

# 3 Out of Service 4

5 NIST S 7101.73

6 Approval Date: 01/04/2021

7 Effective Date<sup>1</sup>: 09/30/2023  
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9

## 10 1. PURPOSE

11 The purpose of this suborder is to establish the requirements and associated roles and  
12 responsibilities for safely taking or securing equipment or systems “out of service” on all sites  
13 for which NIST has jurisdiction, custody, and control.  
14  
15

## 16 2. BACKGROUND

17 There are any number of reasons to take or secure equipment or systems out of service, including  
18 but not limited to the following:  
19

- 20 • Prohibit use of broken, defective, or potentially hazardous equipment (*e.g.*, damaged  
21 electrical cords, faulty interlock, or uninspected crane);
- 22 • Restrict use of equipment by unauthorized personnel (*e.g.*, individual machines requiring  
23 specialized training in a large shop);
- 24 • Identify abandoned-in-place or idled equipment or system in place;
- 25 • Secure a system for seasonal purposes (*e.g.*, winterization of sprinkler system); and
- 26 • Disable a system to prevent a false alarm (*e.g.*, fire and life safety system impairment  
27 during construction).  
28

29 It is important to communicate to staff that the equipment or a system must not be used and/or is  
30 not functional, and further, to convey the reason why it is so, particularly if there is a hazard  
31 associated with its use. This directive provides the requirements to properly take or secure  
32 equipment or a system out of service and to communicate this decision to affected staff.

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<sup>1</sup> For revision history, see Appendix A.

33 **3. APPLICABILITY**

- 34 a. The provisions of this directive apply to employees and covered associates who take or  
35 secure equipment or systems located on all sites for which NIST has jurisdiction, custody,  
36 and control out of service.  
37
- 38 b. The provisions of this directive do not apply to equipment or systems being de-energized  
39 while servicing or maintenance activities are being performed. Prevention of exposure to  
40 hazardous energy during this work falls under NIST S 7101.56: *Control of Hazardous*  
41 *Energy (Lockout/Tagout or LOTO)*.  
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43

44 **4. REFERENCES**

- 45 a. 29 CFR 1910.145, [Specifications for Accident Prevention Signs and Tags](#).  
46
- 47 b. 29 CFR 1910.147, [The Control of Hazardous Energy](#).  
48

49

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

- 51 a. NIST S 7101.23: *Safety Education and Training*.  
52
- 53 b. NIST S 7101.56: *Control of Hazardous Energy (Lockout/Tagout)*.  
54
- 55 c. NIST S 7101.59: *Chemical Hazard Communication*.  
56
- 57 d. NIST S 7101.64: *Electrical Safety Notice*.  
58
- 59 e. NIST S 7401.03: *Impairment of Fire Protection and Life Safety Systems*.  
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61

62 **6. REQUIREMENTS**

- 63 a. Taking or Securing Equipment or Systems Out of Service  
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- 65 (1) Line management should determine if it is appropriate to take or secure equipment or a  
66 system out of service or if it should be [excessed](#) as it will no longer be needed.  
67
- 68 (2) If equipment or a system will be taken or secured out of service due to ***hazardous***  
69 ***rationale*** (please see Section 7. DEFINITIONS), NIST staff shall use a tag to indicate the  
70 equipment or system is out of service. Specifications for the tag are listed below.  
71

72 (3) If equipment or a system will be taken or secured out of service due to *non-hazardous*  
73 *rationale* (please see Section 7. DEFINITIONS), NIST staff should use a tag to indicate  
74 the equipment or system is out of service. Specifications for the tag are listed below.  
75

76 (4) In addition to a tag, locks may also be used to take or secure equipment or a system(s) out  
77 of service for either *hazardous* or *non-hazardous rationale*. Specifications for the lock  
78 are listed below.  
79

80 (a) NIST staff shall ensure the purpose of taking or securing equipment or a system out  
81 of service is not related to exposure to hazardous energy during the servicing or  
82 maintenance of the equipment or system. In those cases, the requirements of NIST S  
83 7101.56: *Control of Hazardous Energy* shall be followed.  
84

85 (5) Line management should regularly review equipment or systems taken out of service to  
86 determine if it should remain in that status or if it should be excessed as it will no longer  
87 be needed.  
88

89 b. Requirements for Out of Service (OOS) Tags  
90

91 (1) Tags used for LOTO shall not be used for the purposes of taking or securing equipment  
92 or a system out of service.  
93

94 (2) OOS tags shall have one of the following signal words appropriate to the rationale for  
95 taking or securing the equipment or a system out of service:  
96

97 (a) “Danger” – Shall be used in situations where an immediate hazard presents a threat of  
98 death or serious injury to staff and used only in these situations;  
99

100 (b) “Caution” – Shall be used in situations where a non-immediate or potential hazard  
101 presents a lesser threat of injury to staff and used only in these situations;  
102

103 (c) “Warning” – May be used to represent a hazard level between "Caution" and  
104 "Danger"; or  
105

106 (d) “Notice” – Shall be used in situations where there is no hazard or threat of injury to  
107 staff.  
108

109 Examples of OOS tags are provided in Appendix B.  
110

111 (3) OOS tags shall include the phrase, “Out of Service”.

112 (a) OOS tags may have a message indicating the rationale for taking or securing the  
113 equipment or system out of service.

114

115 (4) OOS tags shall have the following contact information:

116

117 (a) Name of the individual applying the tag;

118

119 (b) Telephone number and/or email address of individual applying the tag; and

120

121 (c) Name of the organization responsible for applying the tag.

122

123 (5) OOS tags shall have the date the tag was installed.

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125 c. Requirements for OOS Locks

126

127 (1) Locks used for LOTO shall not be used for the purposes of taking or securing equipment  
128 or a system out of service.

129

130 (2) OOS locks should have yellow bodies, but at a minimum, shall not be red.

131

132 (3) OOS locks should have “Out of Service” or “OOS” indelibly marked on them.

133

134 (4) OOS locks should have the name of the organization responsible for applying the lock  
135 indelibly marked on them.

136

137 (5) OOS locks may be keyed individually or in groups.

138

139 d. Installation of OOS Tags and Locks

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141 (1) Where applicable, the following should be considered prior to installing OOS tags or  
142 locks on equipment or a system:

143

144 (a) Shut down of equipment or system is done in accordance with the manufacturer’s  
145 recommendations.

146

147 (b) All energy sources are disconnected or isolated from equipment or system.

148

149 (c) In addition to isolating equipment or system from normal electrical power sources,  
150 additional precautions may be necessary to isolate the process, utility feed,  
151 emergency electrical, and/or discharge lines to properly secure the equipment or

152 system. Where the energy/utility source cannot be readily disconnected it should be  
153 isolated using two methods as follows:

154  
155 (1) A valve and a slip blind for piping; or

156  
157 (2) Disconnecting power supply from motor switchgear in the motor starters and  
158 securing the power switch off with a tamperproof weather resistant seal.

159  
160 (d) Residual or stored energy sources (for example: springs, elevated moveable  
161 components, rotating fire wheels, hydraulic and pneumatic systems) are reduced to  
162 their zero mechanical/energy level.

163  
164 (e) Chemicals are removed and/or cleaned from the equipment or system.

165  
166 i. If this is not feasible, the hazards of the chemical or residue should be clearly  
167 indicated on the OOS tag as part of the OU's hazard communication program  
168 (NIST S 7101.59: *Chemical Hazard Communication*).

169  
170 ii. Any equipment or system containing ozone-depleting substances (ODS) shall  
171 have the ODS properly evacuated and removed from the site for storage in  
172 accordance with applicable Federal, state, and local regulations.

173  
174 (2) OOS tags shall be firmly affixed by a positive means such as wire, zip tie, or adhesive  
175 that prevents their loss or unintentional removal.

176  
177 e. Removal of OOS Tags and Locks

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179 (1) OOS tags and locks shall only be removed by:

180  
181 (a) The individual who installed the OOS tag or lock; or

182  
183 (b) An individual who has been given express permission by the individual that placed  
184 the OOS tag or lock or OU line management who owns the tag or lock.

185  
186 f. Training

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188 (1) Training shall be provided, documented, and recorded in accordance with the  
189 requirements of NIST S 7101.23: *Safety Education and Training*.

190

191 (2) Employees and covered associates to whom this suborder applies shall receive the  
192 following information and training:

193 (a) Training provided by OSHE on this directive; and

194 (b) When applicable, activity-specific training on OU procedures for installing and  
195 removing OOS tags and locks.  
196  
197  
198

## 199 7. DEFINITIONS

200 a. Abandoned-in-place equipment – Any equipment that has been permanently removed from  
201 operational service but has been left in place, *e.g.*, to defer costs of removal. This equipment  
202 is not expected to be returned to its original operational use.  
203

204 b. Hazardous Rationale (for taking or securing equipment or systems out of service) – A reason  
205 for taking or securing equipment or a system out of service related to a condition or situation  
206 where there is the potential for detrimental impact to staff (*e.g.*, injury, illness, exposure, or  
207 contamination of) or property (*e.g.*, damage to equipment or system) with continued use.  
208

209 c. Idled Equipment – Any equipment that has been taken out of operational service for an  
210 undetermined period and that is not currently being adequately serviced or maintained. This  
211 equipment is expected to be returned to operational service at some future time.  
212

213 d. Non-Hazardous Rationale (for taking or securing equipment or systems out of service) – A  
214 reason for taking or securing equipment or a system out of service where there is no hazard  
215 related to taking or securing the equipment or a system out of service.  
216

217 e. Out of Service – Not working, not functioning, broken; currently unavailable or otherwise  
218 secured.  
219

220 f. Signal word – The portion of a tag's inscription that contains the word that is intended to  
221 capture the employee's immediate attention.  
222

223 g. Unauthorized Use – Any use, possession, alteration, damage or other activity by a person or  
224 party not expressly authorized by the owner or controlling entity.  
225  
226

## 227 8. ACRONYMS

228 a. CFR – Code of Federal Regulations  
229  
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- 231 b. NFPA – National Fire Protection Association
- 232
- 233 c. NIST – National Institute of Standards and Technology
- 234
- 235 d. OSHE – Office of Safety, Health, and Environment
- 236
- 237 e. OU – Organizational Unit
- 238
- 239 f. OOS – Out of Service
- 240
- 241 g. ODS – Ozone-depleting substances
- 242
- 243

## 244 **9. ROLES AND RESPONSIBILITIES**

### 245 a. OU Directors are responsible for:

- 246
- 247 (1) Establishing policies and procedures, as needed, for the requirements of this program to
- 248 be met as it applies to their employees and covered associates; and
- 249
- 250 (2) Ensuring subordinate managers have the authority, resources, and training needed to
- 251 implement OU-established policies and procedures.
- 252

### 253 b. Division Chiefs (or Equivalent)<sup>2</sup> are responsible for:

- 254
- 255 (1) Implementing this program as it applies to activities involving their personnel in
- 256 accordance with any applicable OU-established policies and procedures;
- 257
- 258 (2) Allocating budgetary and other resources capable of ensuring the health and safety of
- 259 employees, covered associates, and visitors in divisional work areas; and
- 260
- 261 (3) Providing support to divisional group leaders, safety personnel, employees, and covered
- 262 associates in carrying out their responsibilities with respect to implementing the
- 263 requirements of this suborder and managing the program within the division.
- 264

### 265 c. Line Management is responsible for:

- 266
- 267 (1) Ensuring equipment or systems identified as being taken or secured out of service is done
- 268 so according to the requirements of this program; and

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<sup>2</sup> Some NIST OUs do not have Division Chiefs; these OUs shall designate other individuals to carry out these responsibilities.

- 269 (2) Ensuring employees and covered associates receive training on the program.  
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271 d. Employees and Covered Associates are responsible for:  
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273 (1) Completing the training required by this program and their OUs/divisions;  
274  
275 (2) Abiding by the requirements of this program; and  
276  
277 (3) Notifying line management of equipment or systems that may need to be taken or secured  
278 out of service.  
279

## 280 **10. AUTHORITIES**

281 There are no authorities specific to this suborder alone. For authorities applicable to all NIST  
282 OSH suborders, see Section 9 of NIST O 7101.00: Occupational Safety and Health Management  
283 System.  
284

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## 287 **11. DIRECTIVE OWNER**

288 Chief Safety Officer  
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## 292 **12. APPENDICES**

293 A. Revision History

294 B. Examples of OOS Tags

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### Appendix A. Revision History

Version No.	Approval Date	Deployment Start Date	Effective Date	Brief Description of Change; Rationale
1	1/04/21		TBD	<ul style="list-style-type: none"><li>• None – Initial document</li></ul>
2	7/09/21		09/30/23	<ul style="list-style-type: none"><li>• Administrative Change – corrected numbering for Applicability Section 3 (impacted all following Sections 4-12.)</li><li>• Updated Version numbering (including in footer)</li><li>• Updated page numbering protocol in footer to “Page x of y” format</li><li>• NOTE: Effective date was originally TBD due to the COVID-19 pandemic. It was updated on 4/17/23.</li></ul>

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APPENDIX B. Examples of out of service tags.



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