

3 Safety Education and Training

4
5 NIST S 7101.23

6 Approval Date: 1/11/2023

7 Effective Date:¹ 01/12/2016
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10 1. PURPOSE

11 The purpose of the Safety Education and Training suborder is to articulate NIST safety education
12 and training requirements, roles, responsibilities, and authorities.
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15 2. BACKGROUND

16 The safety education and training requirements, roles, responsibilities, and authorities in this
17 suborder supersede those in NIST Administrative Manual Subchapter 12.01, Safety Operational
18 System.
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21 3. APPLICABILITY

22 a. This suborder applies to all NIST employees and covered associates.
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24 b. This suborder covers:

25
26 (a) NIST General Safety Training;

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28 (b) Training specified in NIST occupational safety and health (OSH) suborders;

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30 (c) Training required by hazard reviews conducted in accordance with the requirements of
31 the NIST S 7101.20: Work and Worker Authorization Based on Hazard Reviews;

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33 (d) Training required for Line Managers, Safety and Health Specialists, and OU/Division
34 Safety Personnel (Full-Time and Collateral-Duty);

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36 (e) Training required for Official First-Level Supervisors; and
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¹ For revision history, see Appendix A.

38 (f) Training specified by the Office of Safety, Health, and Environment (OSHE) based on
39 special circumstances.

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42 **4. REFERENCES**

- 43 a. Occupational Safety and Health Act of 1970, as amended, [29 United States Code \(U.S.C.\) §](#)
44 [651 et seq.](#)
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46 b. [Executive Order \(E.O.\) 12196](#), Occupational Safety and Health Programs for Federal
47 Employees (1980)
48
49 c. [29 CFR 1960](#), Basic Program Elements for Federal Employee Occupational Health and
50 Safety Programs and Related Matters, Sections 54-59
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53 **5. APPLICABLE NIST DIRECTIVES**

- 54 a. NIST O 7101.00: [Occupational Safety and Health Management System](#)
55
56 b. NIST S 7101.01: [Safety Rights and Responsibilities](#)
57
58 c. NIST S 7101.02: [Employee Reporting of Unsafe or Unhealthful Working Conditions \(UWC\)](#)
59
60 d. NIST S 7101.03: [Stop Work](#)
61
62 e. NIST S 7101.05: [Management Observation Process](#)
63
64 f. NIST S 7101.20: [Work and Worker Authorization Based on Hazard Reviews \(Hazard](#)
65 [Reviews\)](#)
66
67 g. NIST S 7101.24: [Incident Reporting and Investigation](#)
68
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70 **6. REQUIREMENTS**

71 NIST must meet the safety education and training requirements established by the Occupational
72 Safety and Health Administration (OSHA) in [29 CFR 1960](#), Basic Program Elements for Federal
73 Employee Occupational Health and Safety Programs and Related Matters, Standards 54-59. The
74 following requirements achieve that objective.

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77 a. General Training Requirements

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(1) All employees and covered associates entering on duty other than Facility Users shall complete training provided by OSHE on general NIST safety policies and procedures, including employee rights and responsibilities (“[NIST General Safety Training](#)”).

b. Specific Training Requirements

(1) All employees and covered associates other than Facility Users, including employees and covered associates entering on duty, shall complete:

(a) The training specified in OSH suborders applicable to the work they are to conduct;² and

(b) The activity-specific training, to be provided by the OUs, required by hazard reviews applicable to the work they are to conduct.

(2) Line Managers, Safety and Health Specialists, and OU/Division Safety Personnel (Full-Time and Collateral-Duty) shall complete, in addition to the training in Section 6b(1), training provided by OSHE on:

(a) Section 19 of the OSH Act;

(b) Executive Order 12196;

(c) 29 CFR 1960; and

(d) NIST O 7101.00, including:

- i. OSH-management-system requirements, roles, responsibilities, and authorities;
- ii. The Management Observation suborder;
- iii. The Hazard Review suborder;
- iv. The Safety Education and Training suborder;
- v. The Safety Rights and Responsibilities suborder;

² Training specified in an OSH suborder could be (a) training that is to be provided by OSHE, e.g., training on the associated OSH program (see definition of “Training on an OSH Program” in Section 7), or (b) training that is to be provided by the employee’s or covered associate’s OU, e.g., job-, activity-, or task-specific training.

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116 vi. The Employee Reporting of Unsafe and Unhealthful Working Conditions
117 suborder, including procedures for reporting and investigating employee
118 allegations of reprisal for raising safety concerns;
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120 vii. The Stop Work suborder; and
121
122 viii. The Incident Reporting and Investigation suborder.
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124 (3) Official First-Level Supervisors shall complete, in addition to the training in Sections
125 6b(1) and 6(b)(2), introductory and specialized courses and materials that will enable
126 supervisors to recognize and eliminate, or reduce, OSH hazards in their working units
127 (see [29 CFR 1960.55](#)), including, at a minimum, training on the OSH programs
128 applicable to the work to be supervised.
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130 (4) Affected employees and covered associates other than Facility Users shall complete
131 training specified by OSHE based on special circumstances, such as:

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133 (a) Major changes in an OSH program;
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135 (b) The identification of a material weakness in an OSH program;
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137 (c) New regulatory requirements; or
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139 (d) Regulatory notices of violation or similar actions.
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141 c. Assignment of Training to Employees and Covered Associates Other than Facility Users
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143 (1) Official first-level supervisors shall assign training to the employees and covered
144 associates they supervise, other than Facility Users, in accordance with the requirements
145 in Section 6b and they shall do so when:

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147 (a) Such employees and covered associates enter on duty;
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149 (b) Such employees' and covered associates' duties change with regard to safety;³ and
150
151 (c) Special circumstances arise such as those indicated in Section 6b(4).

152 d. Training for Facility Users

³ For example, the employee or covered associate is to conduct work involving new OSH hazards, the employee is assigned to a line-management position for the first time, or the employee is assigned new collateral-safety duties.

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154 (1) Facility Users shall complete the following safety training prior to commencing work
155 involving significant hazards, and any re-training and/or refresher training required by the
156 User Facility:

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158 (a) Training on pertinent User Facility safety policies and procedures;

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160 (b) User-Facility-required courses; and

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162 (c) Training on specific jobs and tasks to be performed, including, for example, SOPs
163 and “how to” demonstrations.

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165 e. Training Provided by OSHE

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167 (1) Training provided by OSHE shall be made available in one or more of the following
168 training formats:

169
170 (a) Instructor-led training;

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172 (b) Demonstration or supervised practice; and

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174 (c) Computer-based training, which may be used alone or in conjunction with instructor-
175 led training and demonstration or supervised practice.

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177 (2) Training provided by OSHE should include:

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179 (a) Training objectives;

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181 (b) Learning assessments, such as quizzes, checklists, or demonstrations, to demonstrate
182 that training objectives have been met; and

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184 (c) Evaluation tools, such as surveys, to obtain feedback at the end of the training for the
185 purpose of improving the training.

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191 f. Training Documentation⁴ and Recordkeeping

⁴ See definition of “Training Documentation” in Section 7.

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193 (1) Training specified in Section 6b that is to be provided by OSHE shall be documented and
194 its completion by affected employees and covered associates shall be recorded in NIST’s
195 electronic safety-training application, regardless of the training format.

196
197 (2) Training specified in Sections 6b and 6d that is to be provided by the OUs⁵ shall be
198 documented and its completion by affected employees and covered associates shall be
199 recorded in accordance with OU procedures.⁶

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201 g. Administration of NIST’s Electronic Safety-Training Application:

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203 (1) Individuals shall be assigned by their OUs to assist in the administration of NIST’s
204 electronic safety-training application.

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207 **7. DEFINITIONS**

208 a. Documenting Training – The act of producing and maintaining training documentation (see
209 definition of “Training Documentation”).

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211 b. Facility User – Any individual who is permitted to use designated NIST facilities under a
212 NIST Facility User Agreement. Designated NIST facilities include the NIST Center for
213 Neutron Research and the Center for Nanoscale Science and Technology.

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215 c. Line Managers – For the purposes of this suborder, the following or equivalent: NIST
216 Director, Associate Directors, OU Directors and Deputy Directors, Division Chiefs, Deputy
217 Division Chiefs, Group Leaders, and any Official Supervisors below the level of Group
218 Leader.

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220 d. NIST General Safety Training – Training provided by OSHE on general NIST safety policies
221 and procedures.

222
223 e. Training on an OSH Program – Training provided by OSHE that includes:

- 224
225 (1) An overview of the requirements of an OSH program and associated roles and
226 responsibilities;
227 (2) For OSH programs focused on OSH hazards, baseline knowledge on the identification,
228 assessment, and control of those hazards; and

⁵ This includes (a) training specified in OSH suborders that is to be provided by the OUs, and (b) activity-specific training required by hazard reviews.

⁶ OUs may elect to document and record activity-specific training required by hazard reviews in NIST’s electronic safety-training application.

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230 (3) Other relevant safety information.
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232 f. Official First-Level Supervisor (of Another Employee or of a Covered Associate) – The
233 Rating Official on the performance plan of another employee or the supervisor of a covered
234 associate.
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236 g. OU/Division Safety Personnel – Employees who have been designated to perform OSH-
237 related duties in support of their OUs or Divisions on a full- or part-time basis.
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239 h. Recording Training – The act of creating a training record (see definition of “Training
240 Record”).
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242 i. Safety and Health Specialist – A professional in occupational safety, industrial hygiene,
243 health physics, or a related field.
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245 j. Training Documentation – Materials in electronic or hard-copy form that describe or embody
246 the content of the training; any tools used to determine that training objectives have been
247 met, *e.g.*, quizzes or checklists; and any evaluation tool(s) used to gather feedback at the end
248 of the training, *e.g.*, surveys.
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250 k. Training Record – (a) A document evidencing the completion of training, including the
251 subject of the training, the name of the individual who completed the training, the date on
252 which the training was completed, and, when applicable, the name of the individual
253 responsible for certifying that the training was completed; (b) any completed quizzes,
254 checklists, or surveys.

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257 **8. ACRONYMS**

- 258 a. NIST – National Institute of Standards and Technology
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260 b. OSH – Occupational Safety and Health
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262 c. OSHA – Occupational Safety and Health Administration
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264 d. OSHE – Office of Safety, Health, and Environment
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- 266 e. OU – Organizational Unit

267 **9. ROLES AND RESPONSIBILITIES**

- 268 a. OU Directors:

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(1) Ensure that procedures are implemented for documenting and recording the completion by affected employees and covered associates other than Facility Users of:

(a) Training specified in OSH suborders that is to be provided by the OU; and

(b) Activity-specific training required by hazard reviews; and

(2) Ensure that individuals are designated to assist in the OU's administration of NIST's electronic safety-training application.

b. Directors of NIST User Facilities:

(1) Ensure that Facility Users meet the training requirements detailed in Section 6d; and

(2) Ensure that procedures are implemented for documenting and recording the completion by Facility Users of the training specified in Section 6d.

c. All Employees and Covered Associates Other than Facility Users Entering on Duty:

(1) Complete NIST General Safety Training;

d. All Employees and Covered Associates Other than Facility Users, Including Employees and Covered Associates Entering on Duty:

(1) Complete the training in Section 6b assigned to them by their Official First-Level Supervisors; and

(2) Request additional training as duties change or as otherwise needed.

e. Official First-Level Supervisors of Employees and Covered Associates Other than Facility Users (in addition to the responsibilities of All Employees):

(1) Assign training to the employees and covered associates they supervise in accordance with the requirements in Section 6b and do so when:

(a) Such employees and covered associates enter on duty;

(b) Such employees' and covered associates' duties change; and

- 309 (c) Special circumstances arise such as those indicated in Section 6b(4).
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- 311 (2) Ensure that the following training is documented and its completion by affected
312 employees and covered associates recorded in accordance with OU procedures:
313
- 314 (a) Training specified in OSH suborders that is to be provided by the OU; and
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- 316 (b) Activity-specific training required by hazard reviews.
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- 318 f. Chief Safety Officer:
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- 320 (1) Ensure that an electronic safety-training application for documenting, assigning, and
321 recording training is maintained by OSHE; and
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- 323 (2) Ensure that the training specified in Sections 6a, 6b(2), and 6b(4) is available, meets the
324 requirements in Section 6d, and is documented in NIST's electronic safety-training
325 application.
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- 327 g. OSHE Safety Program Managers:
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- 329 (1) Articulate the training requirements for their assigned OSH programs in the associated
330 OSH suborders; and
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- 332 (2) When an OSH suborder indicates that training specified in the suborder is to be provided
333 by OSHE, ensure that:
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- 335 (a) The training is available;
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- 337 (b) The training meets the requirements in Section 6d;
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- 339 (c) The training is documented in NIST's electronic safety-training application; and
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- 341 (d) The completion of the training by affected employees and covered associates is
342 recorded in NIST's electronic safety training application, regardless of the training
343 format.
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- 346 h. Individuals Designated by their OU to Assist in the Administration of NIST's Electronic
347 Safety-Training Application Within the OU:
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349 (1) Carry out their assigned duties.

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352 **10. AUTHORITIES**

353 a. Chief Safety Officer:

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355 (1) Upon request and with suitable justification, approve training provided by one or more
356 OUs as an alternative to training provided by OSHE; and

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358 (2) Delegate the aforementioned authority to other OSHE employees.

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361 **11. DIRECTIVE OWNER**

362 Chief Safety Officer

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365 **12. APPENDICES**

366 A. Revision History

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Appendix A. Revision History

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Version No.	Approval Date	Effective Date	Brief Description of Change; Rationale
1	03/20/14	04/01/15	None – Initial document
2	01/12/16	01/12/16	<ul style="list-style-type: none"> • Made suborder applicable to “covered associates”. • Revised Section 6 to establish separate training requirements for Facility Users versus other covered associates. • Added definition of “Facility Users” to Section 7. • Added responsibilities for the Directors of NIST User Facilities to Section 9. • Rationale for separate training requirements for Facility Users: <ul style="list-style-type: none"> ○ Short-term visits; ○ Limited access to NIST site and facilities; ○ No NIST IT accounts; ○ Specifically-scoped activities; and ○ Greater oversight of work by User Facility personnel.
3	12/23/2020	1/12/16	Updated links under References and Applicable Suborders. Added responsible person column in Revision History table.
4	1/11/2022	1/12/16	<ul style="list-style-type: none"> • Updated “NIST O 710” link path.
5	1/11/23	1/12/16	Added links for NIST safety directives

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