

TABLE OF CONTENTS

About This Textbook.....xi	Part III. Feeder and Service Load Calculations.....50
Additional Products To Help You Learn.....xvii	120.41 Dwelling Unit Load Calculation.....50
How to Use the <i>National Electrical Code</i>.....1	120.54 Dwelling Unit Clothes Dryer Demand Load.....50
 GLOBAL CHANGES IN THE 2026 <i>NATIONAL ELECTRICAL CODE</i>.....7	120.57 Electric Vehicle Supply Equipment Load.....51
Article 90—Introduction to the <i>National Electrical Code</i> ..11	120.82 Dwelling Unit Optional Load Calculations.....52
90.1 Scope.....11	120.83 Existing Dwelling Unit Optional Load Calculation.....54
90.3 Code Arrangement.....11	 Article 130—Energy Management Systems.....55
 CHAPTER 1—GENERAL RULES.....13	Part I. General.....55
Article 100—Definitions.....15	130.1 Scope.....55
100 Scope.....15	130.2 Listing Requirements.....56
 Article 110—General Requirements for Electrical Installations.....31	Part II. Power Control Systems (PCS).....56
Part I. General Requirements.....31	130.50 General.....56
110.1 Scope.....31	130.60 Conductors and Equipment.....57
110.3 Use of Equipment.....31	130.70 Settings.....57
110.15 High-Leg Conductor Identification.....33	130.80 Marking and Documentation.....57
110.16 Arc-Flash Hazard Marking, Other Than Dwelling Units.....34	 CHAPTER 2—WIRING AND PROTECTION.....59
Part II. Not Over 1000V.....35	Article 206—Non-Power-Limited Remote-Control and Signaling Circuits.....61
110.26 Spaces About Electrical Equipment.....35	206.1 Scope.....61
110.29 In Sight From (Within Sight From, Within Sight).....44	 Article 210—Branch Circuits.....63
 Article 120—Branch-Circuit, Feeder, and Service Load Calculations.....45	Part I. General.....63
Part I. General.....45	210.1 Scope.....63
120.1 Scope.....45	210.5 Conductor Identification.....64
120.5 Calculations.....46	210.8 GFCI Protection.....65
120.6 Noncoincident Loads.....48	210.12 Arc-Fault Circuit-Interrupter Protection.....66
120.7 Power Control Systems (PCS).....48	210.22 Permissible Loads, Individual Branch Circuits.....67
120.13 Dwelling Units—Branch Circuit Load.....49	Part III. Required Outlets.....67
	210.52 Dwelling Unit Receptacle Outlet Requirements.....67
	210.63 Equipment Requiring Servicing.....71
	210.70 Lighting Outlet Requirements.....72
	 Article 215—Feeders.....77
	215.1 Scope.....78
	215.12 Conductor Identification.....78
	215.18 Surge Protection.....80

250.118	Types of Equipment Grounding Conductors.....	113
250.122	Sizing Wire-Type Equipment Grounding Conductors.....	117

.119

Article 310—Conductors for General Wiring.....127

Article 314—Boxes, Conduit Bodies, and Handhole Enclosures.....137

Article 320—Armored Cable (AC Cable).....143

Article 330—Metal-Clad Cable (MC Cable).....147

Part I. General	147
330.1 Scope	147

330.2	Listing Requirements	148
Part II. Installation	.....	148
330.30	Securing and Supporting	148
Article 334—Nonmetallic-Sheathed Cable (NM Cable)	.....	151
Part I. General	.....	151
334.1	Scope	151
334.2	Listing Requirements	152
Part II. Installation	.....	152
334.10	Uses Permitted	152
334.12	Uses Not Permitted	153
334.24	Bending Radius	155
334.30	Securing and Supporting	156
Article 336—Power and Control Tray Cable (TC Cable)	.....	157
Part I. General	.....	157
336.1	Scope	157
336.2	Listing Requirements	157
Part II. Installation	.....	158
336.30	Securing and Supporting	158
Article 338—Service-Entrance Cable (SE and USE Cable)	.....	159
Part I. General	.....	159
338.1	Scope	159
338.2	Listing Requirements	160
338.24	Bending Radius	160
Article 340—Underground Feeder and Branch-Circuit Cable (UF Cable)	.....	161
Part I. General	.....	161
340.1	Scope	161
340.2	Listing Requirements	162
340.24	Bends	162
Article 342—Intermediate Metal Conduit (IMC)	.....	163
Part I. General	.....	163
342.1	Scope	163
Part II. Installation	.....	164
342.10	Uses Permitted	164
342.29	Paired Locknuts	164
Article 344—Rigid Metal Conduit (RMC)	.....	165
Part I. General	.....	165
344.1	Scope	165

Part II. Installation	.....	166
344.29	Paired Locknuts	166
Article 350—Liquidtight Flexible Metal Conduit (LFMC)	.....	167
Part I. General	.....	167
350.1	Scope	167
Part II. Installation	.....	168
350.10	Uses Permitted	168
Article 392—Cable Trays	.....	169
Part I. General	.....	169
392.1	Scope	169
Part II. Installation	.....	170
392.18	Cable Tray Installations	170
CHAPTER 4—EQUIPMENT FOR GENERAL USE	.....	171
Article 404—Switches	.....	173
Part I. Installation	.....	173
404.1	Scope	173
Article 406—Wiring Devices	.....	175
Part I. General	.....	175
406.1	Scope	175
406.10	Wiring Device Terminations	176
Part II. Receptacles, Cord Connectors, and Attachment Plugs (Caps)	.....	177
406.26	Tamper-Resistant Receptacles	177
Article 408—Switchboards and Panelboards	.....	179
Part I. General	.....	179
408.1	Scope	179
408.6	Short-Circuit Current Rating	180
Article 422—Appliances	.....	181
Part I. General	.....	181
422.1	Scope	181
Part II. Branch-Circuit Requirements	.....	181
422.13	Storage Water Heaters	181
Article 424—Fixed Electric Space-Heating Equipment	.....	183
Part I. General	.....	183
424.1	Scope	183
424.5	Continuous Load	183

Article 430—Motor Circuits, Controllers, and Adjustable-Speed Drives	185
Part I. General	185
430.1 Scope	185
Part X. Adjustable-Speed Drive Systems	186
430.132 GFCI and SPGFCI Between Power Conversion Equipment and Motors	186
Article 440—Air-Conditioning and Refrigeration Equipment	187
Part I. General	187
440.1 Scope	187
440.15 Split-System Indoor Unit Identification	188
Article 450—Transformers	189
450.1 Scope	189
450.12 Grounding and Bonding	189
Article 480—Stationary Batteries	191
480.1 Scope	191
480.4 Battery and Cell Terminations	191
480.14 Overcharge Control	192
CHAPTER 5—SPECIFIC OCCUPANCIES AND LOCATIONS	193
Article 500—Hazardous (Classified) Locations	195
500.1 Scope	195
500.30 Bonding	196
Article 501—Class I Hazardous Locations	199
Part I. General	199
501.1 Scope	199
Part II. Wiring	199
501.10 Wiring Methods	199
Article 502—Class II Hazardous Locations	203
Part I. General	203
502.1 Scope	203
Part II. Wiring	203
502.10 Wiring Methods	203
Article 517—Health Care Facilities	207
Part I. General	208
517.1 Scope	208

Part II. Wiring and Protection	208
517.10 Applicability	208
517.13 Equipment Grounding Conductor for Receptacles and Fixed Electrical Equipment in Patient Care Spaces	209
517.15 Multiwire Branch Circuits	212
Article 518—Assembly Occupancies	213
518.1 Scope	213
518.6 Wiring Methods	213
518.8 Illumination	214
Article 525—Carnivals, Circuses, and Fairs	215
Part I. General	215
525.1 Scope	215
525.21 Disconnecting Means	215
525.25 Lighting	216
Article 547—Agricultural Buildings	217
Part I. General	217
547.1 Scope	217
Part II. Installations	218
547.23 Wet Locations	218
Part III. Distribution and Equipotential Plane	218
547.44 Equipotential Planes	218
Article 555—Marinas, Boatyards, and Docking Facilities	221
Part I. General	222
555.1 Scope	222
555.2 Listing Requirements	222
555.9 Engineered Design	222
555.13 Non-Current-Carrying Metal Parts Bonding	223
555.14 Equipotential Planes and Bonding of Equipotential Planes	223
555.15 Equipment Servicing and Replacing	224
Part II. Marinas, Boatyards, and Docking Facilities	224
555.33 Receptacles	224
555.35 GFPE and GFCI Protection	226
CHAPTER 6—SPECIFIC EQUIPMENT	229
Article 620—Elevators	231
Part I. General	231
620.1 Scope	231
Part VI. Disconnecting Means and Control	231
620.51 Disconnecting Means	231

Article 624—Electric Self-Propelled Vehicle—Power Transfer Systems	233
Part I. General	233
624.1 Scope	233
624.2 Listing Requirements	234
Part III. Installation	234
624.40 ESVSE Branch Circuits	234
624.41 Overcurrent Protection	234
624.42 Rating	234
624.43 Disconnecting Means	234
624.48 Interactive Equipment	234
624.49 Island Mode	234
624.52 Ventilation	234
624.54 GFCI Protection	235
624.56 Receptacle Enclosures	235
Article 625—Electric Vehicle Power Transfer System	237
Part I. General	237
625.1 Scope	237
625.4 Qualified Persons	238
625.5 Field Markings	239
Part III. Installation	239
625.41 Continuous Loads	239
625.42 Rating	241
625.43 Disconnecting Means	242
625.44 Equipment Connections	244
Article 680—Swimming Pools, Spas, Hot Tubs, and Fountains	245
Part I. General Requirements for Pools, Spas, Hot Tubs, and Fountains	246
680.1 Scope	246
680.5 Ground-Fault Protection	247
680.12 Equipment Rooms, Vaults, and Pits	248
Part II. Permanently Installed Pools	249
680.21 Pool Motors	249
680.22 Receptacles, Luminaires, and Switches	250
680.26 Equipotential Bonding	252
Part III. Storable Pools	259
680.32 Ground-Fault Protection	259
Part V. Fountains	259
680.58 Ground-Fault Protection	259
Part VII. Hydromassage Bathtubs	260
680.71 Branch Circuit	260

Article 690—Solar Photovoltaic (PV) Systems	261
Part I. General	261
690.1 Scope	261
690.4 General Requirements	262
690.33 Mating Connectors	264
Part V. Grounding and Bonding	265
690.43 Equipment Grounding Conductor	265
Article 695—Fire Pumps	267
695.1 Scope	267
695.7 Power Wiring	267

CHAPTER 7—SPECIFIC CONDITIONS AND SYSTEMS 271

Article 700—Emergency Systems	273
Part I. General	273
700.1 Scope	273
700.4 Commissioning and Servicing	274
700.9 Surge Protection	274
Part II. Circuit Wiring	274
700.11 Wiring, Class 2, and Class 4. Powered Emergency Lighting Systems	274
Part III. Sources of Power	275
700.12 General Requirements	275
Part IV. Emergency System Circuits for Lighting and Power	277
700.28 Class 4. Powered Emergency Lighting Systems	277

Article 701—Legally Required Standby Systems	279
Part I. General	279
701.1 Scope	279
701.4 Commissioning and Servicing	280
701.9 Surge Protection	280

Article 702—Optional Standby Systems	281
Part I. General	281
702.1 Scope	281
702.4 Capacity and Rating	282
702.7 Signs	284

Article 705—Interconnected Electric Power Production Sources285

Part I. General285

705.1 Scope285

705.11 Supply Side Connection286

705.13 Power Control Systems287

705.28 Power Source Output Current and Circuit Sizing288

705.30 Overcurrent Protection289

Article 706—Energy Storage Systems293

Part I. General293

706.1 Scope293

706.7 Commissioning and Servicing294

Part II. Disconnect295

706.15 Disconnect295

Article 710—Stand-Alone Systems297

710.1 Scope297

710.15 General298

Article 720—Limited-Energy System Wiring Methods and Materials299

Part I. General299

720.1 Scope299

Part II. Installation300

720.5 Underground Installations300

720.19 Supporting Cables and Conductors in Vertical Raceways300

Article 722—Limited-Energy Cables301

Part I. General301

722.1 Scope301

722.2 Limited-Energy Cable Listings302

Part V. Class 2 or Class 3 Cables and Wiring Methods302

722.150 Class 4. Circuit Cables302

722.152 Installation and Wiring Methods for Class 4. Circuit Cables...303

Introduction to Article 750—Grounding and Bonding of Limited-Energy Systems305

Part I. General305

750.1 Scope305

Introduction to Article 760—Fire Alarm Systems307

Part I. General307

760.1 Scope307

760.33 Supply-Side Overvoltage Protection308

CHAPTER 8—COMMUNICATIONS SYSTEMS—OUTSIDE AND ENTERING BUILDINGS309

2026 NATIONAL ELECTRICAL CODE CHANGES REVIEW QUIZ311

About the Author325

About the NFPA Review Team327

About the Mike Holt Team328