge, exterior assembly areas, and procedures for evacuation.</p>
<p><b>NFPA 1</b></p> <p><b>101</b> con't Public Assembly</p>	<p><b>20.1.4.8.1</b> The employees or attendants of assembly occupancies shall be trained and drilled in the duties they are to perform in case of fire, panic, or other emergency to effect orderly exiting.</p>

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Table C.4(c) Business

<b>IBC</b>	<b>None identified</b> – provisions related to fire code application.
<p><b>NFPA 101</b> New Business Occupancy</p> <p>Existing Business Occupancy</p>	<p><b>38.7.1 Drills.</b> In all business occupancy buildings occupied by more than 500 persons, or by more than 100 persons above or below the street level, employees and supervisory personnel shall be periodically instructed in accordance with Section 4.7 and shall hold drills periodically where practical.</p> <p><b>39.7.1 Drills.</b> In all business occupancy buildings occupied by more than 500 persons, or by more than 100 persons above or below the street level, employees and supervisory personnel shall be periodically instructed in accordance with Section 4.7 and shall hold drills periodically where practical.</p> <p><b>4.7 Fire Drills.</b></p> <p><b>4.7.1 Where Required.</b> Emergency egress and relocation drills conforming to the provisions of this Code shall be conducted as specified by the provisions of Chapter 11 through Chapter 42 or by the appropriate action of the AHJ. Drills shall be designed in cooperation with the local authorities.</p> <p><b>4.7.2 Drill Frequency.</b> Emergency egress and relocation drills where required by Chapter 11 through Chapter 42 or the AHJ, shall be held with sufficient frequency to familiarize occupants with the drill procedure and to establish conduct of the drill as a matter of routine. Drills shall be suitable procedures to ensure that all persons subject to the drill participate.</p> <p><b>4.7.3 Orderly Evacuation.</b> When conducting drills, emphasis shall be placed on orderly evacuation rather than on speed.</p> <p><b>4.7.4 Simulated Conditions.</b> Drills shall be held at expected and unexpected times and under varying conditions to simulate the unusual conditions that can occur in an actual emergency.</p> <p><b>4.7.5 Relocation Area.</b> Drill participants shall relocate to a predetermined location and remain at such location until a recall or dismissal signal is given.</p>
<p><b>IFC</b></p> <p><b>IFC</b> con't Business</p>	<p><b>404.2</b> An approved fire safety and evacuation plan shall be prepared and maintained for Group B buildings having an occupant load of 500 or more persons or more than 100 persons above or below the lowest level of exit discharge. Table 405.2 Drill Frequency, annually for employees.</p> <p><b>404.3 Contents.</b> Fire safety and evacuation plan contents shall be in accordance with Sections 404.3.1 and 404.3.2.</p> <p><b>404.3.1 Fire evacuation plans.</b> Fire evacuation plans shall include the following:</p> <ol style="list-style-type: none"> <li>1. Emergency egress or escape routes and whether evacuation of the building is to be complete or, where approved, by selected floors or areas only.</li> <li>2. Procedures for employees who must remain to operate critical equipment before evacuating.</li> <li>3. Procedures for accounting for employees and occupants after evacuation has been completed.</li> <li>4. Identification and assignment of personnel responsible for rescue or emergency medical aid.</li> <li>5. The preferred and any alternative means of notifying occupants of a fire or emergency.</li> <li>6. The preferred and any alternative means of reporting fires and other emergencies to the fire department or designated emergency response organization.</li> <li>7. Identification and assignment of personnel who can be contacted for further information or explanation of duties under the plan.</li> <li>8. A description of the emergency voice/alarm communication system alert tone and preprogrammed voice messages, where provided.</li> </ol> <p><b>404.3.2 Fire safety plans.</b> Fire safety plans shall include the following:</p> <ol style="list-style-type: none"> <li>1. The procedure for reporting a fire or other emergency.</li> <li>2. The life safety strategy and procedures for notifying, relocating, or evacuating</li> </ol>

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<p>IFC con't Business</p>	<p>occupants.</p> <ol style="list-style-type: none"> <li>3. Site plans indicating the following:             <ol style="list-style-type: none"> <li>3.1. The occupancy assembly point.</li> <li>3.2. The locations of fire hydrants.</li> <li>3.3. The normal routes of fire department vehicle access.</li> </ol> </li> <li>4. Floor plans identifying the locations of the following:             <ol style="list-style-type: none"> <li>4.1. Exits.</li> <li>4.2. Primary evacuation routes.</li> <li>4.3. Secondary evacuation routes.</li> <li>4.4. Accessible egress routes.</li> <li>4.5. Areas of refuge.</li> <li>4.6. Manual fire alarm boxes.</li> <li>4.7. Portable fire extinguishers.</li> <li>4.8. Occupant-use hose stations.</li> <li>4.9. Fire alarm annunciators and controls.</li> </ol> </li> <li>5. A list of major fire hazards associated with the normal use and occupancy of the premises, including maintenance and housekeeping procedures.</li> <li>6. Identification and assignment of personnel responsible for maintenance of systems and equipment installed to prevent or control fires.</li> <li>7. Identification and assignment of personnel responsible for maintenance, housekeeping and controlling fuel hazard sources.</li> </ol> <p><b>405.1 Emergency Evacuation Drills.</b> General. Emergency evacuation drills complying with the provisions of this section shall be conducted at least annually in the occupancies listed in Section 404.2 or when required by the fire code official. Drills shall be designed in cooperation with the local authorities.</p> <p><b>405.2 Frequency.</b> Required emergency evacuation drills shall be held at the intervals specified in Table 405.2 or more frequently where necessary to familiarize all occupants with the drill procedure.</p> <p><b>405.4 Time.</b> Drills shall be held at unexpected times and under varying conditions to simulate the unusual conditions that occur in case of fire.</p> <p><b>406.1 Employee Training and Response Procedures.</b> General. Employees in the occupancies listed in Section 404.2 shall be trained in the fire emergency procedures described in their fire evacuation and fire safety plans. Training shall be based on these plans and as described in Section 404.3.</p> <p><b>406.2 Frequency.</b> Employees shall receive training in the contents of fire safety and evacuation plans and their duties as part of new employee orientation and at least annually thereafter. Records shall be kept and made available to the fire code official upon request.</p> <p><b>406.3.2 Evacuation training.</b> Employees shall be familiarized with the fire alarm and evacuation signals, their assigned duties in the event of an alarm or emergency, evacuation routes, areas of refuge, exterior assembly areas, and procedures for evacuation.</p>
<p>NFPA 1</p>	<p><b>20.13.2.1 Drills.</b> In all business occupancy buildings occupied by more than 500 persons, or by more than 100 persons above or below the street level, employees and supervisory personnel shall be periodically instructed in accordance with Section 10.6 and shall hold drills periodically where practical.</p> <p><b>10.6 Fire Drills</b></p> <p><b>10.6.1 Where Required.</b> Emergency egress and relocation drills conforming to the provisions of this Code shall be conducted as specified by the provisions of Chapter 20 of this Code or Chapters 11 through Chapter 42 of NFPA 101 or by appropriate action of the AHJ. Drills shall be designed in cooperation with the local authorities.</p> <p><b>10.6.2 Drill Frequency.</b> Emergency egress and relocation drills where required by Chapter 20 of this Code or Chapter 11 through Chapter 42 of NFPA 101 or the AHJ, shall be held with sufficient frequency to familiarize occupants with the drill</p>

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procedure and to establish conduct of the drill as a matter of routine. Drills shall be suitable procedures to ensure that all persons subject to the drill participate.

**10.6.4 Orderly Evacuation.** When conducting drills, emphasis shall be placed on orderly evacuation rather than on speed.

**10.6.5 Simulated Conditions.** Drills shall be held at expected and unexpected times and under varying conditions to simulate the unusual conditions that can occur in an actual emergency.

Annex note **A.10.6.5** Fire is always unexpected. IF the drill is always held in the same way at the same time, it loses much of its value. When, for some reason during an actual fire it is not possible to follow the usual routine of the emergency egress and relocation drill to which occupants have become accustomed, confusion and panic might ensue. Drills should be carefully planned to simulate actual fire conditions. Not only should drills be held at varying times, but different means of exit or relocation areas should be used on an assumption that fire or smoke might prevent the use of normal egress and relocation avenues.

**10.6.6 Relocation Area.** Drill participants shall relocate to a predetermined location and remain at such location until a recall or dismissal signal is given.

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Table C.4(d) Mercantile

<b>IBC</b>	<b>None identified</b> – provisions are related to fire code application.
<p><b>NFPA 101</b> New Merc. Occupancy Existing Mercantile Occupancy</p>	<p><b>36.7.1 Drills.</b> In every Class A or Class B mercantile occupancy, employees shall be periodically trained in accordance with Section 4.7.</p> <p><b>37.7.1 Drills.</b> In every Class A or Class B mercantile occupancy, employees shall be periodically trained in accordance with Section 4.7.</p> <p><b>4.7 Fire Drills.</b></p> <p><b>4.7.1 Where Required.</b> Emergency egress and relocation drills conforming to the provisions of this Code shall be conducted as specified by the provisions of Chapter 11 through Chapter 42 or by the appropriate action of the AHJ. Drills shall be designed in cooperation with the local authorities.</p> <p><b>4.7.2 Drill Frequency.</b> Emergency egress and relocation drills where required by Chapter 11 through Chapter 42 or the AHJ, shall be held with sufficient frequency to familiarize occupants with the drill procedure and to establish conduct of the drill as a matter of routine. Drills shall be suitable procedures to ensure that all persons subject to the drill participate.</p> <p><b>4.7.3 Orderly Evacuation.</b> When conducting drills, emphasis shall be placed on orderly evacuation rather than on speed.</p> <p><b>4.7.4 Simulated Conditions.</b> Drills shall be held at expected and unexpected times and under varying conditions to simulate the unusual conditions that can occur in an actual emergency.</p> <p><b>4.7.5 Relocation Area.</b> Drill participants shall relocate to a predetermined location and remain at such location until a recall or dismissal signal is given.</p>
<p><b>IFC</b></p> <p><b>IFC</b> con't Mercantile</p>	<p><b>404.2</b> An approved fire safety and evacuation plan shall be prepared and maintained for Group M buildings having an occupant load of 500 or more persons or more than 100 persons above or below the lowest level of exit discharge.</p> <p><b>404.3 Contents.</b> Fire safety and evacuation plan contents shall be in accordance with Sections 404.3.1 and 404.3.2.</p> <p><b>404.3.1 Fire evacuation plans.</b> Fire evacuation plans shall include the following:</p> <ol style="list-style-type: none"> <li>1. Emergency egress or escape routes and whether evacuation of the building is to be complete or, where approved, by selected floors or areas only.</li> <li>2. Procedures for employees who must remain to operate critical equipment before evacuating.</li> <li>3. Procedures for accounting for employees and occupants after evacuation has been completed.</li> <li>4. Identification and assignment of personnel responsible for rescue or emergency medical aid.</li> <li>5. The preferred and any alternative means of notifying occupants of a fire or emergency.</li> <li>6. The preferred and any alternative means of reporting fires and other emergencies to the fire department or designated emergency response organization.</li> <li>7. Identification and assignment of personnel who can be contacted for further information or explanation of duties under the plan.</li> <li>8. A description of the emergency voice/alarm communication system alert tone and preprogrammed voice messages, where provided.</li> </ol> <p><b>404.3.2 Fire safety plans.</b> Fire safety plans shall include the following:</p> <ol style="list-style-type: none"> <li>1. The procedure for reporting a fire or other emergency.</li> <li>2. The life safety strategy and procedures for notifying, relocating, or evacuating occupants.</li> <li>3. Site plans indicating the following: <ol style="list-style-type: none"> <li>3.1. The occupancy assembly point.</li> <li>3.2. The locations of fire hydrants.</li> <li>3.3. The normal routes of fire department vehicle access.</li> </ol> </li> </ol>

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<p>IFC con't Mercantile</p>	<p>4. Floor plans identifying the locations of the following:</p> <ul style="list-style-type: none"> <li>4.1. Exits.</li> <li>4.2. Primary evacuation routes.</li> <li>4.3. Secondary evacuation routes.</li> <li>4.4. Accessible egress routes.</li> <li>4.5. Areas of refuge.</li> <li>4.6. Manual fire alarm boxes.</li> <li>4.7. Portable fire extinguishers.</li> <li>4.8. Occupant-use hose stations.</li> <li>4.9. Fire alarm annunciators and controls.</li> </ul> <p>5. A list of major fire hazards associated with the normal use and occupancy of the premises, including maintenance and housekeeping procedures.</p> <p>6. Identification and assignment of personnel responsible for maintenance of systems and equipment installed to prevent or control fires.</p> <p>7. Identification and assignment of personnel responsible for maintenance, housekeeping and controlling fuel hazard sources.</p> <p><b>405.1 Emergency Evacuation Drills.</b> General. Emergency evacuation drills complying with the provisions of this section shall be conducted at least annually in the occupancies listed in Section 404.2 or when required by the fire code official. Drills shall be designed in cooperation with the local authorities.</p> <p><b>405.2 Frequency.</b> Required emergency evacuation drills shall be held at the intervals specified in Table 405.2 or more frequently where necessary to familiarize all occupants with the drill procedure.</p> <p><b>405.4 Time.</b> Drills shall be held at unexpected times and under varying conditions to simulate the unusual conditions that occur in case of fire.</p> <p><b>406.1 Employee Training and Response Procedures.</b> General. Employees in the occupancies listed in Section 404.2 shall be trained in the fire emergency procedures described in their fire evacuation and fire safety plans. Training shall be based on these plans and as described in Section 404.3.</p> <p><b>406.2 Frequency.</b> Employees shall receive training in the contents of fire safety and evacuation plans and their duties as part of new employee orientation and at least annually thereafter. Records shall be kept and made available to the fire code official upon request.</p> <p><b>406.3.2 Evacuation training.</b> Employees shall be familiarized with the fire alarm and evacuation signals, their assigned duties in the event of an alarm or emergency, evacuation routes, areas of refuge, exterior assembly areas, and procedures for evacuation.</p>
<p>NFPA 1</p>	<p><b>20.12.2.1 Drills.</b> In every Class A or Class B mercantile occupancy, employees shall be periodically trained in accordance with Section 10.6</p> <p><b>10.6 Fire Drills</b></p> <p><b>10.6.1 Where Required.</b> Emergency egress and relocation drills conforming to the provisions of this Code shall be conducted as specified by the provisions of Chapter 20 of this Code or Chapters 11 through Chapter 42 of NFPA 101 or by appropriate action of the AHJ. Drills shall be designed in cooperation with the local authorities.</p> <p><b>10.6.2 Drill Frequency.</b> Emergency egress and relocation drills where required by Chapter 20 of this Code or Chapter 11 through Chapter 42 of NFPA 101 or the AHJ, shall be held with sufficient frequency to familiarize occupants with the drill procedure and to establish conduct of the drill as a matter of routine. Drills shall be suitable procedures to ensure that all persons subject to the drill participate.</p> <p><b>10.6.4 Orderly Evacuation.</b> When conducting drills, emphasis shall be placed on orderly evacuation rather than on speed.</p> <p><b>10.6.5 Simulated Conditions.</b> Drills shall be held at expected and unexpected times and under varying conditions to simulate the unusual conditions that can occur in an actual emergency.</p>

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	<p>Annex note <b>A.10.6.5</b> Fire is always unexpected. IF the drill is always held in the same way at the same time, it loses much of its value. When, for some reason during as actual fire it is not possible to follow the usual routine of the emergency egress and relocation drill to which occupants have become accustomed, confusion and panic might ensue. Drills should be carefully planned to simulate actual fire conditions. Not only should drills be held at varying times, but different means of exit or relocation areas should be used on an assumption that fire or smoke might prevent the use of normal egress and relocation avenues.</p> <p><b>10.6.6 Relocation Area.</b> Drill participants shall relocate to a predetermined location and remain at such location until a recall or dismissal signal is given.</p>
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**Table C.4(e) Fire Drills**

General provisions for fire drills and emergency evacuation plans from the **IFC**, **NFPA 101**, and **NFPA 1** codes are provided in this table. The table highlights those provisions that are commonly referenced for the identified occupancies associated with college campuses.

<p><b>IFC</b></p>	<p><b>404.3 Contents.</b> Fire safety and evacuation plan contents shall be in accordance with Sections 404.3.1 and 404.3.2.</p> <p><b>404.3.1 Fire evacuation plans.</b> Fire evacuation plans shall include the following:</p> <ol style="list-style-type: none"> <li>1. Emergency egress or escape routes and whether evacuation of the building is to be complete or, where approved, by selected floors or areas only.</li> <li>2. Procedures for employees who must remain to operate critical equipment before evacuating.</li> <li>3. Procedures for accounting for employees and occupants after evacuation has been completed.</li> <li>4. Identification and assignment of personnel responsible for rescue or emergency medical aid.</li> <li>5. The preferred and any alternative means of notifying occupants of a fire or emergency.</li> <li>6. The preferred and any alternative means of reporting fires and other emergencies to the fire department or designated emergency response organization.</li> <li>7. Identification and assignment of personnel who can be contacted for further information or explanation of duties under the plan.</li> <li>8. A description of the emergency voice/alarm communication system alert tone and preprogrammed voice messages, where provided.</li> </ol> <p><b>404.3.2 Fire safety plans.</b> Fire safety plans shall include the following:</p> <ol style="list-style-type: none"> <li>1. The procedure for reporting a fire or other emergency.</li> <li>2. The life safety strategy and procedures for notifying, relocating, or evacuating occupants.</li> <li>3. Site plans indicating the following:             <ol style="list-style-type: none"> <li>3.1. The occupancy assembly point.</li> <li>3.2. The locations of fire hydrants.</li> <li>3.3. The normal routes of fire department vehicle access.</li> </ol> </li> <li>4. Floor plans identifying the locations of the following:             <ol style="list-style-type: none"> <li>4.1. Exits.</li> <li>4.2. Primary evacuation routes.</li> <li>4.3. Secondary evacuation routes.</li> <li>4.4. Accessible egress routes.</li> <li>4.5. Areas of refuge.</li> <li>4.6. Manual fire alarm boxes.</li> <li>4.7. Portable fire extinguishers.</li> <li>4.8. Occupant-use hose stations.</li> </ol> </li> </ol>
<p><b>IFC</b> con't</p>	<ol style="list-style-type: none"> <li>4.9. Fire alarm annunciators and controls.</li> <li>5. A list of major fire hazards associated with the normal use and occupancy of the premises, including maintenance and housekeeping procedures.</li> <li>6. Identification and assignment of personnel responsible for maintenance of systems and equipment installed to prevent or control fires.</li> <li>7. Identification and assignment of personnel responsible for maintenance, housekeeping and controlling fuel hazard sources.</li> </ol> <p><b>405.1 Emergency Evacuation Drills.</b> General. Emergency evacuation drills complying with the provisions of this section shall be conducted at least annually in the occupancies listed in Section 404.2 or when required by the fire code official. Drills shall be designed in cooperation with the local authorities.</p> <p><b>405.2 Frequency.</b> Required emergency evacuation drills shall be held at the</p>



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	means of exit or relocation areas should be used on an assumption that fire or smoke might prevent the use of normal egress and relocation avenues. <b>10.6.6 Relocation Area.</b> Drill participants shall relocate to a predetermined location and remain at such location until a recall or dismissal signal is given.
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## 10.2.2.4 D. Lodging and Rooming House, a NFPA Residential Occupancy Sub-classification

Within the NFPA 101 and NFPA 1 documents, lodging and rooming houses is a subdivision of the residential occupancies and therefore is treated as a separate occupancy with its own particular requirements. The IBC and IFC documents include lodging and rooming houses within their Residential Group R-2 classification. It is possible that this NFPA residential occupancy sub-classification could be associated with a college or university campus and used by students.

**Lodging and rooming house** – a building or portion thereof that does not qualify as a one- or two-family dwelling that provides sleeping accommodations for a total of 16 or fewer people on a transit or permanent basis, without personal care services, with or without meals, but without separate cooking facilities for individual occupants.

**Table D.1(a) Determination of emergency condition**

<b>IBC</b>	See Table C.1(a) for Residential Occupancies R-2. (Page 9)
<b>NFPA 101</b> new and existing occupancy	<b>26.3.4.1.1</b> A fire alarm system shall be provided except for existing facilities that have an existing smoke detection system (permitted existing battery operated smoke detectors that have testing, maintenance and battery replacement programs) with at least one manual fire alarm box.
<b>IFC</b>	See Table C.1(a) for Residential Occupancies R-2. (Page 10)
<b>NFPA 1</b>	20.10.1 References NFPA 101 for applicable provisions.

**Table D.2(b) Notification of an emergency**

<b>IBC</b>	See Table C.2(a) for Residential Occupancies R-2. (Page 12)
<b>NFPA 101</b> new and existing occupancy	<b>26.3.4.3</b> Occupant notification shall be provided automatically per 9.6.3. <b>26.3.4.3.1</b> Visual signals for the hearing impaired shall not be required where the proprietor resides in the building and there are five or fewer rooms for rent. <b>26.3.4.5.1</b> Approved single-station smoke alarms installed in every sleeping room.
<b>IFC</b>	See Table C.2(a) for Residential Occupancies R-2. (Page 13)
<b>NFPA 1</b>	20.10.1 References NFPA 101 for applicable provisions.

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**Table D.4(c) Construction, Compartmentation, or Suppression**

<b>IBC</b>	See Table C.3(a) for Residential Occupancies R-2. (Page 16)
<b>NFPA 101</b> new and existing occupancy	<p><b>26.3.5.1</b> Sleeping rooms shall be separated from escape route corridors by smoke partitions.</p> <p><b>26.3.5.5</b> Doors shall be provided with latches or other mechanisms suitable for keeping the doors closed.</p> <p><b>26.3.5.7</b> In buildings other than those protected by a fire sprinkler system, doors shall be self-closing or automatic-closing upon detection of smoke. No compartmentation required.</p> <p><b>26.3.6.1 and 26.3.6.2</b> All new lodging or rooming houses shall be protected throughout by an approved automatic fire sprinkler system except for those where every sleeping room has a door opening directly to the outside of the building at street or grade level or an exterior stair used as the primary means of escape.</p>
<b>IFC</b>	See Table C.3(a) for Residential Occupancies R-2. (Page 17)
<b>NFPA 1</b>	20.10.1 References NFPA 101 for applicable provisions.

**Table D.4(d) Training or education of occupants**

<b>IBC</b>	See Table C.4(a) for Residential Occupancies R-2. (Page 20)
<b>NFPA 101</b> new and existing occupancy	No specific requirements identified.
<b>IFC</b>	See Table C.4(a) for Residential Occupancies R-2. (Page 21)
<b>NFPA 1</b>	20.10.1 References NFPA 101 for applicable provisions.

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## 10.2.2.5 E. Accessible Means of Egress

### E.1 Accessible Provisions within Codes

There are accessibility provisions found within the referenced documents pertaining to accessible means of egress. Accessible means of egress refers to making a building or facility accessible and usable by people with physical disabilities so they have access to and once within the structure have the ability to exit a building to a public way. It is noted that the documents reference the ICC/ANSI A117.1 *American National Standard for Accessible and Usable Buildings and Facilities*, for many provisions related to scoping and details for accessible elements that are found within a building or facility. The following table highlights the provisions associated with accessible means of egress.

**Table E.1 Accessibility**

<b>IBC</b> Definition	<b>1102.1 Accessible Route.</b> A continuous, unobstructed path that complies with this chapter.
Provisions	<b>Area of Refuge.</b> An area where persons unable to use stairways can remain temporarily to await instructions or assistance during emergency evacuation.
	<b>1101.2 Design.</b> Buildings and facilities shall be designed and constructed to be accessible in accordance with this code and ICC/ANSI A117.1 <i>Accessible and Usable Buildings and Facilities</i> .
	<b>1103.1 Where required.</b> Buildings and structures, temporary or permanent, including their associated sites and facilities, shall be accessible to persons with physical disabilities.
	<b>1104.5 Location.</b> Accessible routes shall coincide with or be located in the same area as a general circulation path. Where the circulation path is interior, the accessible route shall also be interior. Where only one accessible route is provided, the accessible route shall not pass through kitchens, storage rooms, restrooms, closets or similar spaces.
	<b>1107.1 General dwelling</b> In addition to the other requirements of this chapter, occupancies having dwelling units or sleeping units shall be provided with accessible features in accordance with this section.
	<b>1107.3 Accessible spaces.</b> Rooms and spaces available to the general public or available for use by residents and serving Accessible units, Type A units or Type B units shall be accessible. Accessible spaces shall include toilet and bathing rooms, kitchen, living and dining areas and any exterior spaces, including patios, terraces and balconies.
Dwelling unit elements	<b>1107.6.2 Group R-2.</b> Accessible units, Type A units and Type B units shall be provided in Group R-2 occupancies in accordance with Sections 1107.6.2.1 and 1107.6.2.2.
Existing provisions	<b>3409.3 Extent of application.</b> An alteration of an existing element, space or area of a building or facility shall not impose a requirement for greater accessibility than that which would be required for new construction. Alterations shall not reduce or have the effect of reducing accessibility of a building, portion of a building or facility.
<b>IBC</b> con't	<b>3409.4 Change of occupancy.</b> Existing buildings, or portions thereof, that undergo a change of group or occupancy shall have at least one accessible building entrance and at least one accessible route from an accessible building entrance to primary function areas.
	Where it is technically infeasible to comply with the new construction standards for any of these requirements for a change of group or occupancy, the above items shall conform to the requirements to the maximum extent technically feasible.
	Change of group or occupancy that incorporates any alterations or additions shall comply with this section and Sections 3409.5, 3409.6, 3409.7 and 3409.8.
<b>NFPA 101</b> definitions	<b>3.3.151.1 Accessible Means of Egress.</b> A means of egress that provides an accessible route to an area of refuge, a horizontal exit, or a public way.

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<p>Arrangement of Means of Egress</p> <p>Means of Egress Components</p>	<p><b>3.3.18 Area of Refuge.</b> An area that is either (1) a story in a building where the building is protected throughout by an approved, supervised automatic sprinkler system and has not less than two accessible rooms or spaces separated from each other by smoke-resisting partitions; or (2) a space located in a path of travel leading to a public way that is protected from the effects of fire, either by means of separation from other spaces in the same building or by virtue of location, thereby permitting a delay in egress travel from any level.</p> <p><b>3.3.216 Severe Mobility Impairment.</b> The ability to move to stairs but without the ability to use the stairs.</p> <p><b>7.5.4.1</b> Areas accessible to people with severe mobility impairment, other than in existing buildings, shall have not less than two accessible means of egress, unless the building or area is permitted to have a single exit</p> <p>Annex note <b>A.7.5.4.1</b> An accessible means of egress should comply with the accessible route requirements of ICC/ANSI A117.1, <i>Accessible and Usable Buildings and Facilities</i>.</p> <p><b>7.5.4.1.1</b> Access within the allowable travel distance shall be provided to not less than one accessible area of refuge or one accessible exit providing an accessible route to an exit discharge.</p> <p><b>7.2.12 Areas of Refuge.</b> An area of refuge used as part of a required accessible means of egress per 7.5.4 shall satisfy the requirements of 7.2.12 for accessibility and construction detail unless the stories of the buildings are protected throughout by an approved, supervised automatic sprinkler system.</p>
<p>IFC definitions</p> <p>Accessible means of egress</p> <p>IFC con't</p>	<p><b>1002.1 Accessible Means of Egress.</b> A continuous and unobstructed way of egress travel from any accessible point in a building or facility to a public way.</p> <p><b>1002.1 Area of Refuge.</b> An area where persons unable to use stairways can remain temporarily to await instructions or assistance during emergency evacuation.</p> <p><b>1007.1</b> Accessible means of egress required. Accessible means of egress shall comply with this section. Accessible spaces shall be provided with not less than one accessible means of egress. Where more than one means of egress is required by Section 1015.1 or 1019.1 from any accessible space, each accessible portion of the space shall be served by not less than two accessible means of egress.</p> <p><b>1007.6 Areas of refuge.</b> Every required area of refuge shall be accessible from the space it serves by an accessible means of egress. The maximum travel distance from any accessible space to an area of refuge shall not exceed the travel distance permitted for the occupancy in accordance with Section 1016.1. Every required area of refuge shall have direct access to an enclosed stairway complying with Sections 1007.3 and 1020.1 or an elevator complying with Section 1007.4. Where an elevator lobby is used as an area of refuge, the shaft and lobby shall comply with Section 1020.1.7 for smokeproof enclosures except where the elevators are in an area of refuge formed by a horizontal exit or smoke barrier</p>
<p>NFPA 1</p>	<p><b>14.10.4.1</b> Areas accessible to people with severe mobility impairment, other than in existing buildings, shall have not less than two accessible means of egress, unless the building or area is permitted to have a single exit</p> <p><b>14.10.4.1.1</b> Access within the allowable travel distance shall be provided to not less than one accessible area of refuge or one accessible exit providing an accessible route to an exit discharge.</p>

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## E.2 Provisions from ICC/ANSI A117.1, *Accessible and Usable Buildings and Facilities*

The following information is being provided as it related to the purpose and scope of the ICC/ANSI A117.1 *Accessible and Usable Buildings and Facilities*.

**101 Purpose.** The technical criteria in Chapters 3 through 9, and Sections 1002, 1003 and 1005 of this standard make sites, facilities, buildings and elements accessible to and usable by people with such physical disabilities as the inability to walk, difficulty walking, reliance on walking aids, blindness and visual impairment, deafness and hearing impairment, incoordination, reaching and manipulation disabilities, lack of stamina, difficulty interpreting and reacting to sensory information, and extremes of physical size. The intent of these sections is to allow a person with a physical disability to independently get to, enter, and use a site, facility, building, or element.

**201 General.** This standard provides technical criteria for making sites, facilities, buildings, and elements accessible. The administrative authority shall provide scoping provisions to specify the extent to which these technical criteria apply. These scoping provisions shall address the application of this standard to: each building and occupancy type; new construction, alterations, temporary facilities, and existing buildings; specific site and building elements; and to multiple elements or spaces provided within a site or building.

**702.1 General.** Accessible audible and visual alarms and notification appliances shall be installed in accordance with NFPA 72, *Fire Alarm Code*, listed in Section 105.2.2, be powered by a commercial light and power source, be permanently connected to the wiring of the premises electric system, and be permanently installed.

**1001.1 Scoping.** Dwelling units and sleeping units required to be Accessible units, Type A units, Type B units, or units with accessible communication features by the scoping provisions adopted by the administrative authority shall comply with the applicable provisions of Chapter 10.

### 10.2.2.6 F. International Existing Building Code

This document is related to the repair, alteration, change of occupancy, addition and relocation of a building and if there are specific provisions related to an occupancy provision there is generally a reference to the *International Building Code*.

**101.2 Scope.** The provisions of the *International Existing Building Code* shall apply to the repair, alteration, change of occupancy, addition and relocation of existing buildings.

**101.3 Intent.** The intent of this code is to provide flexibility to permit the use of alternative approaches to achieve compliance with minimum requirements to safeguard the public health, safety and welfare insofar as they are affected by the repair, alteration, change of occupancy, addition and relocation of existing buildings.

**302.1 Existing buildings or structures.** Additions or alterations to any building or structure shall comply with the requirements of the *International Building Code* for new construction. Additions or alterations shall not be made to an existing building or structure that will cause the existing building or structure to be in violation of any provisions of the *International Building Code*. An existing building plus additions shall comply with the height and area provisions of the *International Building Code*. Portions of the structure not altered and not affected by the alteration are not required to comply with the code requirements for a new structure.

**305.1 Conformance.** No change shall be made in the use or occupancy of any building that would place the building in a different division of the same group of occupancy or in a different group of occupancies, unless such building is made to comply with the requirements of the *International Building Code* for such

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division or group of occupancy. Subject to the approval of the building official, the use or occupancy of existing buildings shall be permitted to be changed and the building is allowed to be occupied for purposes in other groups without conforming to all the requirements of the *International Building Code* for those groups, provided the new or proposed use is less hazardous, based on life and fire risk, than the existing use.

### **10.2.2.7 G. International Property Maintenance Code**

The *International Property Maintenance Code* is a companion code to the ICC family of codes and is used for the maintenance and operation of existing buildings. There was only one particular reference found within this document related to the reviewed occupancies associated with college campuses in this report.

**101.2 Scope.** The provisions of this code shall apply to all existing residential and nonresidential structures and all existing premises and constitute minimum requirements and standards for premises, structures, equipment and facilities for light, ventilation, space, heating, sanitation, protection from the elements, life safety, safety from fire and other hazards, and for safe and sanitary maintenance; the responsibility of owners, operators and occupants; the occupancy of existing structures and premises, and for administration, enforcement and penalties.

**101.3 Intent.** This code shall be construed to secure its expressed intent, which is to ensure public health, safety and welfare in so far as they are affected by the continued occupancy and maintenance of structures and premises. Existing structures and premises that do not comply with these provisions shall be altered or repaired to provide a minimum level of health and safety as required herein.

**704.2 Smoke alarms.** Single or multiple-station smoke alarms shall be installed and maintained in Groups R-2, R-3, R-4 and in dwellings not regulated in Group R occupancies, regardless of occupant load at all of the following locations:

1. On the ceiling or wall outside of each separate sleeping area in the immediate vicinity of bedrooms.
2. In each room used for sleeping purposes.
3. In each story within a dwelling unit, including basements and cellars but not including crawl spaces and uninhabitable attics. In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

### **10.2.2.8 H. International Residential Code for One and Two Family Dwellings**

The *International Residential Code for One and Two Family Dwellings* may apply to some campus housing constructed as duplex or townhouse units. The scope of this document limits the application to very particular buildings and is not generally those facilities that are found on a college or university campus for student use.

**R101.2 Scope.** The provisions of the *International Residential Code for One- and Two-family Dwellings* shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached one- and two-family dwellings and townhouses not more than three stories above-grade in height with a separate means of egress and their accessory structures.

**R313.1 Smoke detection and notification.** All smoke alarms shall be listed in accordance with UL 217 and installed in accordance with the provisions of this code and the household fire warning equipment

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provisions of NFPA 72, *Fire Alarm Code*.

Household fire alarm systems installed in accordance with NFPA 72, *Fire Alarm Code* that include smoke alarms, or a combination of smoke detector and audible notification device installed as required by this section for smoke alarms, shall be permitted. The household fire alarm system shall provide the same level of smoke detection and alarm as required by this section for smoke alarms in the event the fire alarm panel is removed or the system is not connected to a central station.

## **State Code Adoption Table**

### **Legend for column entries**

1. State - this identifies the individual state
2. a. Building code adopted - this identifies the document that has been adopted  
IBC is the reference for the International Building Code which is the bases for the majority of the state building codes.
- b. (statewide) – this identifies if there is a statewide adoption of the building code
  - i. (no) – this indicates that the building code is not a mandatory statewide requirement.  
Generally the code applies to state own facilities and if adopted by the local jurisdictions then this would generally be the minimum that would have to be adopted.
  - ii. (yes) – this indicates that there is a mandatory statewide adoption of a building code.  
Enforcement of the code varies as to responsible party being the state, local, or architect or engineer of record.
- c. min/max – “min” indicates the statewide code is a minimum and the local jurisdictions can make modifications that are more restrictive; a “min/max” prohibits any local modifications to the state adopted code.
3. State agencies – this column identifies the agency responsible for the maintenance or development of the state building code.
4. Application of building code – this identifies those facilities that are subject to the building code.  
Generally it is noted that the code applies to all buildings except for 1 and 2 family residences.
5. Life Safety Code – this is the reference to the NFPA 101 document and this identifies those states that have adopted it.
6. Fire Code – this identifies if the NFPA 1, Uniform Fire Code or the IFC, International Fire Code has been adopted to be used as a statewide fire code.
7. State agencies – this column identifies the agency responsible for the maintenance or development of the state fire code.
8. Application of fire code – this identifies those facilities that are subject to the fire code. Generally it is noted that the code applies to all buildings except for 1 and 2 family residences.
9. Fire sprinkler retrofitting – this identifies if there are any specific regulations related to retrofitting of fire sprinklers for particular occupancies (residential, mercantile, business and public assembly).
10. Contact information – this identifies the particular state agencies that have been contacted with associated telephone and website contact information.

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State	Building code adopted (statewide) Min or min/max	State or local Agency responsible for code development	Application of Building Code and enforcement (exclude 1 & 2 family)	Life Safety Code adopted	Fire Code Adopted	State or local Agency responsible for code development	Application of Fire Code and enforcement	Fire sprinkler retrofitting provisions or regulations pertaining to referenced occupancies	Contact information of state agencies involved with state code development and enforcement
Alabama	IBC 2006 (no) min	Alabama Building Commission	State owned buildings, hotels, movie picture theaters. Local adoption permitted	SBCI 1997 NFPA 101:2003	NFPA 1:2003	Alabama Dept. of Insurance State Fire Marshal	Applies to all buildings enforced on local and state level	no retrofitting provisions for fire sprinklers	AI Building Commission, Bob O'Reilly, 334.242.4803 www.bc.state.al.us/buildingcode AI Dept of Insurance, Ed Paulk, 334.241.4166 www.insurance.alabama.gov/firemarshal
Alaska	IBC 2006 (yes) min	Dept. of Public Safety, Division of Fire and Life Safety	Applies to all buildings, 11 communities enforce the codes, others done by state	no	IFC 2006	Dept of Public Safety, Division of Fire and Life Safety	Applies to all buildings, cities only can be more restrictive UFC 1988 has limited application	Dorms on college campuses are protected by fire sprinklers via earlier code requirements	AK Dept of Public Safety, Asst FM Kelly Nicolab, 907.257.1389 www.dps.state.ak.us/fire/regulations www.dfs.as.gov Tom Wheeler, 602.364.0003
Arizona	none	Local cities or county adopts building code	city or county ordinance establishes application	no	IFC 2003	Dept of Fire Building and Life Safety	Applies to all buildings, state enforcement on selected occupancies and all state buildings regardless of occupancy	no retrofitting provisions for fire sprinklers	AK Building Authority, John Reis, 501.682.1383 www.arkansasbuildingauthority.com State Police Regulatory Service Division Andy Burton, 501.168.8700 www.asps.state.ar.us/divisions/frs_marshall
Arkansas	IBC 2006 (yes as referenced by the IFC) min	AK State Police Regulatory Service Division	Minimum for all buildings and enforced by the local authorities	no	2007 AK Fire Prevention Code (2006 IFC)	AK State Police Regulatory Service Division Fire Marshal	Applies to all buildings enforced on local and state level	no retrofitting provisions for fire sprinklers	CA Building Standards Commission, Russel Frank, 916.263.0916 www.bsc.ca.gov CA SFM, Kevin Riberon, 916.337.4999 www.osfm.fire.ca.gov/hite_24
California	2007 CA Building Code (IBC 2006) (yes) min	CA Building Standards Commission administers code and multiple of agencies development amendments	Applies to all buildings, state enforces on selected occupancies and State buildings with local enforcement on others	no	2007 CA Fire Code (IFC 2006 with amendments)	CA State Fire Marshal Office	Applies to all buildings, state enforcement on selected occupancies and all state buildings regardless of occupancy	1974 retrofitting for high-rise buildings	CO Dept of Personnel and Administration, Office of the State Architect, Carol Lewis, 303.866.6135 www.colorado.gov/dora/dps/ohred/code Dept of Public Safety, Division of Fire Safety www.dfs.state.co.us/mark.wasson, 720.852.8735 CT Dept of Public Safety www.ct.gov/dps/site Steve Kerry, 860.685.8310, SFWO 860.6895.8190
Colorado	IBC 2006 (no) min	CO Dept of Personnel and Administration, Office of the State Architect	Applies to state own buildings, local jurisdictions adopt their own code	no	IFC 2006	CO Dept of Public Safety, Division of Fire Safety State Fire Marshal	Applies to state own facilities, local jurisdictions adopt codes for enforcement	no retrofitting provisions for fire sprinklers	State Fire Prevention Commission, Office of the State Fire Marshal, John Rositer, 302.739.5665 statefiremarshaldelaware.gov Dept of Consumer and Regulatory Affairs www.dcrs.dc.gov/dora/cwp/view 202-442-4400
Connecticut	IBC 2003 (yes) min/max	Office of the State Building Inspector	Applies to all buildings	NFPA 101:2003 existing buildings	IFC 2003	CT Dept. of Public Safety Office of State Fire Marshal	Applies to all buildings cities enforces code	no retrofitting provisions for fire sprinklers	FL Dept of Community Affairs, Bruce Ketchan, 850.410.1568 www.floridabuilding.org Dept of Financial Services, Division of State Fire Marshal www.dfs.com John Walker, 850.413.3174
Delaware	None	None	Counties adopt IBC 2006 or 2003.	NFPA 101:2006	NFPA 1:2006	State Fire Prevention Commission, Office of State Fire Marshal	Applies to all buildings, Municipal cities enforces code	Dorms on college campuses required to be sprinklered by 2009	Dept of Community Affairs, Construction Codes Section Anthony Claffery, 404.679.3118 www.dca.ga.gov/development/constructioncodes/programs Office of Insurance and Safety Fire Commission, Safety Fire Engineering and Inspections, Steve Bush 404.656.7087 www.gaininsurance.org/firemarshal
D.C.	D.C. Construction Code of (IBC 2006)	Dept. of Consumer and Regulatory Affairs	Applies to all buildings	no	IFC 2006	Dept. of Consumer and Regulatory Affairs	Applies to all buildings	no retrofitting provisions for fire sprinklers identified	Dept of Labor and Industrial Relations, State Fire Council www.hawaii.gov/labor/rlc Capt Thompson 808.723.7151
Florida	2007 Florida Building Code (IBC 2006) (yes) min	FL Dept of Community Affairs	Applies to all buildings	2007 FL Fire Prevention Code (NFPA 101:2006)	2007 FL Fire Prevention Code (NFPA 1:2006)	Dept of Financial Services Division of State Fire Marshal	Applies to particular occupancies for state enforcement, and remaining occupancies enforced by local authorities	no retrofitting provisions for fire sprinklers identified	Dept. of Administration, Division of Building Safety Jack Rayne, 208.332.7151, www.dbs.idaho.gov/building/code Dept of Insurance, State Fire Marshal Jim Marklin, 208.334.4370, www.ida.state.us/fm
Georgia	IBC 2006 (yes) min	GA Dept of Community Affairs	Applies to all buildings enforced by local jurisdictions except for selected buildings	NFPA 101:2000	IFC 2006	Office of Insurance and Safety Fire Commission Fire Marshal Office	Applies to particular occupancies and type of buildings for state enforcement with local enforcement	no retrofitting provisions for fire sprinklers identified	Dept of Labor and Industrial Relations, State Fire Council www.hawaii.gov/labor/rlc Capt Thompson 808.723.7151
Hawaii	None pending IBC 2009 adoption for state	None	Counties adopt codes IBC 2003 or UIC 1368	no	none pending NFPA 1:2006 adoption for state	Dept of Labor and Industrial Relations, State Fire Council (advisory council)	local county enforcement of local adopted codes (most adopt UFC 1997)	no retrofitting provisions for fire sprinklers identified	Dept. of Administration, Division of Building Safety Jack Rayne, 208.332.7151, www.dbs.idaho.gov/building/code Dept of Insurance, State Fire Marshal Jim Marklin, 208.334.4370, www.ida.state.us/fm
Idaho	IBC 2006 (yes) min	Dept. of Administration Division of Building Safety	Applies to state own buildings, locals adopt their own but required to be IBC if adopted	no	IFC 2006	Dept of Insurance State Fire Marshal	Applies to state own facilities, local jurisdictions applies to all buildings	no retrofitting provisions for fire sprinklers identified	Office of the State Fire Marshal, Division of Fire Prevention Mary Leavitt, 616.953.7085 www.state.il.us/sfm/techservices
Illinois	None	None	Local jurisdictions can adopt their own codes	NFPA 101:2000	None	Office of the State Fire Marshal Division of Fire Prevention	Applies to all buildings except schools and hospitals that have other state agencies	no retrofitting provisions for fire sprinklers identified	IN Dept. of Homeland Security, Building Safety www.in.gov/dhs, 317.237.1437 Fire and Building Safety, John Hines 317.234.2655
Indiana	2008 IN Building Code (IBC 2006) (yes) min/max	IN Dept. of Homeland Security Building Safety	Applies to all buildings	no	2008 IN Fire Code (IFC 2006)	IN Dept. of Homeland Security Fire and Building Safety	Applies to all buildings	no retrofitting provisions for fire sprinklers identified	Dept. of Public Safety, Building Code Bureau www.dps.state.ia.us/dps/building/index 515.725.6145 State Fire Marshal Division, Bob Hernandez www.dps.state.ia.us/dps 515.725.6145
Iowa	IBC 2006 (yes) min	Dept. of Public Safety State Fire Marshal Division Building Code Bureau	Applies to all buildings	no	IFC 2006	Dept. of Public Safety State Fire Marshal Division	Applies to all buildings	no retrofitting provisions for fire sprinklers identified	Office of the State Fire Marshal, Fire Prevention Division www.accesskansas.org/firemarshal Jack Chalmers 785.296.6471
Kansas	IBC 2000 (yes) min	Kansas Fire Marshal Kansas Building Fire Safety Handbook 3rd ed. 2006	Applies to all construction	NFPA 101, 1997 ed existing facilities	IBC 2000 as referencing to IFC	Kansas Fire Marshal Fire Prevention Division	applies to all buildings, local AHJs can adopt fire codes	no retrofitting provisions for fire sprinklers identified	

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Kentucky	KY Building Code 9th ed (IBC 2006) (yes) min/max	Dept. of Housing, Building and Construction Building Code Enforcement	Applies to all construction	NFPA 101:2006	NFPA 1, 2006	Dept. of Housing, Building and Construction Division of Fire Prevention	Applies to all buildings, local AHJs can have more restrictive provisions	no retrofitting provisions for fire sprinklers identified	Dept. of Housing, Building and Construction Building Code Enforcement, www.dhbc.ky.gov/bcc Rick McMain 502.573.0373 Division of Fire Prevention, Mike Harey 502.573.0388 www.dhbc.ky.gov/fp
Louisiana	IBC 2006 (yes) min	Dept. of Public Safety and Corrections, LA State Uniform Code Council	Applies to all buildings	NFPA 101:2006	NFPA 1, 2006	Dept. of Public Safety State Fire Marshal Office	Applies to all buildings	no retrofitting provisions for fire sprinklers identified	Dept. of Public Safety and Corrections State Fire Marshal's Office, David Jones 225.925.4911 www.dps.state.la.us/sfm Construction Code Council, www.dps.louisiana.gov/bccc
Maine	None pending IBC 2009 adoption for state	Maine State Planning Office	Local jurisdictions can adopt their own codes	NFPA 101:2006	NFPA 1, 2006	Dept. of Public Safety Office of the State Fire Marshal	Applies to all buildings	no retrofitting provisions for fire sprinklers identified	Dept. of Public Safety, Office of the State Fire Marshal Ron Plesker, 207.626.3870 www.maine.gov/dps/mfo www.md.codes.umbc.edu/dhcz2/coesadmin Maine State Planning Office, www.maine.gov/gso
Maryland	IBC 2006 (yes) min	MD Dept. of Housing and Community Development Maryland Code Administration	applies to all buildings	NFPA 101:2006	NFPA 1, 2006	Dept. of State Police Office of the State Fire Marshal	Applies to all buildings	no retrofitting provisions for fire sprinklers, 1990 state required all R-2 to be sprinklered and encourages retrofitting in dorms	MD Dept. of Housing and Community Development, MD Code Administration, Ed Landon 410.534.7220 www.md.codes.umbc.edu/dhcz2/coesadmin Dept. of State Police, Office of the State Fire Marshal www.firemarshal.state.md.us/410.653.8980/Dennis_Gentile
Massachusetts	780 CMR 7th ed (IBC 2003) (yes) min	Dept. of Public Safety Board of Building Regulations and Standards	Applies to all buildings	no	527 CMR Fire Code Chapter 148, Fire Prevention	Dept. of Public Safety Mass. Dept. of Fire Service	Applies to all buildings	Chapter 148, Section 26 requires fire sprinklers in residential occupancies if adopted by local jurisdictions	Executive Office of Public Safety and Security Dept. of Public Safety, www.mass.gov/epsos Board of Building Regulations and Standards 617.727.3200 Dept. of Fire Services 978.587.3100
Michigan	2006 MI Building Code (IBC 2006) (yes) min	Dept. of Energy, Labor and Economic Growth, Building Division	Applies to all buildings	NFPA 101:1997 (recognizes 2006 ed)	IFC 2006	Dept. of Energy, Labor and Economic Growth-Bureau of Fire Service	Applies to all buildings	no retrofitting provisions for fire sprinklers identified	Dept. of Energy, Labor and Economic Growth www.michigan.gov/dleg Building Division, construction codes 517.241.1913 Bureau of Fire Service, Brian Williams, 517.241.1971
Minnesota	IBC 2006 (yes) min/max	MN Dept. of Labor and Industry Construction Codes and Standards	Applies to all buildings	no	IFC 2006	Dept. of Public Safety, State Fire Marshal Dept. of Labor and Industry-promulgates regs	Applies to all buildings	no retrofitting provisions for fire sprinklers except the fire code can be amended to be more restricted by local jurisdictions to that of the building code	Dept. of Labor and Industry, Construction Code and Licensing Division www.doli.state.mn.us 651.284.5862 Dept. of Public Safety, State Fire Marshal Jon Nisje, 651.201.7204 www.dps.state.mn.us/marsh
Mississippi	IBC 2003 (no)	Dept. of Finance and Administration, Bureau of Buildings	Applies to state funded buildings, counties adopt local codes	no	IFC 2003	MS Insurance Dept., State Fire Marshal Office	Applies to state owned buildings and public assemblies with local jurisdictions adopting fire code	no retrofitting provisions for fire sprinklers except for certain high-rise buildings	Dept. of Finance and Administration, Bureau of Buildings www.dfa.state.ms.us/offices/bob 601.359.3402 MS Insurance Dept. Fire Code Enforcement Division www.md.state.us/office/glem Babb 601.399.3569 Office of Administration, Division of Design and Construction www.oa.no.gov 573.751.3339 Dept. of Public Safety, Division of Fire Safety www.dfs.dps.mo.gov Greg Caroli 573.751.2930
Missouri	none	none	State buildings default to designer for compliance with IBC 2006	no	no	none	Fire prevention districts established by counties adopt fire codes	no retrofitting provisions for fire sprinklers identified	www.oa.no.gov 573.751.3339 Dept. of Public Safety, Division of Fire Safety www.dfs.dps.mo.gov Greg Caroli 573.751.2930
Montana	IBC 2006 (yes) min/max	Dept. of Labor and Industry, Building Codes Bureau	Applies to all buildings	no	NFPA 1, 2003	Dept. of Justice, Fire Marshal's Office	Applies to all buildings	no retrofitting provisions for fire sprinklers identified	Dept. of Labor and Industry, Bureau Codes Bureau www.mt.gov/dli/bc/bc/bc Dave Cook 406.841.2063 Dept. of Justice, Fire Prevention and Investigation www.dji.mt.gov/Pat_Clinch 406.444.2050
Nebraska	IBC 2006 (if adopted by local jurisdiction)	Building Construction Act 71-6402	IBC 2006 applies to state buildings and when adopted by the local jurisdiction	NFPA 101:2003	NFPA 1, 2003	Nebraska State Fire Marshal	Applies to all buildings	no retrofitting provisions for fire sprinklers identified	Nebraska State Fire Marshal Office www.sfm.ne.gov Dave Aury 402.471.9659
Nevada	IBC 2006 (yes) min	Dept. of Public Safety State Fire Marshal's Office	IBC 2006 fire and life safety provisions applies to all buildings and local counties adopt building code	no	IFC 2006	Dept. of Public Safety State Fire Marshal's Office	Applies to all buildings	Retrofitting for fire sprinklers on all state buildings more than 2 stories in height	Dept. of Public Safety, Office of the State Fire Marshal http://fire.nv.us/engineering 775.684.7500 Fire Protection Engineering Bureau Fred Passara 775.684.7510
New Hampshire	IBC 2006 (yes) min	Dept. of Public Safety Division of Fire Safety	Applies to all buildings	NFPA 101:2003	NFPA 1, 2003	Dept. of Public Safety Division of Fire Safety	Applies to all buildings	no retrofitting provisions for fire sprinklers identified	Dept. of Public Safety, Division of Fire Safety www.nh.gov/safety/division Ron Ants 603.271.3284 Dept. of Community Affairs www.state.nh.us/dca Bob Grant 603.984.7609 Division of Fire Service www.state.nh.us/dof/dofs Inspector Simi 609-633.6106
New Jersey	IBC 2006 (yes) min	Dept. of Community Affairs	Applies to all buildings	no	IFC 2006	Dept. of Community Affairs Division of Fire Safety	Applies to all building	Fire sprinklers required in R-2 facilities prior to 1977, regulation S70-4.7	Dept. of Community Affairs www.state.nj.us/dca/dofs Division of Fire Service www.state.nj.us/dof/dofs Inspector Simi 609-633.6106



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## 10.2.2.9 K. Quick Reference State Adoption Chart.

This chart highlights the statewide referenced building, life safety and fire codes which can be considered the basis of the applicable state referenced codes. The referenced documents may be incorporate into the state requirements as a direct reference with amendments or used as a basis for the development of the state code. This chart is for a quick reference of codes and editions and the state individual code references should be investigated for specific application and usage.

State	Building Code	Fire Code
AL	IBC 2006	NFPA 101 & 1 2003
AK	IBC 2006	IFC 2006
AR	None	IFC 2003
CA	IBC 2006	IFC 2006
CO	IBC 2006	IFC 2006
CT	IBC 2003	NFPA 101 existing IFC 2003
DE	None	NFPA 101 & 1 2006
D.C.	IBC 2006	IFC 2006
FL	IBC 2006	NFPA 101 & 1 2006
GA	IBC 2006	NFPA 101 2000 IFC 2006
HI	None	none
ID	IBC 2006	IFC 2006
IL	None	NFPA 101 2000
IN	IBC 2006	IFC 2006
IA	IBC 2006	IFC 2006
KS	IBC 2000	NFPA 101 1991 IFC 2000 per IBC
KY	IBC 2006	NFPA 101 & 1 2006
LA	IBC 2006	NFPA 101 & 1 2006
ME	None	NFPA 101 & 1 2006
MD	IBC 2006	NFPA 101 & 1 2006
MA	IBC 2003	527 CMR
MI	IBC 2006	NFPA 101 1997 IFC 2006
MN	IBC 2006	IFC 2006
MS	IBC 2003	IFC 2003
MI	None	None

State	Building Code	Fire Code
MT	IBC 2006	NFPA 1 2003
NE	IBC 2006	NFPA 101 & 1 2003
NV	IBC 2006	IFC 2006
NH	IBC 2006	NFPA 101 & 1 2003
NJ	IBC 2006	IFC 2006
NM	IBC 2006	NFPA 101 & 1 1997
NY	IBC 2003	IFC 2003
NC	IBC 2006	IFC 2006
ND	IBC 2006	NFPA 101 & 1 2003
OH	IBC 2006	IFC 2006
OK	IBC 2006	IFC 2006
OR	IBC 2006	IGC 2006
PA	IBC 2006	IFC 2006
RI	IBC 2006	NFPA 101 & 1 2003
SC	IBC 2006	IFC 2006
TN	IBC 2006	NFPA 101 2006 IFC 2006
TX	none	NFPA 101 2006
UT	IBC 2006	NFPA 101 2006 IFC 2006
VT	IBC 2003	NFPA 101 & 1 2003
VA	IBC 2006	IFC 2006
WA	IBC 2006	IFC 2006
WV	IBC 2003	NFPA 101 & 1 2003
WI	IBC 2006	NFPA 1 2006
WY	IBC 2006	IFC 2006

## **Fire Safety for Students with Disabilities at Institutions of Higher Education**

*Prepared under DHS Fire Prevention and Safety Grant EMW-2007-FP-01856*

### **10.2.2.10L. Summary of Findings.**

In summary, the building codes and fire codes have addressed building usability for a mobility impaired occupant by incorporating specific code provisions and include a reference to the ICC/ANSI A117.1, *Accessible and Usable Buildings and Facilities* document. It is recognized that building accessibility to some level of compliance is generally found in those buildings that have been built since the accessibility requirements were introduced into the building regulations in the early 1980's or existing structures that have gone under some form of renovation.

At the completion of the review of the occupancies associated with college campuses as noted in this report, it is evident, that the model building and fire codes do not specifically address or provide code provisions in recognition of those building occupants that may have cognitive disabilities. The current code provisions have been developed with the assumption that the general public in the occupancies associated with college campuses will be able to respond to the emergency and the emergency notification with appropriate action without assistance and in some occupancies without any additional training being provided.

There are code provisions that require fire drills to be performed which are specific to the type of occupancy and the number of occupants. Some of these fire drills only involve the employees of a building depending on building occupant loading and size. Residential occupancies generally require all occupants to participate in the fire drills. Fire safety information is also required to be provided and posted in residential occupancies. Training and educational requirements within the fire codes should be enhanced so that the building occupants with cognitive disabilities are identified and the appropriate training and/or information can be provided to assist in their appropriate response to an emergency event in a given building.

Due to the variation of the number, age, and types of buildings that can be associated with a college campus the most effective method to enhance the ability of the occupant with cognitive disabilities to function within a given building during an emergency event is to provide training and educational materials. This can be effectively done through the fire codes which are applied to all structures, new and existing, by modifying the current provisions to recognize and incorporate into the fire evacuation planning and fire drills additional provisions to include those occupants that may have cognitive disabilities. This can include additional posting of emergency evacuation signage and instructions in selected locations and occupancies so that all occupants are aware of the appropriate response to a given emergency. Provide additional fire drills where appropriate to reinforce the appropriate response to a fire emergency.

## **10.3 Grant Narrative**

The following is the narrative of the grant application that was submitted to the Department of Homeland Security.

### **10.3.1 Vulnerability Statement**

Colleges and universities across the country are faced with the difficulty of providing effective, yet equitable fire protection for disabled students. As a society, we have become much more sensitive to the needs for providing equitable access for disabled people. The passage and enforcement of the American with Disabilities Act (ADA) resulted in a significant shift in how society views and addresses the complex issues of disability access in buildings.

However, while we have become much better at providing access, we have not come to grips with how to best provide for safe egress from a building during an emergency. Because disabled occupants are to be allowed full access to a building, there is always the potential that when an emergency occurs, the precise location of this individual may not be known. The individual may be intimate with the emergency or unable to escape.

The type of disabled occupants can vary significantly, from permanent and full physical impairment to temporary ones, such as a broken leg. Disabilities also include cognitive learning disabilities as well, which can dramatically impact an individual's ability to evaluate the emergency and react appropriately.

Schools are faced with the situation where not only do they provide access into classroom, administrative and other facilities during the day, but also for housing as well. The question arises, are their needs being adequately met in the event of an emergency or not?

When an emergency occurs requiring evacuation, there are a wide variety of solutions employed depending upon the person's disability, location, emergency resources available and much more.

Unquestionably the overriding concern must be the safety of the disabled person. However, this must be balanced against their rights for universal access. While the focus of this project would be the collegiate environment, the implications and applicability would extend far beyond the campus environment.

A significant problem arises in that there is no uniform requirement or methodology for how a school should react to an emergency situation where disabled students are or may potentially be involved. The model building and life safety codes address how to provide access, but they do not sufficiently address how an institution should provide for an occupant's safe egress. This is left to the individual states that have adopted a variety of regulations

Schools use a variety of methods, ranging from developing "safe rooms"; to only allowing the occupants to live on designated floors. Some of the methods, while well intentioned, may conflict with the requirements of the ADA. Furthermore, many of these plans do not address the issue of a transient visitor with disabilities nor may they address the full breadth of disabilities that may exist or be encountered.

## **10.3.2 Implementation Plan**

The goal of this project would be to survey schools across the nation and obtain “best practices” that are employed in regards to safe egress of students with disabilities. An analysis would be done of federal, state and model code requirements as well and gaps identified that need to be addressed.

This project would encompass three different components.

### **10.3.2.1 Steering Committee**

A Steering Committee of campus fire safety officials and experts in the field of disabilities would be formed. This steering committee would be responsible for providing overall guidance to the project and providing ongoing of the review of the material that is produced throughout this project.

The Steering Committee will provide overall guidance to the project, help to define the scope of the project in terms of what disabilities will be considered. The members will also serve as subject matter experts providing peer review.

The Steering Committee will be made up of approximately 14 people. Three will be campus fire safety officials, three will be community fire officials and six will be from various fields related to physical and mental disabilities. Gail Minger and Ed Comeau will also be members of the committee.

In order to reduce the requirement for travel (and its associated costs, time impact and environmental impact), this project will make use of teleconferencing and the Internet to provide the interaction between the members.

### **10.3.2.2 Review of Current Practices**

A review of policies at a variety of institutions across the country would be undertaken. A broad selection of institutions would be selected to ensure a diversity of schools, ranging from large to small, public, private, urban and rural. This diversity would help to provide maximum input into the research.

One of the first tasks will be to assemble a diverse list of schools and obtain their current policies and procedures relating to emergency egress for disabled students. This list will be developed with a representation of large and small schools, public and private and geographic diversity as well to ensure a solid cross-sectional representation.

Review of Applicable National and State Rules and Regulations and applicable model codes and standards.

The next would be a review of the applicable rules and regulations governing access and recognized best practices that are being used.

A fire protection engineering firm would be retained to review the applicable requirements in national model building, fire and life safety codes in relation to accessibility. This would also include a survey of the fifty states' requirements for schools within their jurisdiction.

## **Fire Safety for Students with Disabilities at Institutions of Higher Education**

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### **10.3.2.3 Deliverables**

The steering committee of experts would be assembled to review the material and offer guidance and input into the development of a report.

The final stage would be the production of a report with the following components:

- National review of current practices
- National review of applicable requirements under the ADA and state laws
- National review of model building codes and state standards for emergency egress
- Recommended practices identified through research

This report would be peer-reviewed by the Steering Committee for accuracy and applicability. It would then be posted on the Internet for global distribution.

A series of articles will be proposed to national fire, safety and collegiate publications summarizing the findings of this landmark report. Ed Comeau, one of the partners in this grant, has written extensively for trade publications across the nation and will be instrumental in this phase of the project. In addition, a press release will be prepared and distributed to the national and educational media to further widen the awareness of the report.