Life Safety Code[®] Handbook

FOURTEENTH EDITION

Edited by

Gregory E. Harrington, P.E.

Principal Engineer, Building Fire Protection and Life Safety National Fire Protection Association

Kristin C. Bigda, P.E.

Principal Engineer, Building Fire Protection and Life Safety National Fire Protection Association

With the complete text of the 2018 edition of NFPA 101®, Life Safety Code®



NATIONAL FIRE PROTECTION ASSOCIATION

The leading information and knowledge resource on fire, electrical and related hazards

Product Management: Debra Rose Development and Production: Irene Herlihy Copyediting: Nancy Wirtes Permissions: Josiane Domenici Art Direction: Cheryl Langway Cover Design: Twist Creative Group Interior Design: Cheryl Langway Composition: Shepherd, Inc. Printing/Binding: LSC Communications, Inc.



Copyright © 2017 National Fire Protection Association[®] One Batterymarch Park Quincy, Massachusetts 02169-7471

All rights reserved.

Important Notices and Disclaimers: Publication of this handbook is for the purpose of circulating information and opinion among those concerned for fire and electrical safety and related subjects. While every effort has been made to achieve a work of high quality, neither the NFPA[®] nor the contributors to this handbook guarantee or warrantee the accuracy or completeness of or assume any liability in connection with the information and opinions contained in this handbook. The NFPA and the contributors shall in no event be liable for any personal injury, property, or other damages of any nature whatsoever, whether special, indirect, consequential, or compensatory, directly or indirectly resulting from the publication, use of, or reliance upon this handbook.

This handbook is published with the understanding that the NFPA and the contributors to this handbook are supplying information and opinion but are not attempting to render engineering or other professional services. If such services are required, the assistance of an appropriate professional should be sought.

NFPA 101[®], Life Safety Code[®] ("NFPA 101"), is, like all NFPA codes, standards, recommended practices, and guides ("NFPA Standards"), made available for use subject to Important Notices and Legal Disclaimers, which appear at the end of this handbook and can also be viewed at *www.nfpa.org/disclaimers*.

Notice Concerning Code Interpretations: This fourteenth edition of the *Life Safety Code*[®] *Handbook* is based on the 2018 edition of NFPA *101*. All NFPA codes, standards, recommended practices, and guides ("NFPA Standards") are developed in accordance with the published procedures of the NFPA by technical committees comprised of volunteers drawn from a broad array of relevant interests. The handbook contains the complete text of *NFPA 101* and any applicable Formal Interpretations issued by the NFPA at the time of publication. This NFPA Standard is accompanied by explanatory commentary and other supplementary materials.

The commentary and supplementary materials in this handbook are not a part of the NFPA Standard and do not constitute Formal Interpretations of the NFPA (which can be obtained only through requests processed by the responsible technical committees in accordance with the published procedures of the NFPA). The commentary and supplementary materials, therefore, solely reflect the personal opinions of the editor or other contributors and do not necessarily represent the official position of the NFPA or its technical committees.

REMINDER: UPDATING OF NFPA STANDARDS

NFPA 101, Life Safety Code, like all NFPA codes, standards, recommended practices, and guides ("NFPA Standards"), may be amended from time to time through the issuance of Tentative Interim Amendments or corrected by Errata. An official NFPA Standard at any point in time consists of the current edition of the document together with any Tentative Interim Amendment and any Errata then in effect. In order to determine whether an NFPA Standard has been amended through the issuance of Tentative Interim Amendments or corrected by Errata, visit the "Codes & Standards" section on NFPA's website. There, the document information pages located at the "List of NFPA Codes & Standards" provide up-to-date, document-specific information, including any issued Tentative Interim Amendments and Errata. To view the document information page for a specific NFPA Standard, go to http:// www.nfpa.org/docinfo to choose from the list of NFPA Standards, or use the search feature to select the NFPA Standard number (e.g., NFPA 101). The document information page includes postings of all existing Tentative Interim Amendments and Errata. It also includes the option to register for an "Alert" feature to receive an automatic email notification when new updates and other information are posted regarding the document.

The following are registered trademarks of the National Fire Protection Association:

National Fire Protection Association[®] NFPA[®] Life Safety Code[®] and 101[®] Building Construction and Safety Code[®] and NFPA 5000[®] National Electrical Code[®], NFPA 70[®], and NEC[®] National Fire Alarm and Signaling Code[®] and NFPA 72[®]

NFPA No.: 101HB18 ISBN (book): 978-1-4559-1492-0 ISBN (PDF): 978-1-4559-1491-3 ISBN (e-book): 978-1-4559-1490-6 Library of Congress Control No.: 89642947

Printed in the United States of America 17 18 19 20 21 5 4 3 2 1

Contents

Preface vii

About the Editors viii NFPA *101* Summary of Technical Changes: 2015 to 2018 T1

1 Administration 1

- 1.1 Scope 1
- 1.2 Purpose
- 1.3 Application 6
- 1.4 Equivalency 7
- 1.5 Units and Formulas 9

5

1.6 Enforcement 9

2 Referenced Publications 11

- 2.1 General 11
- 2.2 NFPA Publications 12
- 2.3 Other Publications 13
- 2.4 References for Extracts in Mandatory Sections 15

3 Definitions 17

- 3.1 General 17
- 3.2 NFPA Official Definitions 17
- 3.3 General Definitions 18

4 General 51

- 4.1 Goals 51
- 4.2 Objectives 52
- 4.3 Assumptions 53
- 4.4 Life Safety Compliance Options 54
- 4.5 Fundamental Requirements 55
- 4.6 General Requirements 56
- 4.7 Fire Drills 66
- 4.8 Emergency Action Plan 67

5 Performance-Based Option 71

- 5.1 General Requirements 72
- 5.2 Performance Criteria 75
- 5.3 Retained Prescriptive Requirements 77
- 5.4 Design Specifications and Other Conditions 77

- 5.5 Design Fire Scenarios 88
- 5.6 Evaluation of Proposed Designs 94

98

- 5.7 Safety Factors
- 5.8 Documentation Requirements 99

6 Classification of Occupancy and Hazard of Contents 101

- 6.1 Classification of Occupancy 101
- 6.2 Hazard of Contents 119

7 Means of Egress 121

- 7.1 General 122
- 7.2 Means of Egress Components 140
- 7.3 Capacity of Means of Egress 244
- 7.4 Number of Means of Egress 257
- 7.5 Arrangement of Means of Egress 260
- 7.6 Measurement of Travel Distance to Exits 272
- 7.7 Discharge from Exits 277
- 7.8 Illumination of Means of Egress 280
- 7.9 Emergency Lighting 282
- 7.10 Marking of Means of Egress 285
- 7.11 Special Provisions for Occupancies with High Hazard Contents 294
- 7.12 Special Provisions for Hazardous Materials 295
- 7.13 Mechanical Equipment Rooms, Boiler Rooms, and Furnace Rooms 295
- 7.14 Normally Unoccupied Building Service Equipment Support Areas 296
- 7.15 Occupant Evacuation Elevators 297

8 Features of Fire Protection 307

- 8.1 General 307
- 8.2 Construction and
- Compartmentation 307
- 8.3 Fire Barriers 314
- 8.4 Smoke Partitions 3278.5 Smoke Barriers 328
- 8.5 Smoke Barriers 328.6 Vertical Openings
- 8.6 Vertical Openings 3328.7 Special Hazard Protection 353
- 8.8 Inspection and Testing of Door Assemblies 356

9 **Building Service and Fire Protection** Equipment 359

- 9.1 Utilities 359
- Heating, Ventilating, and 9.2 Air-Conditioning 360
- 9.3 Smoke Control 361
- 9.4 Elevators, Escalators, and Conveyors 362
- 9.5 Waste Chutes, Incinerators, and Laundry Chutes 366
- 9.6 Fire Detection, Alarm, and Communications Systems 367 383
- 9.7 Automatic Sprinklers
- 9.8 Other Automatic Extinguishing Equipment 385
- 9.9 Portable Fire Extinguishers 386
- 9.10 Standpipe Systems 386
- 9.11 Fire Protection System Operating Features 386
- 9.12 Carbon Monoxide (CO) Detection and Warning Equipment 388
- 9.13 Special Inspections and Tests 389
- 9.14 **Risk Analysis for Mass Notification** Systems 389

10 Interior Finish, Contents, and Furnishings 393

- 10.1 General 393
- 10.2 Interior Finish 395
- 10.3 Contents and Furnishings 410

11 **Special Structures and High-Rise** Buildings 417

- 11.1 **General Requirements** 418
- 11.2 **Open Structures** 418
- Towers 419 11.3
- Water-Surrounded Structures 424 11.4
- 11.5 Piers 424 11.6 Vehicles and Vessels
- 425 11.7
- Underground Structures and Limited Access Structures 425
- 11.8 **High-Rise Buildings** 428
- 11.9 Permanent Membrane Structures 432 11.10 **Temporary Membrane Structures** 433
- 435 11.11 Tents
- 11.12 Animal Housing Facilities 436

12/13 New and Existing Assembly **Occupancies** 437

12.1/13.1 **General Requirements** 440 Means of Egress Requirements 454 12.2/13.2

12.3/13.3	Protection 499	
12.4/13.4	Special Provisions	511
12.5/13.5	Building Services	543
12.6/13.6	Reserved 543	
12.7/13.7	Operating Features	543

14/15 **New and Existing Educational Occupancies** 561

14.1/15.1	General Requiremen	ts 561	
14.2/15.2	Means of Egress Requ	irements	566
14.3/15.3	Protection 582		
14.4/15.4	Special Provisions	595	
14.5/15.5	Building Services	597	
14.6/15.6	Reserved 598		
14.7/15.7	Operating Features	598	

16/17 **New and Existing Day-Care Occupancies** 603

16.1/17.1	General Requiremen	ts 603	
16.2/17.2	Means of Egress Requ	irements	614
16.3/17.3	Protection 625		
16.4/17.4	Special Provisions	631	
16.5/17.5	Building Services	633	
16.6/17.6	Day-Care Homes	634	
16.7/17.7	Operating Features	640	

18/19 **New and Existing Health Care Occupancies** 647

18.1/19.1	General Requirement	ts 648	
18.2/19.2	Means of Egress Requ	irements	666
18.3/19.3	Protection 711		
18.4/19.4	Special Provisions	756	
18.5/19.5	Building Services	763	
18.6/19.6	Reserved 767		
18.7/19.7	Operating Features	767	

20/21 **New and Existing Ambulatory Health Care Occupancies** 779

- 20.1/21.1 General Requirements 780
- 20.2/21.2 Means of Egress Requirements 789
- Protection 20.3/21.3 799
- 20.4/21.4 **Special Provisions** 808
- 20.5/21.5 **Building Services** 811
- 20.6/21.6 Reserved 813
- 20.7/21.7 **Operating Features** 813

22/23New and Existing Detention and **Correctional Occupancies** 821

- 22.1/23.1 **General Requirements** 821
- 22.2/23.2 Means of Egress Requirements 834

22.3/23.3	Protection 846	
22.4/23.4	Special Provisions	864
22.5/23.5	Building Services	874
22.6/23.6	Reserved 875	
22.7/23.7	Operating Features	875

24 One- and Two-Family Dwellings 879

24.1General Requirements87924.2Means of Escape Requirements

881

- 24.3 Protection 889
- 24.4 Reserved 892
- 24.5 Building Services 892

25 Reserved 895

26 Lodging or Rooming Houses 897

- 26.1 General Requirements 897
- 26.2 Means of Escape Requirements 899
- 26.3 Protection 902
- 26.4 Reserved 905
- 26.5 Building Services 905
- 26.6 Reserved 905
- 26.7 Operating Features 905

27 Reserved 907

28/29 New and Existing Hotels and Dormitories 909

909 28.1/29.1 General Requirements 28.2/29.2 Means of Egress Requirements 912 28.3/29.3 Protection 922 28.4/29.4 Special Provisions 933 934 28.5/29.5 **Building Services** 28.6/29.6 Reserved 935 28.7/29.7 935 **Operating Features**

30/31 New and Existing Apartment Buildings 939

30.1/31.1 General Requirements 939 30.2/31.2 Means of Egress Requirements 943 Protection 955 30.3/31.3 30.4/31.4 **Special Provisions** 969 969 30.5/31.5 **Building Services** 30.6/31.6 Reserved 970 30.7/31.7 970 **Operating Features**

32/33 New and Existing Residential Board and Care Occupancies 973

32.1/33.1	General Requirem	ents	974
32.2/33.2	Small Facilities	979	

32.3/33.3	Large Facilit	ties 10	005
32.4/33.4	-		ment Building
	to House a E	-	e
	and Care Oc	cupancy	1030
32.5/33.5	Reserved	1033	
32.6/33.6	Reserved	1033	
32.7/33.7	Operating Fe	eatures	1033

- **34** Reserved 1037
- **35** Reserved 1037

36/37 New and Existing Mercantile Occupancies 1039

36.1/37.1 **General Requirements** 1040 36.2/37.2 Means of Egress Requirements 1050 36.3/37.3 Protection 1063 36.4/37.4 **Special Provisions** 1067 **Building Services** 36.5/37.5 1083 36.6/37.6 Reserved 1083 36.7/37.7 **Operating Features** 1083

38/39 New and Existing Business Occupancies 1085

38.1/39.1	General Requirement	s 1085
38.2/39.2	Means of Egress	
	Requirements 109	91
38.3/39.3	Protection 1106	
38.4/39.4	Special Provisions	1111
38.5/39.5	Building Services	1112
38.6/39.6	Reserved 1113	
38.7/39.7	Operating Features	1113

40 Industrial Occupancies 1115

- 40.1 General Requirements 1117
- 40.2 Means of Egress Requirements 1120
- 40.3 Protection 1128
- 40.4 Special Provisions 1130
- 40.5 Building Services 1130
- 40.6 Special Provisions for Aircraft Servicing Hangars 1131
- 40.7 Operating Features 1131

41 Reserved 1133

42 Storage Occupancies 1135

- 42.1 General Requirements 1135
- 42.2 Means of Egress Requirements 1136
- 42.3 Protection 1142

Life Safety Code Handbook 2018

Contents

- 42.4 Special Provisions 1143
- 42.5 Building Services 1143
- 42.6 Special Provisions for Aircraft Storage Hangars 1144
- 42.7 Special Provisions for Grain Handling, Processing, Milling, or Other Bulk Storage Facilities 1144
- 42.8 Special Provisions for Parking Structures 1145
- 42.9 Operating Features 1149

43 Building Rehabilitation 1151

- 43.1 General 1151
- 43.2 Special Definitions 1155
- 43.3 Repairs 1158
- 43.4 Renovations 1159
- 43.5 Modifications 1161

- 43.6 Reconstruction 1162
- 43.7 Change of Use or Occupancy
- Classification 1167
- 43.8 Additions 1173
- 43.9 Reserved 1176
- 43.10 Historic Buildings 1176

Annexes

- A Explanatory Material 1179
- **B** Supplemental Evacuation Equipment 1181
- C NFPA Documents on Hazardous Materials 1189
- **D** Informational References 1193

Index 1197

Important Notices and Legal Disclaimers 1246

Preface

Since 1927, the National Fire Protection Association has been the developer and publisher of the Life Safety Code®. Formerly known as the Building Exits Code, the Code is prepared by the NFPA Committees on Safety to Life — 14 of the nearly 300 technical committees operating within the framework of NFPA's consensus standards-development system. The members of the Committees on Safety to Life bring to the committee deliberations their knowledge and competence in the design and construction of buildings and structures, in the manufacture and testing of building components and accessories, in the life safety-related abilities and needs of occupants of all occupancy types, and in the enforcement of regulations pertaining to life safety from fire and other related hazards encountered in buildings and structures. The committee members also participate in the development of NFPA 5000[®], Building Construction and Safety Code®, which is processed in the same revision cycle as NFPA 101[®]. There are many similarities between the two codes, especially within the occupancy chapters.

The *Life Safety Code* is a unique document; its contents address specific requirements that have a direct influence on safety to life in both new construction and existing buildings — not new construction alone. Moreover, although the *Code*'s paramount concern is life safety and not protection of property per se, there are also — by observance of the *Code*'s requirements — ancillary benefits to mission continuity and property protection.

The impact that application of the *Code* can have on saving lives is difficult to measure; however, it is reasonable to assume that its influence is extremely significant. For example, of the many fatal public building fires investigated by NFPA, invariably one or more of the building features contributing to loss of life from fire were in violation of the requirements of the *Code*.

NFPA recognizes that a code suitable for enforcement must, by the nature of its purpose, be concise and without explanatory text. In addition, a code cannot be written to cover every situation that will be encountered; thus, it must be applied with judgment and used with good sense and with an awareness of the rationale for the requirements to be enforced. A little help and counsel along the way can make the job a lot easier; hence, NFPA has also developed this *Life Safety Code Handbook*.

This handbook gives users of the *Life Safety Code* background information on the reasons for certain *Code* provisions. It also provides some suggestions, through its text, illustrations, and photos, on how some *Code* requirements can be implemented effectively. This kind of information is intended to provide users of the *Code* with a better understanding of, and appreciation for, the requirements contained in the *Code*. The net result should be the better design, operation, and evaluation of buildings and structures that are increasingly more fire safe.

The reader is cautioned, however, to look upon the commentary that appears in the handbook as the views of the editors and — where commentary reads relatively the same as in earlier editions — the contributors to earlier editions of the handbook. The commentary does not necessarily reflect the official position of NFPA.

Where a pair of occupancy chapters addresses a given occupancy (for example, Chapter 12 for new assembly occupancies and Chapter 13 for existing assembly occupancies), the *Code* text for both chapters is presented in side-by-side columns to permit easy comparison. Further, the accompanying commentary points out differences between the provisions applicable to new construction and to existing buildings.

For this edition of the handbook, Gregory Harrington revised the commentary for Chapters 1 through 6, 9 through 13, 22 through 35, 43, and Annexes A through D; Kristin Bigda revised the commentary for Chapters 8, 14 through 17, and 36 through 42; Ron Coté revised the commentary for Chapters 7 and 18 through 21, and prepared the summary of technical changes.

Acknowledgments

Midway through the development of the 2018 edition of the *Life Safety Code*, Ron Coté, P.E., transitioned from the role of principal life safety engineer at NFPA to that of life safety technical lead, a new position created by NFPA to enhance stakeholder engagement and bridge the gap between NFPA's engineering and business groups. Ron previously served as a staff liaison and secretary to the Technical Committees on Safety to Life since the 1985 edition of NFPA *101* and as editor of the *Life Safety Code Handbook* since the sixth (1994) edition. In addition to taking on the new responsibilities associated with his new position, Ron graciously offered to revise *Handbook* commentary for this edition relating to those subjects with which he had the most familiarity, namely, means of egress and health care occupancies. In addition, he prepared the summary of technical changes. The editors thank Ron for his contributions to this edition of the *Life Safety Code Handbook*.

Gregory E. Harrington, P.E. Principal Engineer, Building Fire Protection and Life Safety NFPA

Kristin C. Bigda, P.E. Principal Engineer, Building Fire Protection and Life Safety NFPA

About the Editors



Gregory E. Harrington, P.E.

Gregory Harrington is a principal engineer in the NFPA building fire protection and life safety division. He is staff liaison and secretary to several Safety to Life and Building Code Technical Committees, as well as the Correlating Committee on Safety to Life. Prior to joining the NFPA staff in 1996, Greg was a fire protection engineer with the San Antonio, Texas, Fire Department and a consulting engineer with Schirmer Engineering Corporation. He received the degrees of Bachelor of Science in Mechanical Engineering and Master of Science in Fire Protection Engineering from Worcester Polytechnic Institute and is a registered professional engineer in the discipline of fire protection in the State of Connecticut.



Kristin C. Bigda, P.E.

Kristin Bigda is a principal engineer in the NFPA building fire protection and life safety division. She serves as staff liaison to the Fire Code Technical Committee, Fire Doors and Windows Technical Committee, as well as several Safety to Life and Building Code Technical Committees, which are responsible for the development of NFPA 101 and NFPA 5000. Kristin is the editor of the NFPA 1 Handbook and NFPA 80 Handbook. Prior to joining the NFPA staff in 2007, Kristin attended Worcester Polytechnic Institute where she received the degrees of Bachelor of Science in Civil Engineering and Master of Science in Fire Protection Engineering. Kristin is also a registered professional engineer in the discipline of fire protection in the Commonwealth of Massachusetts.

NFPA 101 Summary of Technical Changes: 2015 to 2018

This table provides an overview of major code changes from the 2015 to the 2018 edition of NFPA 101° , *Life Safety Code*[®]. Purely editorial and formatting changes are not included. For more information about the reasons for each change, visit www.nfpa.org/101. The first revision (FR), first correlating revision (FCR), second revision (SR), and second correlating revision (SCR) numbers are given in the third column of this table for reference to the official documentation of the fourteen technical committees' actions.

Section Number	Comments	FR/FCR/SR/SCR Reference
Chapter 1 Administration		
1.1.5 Hazardous materials emergencies	Scope expanded to include hazardous materials emergencies	FR 3007
1.1.6 Injuries from falls	Scope expanded to include injuries from falls	FR 3022
1.1.7 Emergency communications	Scope expanded to include emergency communications	FR 3034
1.1.9(4) Areas not addressed	"Areas not addressed" item added to make clear that, with withdrawal of NFPA 1126, the retail sale and associated storage of consumer fireworks are not addressed anywhere in the <i>Code</i>	FR 3008
Chapter 2 Referenced Publications		
2.2 NFPA Publications	NFPA publications added to Chapter 2 because documents are	FR 3009
NFPA 4	newly referenced mandatorily somewhere in Chapters 3 through 43	
NFPA 20		
NFPA 55		
NFPA 150		
NFPA 495		
NFPA 1221		
NFPA 1126	NFPA 1126 deleted from Chapter 2 because it has been withdrawn and, therefore, is no longer referenced mandatorily	FR 3009
2.3.2 ANSI Publications	BHMA publications added to Chapter 2 because documents are	FR 3011
ANSI/BHMA A.156.10	newly referenced in Chapter 7	
ANSI/BHMA A.156.19		
ANSI/BHMA A156.27		
ANSI/BHMA A156.38		
2.3.6 ASTM Publications	ASTM publications added to Chapter 2 because documents are	FR 3019
ASTM D3201	newly referenced mandatorily somewhere in Chapters 3 through 43	SR 3012
ASTM D5516		
ASTM D5664		

Section Number	Comments	FR/FCR/SR/SCR Reference
ASTM D6305		
ASTM D6841		
ASTM E2073		
ASTM E2579		
ASTM E2837		
ASTM E2965		
ASTM F1085		
Chapter 3 Definitions		
3.3.19 Animal Housing Facility	New definition added to support the term's use elsewhere in Chapters 4 through 43	FR 3020
3.3.56 Delayed Action Closer	New definition added to support the term's use in Chapter 7	FR 5029 SR 5006
3.3.74 Emergency Control Functions	Definition (replacing "fire safety functions") added to support the term's use elsewhere in Chapters 4 through 43	FR 3005
3.3.175 Mall Concourse	New definitions added to support change in terminology from use	FR 5535
3.3.175.1 Open Mall Concourse	of "mall building" to "mall structure" throughout the <i>Code</i>	FR 5536 FR 5513
3.3.175.2 Enclosed Mall Concourse		
3.3.177.2 Hazard Material	New definitions added to support new requirements (dispersed	FR 3032 FR 3033
3.3.177.2.1 Health Hazard Material	throughout Code) for protection from hazardous materials	
3.3.177.2.2 Physical Hazard Material		
3.3.177.3 Hazardous Material		
3.3.177.7 Toxic Material		
3.3.177.7.1 Highly Toxic Material		
3.3.196.1 Ambulatory Health Care Occupancy	Subpart (3) of definition revised to change "emergency or urgent care" to "treatment"	SR 4004
3.3.222 Power Doors	New definitions added to support new requirements for power	FR 5028
3.3.222.1 Low-Energy Power-Operated Door	doors in Chapter 7	
3.3.222.2 Power-Assisted Door		
3.3.222.3 Power-Operated Door		
3.3.239 Renovation	Definition, as taken from Chapter 43, reinserted after having been inadvertently dropped in the 2015 edition	FR 3045
3.3.251 Self-Preservation Capability (Health Care and Ambulatory Health Care Occupancies)	New definitions added (separate from the existing definition in 3.3.252) to support use of term in health care occupancies as addressed in Chapters 18–21	FR 3551
3.3.282.4 Mall Structure	Former definition of "mall building" revised to create new definition for correlation with changes made to the mall provisions in Chapters 36 and 37, on mercantile occupancies	FR 5515
3.3.282.12 Underground Structure	Definition revised to quantify the distance below lowest level of exit discharge (LED) as being 30 ft (9.1 m)	FR 4016

Section Number	Comments	FR/FCR/SR/SCR Reference
Chapter 4 General		
4.1.3 Hazardous materials emergencies	New goal added to support new scope expansion in Chapter 1	FR 3021
4.2.3 Hazardous materials emergencies protection	New objective added	FR 3023
4.2.4 Physical violence mitigation	New objective added	SR 3011
4.5.1 Multiple safeguards	Provision broadened to include any rendering of a safeguard ineffective	SR 3003
4.6.10.2 [construction, demolition, alteration]	New menu item added to permit the occupancy chapters to require compliance with the provisions of NFPA 241 for construction, demolition, or alteration projects	FR 3047
4.6.14.5 [limited-combustible materials]	Provisions for limited combustible materials expanded to reference the use of ASTM E2965	FR 3024
4.6.15 Fire-retardant-treated wood [4.6.15.1 through 4.6.15.6]	New material on fire-retardant-treated wood added	FR 3024
4.6.16 Fire-retardant-treated wood treatment [4.6.16.1 through 4.6.16.7]	New material on fire-retardant-treated wood treatment added	FR 3024
Chapter 5 Performance-Based Optic No Change	on and a second s	
Chapter 6 Classification of Occupan	cy and Hazard of Contents	
6.1.8.1.1 Definition — One- and Two-Family Dwelling Unit	Definition of one- and two-family dwelling unit revised to delete "independent cooking" and "bathroom" criteria	FCR 3
6.1.14.2.3 Separated occupancy	Definition of separated occupancies changed from use of "fire	FR 3002
6.1.14.4.1	resistance-rated assemblies" to "fire barriers"	FR 3003
6.1.14.4.3		
6.1.14.4.4		
Chapter 7 Means of Egress		
7.1.3.2.1 [exits] Subitems (7), (9)(e)iii, (10)(c), (12)	Various revisions made to enclosure of exits provisions to recognize fire-retardant-treated wood; area sprinklering and detection in lieu of sprinklers throughout; pathways for security and communications equipment; emphasis via reformatting that the provisions of 8.3.4 for penetrations apply	FR 5001
7.1.5.3 [headroom]	Clarification made that stair landings are permitted to use the 6 ft 8 in. (2030 mm) headroom exemption, just like that permitted for the headroom on stairs	FR 5022
7.1.9 Impediments to egress	Provision added to require that monitoring/recording equipment, newly permitted by 7.1.3.2.1(10)(c), within stair enclosures not present an impediment to egress	FR 5002
7.2.1.3.2 [floor level]	Revised to require, in new construction, that the level-floor criterion at door openings be applied for a depth of at least 36 in. (915 mm)	FR 5042