

3 **SAFETY IN OFFICES AND OFFICE-LIKE**
4 **SPACES (“OFFICE SAFETY”)**

5
6 NIST S 7101.62

7 Document Approval Date: 01/12/2021

8 Effective Date:¹ 11/07/2017
9

10
11 **1. PURPOSE**

12 The purpose of this program is to establish the safety requirements necessary to protect the safety
13 and health of employees and associates in offices² and office-like spaces³.
14
15

16 **2. BACKGROUND**

- 17 a. NIST P 7100.00: Occupational Safety and Health Policy articulates NIST’s commitment to
18 making occupational safety and health an integral core value and vital part of the NIST
19 culture by, in part, complying with applicable laws, regulations, and other promulgated safety
20 and health requirements.
21
- 22 b. NIST must meet the requirements of the [Occupational Safety and Health Act](#) (OSH Act),
23 which requires employers to provide their employees with working conditions that are free of
24 recognized hazards that are causing or are likely to cause death or serious physical harm.
25 Implementation of this suborder through the requirements in Section 6 and roles and
26 responsibilities in Section 9 of this document fulfills those requirements for offices and
27 office-like spaces.
28
29

¹ For revision history, see Appendix A.

² An office is defined as a workspace where administrative duties such as reading, writing, telephone use, and computer use are performed. Types of offices include private office, shared office, cubicle, and open office.

³ An office-like space is defined as a space, such as a conference room, copier room, break room, or ordinary computer room that has the same types of hazards as a typical office or office environment.

30 **3. APPLICABILITY**

31 a. The provisions of this suborder apply to:

32

33 (1) All offices and office-like spaces at NIST and non-NIST sites;⁴ and

34

35 (2) All activities conducted by NIST employees and associates in offices and office-like
36 spaces that are not subject to the requirements of NIST S 7101.20: Work and Worker
37 Authorization Based on Hazard Reviews (“Hazard Review”), that is:

38

39 (a) Common everyday tasks performed routinely by members of the general public at
40 work and home and that do not involve extraordinary hazards; and

41

42 (b) Activities that present inherently low safety risks.

43

44 b. The provisions of this suborder do not apply to residential work locations (e.g., telework).

45

46

47 **4. REFERENCES**

48 a. [Occupational Safety and Health Act, Section 5\(a\)\(1\) \(“General Duty Clause”\)](#).

49

50 b. 29 CFR 1910, Subpart L, [Fire Protection](#) and Subpart S, [Electrical](#).

51

52 c. 29 CFR 1910, Subpart D, [Walking-Working Surfaces](#), especially Sections 1910.22, [General](#)
53 [Requirements](#).

54

55 d. 29 CFR 1910.141, [Sanitation](#).

56

57 e. NIST O 7101.00: Occupational Safety and Health Management System.

58

59 f. NIST P 7100.00: Occupational Safety and Health Policy.

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61

62

63 **5. APPLICABLE NIST OCCUPATIONAL SAFETY AND HEALTH SUBORDERS**

64 a. NIST S 7101.20: Work and Worker Authorization Based on Hazard Reviews (Hazard
65 Review”)

66

⁴A non-NIST site is an off-site non-residential workplace owned and operated by an entity other than NIST at which NIST employees and associates carry out their assigned duties. Examples include joint institutes such as JILA in Boulder, CO, the Hollings Marine Laboratory in Charleston, SC, and Joint Quantum Institute in College Park, MD.

- 67 b. NIST S 7101.22: Hazard Signage
- 68
- 69 c. NIST S 7101.23: Safety Education and Training
- 70
- 71 d. NIST S 7101.26: Workplace Inspection
- 72
- 73 e. NIST N 7101.62: Portable Electric Space Heaters
- 74
- 75 f. NIST S 7101.64: Electrical Safety
- 76
- 77 g. NIST S 7101.71: Industrial Hygiene
- 78
- 79 h. NIST S7101.75: Walking/Working Surfaces
- 80

81 **6. REQUIREMENTS**

82 a. Housekeeping

- 84
- 85 (1) Offices and office-like spaces should be kept clean and dry.
- 86
- 87 (2) Items shall not be located or stored where they would present slipping or tripping hazards
- 88 or hinder an evacuation.
- 89
- 90 (3) Cords that hang/dangle underneath desk and/or tables should be secured with cable ties to
- 91 prevent tripping hazard.
- 92
- 93 (4) Drawers on desks and file cabinets shall be closed when not in use to prevent tripping and
- 94 struck-against incidents.
- 95
- 96 (5) Stacked items should be kept below eye level to avoid struck-by incidents;
- 97
- 98 (6) Heavy or bulky items should be stored at lower levels or in a manner that minimizes their
- 99 potential to fall or cause shelving, bookcases, file cabinets, or other types of furniture to
- 100 topple. “Heavy or bulky” pertains to the potential for physical injury if the items were to
- 101 fall or the furniture to topple. Loading on furniture shall not exceed manufacturers’
- 102 stated limits.
- 103
- 104 (7) Items should not be located or stored where they block ventilation.
- 105
- 106

107 b. Walking/Working Surfaces

108

109 (1) Loose, damaged, slippery, or uneven flooring should be reported as soon as possible for
110 repair or replacement.⁵

111

112 (2) Cord guards covering cords positioned across walkways shall be secured in such a
113 manner as to avoid tripping hazards [see also Section 6d(1)(f)]. Cord guards shall not be
114 covered with mats or rugs.

115

116 (3) Floor mats shall be non-sliding and in good condition with edges lying flat.

117

118 c. Step Stools and Small Step Ladders

119

120 (1) Step stools or small step ladders should be used to reach elevated objects

121

122 **NOTE:** Office furniture, such as chairs and desks, should not be used.

123

124 (2) Step stools and small step ladders shall have anti-slip feet.

125

126 (3) Step stools and small step ladders should have hand rails when over 2-steps.

127

128 (4) Step stools and small step ladders shall be maintained in good condition, inspected before
129 each use, and used in accordance with manufacturers' instructions.

130

131 d. Electrical Safety⁶

132

133 (1) General

134

135 (a) When in use, electrical cord plugs of any kind shall be fully inserted into receptacles
136 such that the plugs' metal prongs are not showing.

137

138 (b) Three-prong to 2-prong plug adapters shall not be used.

139

140 (c) Tension on electrical cords plugged into receptacles shall be avoided.

141

142 (d) Cords, cables, and/or wires shall not be pinched.

⁵ In Gaithersburg, Boulder, and Fort Collins, a [Maintenance Request \(M-Slip\)](#) shall be submitted to OFPM requesting repair or replacement. At sites owned and operated by entities other than NIST, requests shall be submitted to the responsible entity.

⁶ The requirements in this subsection are replicated in NIST S 7101.64, Electrical Safety.

- 143 (e) Flexible cords and cables shall be not attached to building surfaces as permanent
144 installations.
- 145
- 146 (f) Cord guards shall be used to protect flexible cords positioned across walkways from
147 wear and tear caused by foot and other traffic [see also Section 6b(2)].
- 148
- 149 (g) Cords with damaged plugs (*e.g.*, broken, cracked, or missing prongs or ground pins)
150 or exposed wire shall be removed from service immediately and discarded, or if they
151 are part of a piece of equipment, that equipment shall not be used until the cord has
152 been replaced.

153

154 (2) Permanently-Installed Electrical Outlets

- 155
- 156 (a) The load on permanently-installed electrical outlets shall not exceed 16 amperes
157 (1920 Watts) for 20-amp circuits or 12 amperes (1440Watts) for 15-amp circuits.^{7, 8}
- 158
- 159 (b) Permanently installed electrical outlets with broken, missing, and/or cracked cover
160 plates shall be:
- 161
- 162 i. Covered and not used; and
- 163
- 164 ii. Reported as soon as possible for repair or replacement.⁴
- 165
- 166 (c) If permanent 120-volt electrical receptacles rated 15 or 20 amps are within six (6) feet
167 (183 centimeter) of a water source in wet locations, such as a kitchen or break room,
168 ground-fault-circuit-interrupter (GFCI) protections shall be installed.⁶ This protection
169 may be provided at the receptacle itself, in an upstream device such as another
170 receptacle, or as a GFCI circuit breaker in the electrical distribution panel.

171

172 (3) Supplemental Power Devices

- 173
- 174 (a) Supplemental power devices, such as power strips, surge suppressors, uninterruptible
175 power supplies (UPS), and extension cords, shall bear the mark of a Nationally

⁷ Most circuits in offices and office-like spaces at NIST are 20-ampere circuits, but some are 15-ampere circuits. If you wish to attach more than a 12-ampere (1440 W) load and you are not sure if the circuit is 20-ampere circuit, contact OSHE on x5375, Option 3.

⁸ If additional outlets or GFCI protection are required in Gaithersburg, Boulder, or Fort Collins, OU-funded work orders ([Form NIST-260](#)) shall be submitted to the Office of Facilities and Property Management (OFPM) to have additional outlets or GFCI protection installed. If additional outlets or GFCI protection are required at sites owned and operated by entities other than NIST, requests shall be submitted to those entities to have additional outlets or GFCI protection installed.

- 176 Recognized Testing Laboratory, such as Underwriters Laboratories (UL) or Factory
177 Mutual.
- 178
- 179 (b) Only supplemental power devices that are grounded shall be used. Grounded cords
180 have three prongs on their plugs, rather than two.
- 181
- 182 (c) Supplemental power devices shall be connected directly to permanently-installed
183 electrical outlets (no “daisy chaining” or “piggybacking” to other supplemental power
184 devices).⁶
- 185
- 186 (d) Supplemental power devices shall be used and stored according to the manufacturers’
187 safety instructions.
- 188
- 189 (e) Supplemental power devices shall not be modified in any manner, including for the
190 purpose of mounting.
- 191
- 192 (f) Supplemental power devices shall be mounted according to the manufacturers’
193 instructions.
- 194
- 195 (g) Supplemental power devices shall not be secured to building structures (walls,
196 columns, ceilings, and floors) with tape, zip-ties, nails, or other fastening devices that
197 require tools such as screw driver, knife, scissors, etc. for removal.
- 198
- 199 (h) Extension cords shall not be used as substitutes for permanent wiring and shall be
200 unplugged and properly stored after use.⁶
- 201
- 202 (i) Supplemental-power-device cords shall not be routed through walls, floors, windows,
203 doorways, or ceilings where they cannot be inspected and could be unknowingly
204 damaged.
- 205
- 206 (j) Damaged supplemental power devices, such as those with exposed electrical
207 conductors or wires, shall be repaired by the manufacturer (or similar qualified
208 service provider) or discarded immediately.
- 209
- 210 (k) Power strips, surge suppressors, or UPSs shall not be opened unless the operator’s
211 manual provided by the manufacturer allows and includes instructions for doing it.
212

213 (l) The working space around serviceable electrical panels⁹ shall be kept clear at all
214 times of moveable objects such as furniture, equipment, materials, etc.¹⁰

215
216 i. The working space shall permit at least a 90-degree opening of hinged panels.

217
218 (m) If the working space around a serviceable electrical panel contains permanently
219 installed structural members such as walls, columns, work surfaces, etc.), the
220 condition shall be reported to OSHE on x5375, Option 3.¹¹

221
222 (4) Appliances

223
224 (a) Manufacturers' safety instructions shall be followed for appliances used in offices
225 and office-like spaces

226
227 (b) Electrical appliances that have current loads greater than 12 amperes (power loads
228 greater than 1440 Watts), such as space heaters, refrigerators, and microwave ovens,
229 shall be plugged directly into permanently installed electrical outlets or any power
230 strip that is listed for commercial or industrial applications, has a master circuit
231 breaker, a master power switch, and a metal case.¹² Extension cords, regardless of
232 length, may not be used with electrical appliances with high power loads.

233
234 (c) Electrical appliances with heating elements, such as portable electric space heaters,
235 coffee pots, toasters, and toaster ovens shall meet the following technical and usage
236 requirements:

237
238 i. They shall bear the mark of a [Nationally Recognized Testing Laboratory](#)
239 (NRTL), such as Underwriters Laboratories (UL) or Factory Mutual;¹³,¹²

240

⁹See definition of "Working Space". It is presumed that electrical panels in NIST offices and office-like spaces are supplied by 150 volts or less. If panels are supplied by greater than 150 volts, the depth of the access in front of the panel must be at least 42 inches (1.07 m) in the direction of the panel.

¹⁰ In the future, the working space shall also be kept clear of permanently installed structural members such as walls, columns, work surfaces, etc. This is purview of the responsible facilities organization, and, as such, is outside the scope of this suborder.

¹¹ OSHE and the Office of Facilities and Property Management (OFPM) will (a) evaluate the condition to determine what actions need to be taken to protect workers and ensure regulatory compliance, and (b) ensure those actions are taken or planned.

¹² Contact OSHE on x5375, Option 3 for a list of acceptable power strips.

¹³ Appliances brought to NIST from outside the U.S. warrant attention. For assistance, contact OSHE on ext. 5375, Option 3.

¹² A label representing that a product "conforms" to a standard is not a sufficient replacement for the mark of a NRTL.

- 241 ii. They shall be plugged directly into permanently installed electrical outlets or any
242 power strip that is listed for commercial or industrial applications, has a master
243 circuit breaker, a master on/off switch, and a metal case.¹⁰ Extension cords,
244 regardless of length, may not be used with electrical appliances with heating
245 elements.
- 246
- 247 iii. Manufacturers' clearance requirements around coffee pots, toasters, and toaster
248 ovens shall be followed.
- 249
- 250 iv. When in use, toaster ovens shall not be left unattended.
- 251
- 252 v. Combustible materials (furniture, paper, and household consumer products) shall
253 be kept at least 3 feet (0.9 m) from the front of portable electric space heaters and
254 away from their back and sides.
- 255
- 256 vi. Portable electric space heaters shall be equipped with a safety tip-over switch
257 that will shut off the heater when tipped over.
- 258
- 259 vii. Portable electric space heaters shall have a thermal cutoff feature that will shut
260 off the heater upon detection of abnormal temperature conditions.
- 261
- 262 viii. Portable electric space heaters shall have an adjustable temperature controller
263 incorporating a thermostat to cycle the heater based on surrounding temperature.
- 264

265 e. Fire Safety

266

267 (1) No open flames such as lit candles and portable propane burners shall be allowed in
268 offices or office-like spaces. Burning incense is also not allowed.

269

270 (2) Fire-Related Storage

271

272 (a) Flammable or combustible chemicals, other than household consumer products and
273 personal items such as disinfectant wipes, disinfectant gel, rubbing alcohol, hairspray,
274 nail polish, nail polish remover, and personal medication (inhalers), shall not be
275 stored in offices or office-like spaces.

276

277 (b) Stored materials in non-sprinklered areas shall be at least 24 inches (0.61 m) from the
278 ceiling.

279

280 **NOTE:** This requirement does not apply to materials stored on shelves against walls
281 unless determined by OSHE to be unsafe.

282
283 (c) Stored materials in sprinklered areas shall be at least 18 inches (0.46 m) below the
284 height of the sprinkler heads.

285
286 **NOTE:** Exemptions from this requirement are possible under certain circumstances.
287 OSHE must be contacted for the approval of any storage or storage design that
288 deviates from the requirement.

289
290 (3) Exit paths shall be at least 28 inches (0.71 m) wide for small office spaces (no more than
291 six occupants).¹⁴

292
293 (4) Exits paths shall be clear of obstructions.

294
295 f. Office Equipment/Furniture

296
297 (1) Copiers, printers, paper shredders, and other office equipment shall be placed and used
298 according to manufacturers' instructions. In common-use spaces, manufacturers'
299 instructions shall be easily accessible to all users.

300
301 (2) Paper cutters shall be equipped with finger-guard rails and located on flat stable surfaces.
302 Blades shall be latched when not in use.

303
304 **NOTE:** Rotary trimmers are excluded.

305
306 (3) Box cutters with recessed blades should be used.

307
308 (4) Equipment and furniture with sharp edges should be protected with edge guards where
309 applicable.

310
311 (5) Furniture that could fall or topple should be secured to walls.

312
313 g. Office Chemicals

314
315 (1) Hazardous chemicals other than household consumer products and personal items [see
316 Section 6e(2)(a)] shall not be stored in offices or office-like spaces.

317

¹⁴ Contact OSHE on x5375, Option 3 for specific exit widths for other office spaces.

318 (2) Consumer products such as “Windex”, correction fluid, adhesives, board cleaners, and
319 copier/printer toners and inks are permitted in office and office-like spaces provided that
320 the products are used in these areas in the same manner that a consumer would use them,
321 *i.e.*, where the duration and frequency of use is not greater than what the typical
322 consumer would experience.

323

324 h. Ergonomics

325

326 (1) Employees shall have the right to receive OSHE-provided ergonomic assessments to
327 address office ergonomic risk factors, *i.e.*, elements of their jobs, or the methods by
328 which their jobs are performed, that could contribute to the development of
329 musculoskeletal injuries.

330

331 (2) Heavy items that must be lifted should be stored at waist height, when possible.

332

333 i. Lighting

334

335 (1) Non-functional lighting that presents a safety hazard should be reported as soon as
336 possible for repair or replacement.⁴

337

338 (2) Work stations and computer monitors should be positioned to reduce glare.

339

340 (3) Where appropriate, task lighting should be used.

341

342

343 **7. DEFINITIONS**

344 a. Non-NIST Site – An off-site non-residential workplace owned and operated by an entity
345 other than NIST at which NIST employees and associates carry out their assigned duties.
346 Examples include joint institutes such as JILA in Boulder, CO, the Hollings Marine
347 Laboratory in Charleston, SC, and Joint Quantum Institute in College Park, MD.

348

349 b. Office – A workspace where administrative duties such as reading, writing, telephone use,
350 and computer use are performed. Types of office include private office, shared office,
351 cubicle, and open office.

352

353 c. Office-Like Space – A space, such as a conference room, copier room, break room, or
354 ordinary computer room that has the same types of hazards as a typical office or office
355 environment.

356

- 357 d. Supplemental Power Devices – Power strips, surge suppressors, uninterruptible power
358 supplies (UPS), and extension cords. Chargers for portable computers and mobile devices
359 are not supplemental power devices as defined herein.
360
- 361 e. Working Space (around serviceable electrical panels) – A space around a serviceable
362 electrical panel with the following dimensions:
363
- 364 (1) A depth in the direction of access to the panel of at least 36 inches (0.91 m) from the
365 front of the panel;
366
- 367 (2) A width in front of the panel of 30 inches (0.76 m) or the width of the panel, whichever is
368 greater; and
369
- 370 (3) A height from the floor or platform to 6 feet 6 inches (1.98 m) or the top of the panel,
371 whichever is greater.
372
373

374 **8. ACRONYMS**

- 375 a. CFR – Code of Federal Regulations
376
- 377 b. NRTL – Nationally Recognized Testing Laboratory
378
- 379 c. OFPM – Office of Facilities and Property Management
380
- 381 d. OSHA – Occupational Safety and Health Administration
382
- 383 e. OSHE – Office of Safety, Health, and Environment
384
- 385 f. OU – Organizational Unit
386
- 387 g. UPS – Uninterruptible power supplies
388
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390 **9. RESPONSIBILITIES**

391 Roles and responsibilities specific to this suborder are as follows:
392

- 393 a. OU Directors are responsible for ensuring that the requirements of this suborder are met in
394 their offices and office-like spaces.
395
396

397 **10. AUTHORITIES**

398 There are no authorities specific to this suborder alone.

399

400

401 **11. DIRECTIVE OWNER**

402 Chief Safety Officer

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404

405 **12. APPENDICES**

406 a. Revision History

407

408

Appendix A. Revision History

Revision No.	Approval Date	Effective Date	Brief Description of Change; Rationale
0	04/15/15	04/01/16	None – Initial document
1	04/07/16	04/07/16	<ul style="list-style-type: none"> Replaced requirement in Section 6d(4) that appliances be “kept a minimum of 3 feet (0.91m) away from combustible and flammable materials” with (a) “Manufacturers’ clearance requirements around coffee pots, toasters, and toaster ovens shall be followed”, “When in use, toaster ovens shall not be left unattended”, and “Combustible materials (furniture, paper, and household consumer products) shall be kept at least 3 feet (0.9 m) from the fronts of portable electric space heaters and away from their back and sides.”
2	04/07/16	10/01/16	<ul style="list-style-type: none"> Added additional safety requirements for portable electric space heaters to Section 6d(4) in accordance with NIST N 7101-62, Portable Electric Space Heaters.
3	10/26/17	10/26/17	<ul style="list-style-type: none"> Revised the requirement for receptacles within 6’ of a water source to read: “If permanent 120-volt electrical receptacles rated 15 or 20 amps are within...”. Revised the mounting guidelines for supplemental power devices to read: “Supplemental power devices shall not be modified in any manner, including for the purpose of mounting.”
4	11/07/17	11/07/17	<ul style="list-style-type: none"> Restored the following item at line 192: “Supplemental power devices shall be mounted according to the manufacturers’ instructions.” This item had been removed at Revision No. 4.
5	1/12/21	April Camenisch	<ul style="list-style-type: none"> Updated CFR links and NIST Suborder links.