

1 15A NCAC 11 .0352 is amended with changes as published in NCR 27:22, pp. 2031-2073, 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~~ shall be used to support an evaluation submitted under
10 Subparagraph (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) the facility design or engineered safety features in the facility would cause the release fraction to
19 be lower than shown in Subparagraph (e)(1) of this Rule; and
20 (6) the 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~~ the 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 a~~ description of the licensee's facility and potentially impacted area; area near the site;
26 (2) the identification of each type of radioactive materials accident for which protective actions may
27 be needed;
28 (3) the classification system for classifying accidents as alerts or site area emergencies;
29 (4) the identification of the means of detecting each type of accident in a timely manner quickly
30 enough to mitigate off-site consequences;
31 (5) ~~brief a~~ 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 a~~ description of the methods and equipment to assess releases of radioactive materials;
35 (7) ~~brief a~~ 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~~ a 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, needed,~~ 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 this Subparagraph ~~(e)(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~~ 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 to workers on how to respond to an emergency, including any ~~special~~
21 instructions and orientation tours the licensee ~~would offer~~ offers 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;

(D) ~~the licensee shall~~ critique of each exercise using individuals who do not have direct implementation responsibility for the plan, plan; and Critiques of exercises evaluate the appropriateness of the plan, emergency procedures, facilities, equipment, training of personnel, and overall effectiveness of the response; and

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

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

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

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

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

(+) TABLE

RADIOACTIVE MATERIAL	RELEASE FRACTION	QUANTITY (CURIES)
Actinium-228	0.001	4,000
Americium-241	.001	2
Americium-242	0.01 <u>0.001</u>	2
Americium-243	.001	2
Antimony-124	.01	4,000
Antimony-126	.01	6,000
Barium-133	.01	10,000
Barium-140	.01	30,000
Bismuth-207	.01	5,000
Bismuth-210	.01	600
Cadmium-109	.01	1,000
Cadmium-113	.01	80
Calcium-45	.01	20,000
Californium-252	.001	9 (20 mg)
Carbon-14 (NON CO) <u>(NON CO₂)</u>	.01	50,000

1	Cerium-141	.01	10,000
2	Cerium-144	.01	300
3	Cesium-134	.01	2,000
4	Cesium-137	.01	3,000
5	Chlorine-36	.5	100
6	Chromium-51	.01	300,000
7	Cobalt-60	.001	5,000
8	Copper-64	.01	200,000
9	Curium-242	.001	60
10	Curium-243	.001	3
11	Curium-244	.001	4
12	Curium-245	.001	2
13	Europium-152	.01	500
14	Europium-154	.01	400
15	Europium-155	.01	3,000
16	Germanium-68	.01	2,000
17	Gadolinium-153	.01	5,000
18	Gold-198	.01	30,000
19	Hafnium-172	.01	400
20	Hafnium-181	.01	7,000
21	Holmium-166m <u>Holmium-166m</u>	.01	100
22	Hydrogen-3	.5	20,000
23	Iodine-125	.5	10
24	Iodine-131	.5	10
25	Indium-114m <u>Iodine-114m</u>	.01	1,000
26	Iridium-192	.001	40,000
27	Iron-55	.01	40,000
28	Iron-59	.01	7,000
29	Krypton-85	1.0	6,000,000
30	Lead-210	.01	8
31	Manganese-56	.01	60,000
32	Mercury-203	.01	10,000
33	Molybdenum-99	.01	30,000
34	Neptunium-237	.001	2
35	Nickel-63	.01	20,000
36	Niobium-94	.01	300
37	Phosphorus-32	.5	100

1	Phosphorus-33	.5	1,000
2	Polonium-210	.01	10
3	Potassium-42	.01	9,000
4	Promethium-145	.01	4,000
5	Promethium-147	.01	4,000
6	<u>Radium-226</u>	<u>.001</u>	<u>100</u>
7	Ruthenium-106	.01	200
8	Samarium-151	.01	4,000
9	Scandium-46	.01	3,000
10	Selenium-75	.01	10,000
11	<u>Silver-110 m</u> <u>Silver-110m</u>	.01	1,000
12	Sodium-22	.01	9,000
13	Sodium-24	.01	10,000
14	Strontium-89	.01	3,000
15	Strontium-90	.01	90
16	Sulfur-35	.5	900
17	Technetium-99	.01	10,000
18	<u>Technetium-99 m</u> <u>Technetium-99m</u>	.01	400,000
19	<u>Tellurium-127 m</u> <u>Tellurium-127m</u>	.01	5,000
20	<u>Tellurium-129 m</u> <u>Tellurium-129m</u>	.01	5,000
21	Terbium-160	.01	4,000
22	Thulium-170	.01	4,000
23	Tin-113	.01	10,000
24	Tin-123	.01	3,000
25	Tin-126	.01	1,000
26	Titanium-44	.01	100
27	Vanadium-48	.01	7,000
28	Xenon-133	1.0	900,000
29	Yttrium-91	.01	2,000
30	Zinc-65	.01	5,000
31	Zirconium-93	.01	400
32	Zirconium-95	.01	5,000
33	Any other beta-gamma emitter	.01	10,000
34	Mixed fission products	.01	1,000
35	Mixed corrosion products	.01	10,000
36	Contaminated equipment beta-gamma	.001	10,000
37	Irradiated material, any form		

1	other than solid noncombustible	.01	1,000
2	Irradiated material, solid		
3	Nonecombustible <u>noncombustible</u>	.001	10,000
4	Mixed radioactive waste		
5	beta-gamma	.01	1,000
6	Packaged mixed waste, beta-gamma	.001	10,000
7	Any other alpha emitter	.001	2
8	Contaminated equipment, alpha	.0001	20
9	Packaged waste, alpha	.0001	20

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

14 ~~(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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16 *History Note:* Authority G.S. 104E-7; 104E-18; 10 CFR 30.72;
17 Eff. May 1, 1992;
18 Amended Eff. October 1, 2013; May 1, 1993; October 1, 1992.