

1 15A NCAC 11 .0352 is proposed for amendment as follows:

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3 **15A NCAC 11 .0352 EMERGENCY PLANS**

4 (a) Each application to possess radioactive materials in unsealed form, on foils or plated sources, or sealed in glass
5 in excess of the quantities in the table in Subparagraph (e)(1) of this Rule must contain either:

- 6 (1) an evaluation showing that the maximum dose to a person off-site due to a release of radioactive
7 materials would not exceed one rem effective dose equivalent or five rems to the thyroid; or
8 (2) an emergency plan for responding to a release of radioactive material.

9 (b) ~~One or more of the~~ The following factors may be used to support an evaluation submitted under Subparagraph
10 (a)(1) of this Rule:

- 11 (1) the radioactive material is physically separated so that only a portion could be involved in an
12 accident;
13 (2) all or part of the radioactive material is not subject to release during an accident because of the
14 way it is stored or packaged;
15 (3) the release fraction in the respirable size range would be lower than the release fraction shown in
16 Subparagraph (e)(1) of this Rule due to the chemical or physical form of the material;
17 (4) the solubility of the radioactive material would reduce the dose received;
18 (5) facility design or engineered safety features in the facility would cause the release fraction to be
19 lower than shown in Subparagraph (e)(1) of this Rule; and
20 (6) operating restrictions or procedures would prevent a release fraction as large as that shown in
21 Subparagraph (e)(1) of this Rule; or
22 (7) ~~other~~ factors appropriate for the specific facility.

23 (c) An emergency plan for responding to a release of radioactive material submitted under Subparagraph (a)(2) of
24 this Rule must include the following information:

- 25 (1) ~~brief~~ description of the licensee's facility and potentially impacted area near the site;
26 (2) identification of each type of radioactive materials accident for which protective actions may be
27 needed;
28 (3) classification system for classifying accidents as alerts or site area emergencies;
29 (4) identification of the means of detecting each type of accident in a timely manner quickly enough
30 to mitigate off-site consequences;
31 (5) ~~brief~~ description of the means and equipment for mitigating the consequences of each type of
32 accident, including those provided to protect workers on-site, and a description of the program for
33 maintaining the equipment;
34 (6) ~~brief~~ description of the methods and equipment to assess releases of radioactive materials;
35 (7) ~~brief~~ description of the responsibilities of licensee personnel, should an accident occur, including
36 identification of personnel responsible for ~~promptly~~ notifying off-site response organizations and
37 the agency, and responsibilities for developing, maintaining, and updating the plan;

- 1 (8) ~~brief~~ description of notification and coordination, to include a commitment to and a brief
2 description of the means to ~~promptly~~ notify off-site response organizations and request off-site
3 assistance, including medical assistance for the treatment of contaminated injured on-site workers
4 when appropriate, provided that:
- 5 (A) a control point ~~shall be~~ is established;
 - 6 (B) the notification and coordination ~~shall be~~ is planned so that unavailability of some
7 personnel, parts of the facility, and some equipment will not prevent the notification and
8 coordination;
 - 9 (C) the licensee ~~shall also commit~~ commits to notify the agency ~~immediately~~ after
10 notification of the appropriate off-site response organizations, ~~not to exceed~~ within one
11 hour after the licensee declares an emergency; and
 - 12 (D) the reporting requirements in Subparagraph (c)(8) of this Rule do not substitute for or
13 relieve the licensee from responsibility for complying with the requirements in the
14 Emergency Planning and Community Right-to-Know Act of 1986, Title III, Public Law
15 99-499 or other state or federal reporting requirements;
- 16 (9) ~~brief~~ description of the types of information on facility status, radioactive releases, and
17 recommended protective actions, if necessary, to be given to off-site response organizations and to
18 the agency;
- 19 (10) ~~brief~~ description of the frequency, performance objectives and plans for the training that the
20 licensee will provide workers on how to respond to an emergency, including any ~~special~~
21 instructions and orientation tours the licensee would offer to fire, police, medical and other
22 emergency personnel, where such training shall:
- 23 (A) familiarize personnel with site-specific emergency procedures; and
 - 24 (B) ~~thoroughly~~ prepare site personnel for their responsibilities in the event of accident
25 scenarios postulated as most probable for the specific site, including the use of team
26 training for such scenarios;
- 27 (11) ~~brief~~ description of the means of restoring the facility to a safe condition after an accident;
- 28 (12) ~~brief~~ description of provisions for conducting quarterly communications checks with off-site
29 response organizations and biennial on-site exercises to test response to simulated emergencies
30 where such provisions ~~shall~~ meet the following ~~specific~~ requirements:
- 31 (A) quarterly communications checks with off-site response organizations ~~shall~~ include the
32 check and update of all necessary telephone numbers;
 - 33 (B) while participation of off-site response organizations in biennial exercises is ~~encouraged~~
34 ~~but~~ not required, ~~the licensee shall~~ invite off-site response organizations to participate in
35 the biennial exercises;
 - 36 (C) accident scenarios for biennial exercises ~~shall not be~~ are not known to most exercise
37 participants;

1 (D) ~~the licensee shall~~ critique of each exercise using individuals who do not have direct
2 implementation responsibility for the plan; ~~and~~

3 (E) critiques of exercises ~~shall~~ evaluate the appropriateness of the plan, emergency
4 procedures, facilities, equipment, training of personnel, and overall effectiveness of the
5 response; and

6 (F) deficiencies found by the critiques in Part (c)(12)(E) of this Rule ~~shall be~~ are corrected;
7 and

8 (13) certification that the applicant has met its responsibilities under the Emergency Planning and
9 Community Right-to-Know Act of 1986, Title III, Public Law 99-499, if applicable to the
10 applicant's activities at the proposed place of use of the radioactive material.

11 (d) The licensee shall allow the off-site response organizations expected to respond in case of an accident 60 days to
12 comment on the licensee's emergency plan before submitting it to the agency. The licensee shall provide any
13 comments received within the 60 day comment period to the agency with the emergency plan.

14 (e) Quantities of radioactive material requiring ~~consideration of the need for~~ an emergency plan for responding to a
15 release as used in this Rule and ~~special~~ instructions for use are:

16 (±) TABLE

18 RADIOACTIVE MATERIAL	19 RELEASE FRACTION	20 QUANTITY (CURIES)
21 Actinium-228	0.001	4,000
22 Americium-241	.001	2
23 Americium-242	0.01 <u>0.001</u>	2
24 Americium-243	.001	2
25 Antimony-124	.01	4,000
26 Antimony-126	.01	6,000
27 Barium-133	.01	10,000
28 Barium-140	.01	30,000
29 Bismuth-207	.01	5,000
30 Bismuth-210	.01	600
31 Cadmium-109	.01	1,000
32 Cadmium-113	.01	80
33 Calcium-45	.01	20,000
34 Californium-252	.001	9 (20 mg)
35 Carbon-14 (NON CO) <u>(NON CO₂)</u>	.01	50,000
36 Cerium-141	.01	10,000
37 Cerium-144	.01	300
Cesium-134	.01	2,000

1	Cesium-137	.01	3,000
2	Chlorine-36	.5	100
3	Chromium-51	.01	300,000
4	Cobalt-60	.001	5,000
5	Copper-64	.01	200,000
6	Curium-242	.001	60
7	Curium-243	.001	3
8	Curium-244	.001	4
9	Curium-245	.001	2
10	Europium-152	.01	500
11	Europium-154	.01	400
12	Europium-155	.01	3,000
13	Germanium-68	.01	2,000
14	Gadolinium-153	.01	5,000
15	Gold-198	.01	30,000
16	Hafnium-172	.01	400
17	Hafnium-181	.01	7,000
18	Holmium-166 m	.01	100
19	Hydrogen-3	.5	20,000
20	Iodine-125	.5	10
21	Iodine-131	.5	10
22	Indium-114 m	.01	1,000
23	Iridium-192	.001	40,000
24	Iron-55	.01	40,000
25	Iron-59	.01	7,000
26	Krypton-85	1.0	6,000,000
27	Lead-210	.01	8
28	Manganese-56	.01	60,000
29	Mercury-203	.01	10,000
30	Molybdenum-99	.01	30,000
31	Neptunium-237	.001	2
32	Nickel-63	.01	20,000
33	Niobium-94	.01	300
34	Phosphorus-32	.5	100
35	Phosphorus-33	.5	1,000
36	Polonium-210	.01	10
37	Potassium-42	.01	9,000

1	Promethium-145	.01	4,000
2	Promethium-147	.01	4,000
3	Ruthenium-106	.01	200
4	Samarium-151	.01	4,000
5	Scandium-46	.01	3,000
6	Selenium-75	.01	10,000
7	Silver-110 m	.01	1,000
8	Sodium-22	.01	9,000
9	Sodium-24	.01	10,000
10	Strontium-89	.01	3,000
11	Strontium-90	.01	90
12	Sulfur-35	.5	900
13	Technetium-99	.01	10,000
14	Technetium-99 m	.01	400,000
15	Tellurium-127 m	.01	5,000
16	Tellurium-129 m	.01	5,000
17	Terbium-160	.01	4,000
18	Thulium-170	.01	4,000
19	Tin-113	.01	10,000
20	Tin-123	.01	3,000
21	Tin-126	.01	1,000
22	Titanium-44	.01	100
23	Vanadium-48	.01	7,000
24	Xenon-133	1.0	900,000
25	Yttrium-91	.01	2,000
26	Zinc-65	.01	5,000
27	Zirconium-93	.01	400
28	Zirconium-95	.01	5,000
29	Any other beta-gamma emitter	.01	10,000
30	Mixed fission products	.01	1,000
31	Mixed corrosion products	.01	10,000
32	Contaminated equipment beta-gamma	.001	10,000
33	Irradiated material, any form		
34	other than solid noncombustible	.01	1,000
35	Irradiated material, solid		
36	Noncombustible	.001	10,000
37	Mixed radioactive waste		

1	beta-gamma	.01	1,000
2	Packaged mixed waste, beta-gamma	.001	10,000
3	Any other alpha emitter	.001	2
4	Contaminated equipment, alpha	.0001	20
5	Packaged waste, alpha	.0001	20

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7 ~~(2)(f)~~ For combinations of radioactive materials, ~~consideration of the need for~~ an emergency plan is required if the
8 sum of the ratios of the quantity of each radioactive material authorized to the quantity listed for that material
9 in the table in Subparagraph (e)(1) of this Rule exceeds one.

10 ~~(3)(g)~~ Waste packaged in Type B containers, as defined in 10 CFR Part 71.4, does not require an emergency plan.

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12 *History Note: Authority G.S. 104E-7; 104E-18;*
13 *Eff. May 1, 1992;*
14 *Amended Eff. October 1, 2013; May 1, 1993; October 1, 1992.*