1 2	N	VST National Institute of Standards and Technology • U.S. Department of Commerce
3	(CHEMICAL WASTE ACCUMULATION AND
4		DISPOSAL AT NIST-BOULDER
5		
6		
7		NIST S 7301.07
8		Document Date: 02/06/2022
9		Effective Date ¹ : 06/30/2023
10		
11		
12		PURPOSE
13		e purpose of this suborder is to establish the requirements and responsibilities regarding the
14		umulation and disposal of chemical waste at the NIST-Boulder site and the NIST
15 16		VV/WWVB broadcast facility to ensure compliance with applicable federal and state ulations. ²
10	Tegi	
17		
19	2.	BACKGROUND
20		The Department of Commerce (DoC) Boulder Laboratories is comprised of NIST, the
21		National Oceanic and Atmospheric Administration (NOAA), the National
22		Telecommunications and Information Agency (NTIA), and the General Services
23		Administration (GSA). Under a cross-service agreement, NIST provides chemical waste
24		(e.g., hazardous waste, nonhazardous waste, universal waste, and used oil) collection and
25		disposal services to these agencies.
26		
27		(1) The Colorado Department of Public Health and Environment (CDPHE) has issued the
28		DoC Boulder Laboratories a unique hazardous waste generator identification number,
29		Environmental Protection Agency Identification Number (EPA ID), CO9131505175,
30		which authorizes the DoC Boulder Labs to generate and accumulate hazardous waste as
31		small quantity generator (SQG) in compliance with the regulations referenced in Section
32		4 below.
33		

(2) The NIST radio broadcast station, WWV/WWVB, near Fort Collins, CO, is permitted as a very small quantity generator (VSQG) with EPA ID, COR000220723.

34

35

¹ For revision history, see Appendix A.

² Due to differing regulatory requirements for the NIST-Gaithersburg site, a parallel suborder (NIST S 7301.06) has been prepared to define the chemical waste accumulation/disposal requirements for the Gaithersburg site.

3.	APPLICABILITY
a.	This suborder applies to all activities at the NIST-Boulder and NIST WWV/WWVB facilities
	that generate chemical wastes.
	Note: Under the cross-service agreement, personnel employed by or contracted by
	covered agencies are required to comply with applicable state and federal regulations and
	the terms of the cross services agreement.
b.	This suborder does not apply to NIST employees or associates performing work on the
	University of Colorado campus.
c.	This suborder does not apply to the NIST WWVH facility located on the Pacific Missile
	Range Facility, Barking Sands on Kaui, Hawaii.
4	REFERENCES
a.	40 CFR 200-279, <u>Itazar dous waste Management System</u>
h	40 CFR 700-766, Toxic Substances Control Act
0.	To erre voo voo, <u>rome substances comberner</u>
c.	6 CCR 1007-2, Solid Waste Regulations
d.	6 CCR 1007-3, Parts 260-273 and 279, <i>Hazardous Waste Regulations</i>
e.	BRC 11-3, <i>Industrial and Prohibited Discharges</i>
f.	COR042002, Municipal Separate Storm Sewer System (MS4) Permit
g.	2017-2, Industrial Discharge Permit
h.	The Risk Management Process for Federal Facilities: An Interagency Security Committee
	Standard, Appendix B: Countermeasures, 2019
_	
	APPLICABLE NIST DIRECTIVES
a.	NIST S 7101.20: <i>Work and Worker Authorization Based on Hazard Reviews</i>
1.	NICT S 7101 21. Developting Environment
D.	NIST S 7101.21: <u>Personal Protective Equipment</u>
C	NIST S 7101.23: Safety Education and Training
U.	NIST 5 / 101.23. <u>Sujety Euroanon and Training</u>
	 a. b. c. d. e. f. g. h. 5. a. b.

76		
77	d.	NIST S 7101.50: <u>Biosafety</u>
78		
79	e.	NIST S 7101-51: <i>Bloodborne Pathogens</i>
80		
81	f.	NIST S 7101.54: <i>Dispersible Engineered Nanoparticles</i>
82		
83	g.	NIST S 7101.60: <u>Chemical Management</u>
84		
85	h.	NIST S 7201.02: <u>Radioactive Materials at NIST Boulder</u>
86		
87	i.	NIST S 7301.01: <u>Environmental Management System</u>
88		
89	j.	NIST S 7301.03: <u>Air Emissions Management at NIST-Boulder</u>
90	1	
91	k.	NIST S 7301.09: <i>Oil Storage and Handling at NIST-Boulder</i>
92	1	
93	1.	NIST S 7301.11: <u>Stormwater Management at NIST-Boulder</u>
94 05		NICT C 7201 12. Waster of Management of NICT De 11-
95 06	m.	NIST S 7301.13: <u>Wastewater Management at NIST-Boulder</u>
96 97		
97 98	6.	REQUIREMENTS
98 99	о. а.	General
100	а.	General
101		(1) NIST shall maintain full and consistent compliance with all regulatory requirements
101		(described in this suborder) regarding the generation, accumulation, and disposal of
102		chemical wastes;
104		
105		(2) No chemical waste shall be released to sanitary sewer drains or storm water drains
106		without review and approval by the NIST Boulder Safety, Health, and Environment
107		Division (BSHED). Contact BSHED at x5375, option 3 with any questions;
108		
109		(3) No chemical waste shall be disposed by evaporation. This requirement does not apply to
110		evaporation occurring during the use of the chemical or negligible losses due to
111		evaporation during transfer between containers;
112		
113		(4) NIST shall maintain the proper controls, equipment, and employee training to prevent or
114		mitigate chemical waste incidents;
115		

116	(5) NIST shall routinely assess chemical use to identify opportunities to minimize hazardous				
117	waste production through reuse, recycling, inventory control, and, as feasible,				
118	substitution of non-hazardous alternative chemicals. For laboratory employees and				
119	associates, this shall initially be accomplished in the hazard review process (NIST S				
120	7101.20: Work and Worker Authorization Based on Hazard Reviews);				
121					
122	(6) During the planning stage of abatement, construction or renovation projects, project				
123	managers must ensure that the types of waste that will be generated are identified and				
124	handling/disposal is included in the contract; and				
125					
126	(7) Disposal requirements shall be identified prior to bringing new chemicals used for the				
127	operations and maintenance of facilities and utilities on site.				
128					
129	b. Chemical Waste Determinations				
130					
131	(1) At the point of generation, all chemical waste produced shall be properly identified by th				
132	classification under which it is regulated (See Section 6.d.(5)(e):				
133					
134	(a) Hazardous Waste, which includes dispersible engineered nanomaterials (DENM) that				
135	are managed as hazardous waste;				
136					
137	i. Waste materials regulated as hazardous waste under 6 CCR 1007-3 Part 261,				
138	unless excluded as scrap metal under 261.4(a)(14);				
139					
140	ii. Waste materials regulated under the Toxic Substances Control Act (TSCA, 40				
141	CFR 700-766), including polychlorinated biphenyls (PCBs) and asbestos-				
142	containing material; and/or				
143					
144	iii. Waste materials containing dispersible engineered nanomaterials (DENM).				
145					
146	(b) Universal Waste;				
147					
148	i. Waste materials regulated as universal waste under 6 CCR 1007-3, Part 273,				
149	including:				
150					
151	(i) Aerosol Cans;				
152					
153	(ii) Batteries;				
154					
155	(iii) Light bulbs; and				

156		(iv)	Mercury-containing devices.
157	() N 1	1	
158	(c) Nonr	nazardous	s Waste, including but not limited to:
159		XX 7 (
160	i.		materials excluded under 6 CCR 1007-3, 261(b), not regulated under
161		Parts 2	261, 273 or 279 or materials identified in 6 CCR 1007-2, including:
162			
163		(i)	Paints;
164			Note: Dehydrated or dried latex or acrylic paint may be disposed in
165			the trash.
166			
167		(ii)	Glycol; and
168			
169		(iii)	Liquid detergents.
170			
171	• •		ste materials regulated under 6 CCR 1007-3, Part 279, including but not
172	limite	ed to:	
173			
174	i.	Hydra	ulic oils;
175			
176	ii.	Pump	oils;
177			
178	iii.	Lubric	cating oils; and
179			
180	iv.	Petrole	eum-based greases.
181			
182	(e) Mate	rials regu	lated under the Toxic Substances Control Act:
183			
184	i.	Waste	containing polychlorinated biphenyls, as defined under 40 CFR 761.3;
185		and	
186			
187	ii.	Asbest	tos-containing waste from decontaminating equipment, but not from
188		abaten	nent work. ³
189			
190	(f) Radio	ological	Waste:
191			
192	i.	Materi	al covered under NIST S 7201.02 Radioactive Materials at NIST
193		Bould	er
194			

³ Large-scale abatement is addressed in NIST Office of Facilities and Property Management (OFPM) programs.

195	(g) Scrap M	Metal:
196		
197	i.	Unwanted metals managed for recycling;
198		
199	ii.	Metals regulated as a hazardous waste if not managed for recycling, including
200		chromium, lead and silver;
201		
202	iii.	OFPM manages aluminum, copper and steel for recycling; and
203		
204	iv.	Does not include metal compounds.
205		
206	(h) Sharps	:
207		
208	i.	Materials that may penetrate skin, commonly having a sharp edge or point;
209		
210	ii.	Classified based on material with which the sharp is contaminated:
211		
212		(i) Municipal solid waste if uncontaminated;
213		
214		(ii) Biohazardous waste; or
215		
216		(iii) Hazardous waste.
217		
218	(i) Biohaz	ardous Waste:
219		
220	i.	Materials identified in NIST S 7101.50 Biosafety
221		
222	(j) Munici	ipal Solid Waste:
223		
224	i.	Waste not containing any wastes listed in 6.b.(1)(a)-(i)
225		
226	(2) The regula	tory status of the waste shall be identified during the hazard review process;
227		
228	(3) OSHE/BSI	HED shall provide assistance with completing waste determinations if
229	requested;	and
230		
231	(4) Documenta	ation of waste determinations shall be kept by the person generating the waste
232	and made a	available during regulatory inspections;
233		

234		(a) BSHED maintains a database of waste determinations and will provide
235		documentation if requested to assist with the waste determination.
236		
237	c.	Satellite Accumulation
238		
239		(1) All NIST work areas that accumulate hazardous wastes shall establish Satellite
240		Accumulation Areas (SAA; see Section 7, Definitions); ⁴
241		
242		(a) An inventory of SAAs shall be maintained by BSHED.
243		
244		(2) Chemical waste generated in a work area (e.g., laboratory) shall remain in that work area
245		and be accumulated in an SAA (if regulated as hazardous waste) until picked-up for
246		disposal in compliance with 6 CCR 1007-3, 262.34(g);
247		
248		(a) Exceptions shall be allowed for SAAs in the clean room tool move-in room and
249		chases in Building 81 with approval by BSHED.
250		
251		(3) All SAAs shall meet the following requirements:
252		
253		(a) The location of the SAA shall be identified by signage in the work area (available
254		free from BSHED);
255		
256		(b) The SAA shall be located within the work area, with the exceptions provided in
257		Section $6.c(2)(a)$, to facilitate the safe storage of the chemical wastes (e.g., flammable
258		wastes may need to be stored in a flammable cabinet; volatile wastes may need to be
259		stored in a ventilated cabinet). Storage of hazardous waste shall meet the following
260		requirements of the Interagency Security Committee (ISC) document The Risk
261		Management Process for Federal Facilities: An Interagency Security Committee
262		Standard, Appendix B: Countermeasures 2019:
263		
264		i. Waste shall be stored in secured areas with adequate fire protection away from
265		loading docks, entrances and uncontrolled parking;
266		
267		ii. SAAs shall be located to minimize the risk of tampering or theft;
268		
269		iii. Waste shall be handled in compliance with applicable Homeland Security and
270		hazardous materials regulations;
271		

⁴ "Routine" generation of chemical waste is the consistent production of chemical waste regulated as hazardous waste such that it will need to be turned in for disposal at least once per year.

 v. Emergency contact information for the work area and SAA shall be posted in an accessible location. A template for emergency contact information is provided in Appendix D. (c) Secondary containment shall be provided for waste containers stored at an SAA to control leaks or spills; i. The capacity of the secondary containment shall be sufficient to contain the quantity of the largest single container stored in the containment. (d) Incompatible chemical wastes⁵ shall be kept segregated as specified below; and i. In separate containers; ii. In separate containment bins; and iii. When possible, in separate chemical cabinets. (e) An SAA owner shall be designated for cach SAA. i. The SAA owner shall be the individual responsible for the process generating chemical waste in the work area in which the SAA is located. (4) The quantity of waste in any SAA shall be limited to: (a) 55 gallons of hazardous waste; or (b) 1 quart (liquid) or 1 kg (solid) of acute hazardous waste. See Section 7, Definitions (c) Adequate aisle space shall be maintained around the SAA. Fire code requires a minimum aisle width of 28 inches; 	272 273	iv.	Waste must be accumulated in manner that minimizes risk to life, health, safety and property; and
276an accessible location. A template for emergency contact information is provided in Appendix D.278(c) Secondary containment shall be provided for waste containers stored at an SAA to control leaks or spills;281i. The capacity of the secondary containment shall be sufficient to contain the quantity of the largest single container stored in the containment.284(d) Incompatible chemical wastes ⁵ shall be kept segregated as specified below; and285(d) Incompatible chemical wastes ⁵ shall be kept segregated as specified below; and286ii. In separate containers;288iii. In separate secondary containment bins; and290iii. When possible, in separate chemical cabinets.292(e) An SAA owner shall be designated for each SAA.293(e) An SAA owner shall be the individual responsible for the process generating chemical waste in the work area in which the SAA is located.297(4) The quantity of waste in any SAA shall be limited to:298(5) Spill control materials compatible with the waste in the SAA shall be kept on hand in quantities adequate to clean up a spill from the largest waste container;301(5) Spill control materials compatible with the waste in the SAA. Shall be kept on hand in quantities adequate to clean up a spill from the largest waste container;303(6) Adequate aisle space shall be maintained around the SAA. Fire code requires a minimum aisle width of 28 inches;	274		
277provided in Appendix D.278(c) Secondary containment shall be provided for waste containers stored at an SAA to control leaks or spills;281i. The capacity of the secondary containment shall be sufficient to contain the quantity of the largest single container stored in the containment.284(d) Incompatible chemical wastes ⁵ shall be kept segregated as specified below; and285(d) Incompatible chemical wastes ⁵ shall be kept segregated as specified below; and286ii. In separate containers;288iii. In separate secondary containment bins; and290iii. When possible, in separate chemical cabinets.291iii. When possible, in separate chemical cabinets.292(e) An SAA owner shall be designated for each SAA.294i. The SAA owner shall be the individual responsible for the process generating chemical waste in the work area in which the SAA is located.293(e) An SAA owner shall be the individual responsible for the process generating chemical waste in the work area in which the SAA is located.293(f) The quantity of waste in any SAA shall be limited to:293(g) 5 gallons of hazardous waste; or304(f) Spill control materials compatible with the waste in the SAA shall be kept on hand in quantities adequate to clean up a spill from the largest waste container;305(f) Adequate aisle space shall be maintained around the SAA. Fire code requires a minimum aisle width of 28 inches;	275	v.	Emergency contact information for the work area and SAA shall be posted in
 (c) Secondary containment shall be provided for waste containers stored at an SAA to control leaks or spills; i. The capacity of the secondary containment shall be sufficient to contain the quantity of the largest single container stored in the containment. (d) Incompatible chemical wastes⁵ shall be kept segregated as specified below; and (d) Incompatible chemical wastes⁵ shall be kept segregated as specified below; and i. In separate containers; (e) An SAA owner shall be designated for each SAA. (e) An SAA owner shall be designated for each SAA. (f) The quantity of waste in any SAA shall be limited to: (a) 55 gallons of hazardous waste; or (b) 1 quart (liquid) or 1 kg (solid) of acute hazardous waste. See Section 7, Definitions (f) Spill control materials compatible with the waste in the SAA shall be kept on hand in quantities adequate to clean up a spill from the largest waste container; (6) Adequate aisle space shall be maintained around the SAA. Fire code requires a minimum aisle width of 28 inches; 	276		an accessible location. A template for emergency contact information is
 (c) Secondary containment shall be provided for waste containers stored at an SAA to control leaks or spills; i. The capacity of the secondary containment shall be sufficient to contain the quantity of the largest single container stored in the containment. (d) Incompatible chemical wastes⁵ shall be kept segregated as specified below; and i. In separate containers; ii. In separate containment bins; and iii. When possible, in separate chemical cabinets. (c) An SAA owner shall be designated for each SAA. (e) An SAA owner shall be the individual responsible for the process generating chemical waste in the work area in which the SAA is located. (f) The quantity of waste in any SAA shall be limited to: (f) The quantity of waste in any SAA shall be limited to: (h) 1 quart (liquid) or 1 kg (solid) of acute hazardous waste. See Section 7, Definitions quantities adequate to clean up a spill from the largest waste container; (f) Spill control materials compatible with the waste in the SAA shall be kept on hand in quantities adequate to clean up a spill from the largest waste container; (f) Adequate aisle space shall be maintained around the SAA. Fire code requires a minimum aisle width of 28 inches; 	277		provided in Appendix D.
 control leaks or spills; i. The capacity of the secondary containment shall be sufficient to contain the quantity of the largest single container stored in the containment. (d) Incompatible chemical wastes⁵ shall be kept segregated as specified below; and (d) Incompatible chemical wastes⁵ shall be kept segregated as specified below; and (e) An SAA owner shall be designated for each SAA. (f) The quantity of waste in any SAA shall be limited to: (a) 55 gallons of hazardous waste; or (b) 1 quart (liquid) or 1 kg (solid) of acute hazardous waste. See Section 7, Definitions (f) Spill control materials compatible with the waste in the SAA shall be kept on hand in quantities adequate to clean up a spill from the largest waste container; (6) Adequate aisle space shall be maintained around the SAA. Fire code requires a minimum aisle width of 28 inches; 	278		
 i. The capacity of the secondary containment shall be sufficient to contain the quantity of the largest single container stored in the containment. (d) Incompatible chemical wastes⁵ shall be kept segregated as specified below; and (d) Incompatible chemical wastes⁵ shall be kept segregated as specified below; and (e) An SAA owner shall be designated for each SAA. (f) An SAA owner shall be designated for each SAA. (f) The quantity of waste in the work area in which the SAA is located. (f) The quantity of waste in any SAA shall be limited to: (g) (a) 55 gallons of hazardous waste; or (h) 1 quart (liquid) or 1 kg (solid) of acute hazardous waste. See Section 7, Definitions (f) Spill control materials compatible with the waste in the SAA shall be kept on hand in quantities adequate to clean up a spill from the largest waste container; (f) Adequate aisle space shall be maintained around the SAA. Fire code requires a minimum aisle width of 28 inches; 	279	(c) Secon	dary containment shall be provided for waste containers stored at an SAA to
 i. The capacity of the secondary containment shall be sufficient to contain the quantity of the largest single container stored in the containment. (d) Incompatible chemical wastes⁵ shall be kept segregated as specified below; and (d) Incompatible chemical wastes⁵ shall be kept segregated as specified below; and (e) An SAA owner shall be designated for each SAA. (f) An equantity of waste in the work area in which the SAA is located. (f) The quantity of waste in any SAA shall be limited to: (g) (a) 55 gallons of hazardous waste; or (h) 1 quart (liquid) or 1 kg (solid) of acute hazardous waste. See Section 7, Definitions (g) Spill control materials compatible with the waste in the SAA shall be kept on hand in quantities adequate to clean up a spill from the largest waste container; (f) Adequate aisle space shall be maintained around the SAA. Fire code requires a minimum aisle width of 28 inches; 	280	contro	l leaks or spills;
283 quantity of the largest single container stored in the containment. 284 (d) Incompatible chemical wastes ⁵ shall be kept segregated as specified below; and 286 i. In separate containers; 288 ii. In separate secondary containment bins; and 290 iii. When possible, in separate chemical cabinets. 291 iii. When possible, in separate chemical cabinets. 292 293 (e) An SAA owner shall be designated for each SAA. 294 i. The SAA owner shall be the individual responsible for the process generating chemical waste in the work area in which the SAA is located. 297 298 (4) The quantity of waste in any SAA shall be limited to: 299 200 300 (a) 55 gallons of hazardous waste; or 301 302 302 (b) 1 quart (liquid) or 1 kg (solid) of acute hazardous waste. See Section 7, Definitions 303 304 304 (5) Spill control materials compatible with the waste in the SAA shall be kept on hand in quantities adequate to clean up a spill from the largest waste container; 306 (6) Adequate aisle space shall be maintained around the SAA. Fire code requires a minimum aisle width of 28 inches;	281		
 (d) Incompatible chemical wastes⁵ shall be kept segregated as specified below; and i. In separate containers; ii. In separate secondary containment bins; and iii. When possible, in separate chemical cabinets. (e) An SAA owner shall be designated for each SAA. (e) An SAA owner shall be designated for each SAA. (f) The quantity of waste in the work area in which the SAA is located. (f) The quantity of waste in any SAA shall be limited to: (a) 55 gallons of hazardous waste; or (b) 1 quart (liquid) or 1 kg (solid) of acute hazardous waste. See Section 7, Definitions (f) Spill control materials compatible with the waste in the SAA shall be kept on hand in quantities adequate to clean up a spill from the largest waste container; (f) Adequate aisle space shall be maintained around the SAA. Fire code requires a minimum aisle width of 28 inches; 	282	i.	
 (d) Incompatible chemical wastes⁵ shall be kept segregated as specified below; and (d) Incompatible chemical wastes⁵ shall be kept segregated as specified below; and (e) An SAA owner shall se designated for each SAA. (f) An SAA owner shall be designated for each SAA. (e) An SAA owner shall be the individual responsible for the process generating chemical waste in the work area in which the SAA is located. (f) The quantity of waste in any SAA shall be limited to: (g) (a) 55 gallons of hazardous waste; or (h) 1 quart (liquid) or 1 kg (solid) of acute hazardous waste. See Section 7, Definitions (h) 1 quart (liquid) or 1 kg (solid) of acute hazardous waste. See Section 7, Definitions (f) Spill control materials compatible with the waste in the SAA shall be kept on hand in quantities adequate to clean up a spill from the largest waste container; (f) Adequate aisle space shall be maintained around the SAA. Fire code requires a minimum aisle width of 28 inches; 	283		quantity of the largest single container stored in the containment.
 i. In separate containers; ii. In separate secondary containment bins; and iii. When possible, in separate chemical cabinets. (e) An SAA owner shall be designated for each SAA. (e) An SAA owner shall be designated for each SAA. (e) An SAA owner shall be the individual responsible for the process generating chemical waste in the work area in which the SAA is located. (4) The quantity of waste in any SAA shall be limited to: (a) 55 gallons of hazardous waste; or (b) 1 quart (liquid) or 1 kg (solid) of acute hazardous waste. See Section 7, Definitions (5) Spill control materials compatible with the waste in the SAA shall be kept on hand in quantities adequate to clean up a spill from the largest waste container; (6) Adequate aisle space shall be maintained around the SAA. Fire code requires a minimum aisle width of 28 inches; 			
 i. In separate containers; ii. In separate secondary containment bins; and iii. When possible, in separate chemical cabinets. (e) An SAA owner shall be designated for each SAA. (e) An SAA owner shall be the individual responsible for the process generating chemical waste in the work area in which the SAA is located. (a) 55 gallons of hazardous waste; or (b) 1 quart (liquid) or 1 kg (solid) of acute hazardous waste. See Section 7, Definitions (b) 1 quart (liquid) or 1 kg (solid) of acute hazardous waste. See Section 7, Definitions (c) Spill control materials compatible with the waste in the SAA shall be kept on hand in quantities adequate to clean up a spill from the largest waste container; (f) Adequate aisle space shall be maintained around the SAA. Fire code requires a minimum aisle width of 28 inches; 		(d) Incom	patible chemical wastes ⁵ shall be kept segregated as specified below; and
 i. In separate secondary containment bins; and ii. In separate secondary containment bins; and iii. When possible, in separate chemical cabinets. (e) An SAA owner shall be designated for each SAA. (e) An SAA owner shall be the individual responsible for the process generating chemical waste in the work area in which the SAA is located. (4) The quantity of waste in any SAA shall be limited to: (a) 55 gallons of hazardous waste; or (b) 1 quart (liquid) or 1 kg (solid) of acute hazardous waste. See Section 7, Definitions (5) Spill control materials compatible with the waste in the SAA shall be kept on hand in quantities adequate to clean up a spill from the largest waste container; (6) Adequate aisle space shall be maintained around the SAA. Fire code requires a minimum aisle width of 28 inches; 			
 ii. In separate secondary containment bins; and iii. When possible, in separate chemical cabinets. (e) An SAA owner shall be designated for each SAA. (e) An SAA owner shall be designated for each SAA. i. The SAA owner shall be the individual responsible for the process generating chemical waste in the work area in which the SAA is located. (4) The quantity of waste in any SAA shall be limited to: (a) 55 gallons of hazardous waste; or (b) 1 quart (liquid) or 1 kg (solid) of acute hazardous waste. See Section 7, Definitions (5) Spill control materials compatible with the waste in the SAA shall be kept on hand in quantities adequate to clean up a spill from the largest waste container; (6) Adequate aisle space shall be maintained around the SAA. Fire code requires a minimum aisle width of 28 inches; 		1.	In separate containers;
 290 291 iii. When possible, in separate chemical cabinets. 292 293 (e) An SAA owner shall be designated for each SAA. 294 295 i. The SAA owner shall be the individual responsible for the process generating chemical waste in the work area in which the SAA is located. 297 298 (4) The quantity of waste in any SAA shall be limited to: 299 300 (a) 55 gallons of hazardous waste; or 301 302 (b) 1 quart (liquid) or 1 kg (solid) of acute hazardous waste. See Section 7, Definitions 303 304 (5) Spill control materials compatible with the waste in the SAA shall be kept on hand in quantities adequate to clean up a spill from the largest waste container; 306 307 (6) Adequate aisle space shall be maintained around the SAA. Fire code requires a minimum aisle width of 28 inches; 			
 291 iii. When possible, in separate chemical cabinets. 293 (e) An SAA owner shall be designated for each SAA. 294 295 i. The SAA owner shall be the individual responsible for the process generating chemical waste in the work area in which the SAA is located. 297 298 (4) The quantity of waste in any SAA shall be limited to: 299 300 (a) 55 gallons of hazardous waste; or 301 302 (b) 1 quart (liquid) or 1 kg (solid) of acute hazardous waste. See Section 7, Definitions 303 304 (5) Spill control materials compatible with the waste in the SAA shall be kept on hand in quantities adequate to clean up a spill from the largest waste container; 306 307 (6) Adequate aisle space shall be maintained around the SAA. Fire code requires a minimum aisle width of 28 inches; 		11.	In separate secondary containment bins; and
 (e) An SAA owner shall be designated for each SAA. i. The SAA owner shall be the individual responsible for the process generating chemical waste in the work area in which the SAA is located. (4) The quantity of waste in any SAA shall be limited to: (a) 55 gallons of hazardous waste; or (b) 1 quart (liquid) or 1 kg (solid) of acute hazardous waste. See Section 7, Definitions (5) Spill control materials compatible with the waste in the SAA shall be kept on hand in quantities adequate to clean up a spill from the largest waste container; (6) Adequate aisle space shall be maintained around the SAA. Fire code requires a minimum aisle width of 28 inches; 			
 (e) An SAA owner shall be designated for each SAA. (e) An SAA owner shall be designated for each SAA. (f) The SAA owner shall be the individual responsible for the process generating chemical waste in the work area in which the SAA is located. (f) The quantity of waste in any SAA shall be limited to: (a) 55 gallons of hazardous waste; or (b) 1 quart (liquid) or 1 kg (solid) of acute hazardous waste. See Section 7, Definitions (5) Spill control materials compatible with the waste in the SAA shall be kept on hand in quantities adequate to clean up a spill from the largest waste container; (6) Adequate aisle space shall be maintained around the SAA. Fire code requires a minimum aisle width of 28 inches; 		111.	when possible, in separate chemical cabinets.
 i. The SAA owner shall be the individual responsible for the process generating chemical waste in the work area in which the SAA is located. (4) The quantity of waste in any SAA shall be limited to: (a) 55 gallons of hazardous waste; or (b) 1 quart (liquid) or 1 kg (solid) of acute hazardous waste. See Section 7, Definitions (5) Spill control materials compatible with the waste in the SAA shall be kept on hand in quantities adequate to clean up a spill from the largest waste container; (6) Adequate aisle space shall be maintained around the SAA. Fire code requires a minimum aisle width of 28 inches; 			A group shall be design stad for each SAA
 i. The SAA owner shall be the individual responsible for the process generating chemical waste in the work area in which the SAA is located. (4) The quantity of waste in any SAA shall be limited to: (a) 55 gallons of hazardous waste; or (b) 1 quart (liquid) or 1 kg (solid) of acute hazardous waste. See Section 7, Definitions (5) Spill control materials compatible with the waste in the SAA shall be kept on hand in quantities adequate to clean up a spill from the largest waste container; (6) Adequate aisle space shall be maintained around the SAA. Fire code requires a minimum aisle width of 28 inches; 		(e) An SA	AA owner shall be designated for each SAA.
 chemical waste in the work area in which the SAA is located. chemical waste in the work area in which the SAA is located. (4) The quantity of waste in any SAA shall be limited to: (a) 55 gallons of hazardous waste; or (b) 1 quart (liquid) or 1 kg (solid) of acute hazardous waste. See Section 7, Definitions (5) Spill control materials compatible with the waste in the SAA shall be kept on hand in quantities adequate to clean up a spill from the largest waste container; (6) Adequate aisle space shall be maintained around the SAA. Fire code requires a minimum aisle width of 28 inches; 		;	The SAA owner shall be the individual responsible for the process generating
 297 298 (4) The quantity of waste in any SAA shall be limited to: 299 300 (a) 55 gallons of hazardous waste; or 301 302 (b) 1 quart (liquid) or 1 kg (solid) of acute hazardous waste. See Section 7, Definitions 303 304 (5) Spill control materials compatible with the waste in the SAA shall be kept on hand in quantities adequate to clean up a spill from the largest waste container; 306 307 (6) Adequate aisle space shall be maintained around the SAA. Fire code requires a minimum aisle width of 28 inches; 		1.	
 (4) The quantity of waste in any SAA shall be limited to: (a) 55 gallons of hazardous waste; or (b) 1 quart (liquid) or 1 kg (solid) of acute hazardous waste. See Section 7, Definitions (b) 1 quart (liquid) or 1 kg (solid) of acute hazardous waste. See Section 7, Definitions (5) Spill control materials compatible with the waste in the SAA shall be kept on hand in quantities adequate to clean up a spill from the largest waste container; (6) Adequate aisle space shall be maintained around the SAA. Fire code requires a minimum aisle width of 28 inches; 			chemical waste in the work area in which the SAAA is located.
 (a) 55 gallons of hazardous waste; or (b) 1 quart (liquid) or 1 kg (solid) of acute hazardous waste. See Section 7, Definitions (b) 1 quart (liquid) or 1 kg (solid) of acute hazardous waste. See Section 7, Definitions (5) Spill control materials compatible with the waste in the SAA shall be kept on hand in quantities adequate to clean up a spill from the largest waste container; (6) Adequate aisle space shall be maintained around the SAA. Fire code requires a minimum aisle width of 28 inches; 		(4) The quant	ity of waste in any SAA shall be limited to:
 (a) 55 gallons of hazardous waste; or (b) 1 quart (liquid) or 1 kg (solid) of acute hazardous waste. See Section 7, Definitions (5) Spill control materials compatible with the waste in the SAA shall be kept on hand in quantities adequate to clean up a spill from the largest waste container; (6) Adequate aisle space shall be maintained around the SAA. Fire code requires a minimum aisle width of 28 inches; 		(1) The quant	ity of waste in any or of sharf of minica to.
 301 302 (b) 1 quart (liquid) or 1 kg (solid) of acute hazardous waste. See Section 7, Definitions 303 304 (5) Spill control materials compatible with the waste in the SAA shall be kept on hand in 305 quantities adequate to clean up a spill from the largest waste container; 306 307 (6) Adequate aisle space shall be maintained around the SAA. Fire code requires a minimum 308 aisle width of 28 inches; 		(a) 55 gal	lons of hazardous waste: or
 (b) 1 quart (liquid) or 1 kg (solid) of acute hazardous waste. See Section 7, Definitions (5) Spill control materials compatible with the waste in the SAA shall be kept on hand in quantities adequate to clean up a spill from the largest waste container; (6) Adequate aisle space shall be maintained around the SAA. Fire code requires a minimum aisle width of 28 inches; 		() ee gar	
 303 304 (5) Spill control materials compatible with the waste in the SAA shall be kept on hand in quantities adequate to clean up a spill from the largest waste container; 306 307 (6) Adequate aisle space shall be maintained around the SAA. Fire code requires a minimum aisle width of 28 inches; 		(b) 1 quar	t (liquid) or 1 kg (solid) of acute hazardous waste. See Section 7, Definitions
 304 (5) Spill control materials compatible with the waste in the SAA shall be kept on hand in quantities adequate to clean up a spill from the largest waste container; 306 307 (6) Adequate aisle space shall be maintained around the SAA. Fire code requires a minimum aisle width of 28 inches; 			
 quantities adequate to clean up a spill from the largest waste container; (6) Adequate aisle space shall be maintained around the SAA. Fire code requires a minimum aisle width of 28 inches; 		(5) Spill contr	rol materials compatible with the waste in the SAA shall be kept on hand in
 307 (6) Adequate aisle space shall be maintained around the SAA. Fire code requires a minimum 308 aisle width of 28 inches; 	305	• / -	· · ·
308 aisle width of 28 inches;		*	
	307	(6) Adequate	aisle space shall be maintained around the SAA. Fire code requires a minimum
309	308	aisle widtl	h of 28 inches;
	309		

⁵ Chemical compatibility references are included in NIST S 7101.60: *Chemical Management*.

310		(7) Satellite accumulation areas shall be inspected by the SAA owner or a person supervised
311		by the SAA owner on a weekly basis;
312		
313		(8) SAA owners shall maintain inspection checklists for the previous three months or the
314		period of time elapsed since the most recent BSHED inspection whichever is less; and
315		
316		(9) The accumulation start date shall be added when a container is 90% full.
317		
318	d.	Chemical Waste Containers
319		
320		(1) Chemical wastes shall be placed in containers made of materials compatible with the
321		wastes;
322		
323		(2) Chemical waste containers shall be in good condition and have screw-on caps;
324		
325		(3) Chemical waste containers typically must be sealed with a cap when not actively being
326		filled;
327		
328		(a) If chemical wastes are reacting in a manner that will cause a sealed container to over
329		pressurize:
330		
331		i. The waste container shall be left open and in a fume hood until the reaction is
332		complete; or
333		
334		ii. A pressure relief cap shall be used.
335		
336		(4) Chemical waste containers shall not be over-filled;
337		
338		(a) Free space (head space or ullage) of 10 percent shall be left when filling waste
339		containers.
340		
341		(5) Waste shall be labeled with the information listed below:
342		
343		(a) A list of the constituents of the waste;
344		
345		(b) An estimate of the percent volume of each constituent;
346		
347		(c) A description of the hazards associated with the waste using labels compliant with the
348		Globally Harmonized System of Classification and Labelling of Chemicals.
349		

350	i.	Labels	s are provided by OSHE/BSHED
351			
352			ation start date at the time the waste is generated unless the container is
353	placed	d in a sa	tellite accumulation area; and
354			
355		-	y classification of the waste. See 6.b.(1) for regulatory
356	classi	fications	s/definitions of waste.
357			
358	i.	Hazar	dous waste.
359			
360	ii.	Unive	rsal waste.
361			
362	iii.	Non-h	azardous waste.
363			
364	iv.	Used of	oil.
365			
366	v.	Mater	ials regulated under the Toxic Substances Control Act:
367			
368		(i)	Labeled as hazardous waste
369			
370	vi.	Radio	logical Waste:
371			
372		(i)	Contact the radiation safety officer for labels and assistance with
373			handling or disposing radioactive waste.
374			
375	vii.	Scrap	Metal:
376			
377		(i)	Metals regulated as a hazardous waste if not managed for recycling,
378			including chromium, lead and silver. OFPM manages aluminum,
379			copper and steel for recycling, not including metal compounds; and
380			
381		(ii)	A nonhazardous waste label or any other label identifying the material
382			as scrap metal and the specific metal may be used.
383			
384	viii.	Sharps	5:
385			
386		(i)	Uncontaminated sharps may be disposed as municipal solid waste if
387			properly contained in a rigid container labeled as "sharps"; or
388			

389 390		(ii)	Contaminated sharps must be managed and labeled as the type of waste contaminating the sharps, typically biohazardous or hazardous.
390 391			waste containinating the sharps, typicany bionazardous of nazardous.
392		ix. Biohaz	zardous Waste:
393			Laruous waste.
394		(i)	Affix a biohazardous waste label
395		(1)	
396		x. Munic	ipal Solid Waste:
397		A. Withite	
398		(i)	No labeling required.
399		(1)	no nacenng required.
400		(6) Reusable containe	ers (e.g., safety cans) may be used to store chemical waste if used to
401		contain compatibl	
402		· · · · · · · · · · · · · · · · · · ·	
403		(a) The owner of	a reusable container shall clearly indicate on the container the location
404			all be returned.
405			
406		<u>Note</u> : In some	e instances, it may not be feasible to return a container due to the
407		nature of the	contents.
408			
408 409	e.	Empty Chemical Con	tainers ⁶
	e.	Empty Chemical Con	tainers ⁶
409	e.		tainers ⁶ containers shall be handled by the following options:
409 410	e.	(1) Empty chemical c	containers shall be handled by the following options:
409 410 411	e.	(1) Empty chemical c(a) Containers that	containers shall be handled by the following options: at previously contained acute hazardous (P-list) waste (6 CCR 1007-3,
409 410 411 412	e.	 (1) Empty chemical c (a) Containers that 261.33) shall 	containers shall be handled by the following options:
409 410 411 412 413	e.	(1) Empty chemical c(a) Containers that	containers shall be handled by the following options: at previously contained acute hazardous (P-list) waste (6 CCR 1007-3,
409 410 411 412 413 414	e.	 (1) Empty chemical c (a) Containers tha 261.33) shall 1 chemical; 	containers shall be handled by the following options: at previously contained acute hazardous (P-list) waste (6 CCR 1007-3, be turned in as chemical waste or reused only to contain the original
409 410 411 412 413 414 415 416 417	e.	 (1) Empty chemical c (a) Containers tha 261.33) shall b chemical; (b) Empty chemical 	containers shall be handled by the following options: at previously contained acute hazardous (P-list) waste (6 CCR 1007-3, be turned in as chemical waste or reused only to contain the original cal containers, other than those that previously contained an acute
409 410 411 412 413 414 415 416 417 418	e.	 (1) Empty chemical c (a) Containers tha 261.33) shall b chemical; (b) Empty chemic hazardous was 	containers shall be handled by the following options: at previously contained acute hazardous (P-list) waste (6 CCR 1007-3, be turned in as chemical waste or reused only to contain the original cal containers, other than those that previously contained an acute ste, may be disposed to municipal solid waste (trash) if the following
409 410 411 412 413 414 415 416 417 418 419	e.	 (1) Empty chemical c (a) Containers tha 261.33) shall b chemical; (b) Empty chemical 	containers shall be handled by the following options: at previously contained acute hazardous (P-list) waste (6 CCR 1007-3, be turned in as chemical waste or reused only to contain the original cal containers, other than those that previously contained an acute ste, may be disposed to municipal solid waste (trash) if the following
409 410 411 412 413 414 415 416 417 418 419 420	е.	 (1) Empty chemical c (a) Containers tha 261.33) shall 1 chemical; (b) Empty chemic hazardous was conditions are 	containers shall be handled by the following options: at previously contained acute hazardous (P-list) waste (6 CCR 1007-3, be turned in as chemical waste or reused only to contain the original cal containers, other than those that previously contained an acute ste, may be disposed to municipal solid waste (trash) if the following met:
409 410 411 412 413 414 415 416 417 418 419 420 421	e.	 (1) Empty chemical c (a) Containers tha 261.33) shall 1 chemical; (b) Empty chemical hazardous was conditions are i. All conditions 	containers shall be handled by the following options: at previously contained acute hazardous (P-list) waste (6 CCR 1007-3, be turned in as chemical waste or reused only to contain the original cal containers, other than those that previously contained an acute ste, may be disposed to municipal solid waste (trash) if the following met:
409 410 411 412 413 414 415 416 417 418 419 420 421 422	e.	 (1) Empty chemical c (a) Containers tha 261.33) shall 1 chemical; (b) Empty chemical hazardous was conditions are i. All conditions 	containers shall be handled by the following options: at previously contained acute hazardous (P-list) waste (6 CCR 1007-3, be turned in as chemical waste or reused only to contain the original cal containers, other than those that previously contained an acute ste, may be disposed to municipal solid waste (trash) if the following met:
409 410 411 412 413 414 415 416 417 418 419 420 421 422 423	е	 (1) Empty chemical c (a) Containers tha 261.33) shall 1 chemical; (b) Empty chemical hazardous was conditions are i. All con pumpi 	containers shall be handled by the following options: at previously contained acute hazardous (P-list) waste (6 CCR 1007-3, be turned in as chemical waste or reused only to contain the original cal containers, other than those that previously contained an acute ste, may be disposed to municipal solid waste (trash) if the following met: netents that may be removed by "typical" methods such as pouring, ng, aspirating, draining or pipetting are removed;
409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424	e.	 (1) Empty chemical c (a) Containers tha 261.33) shall 1 chemical; (b) Empty chemical hazardous was conditions are i. All con pumpi 	containers shall be handled by the following options: at previously contained acute hazardous (P-list) waste (6 CCR 1007-3, be turned in as chemical waste or reused only to contain the original cal containers, other than those that previously contained an acute ste, may be disposed to municipal solid waste (trash) if the following met:
409 410 411 412 413 414 415 416 417 418 419 420 421 422 423	е	 (1) Empty chemical c (a) Containers tha 261.33) shall 1 chemical; (b) Empty chemical conditions are i. All compumpi ii. The lab 	containers shall be handled by the following options: at previously contained acute hazardous (P-list) waste (6 CCR 1007-3, be turned in as chemical waste or reused only to contain the original cal containers, other than those that previously contained an acute ste, may be disposed to municipal solid waste (trash) if the following met: netents that may be removed by "typical" methods such as pouring, ng, aspirating, draining or pipetting are removed;

⁶ A chemical container is considered empty when no chemical can be removed from the container by normal physical means (e.g. pouring, aspirating, or draining).

427		
428		(c) Empty containers may be turned in as chemical waste under the conditions listed
429		below:
430		
431		i. The caps shall be left on the empty containers.
432		
433		ii. "Empty" shall be written across the container labels using a heavy black
434		marker.
435		
436		(d) Empty chemical containers may be reused to collect chemical wastes that are
437		compatible with the original contents of the container and the container material; and
438		
439		i. The containers shall be labeled with the appropriate waste label per Section
440		6.d.
441		
442		(e) Empty containers that held non-hazardous materials such as commercial cleaners,
443		polishes, etc., may be disposed with regular trash.
444		
445	f.	Used Personal Protective Equipment (PPE)
446		
447		(1) Personal protective equipment may be required to be managed as hazardous waste if
448		contaminated with certain hazardous wastes. Under the following conditions, used PPE
449		shall be managed as hazardous waste:
450		
451		(a) Contaminated with acute hazardous waste as defined under 6 CCR 1007-3, 261.33;
452		
453		(b) Immersed in or in extended contact with a material regulated as a hazardous waste
454		under 6 CCR 1007-3, Part 261, except solvents regulated as D001 and/or F003 waste
455		if solvents evaporate during use;
456		
457		(c) Used with material containing DENM; or
458		
459		(d) Visibly stained with chemicals.
460	~	Disherendens Weste
461	g.	Biohazardous Waste
462		(1) Disharandona wasta is defined in NIST S 7101 50 as
463 464		(1) Biohazardous waste is defined in NIST S 7101.50 as:
464 465		(a) Waste that includes, but is not limited to, discarded microbiological cultures, stocks
465 466		and all associated materials, discarded human specimens and all associated materials,
400		and an associated materials, discarded numan specificits and an associated materials,

467 468		discarded tissue cultures and stocks, discarded live and attenuated vaccines, discarded molecular waste, and contaminated sharps.
469		
470		(2) Biohazardous waste disposal is also managed through the chemical waste pick request
471		system. For specific information on the requirements for biohazardous waste see NIST S
472		7101.50.
473		
474	h.	Chemical Waste Storage in and Removal from SAA
475		
476		(1) Chemical waste pick-up requests shall be submitted via:
477		
478		(a) The NIST <u>Chemical/Regulated Waste Pickup Request System</u> .
479		
480		(2) Pick-up requests shall include:
481		
482		(a) The name of the chemical waste owner;
483 484		(b) The location of the chemical waste;
485		(b) The location of the chemical waste,
486		(c) A description of the chemical waste and any significant hazards associated with the
487		waste or container;
488		······································
489		(d) The number of containers and total quantity of waste being disposed; and
490		
491		(e) Entry procedures, if any, required for OSHE to enter the workspace and pick-up the
492		waste.
493		
494		(3) Chemical waste owners shall schedule waste pick-ups as needed to minimize the risks of
495		accumulating chemical wastes for extended periods of time; ⁷
496		
497		(4) In general, chemical waste should not remain in storage at an SAA for more than one
498		year;
499		
500		(5) If chemical waste needs to be removed immediately, OSHE shall be contacted at x5375,
501		option 3;
502		
503		(6) An SAA does not need to be established for the pick-up of non-routine wastes; and
504		

⁷ The hazards of a chemical or chemical waste determine the safe storage time, e.g., some peroxide forming chemicals may require disposal after only 3 months of storage.

FOF		(7) If an unlabeled contain an with unly contents is found OSUE shall be contented
505 506		(7) If an unlabeled container with unknown contents is found, OSHE shall be contacted directly (x5375, option 3) to assist with identifying and disposing of the container.
506		directly (x5575, option 5) to assist with identifying and disposing of the container.
508	i.	Inspections by Regulatory Agencies
508	1.	For an announced or unannounced inspection by the Colorado Department of Public Health
510		and Environment (CDPHE) or EPA:
510		and Environment (CDTTTE) of ETA.
512		(1) The Chief of BSHED shall be notified whenever CDPHE and/or EPA inspectors request
512		access to NIST facilities;
		access to INIST facilities,
514 515		(a) A BSHED representative shall be assigned to coordinate the inspection process.
515 516		(a) A DSHED representative shall be assigned to coordinate the hispection process.
		(2) The BSHED representative shall:
517		(2) The BSHED representative shan:
518 510		(a) Notify the offected OU managers of the inspection when permitted by CDDUE and/or
519 520		(a) Notify the affected OU managers of the inspection when permitted by CDPHE and/or
520		EPA;
521		(b) A accompany the CDDIE and/or EDA increastor(a) while an aiter and
522		(b) Accompany the CDPHE and/or EPA inspector(s) while on-site; and
523		(a) Desument the charactions of the CDDUE and/or EDA inspectors including
524 525		(c) Document the observations of the CDPHE and/or EPA inspectors, including
525 526		photographing areas photographed by CDPHE and/or EPA.
526		(2) All NIST Devilder employing and according shall according fully during any such
527		(3) All NIST Boulder employees and associates shall cooperate fully during any such
528 520		inspection;
529		(4) Olla in accordination with the Davider Laboratory Operations Director and DSUED
530		(4) OUs, in coordination with the Boulder Laboratory Operations Director, and BSHED Chief will chose any negative findings identified during the inspection in accordance
531		Chief, will abate any negative findings identified during the inspection in accordance with CDDUE and/or EDA instructions and the requirements of this suborder
532		with CDPHE and/or EPA instructions and the requirements of this suborder;
533		(5) The Deulder Laboratory Operations Director and DSUED Chief in accordination with
534 525		(5) The Boulder Laboratory Operations Director and BSHED Chief, in coordination with
535 536		affected OUs, shall take the lead on all inspection-related correspondence with CDPHE and/or EPA; and
		and/or EFA, and
537		(6) Any finan resulting from a violation identified during an inspection will be paid by the
538 520		(6) Any fines resulting from a violation identified during an inspection will be paid by the offending OU.
539 540		
540 541		
541 542		
542 542		
543 544		
544		

545 546	j.	Training
547		(1) All NIST Boulder employees and associates, including those at NIST WWV/WWVB,
548		who generate or handle hazardous or universal waste shall complete the course titled
549		NIST S 7301.07: Hazardous Waste Generator Training for NIST Boulder.
550		The state of the second and the second and the second and the second sec
551		(a) Retraining shall be required when the Official First-Level Supervisor identifies
552		inadequacies in the individual's knowledge related to the content found in the training
553		course listed in Section 6.j(1).
554		
555		(2) NIST Boulder line management and division safety representatives who have staff who
556		generate or handle hazardous or universal waste should complete the suborder training
557		for this program.
558		
559	k.	Recordkeeping
560		
561		(1) Checklists documenting weekly inspections of SAAs by the SAA owner shall be kept by
562		the owner of the SAA for whichever is less:
563		
564		(a) Three months; or
565		
566		(b) The period of time elapsed since the SAA was most recently inspected by BSHED.
567		
568		(2) Hazardous waste manifests shall be retained by OSHE for at least twenty years from the
569		date on which a representative of the treatment, storage and disposal facility (TSDF)
570		signed the manifest; ⁸
571		
572		(3) The following records will be maintained by OSHE for at least five years after
573		inspection:
		(a) Inspection Reports issued by CDPHE or EPA;
		(1) Nethern of f is the condition of the CDDUE of EDA.
		(b) Notices of findings issued by CDPHE or EPA;
		(a) Corrective action plans, when required:
		(c) concentre action plans, when required,
		(d) Description of corrective action taken, when required, and
		(a) Description of concentre action taken, when required, and
575 576 577 578 579 580 581 582		 (a) Inspection Reports issued by CDPHE or EPA; (b) Notices of findings issued by CDPHE or EPA; (c) Corrective action plans, when required; (d) Description of corrective action taken, when required; and

⁸ NIST took over hazardous waste management from NOAA in 2000 so records currently date back to the time at which NIST assumed responsibility for hazardous waste management.

583		(e) Date corrective action was completed.
584 585		(4) Records described above will be made available to regulators upon request.
586		(4) Records described above will be made available to regulators upon request.
587	1.	Emergency Response
588		
589		(1) Any NIST employee or covered associate who discovers an emergency situation (e.g.,
590		significant spill or release, over-pressurized container) associated with chemicals or
591		chemical waste shall immediately report it to:
592		
593		(a) Supervisor; and
594		
595		(b) OSHE at x5375, option 3; or
596		
597		(c) NIST Police at x7777 (outside of normal business hours).
598		
599	m.	Summary Reports
600		
601		(1) The manager of this program shall report significant findings of noncompliance to the
602		BSHED Chief, for elevation to the Chief Safety Officer (CSO) and Executive Safety
603		Committee (ESC), as needed. Instances of significant noncompliance include open waste
604		containers, lack of documentation of inspections, unlabeled waste and waste
605		accumulating outside of SAAs. Reports shall include:
606		
607		(a) Specific instances of noncompliance with applicable regulations or NIST policy;
608		
609		(b) Required corrective actions; and
610		(a) Fallen un nonerte if competing actions have not here involved
611 612		(c) Follow up reports if corrective actions have not been implemented;
613		(2) The manager of this program shall compile, analyze, and report inspection data
614		periodically at the direction of the CSO.
615		periodically at the direction of the eso.
616		
617	7.	DEFINITIONS
618		efinitions common to all NIST Environmental Management or Compliance suborders can be
619		and in Section 6 of NIST O 7301-00. The definitions specific to this suborder are as follows:
620		
621	a.	Acute Hazardous Waste - Category of hazardous wastes identified under 6 CCR 1007-3, Part
622		261.33.

623 624	b.	<u>Biohazardous Waste</u> – Waste that includes, but is not limited to, discarded microbiological cultures, stocks and all associated materials, discarded human specimens and all associated
625		materials, discarded tissue cultures and stocks, discarded live and attenuated vaccines,
626		discarded molecular waste, and contaminated sharps.
627		diseareed increasing waste, and containinated sharps.
628	c.	Chemical Waste - A general term used for both hazardous (e.g., acids, solvents) and non-
629		hazardous (e.g., oils, coolants) wastes.
630		
631	d.	Designated Facility – A permitted hazardous waste treatment, storage and disposal facility
632		identified on a hazardous waste manifest as the recipient of the hazardous waste listed on the
633		manifest.
634		
635	e.	Dispersible Engineered Nanomaterial – Intentionally-produced materials with one or more
636		dimensions between approximately 1 nanometer (nm) and 100 nm that can be dispersed into
637		(or onto) liquid or solid compounds or aerosolized (suspended in a gas). Also referred to as
638		nanomaterial.
639		
640	f.	Empty Container – A container from which the contents have been removed so that no more
641		material may be removed by methods including aspirating, draining, pipetting, pumping and
642		pouring.
643		
644	g.	EPA Identification Number – The number assigned to each hazardous waste generator,
645		hazardous waste transporter and hazardous waste treatment, storage or disposal facility
646		(TSDF).
647		
648	h.	
649		1000 kg of hazardous waste or more than 1 kg of acute hazardous waste in four or fewer
650		calendar months out of a calendar year.
651		
652	i.	<u>Hazardous Waste</u> – A waste with properties that make it dangerous or capable of having a
653		harmful effect on human health or the environment. Strict regulatory criteria that define a
654		hazardous waste are included in 40 CFR 261 or listed under 6 CCR 1007-3, Part 261.
655		
656	j.	Hazardous Waste Generator – Any entity that produces a waste identified or listed under 6
657		CCR 1007-3, Part 261. The DoC Boulder Labs and NIST WWV/WWVB are identified as
658		generators for the purposes of this suborder.
659		
660	k.	Large Quantity Generator – A hazardous waste generator of more than 1000kg of hazardous
661		waste or more than 1 kg of acute hazardous waste in any calendar month.
662		

663 664	1.	<u>Nanomaterial</u> – A material with any external dimensions in the nanoscale or having internal structure or surface structure in the nanoscale (approximately 1 nm to 100nm).
665		structure of surface structure in the nanoseure (approximately 1 min to 100min).
666	m.	Nonhazardous Waste – Wastes not listed or having the characteristics of hazardous waste as
667		defined under 6 CCR 1007-3, Part 261.
668		
669	n.	<u>Recycler</u> – Facility that engages in the recovery of materials from universal waste or scrap
670		metal.
671		
672	0.	Satellite Accumulation Area – An area designated for the accumulation of hazardous waste
673		that is located at, or near, the point of the waste generation, and is under the control of an
674		individual responsible for the waste.
675		
676	p.	Satellite Accumulation Area Owner – The OU-assigned individual responsible for
677		maintaining a Satellite Accumulation Area (SAA). The SAA owner shall be an individual
678		responsible for the process that generates chemical waste in the work area in which the SAA
679		is located
680		
681	q.	Sharp – An object that can penetrate the skin. A sharp is often a tool, device, or material that
682		typically has a sharp edge or point such as a needle, scalpel, blade, razor, broken glass,
683		broken capillary tube, or an exposed end of a wire.
684		
685	r.	Small Quantity Generator – A hazardous waste generator generating less than 1000 kg of
686		hazardous waste and less than 1 kg of acute hazardous waste in any calendar month.
687		
688	s.	<u>Transporter</u> – Person engaged in the offsite transportation of hazardous waste by air, rail,
689		highway or water.
690		
691	t.	<u>Treatment, Storage and Disposal Facility (TSDF)</u> – A location at which hazardous waste is
692		subjected to treatment, storage, or disposal. See <i>designated facility</i> for more information on
693		regulatory requirements.
694		
695	u.	<u>TSCA-Regulated Waste</u> – Waste composed of materials regulated under the Toxic
696		Substances Control Act (TSCA).
697		
698 600	v.	<u>Universal Waste</u> – Hazardous wastes managed under the universal waste requirements of 6
699 700		CCR 1007-3, Part 273, including:
700		(1) Pattorios
701 702		(1) Batteries;
702		

703		(2) Pesticides;
704		
705		(3) Mercury-containing devices;
706		
707		(4) Aerosol cans;
708		
709		(5) Lamps (light bulbs); and
710		
711		(6) Electronic devices.
712		
713	w.	<u>Universal Waste Handler</u> – For the purposes of this suborder, a generator of universal waste.
714		
715	х.	<u>Used Oil</u> – Engine, hydraulic, lubricating or pump oils that are no longer wanted or have
716		been rendered unusable following use for the purposes listed above.
717		
718	y.	<u>Very Small Quantity Generator</u> – A hazardous waste generator generating less than 100 kg of
719		hazardous waste and less than 1 kg of acute hazardous waste in any calendar month, formerly
720		identified as a conditionally-exempt small quantity generator;
721		
722	z.	WWV/WWVB – NIST broadcast facility near Fort Collins, Colorado
723		
724		
724 725	8.	ACRONYMS
		ACRONYMS ronyms common to all NIST Environmental suborders can be found in Section 7 of NIST O
725	Ac	
725 726	Ac	ronyms common to all NIST Environmental suborders can be found in Section 7 of NIST O
725 726 727	Ac 73	ronyms common to all NIST Environmental suborders can be found in Section 7 of NIST O
725 726 727 728	Ac 73	ronyms common to all NIST Environmental suborders can be found in Section 7 of NIST O 01-00. The acronyms specific to this suborder are as follows:
725 726 727 728 729	Ac 730 a.	ronyms common to all NIST Environmental suborders can be found in Section 7 of NIST O 01-00. The acronyms specific to this suborder are as follows:
725 726 727 728 729 730	Ac 730 a.	ronyms common to all NIST Environmental suborders can be found in Section 7 of NIST O 01-00. The acronyms specific to this suborder are as follows: <u>BRC</u> – Boulder Revised Code
725 726 727 728 729 730 731	Ac 730 a. b.	ronyms common to all NIST Environmental suborders can be found in Section 7 of NIST O 01-00. The acronyms specific to this suborder are as follows: <u>BRC</u> – Boulder Revised Code
725 726 727 728 729 730 731 732	Ac 730 a. b.	ronyms common to all NIST Environmental suborders can be found in Section 7 of NIST O 01-00. The acronyms specific to this suborder are as follows: <u>BRC</u> – Boulder Revised Code <u>BSHED</u> – Boulder Safety, Health, and Environment Division
725 726 727 728 729 730 731 732 733	Ac 730 a. b. c.	ronyms common to all NIST Environmental suborders can be found in Section 7 of NIST O 01-00. The acronyms specific to this suborder are as follows: <u>BRC</u> – Boulder Revised Code <u>BSHED</u> – Boulder Safety, Health, and Environment Division
725 726 727 728 729 730 731 732 733 733	Ac 730 a. b. c.	ronyms common to all NIST Environmental suborders can be found in Section 7 of NIST O 01-00. The acronyms specific to this suborder are as follows: <u>BRC</u> – Boulder Revised Code <u>BSHED</u> – Boulder Safety, Health, and Environment Division <u>CCR</u> – Code of Colorado Regulations
725 726 727 728 729 730 731 731 732 733 734 735	Ac 730 a. b. c. d.	ronyms common to all NIST Environmental suborders can be found in Section 7 of NIST O 01-00. The acronyms specific to this suborder are as follows: <u>BRC</u> – Boulder Revised Code <u>BSHED</u> – Boulder Safety, Health, and Environment Division <u>CCR</u> – Code of Colorado Regulations
725 726 727 728 729 730 731 732 733 734 735 736	Ac 730 a. b. c. d.	ronyms common to all NIST Environmental suborders can be found in Section 7 of NIST O 01-00. The acronyms specific to this suborder are as follows: <u>BRC</u> – Boulder Revised Code <u>BSHED</u> – Boulder Safety, Health, and Environment Division <u>CCR</u> – Code of Colorado Regulations <u>CDPHE</u> – Colorado Department of Public Health and Environment
725 726 727 728 729 730 731 732 733 734 735 736 737	Ac 730 a. b. c. d.	ronyms common to all NIST Environmental suborders can be found in Section 7 of NIST O 01-00. The acronyms specific to this suborder are as follows: <u>BRC</u> – Boulder Revised Code <u>BSHED</u> – Boulder Safety, Health, and Environment Division <u>CCR</u> – Code of Colorado Regulations <u>CDPHE</u> – Colorado Department of Public Health and Environment
725 726 727 728 729 730 731 732 733 734 735 736 737 738	Acc 730 a. b. c. d. e.	ronyms common to all NIST Environmental suborders can be found in Section 7 of NIST O 01-00. The acronyms specific to this suborder are as follows: <u>BRC</u> – Boulder Revised Code <u>BSHED</u> – Boulder Safety, Health, and Environment Division <u>CCR</u> – Code of Colorado Regulations <u>CDPHE</u> – Colorado Department of Public Health and Environment <u>CFR</u> – Code of Federal Regulations
725 726 727 728 729 730 731 732 733 734 735 736 737 738 739	Acc 730 a. b. c. d. e.	ronyms common to all NIST Environmental suborders can be found in Section 7 of NIST O 01-00. The acronyms specific to this suborder are as follows: <u>BRC</u> – Boulder Revised Code <u>BSHED</u> – Boulder Safety, Health, and Environment Division <u>CCR</u> – Code of Colorado Regulations <u>CDPHE</u> – Colorado Department of Public Health and Environment <u>CFR</u> – Code of Federal Regulations

743 744	h.	DoC – United States Department of Commerce
745	i.	<u>EPA</u> – United States Environmental Protection Agency
746	1.	<u>Err</u> Onited States Environmental Protection Agency
747	į.	ESC – Executive Safety Committee
748	5	
749	k.	<u>GSA</u> – General Services Administration
750		
751	1.	<u>kg</u> – kilogram
752		
753	m.	<u>LQG</u> – Large Quantity Generator
754		
755	n.	<u>nm</u> – nanometer
756		
757	0.	<u>NIST</u> – National Institute of Standards and Technology
758		
759	p.	<u>NOAA</u> – National Oceanic and Atmospheric Administration
760		
761	q.	<u>NTIA</u> – National Telecommunications and Information Agency
762 763	r.	OFPM – NIST Office of Facilities and Property Management
764	1.	<u>OFT M</u> – NIST Office of Pacifices and Property Management
765	s.	OSHE – Office of Safety, Health, and Environment
766	5.	
767	t.	OU – Organizational Unit
768		
769	u.	<u>PCB</u> – Polychlorinated Biphenyl
770		
771	v.	<u>RCRA</u> – Resource Conservation and Recovery Act
772		
773	w.	<u>SAA</u> – Satellite Accumulation Area
774		
775	X.	<u>SQG</u> – Small Quantity Generator
776		
777	у.	<u>TSCA</u> – Toxic Substances Control Act
778		
779	z.	<u>TSDF</u> – Treatment, Storage or Disposal Facility
780	_	
781 782	aa.	<u>VSQG</u> – Very Small Quantity Generator, previously identified as Conditionally-Exempt
782		Small Quantity Generator

783 9. **RESPONSIBILITIES**

784	Ro	les and responsibilities common to all NIST OSH suborders can be found in Section 8 of NIST
785	0	7301-00. The roles and responsibilities specific to this suborder are as follows:
786		
787	a.	Chief Safety Officer is responsible for:
788		
789		As NIST's designated Environmental Manager, the CSO is responsible for overseeing
790		NIST's efforts in complying with the requirements identified in this suborder.
791		
792	b.	<u>OU Directors</u> are responsible for:
793		
794		(1) Establishing implementing policies and procedures, as needed, for the requirements of
795		this suborder to be met;
796		
797		(2) Ensuring subordinate managers have the authority, resources, and training needed to
798		implement OU-established policies and procedures; and
799		
800		(3) Using OU funds to pay any civil penalties identified in regulatory inspections and
801		resulting from regulatory violations in their respective OUs.
802		
803	c.	Division Chiefs and Group Leaders are responsible for:
804		
805		(1) Implementing this suborder as it applies to activities involving their employees and
806		associates and space in accordance with any applicable OU-established policies and
807		procedures;
808		
809		(2) Ensure that hazardous, universal, TSCA, used oil and other waste covered under this
810		suborder are generated are handled in compliance with 6 CCR 1007-3 via compliance
811		with this suborder;
812		
813		(3) Ensure that all SAAs owned by the division or group are inspected on a weekly basis;
814		
815		(4) Ensure that regulatory inspectors are provided access to areas under their supervision;
816		
817		(5) Upon receiving inspection reports on their respective workplaces, ensure that corrective
818		actions are performed;
819		
820		(6) Make available to inspectors all relevant information which pertains to the generation and
821		management of hazardous waste in the workplace to be inspected; and
822		

823 824		(7) Ensure that deficiencies or violations resulting from regulatory inspections of areas operated by that OU are addressed in the timeframe required by the regulatory agency.
825		
826	d.	Satellite Accumulation Area Owners are responsible for:
827		
828		(1) Ensuring that all individuals that use the SAA are properly trained;
829		
830		(2) Ensuring that SAAs owned by that SAA owner are inspected on a weekly basis;
831		
832		(3) Take corrective actions to address inspection findings;
833		
834		(4) Ensure that requests for waste pickup are submitted when containers are full; and
835		(5) Directing any questions recording the horande of a wester or more headling of a shoreign
836		(5) Directing any questions regarding the hazards of a waste or proper handling of a chemical waste during the generation and accumulation to OSUE
837 838		waste during the generation and accumulation to OSHE.
839	6	Employees and Associates Handling or Generating Hazardous Waste are responsible for:
840	C.	Employees and Associates Handning of Ocherating Hazardous waste are responsible for.
841		(1) Completing the training required by this program and their OUs/divisions and working in
842		accordance with that training;
843		accordance with that training,
844		(2) Ensure that hazardous, universal, TSCA-regulated wastes and used oil generated are
845		handled in compliance with their training, this suborder and 6 CCR 1007-3;
846		
847		(3) Knowing the hazards of the chemical waste in their work area;
848		
849		(4) Request assistance from OSHE with waste determinations, handling procedures, satellite
850		accumulation area management;
851		
852		(5) Request disposal of waste when containers in a SAA are 90% full or when a container is
853		declared to be waste if not in a SAA;
854		
855		(6) Notify their supervisor and the appropriate SAA Owner of any conditions which are
856		unsafe or not in compliance with 6 CCR 1007-3;
857		
858		(7) Report releases of chemicals in accordance with NIST Boulder Accidental Hazardous
859		Material Release Reporting Procedure;
860		
861		(8) Cooperate fully during the conduct of SAA and regulatory inspections; and
862		

863 864		(8) Correct deficiencies identified in SAA or regulatory inspections.
865 866	f.	Emergency Coordinator is responsible for:
867 868		(1) Ensure that Occupant Emergency Plan is followed during any emergency response;
869 870		(2) Inform the DoC Boulder Labs Boulder Board of Directors of the emergency and the nature of the response; and
871 872		(3) Review reports of releases submitted to regulatory agencies.
873		
874 875	g.	NIST Chief Facilities Management Officer (CFMO)
876 877		(1) Ensure that excess property and OFPM-owned equipment containing universal waste is managed in a manner that complies with this suborder, including:
878		
879		(a) Electronic equipment handled as excess property is handled to prevent releases to the
880 881		environment or other hazards and transferred to the General Services Administration;
881 882 883		(b) Fluorescent light tubes used in overhead fixtures (4', 6' and 8' tubes) are managed for return to the vendor;
884		
885 886		(c) Batteries are removed from excess equipment and managed as universal waste; and
887 888		(d) Collection of batteries removed from excess property or OFPM-owned equipment is requested using the Chemical Waste Pickup Request System.
889 890 891	g.	BSHED Chemical Waste Accumulation and Disposal Program Manager is responsible for:
892		(1) Serve as the contracting officer representative for the contract providing hazardous waste
893		management, accumulation and disposal services;
894		
895 896		(2) Provide support to DoC Boulder Laboratories employees and associates, including:
897 898		(a) Waste determinations;
898 899		(b) Providing waste labels;
900		
901 902		(c) Providing templates for SAA signage and related materials;

903	(d) Guidance related to the handling of hazardous wastes;
904	(a) Assisting DeC Devilder Lebersteries employees and essessinter with leasting most
905	(e) Assisting DoC Boulder Laboratories employees and associates with locating waste
906	containers suitable for containing the waste that has been generated;
907	(A) Drivering issues with the week based visions request system to the ettention of the
908	(f) Bringing issues with the web-based pickup request system to the attention of the
909	OSHE Web Development Team;
910	(a) Descriding minted wests mislaw requests to contractor analogies and essections and
911	(g) Providing printed waste pickup requests to contractor employees and associates; and
912	(b) Ensuring that DSUED has adapted waste containers and shill control materials on
913	(h) Ensuring that BSHED has adequate waste containers and spill control materials on hand.
914 015	nano.
915 916	(3) Develop and maintain SAA signage, emergency contact list templates and inspection
910 917	checklists. Templates are provided in Appendices B through E;
918	checknists. Templates are provided in Appendices D through E,
918 919	(4) Perform periodic inspections of SAAs to verify compliance with applicable regulations;
920	(4) I choim periodic inspections of SAAs to verify compliance with applicable regulations,
921	(5) Track inspection results;
922	(b) There inspection results,
923	(6) Report inspection findings to the BSHED Chief;
924	(c) report inspection mange to the Doright emery
925	(7) Compile, analyze, and report inspection data periodically at the direction of the CSO; and
926	
927	(8) Accompany regulatory agency representatives during inspections.
928	
929	
930	10. AUTHORITIES
931	Authorities common to all NIST OSH suborders can be found in Section 9 of NIST O 7301-00.
932	The authorities specific to this suborder are as follows:
933	
934	a. <u>The BSHED Chemical Waste Accumulation and Disposal Program Manager</u> is authorized to:
935	
936	(1) Inspect SAAs during regular working hours and at other reasonable times, and within
937	reasonable limits and in a reasonable manner;
938	
939	(2) Consult with a reasonable number of employees during the SAA inspection;
940	
941	(3) Question privately any worker, supervisor, or manager in charge of the workspace; and
942	

943	(4) Deny the right of accompaniment to any person whose participation interferes with a fair
944	and orderly inspection.
945	
946	
947	11. DIRECTIVE OWNER
948	Chief Safety Officer
949	
950	
951	12. APPENDICES
952	a. Revision History
953	
954	b. SAA Owner Inspection Checklist
955	
956	c. SAA Signage
957	
958	d. Emergency Contact Sheet
959	
960	e. BSHED SAA Inspection Checklist
961	

962	Appendix A. Revision History			
963				
	Revision	Approval Date	Effective Date	Description of Change

0	01/12/2021	NA	None – Initial document
	01/12/2021	NA 06/30/2023	 None – Initial document Numerous locations – "Personnel" changed to "employees and associates". Section 5 – Added references for NIST S 7201.02 and NIST S 7301.03. Section 6.b(1)(a) through (j) – updated content for classifying chemical waste. Section 6.c(3)(b) – Added v. for requirement to post emergency contact information at SAA locations. Section 6.c(3)(e) – Added i. indicating the SAA owner is the person responsible for generating the waste. Section 6.c(4)(b) – Modified the limits from "1 liter" to "1 quart (liquid" or 1 kg (solid)". Section 6.c(6) – Added trequirement for minimum distance around SAA. Section 6.d(5)(e) – Added that section 6.b(1) should be reviewed for classifications/definitions of waste. Section 6.h – Removed the option to email for waste pick-up. Section 6.j – Added requirement for line management and DSRs who have staff generating or handling waste should complete the suborder training. Section 6.1 – Added requirement to contact supervisor in the event of spill or release. Section 7 – Added definitions for biohazardous waste and sharps. Section 9 – Added to responsibilities for SAA Owner (d), Employees and Associates (e), Emergency Coordinator (f), and NIST CFMO (g). NOTE: Effective date was originally TBD due to the COVID-19 pandemic. It was updated on 4/17/23.

966 Appendix B. SAA Owner Inspection Checklist 967 968 SAA owner inspection checklist.

971	Appendix C. SAA Signage
972	
973	
	SAA Signage.pptx
974	

975	Appendix D. Emergency Contact Sheet
976	
977	
	Boulder Chemical
978	Release Emergency (
979	
980	

Appendix E. BSHED SAA Inspection Checklist



984

981 982 983