1		TITLE 32: ENERGY
2		CHAPTER II: ILLINOIS EMERGENCY MANAGEMENT AGENCY
3		SUBCHAPTER b: RADIATION PROTECTION
4		
5		PART 330
6		LICENSING OF RADIOACTIVE MATERIAL
7		
8		SUBPART A: GENERAL PROVISIONS
9		
10	Section	
11	330.10	Purpose and Scope
12	330.15	Incorporations by Reference
13	330.20	Definitions
14	330.30	License Exemption – Source Material
15	330.40	License Exemption – Radioactive Materials Other Than Source Material
16		-
17		SUBPART B: TYPES OF LICENSES
18		
19	Section	
20	330.200	Types of Licenses
21	330.210	General Licenses – Source Material
22	330.220	General Licenses – Radioactive Material Other Than Source Material
23		
24		SUBPART C: SPECIFIC AND GENERAL LICENSES
25		
26	Section	
27	330.240	Filing Applications for Specific Licenses
28	330.250	General Requirements for the Issuance of Specific Licenses
29	330.260	Special Requirements for Issuance of Certain Specific Licenses for Radioactive
30		Materials
31	330.270	Special Requirements for Specific Licenses of Broad Scope
32	330.280	Special Requirements for a Specific License to Manufacture, Assemble, Repair,
33		or Distribute Commodities, Products, or Devices that Contain Radioactive
34		Material
35	330.290	Requirements for Emergency Plans
36	330.300	Issuance of Specific Licenses
37	330.310	Terms and Conditions of Specific and General Licenses
38	330.320	Renewal Requirements for Specific Licenses
39	330.325	Termination Requirements for Specific Licenses and Locations of Use
40	330.330	Renewal of Licenses (Repealed)
41	330.340	Amendment of Licenses at Request of Licensee
42	330.350	Agency Action on Application to Renew or Amend
43	330.360	Persons Possessing a License for Source, Byproduct, or Special Nuclear Material

44		in Quanti	ties Not Sufficient to Form a Critical Mass on Effective Date of This				
45		Part (Repealed)					
46 47	330.370	Persons Possessing Accelerator-Produced or Naturally-Occurring Radioactive Material on Effective Date of This Part (Repealed)					
48	330.400	Transfer	of Material				
49	330.500	Modifica	tion and Revocation of Licenses				
50	330.900	Reciproc	al Recognition of Licenses				
51	330.950	Nationall	y Tracked Sources				
52			-				
53			SUBPART D: TRANSPORTATION				
54							
55	Section						
56	330.1000	Transpor	tation of Radioactive Materials (Repealed)				
57							
58	330.APPEND	IX A	Exempt Concentrations				
59	330.APPEND	IX B	Exempt Quantities				
60	330.APPEND	IX C	Quantities of Radioactive Materials Requiring Consideration of the				
61			Need for an Emergency Plan for Responding to a Release				
62	330.TA	ABLE A	Group I (Repealed)				
63	330.TA	ABLE B	Group II (Repealed)				
64	330.TA	ABLE C	Group III (Repealed)				
65	330.TA	ABLE D	Group IV (Repealed)				
66	330.TA	ABLE E	Group V (Repealed)				
67	330.TA	ABLE F	Group VI (Repealed)				
68	330.APPEND	IX D	Limits for Licenses of Broad Scope (Section 330.270)				
69 70	330.APPEND	IX E	List of Specialty Board Certifications Recognized by the Agency Until October 24, 2007 (Repealed)				
71	330.APPEND	IX F	Nationally Tracked Source Thresholds				
72	330.APPEND	IX G	Financial Surety Arrangements (Section 330.250(c)(1)(D)) (Repealed)				
73	330.APPEND	IX H	Wording of Financial Surety Arrangements (Section 330.250(c)(1)(E))				
74			(Repealed)				
75							
76	AUTHORITY	: Implem	enting and authorized by the Radiation Protection Act of 1990 [420				
77	ILCS 40].						
78							
79	SOURCE: Fi	led April 2	20, 1974, by the Department of Public Health; transferred to the				
80	Department of Nuclear Safety by P.A. 81-1516, effective December 3, 1980; amended at 5 Ill.						
81	Reg. 9586, eff	ective Sep	tember 10, 1981; codified at 7 Ill. Reg. 17492; recodified at 10 Ill. Reg.				
82	11268; amend	ed at 10 Il	l. Reg. 17315, effective September 25, 1986; amended at 15 Ill. Reg.				
83	10632, effecti	ve July 15	, 1991; amended at 18 Ill. Reg. 5553, effective March 29, 1994;				
84	emergency an	nendment a	at 22 Ill. Reg. 6242, effective March 18, 1998, for a maximum of 150				
85	days; amended	d at 22 Ill.	Reg. 14459, effective July 27, 1998; amended at 24 Ill. Reg. 8042,				

effective June 1, 2000; amended at 27 Ill. Reg. 5426, effective March 17, 2003; recodified from

87 the Department of Nuclear Safety to the Illinois Emergency Management Agency at 27 Ill. Reg. 88 13641; amended at 30 III. Reg. 8928, effective April 28, 2006; amended at 32 III. Reg. 6462, 89 effective April 7, 2008; amended at 32 Ill. Reg. 9199, effective June 13, 2008; amended at 33 Ill. 90 Reg. 4918, effective March 23, 2009; amended at 35 Ill. Reg. 2931, effective February 7, 2011; 91 amended at 35 Ill. Reg. 3969, effective February 28, 2011; emergency amendment at 35 Ill. Reg. 92 5654, effective March 21, 2011, for a maximum of 150 days; amended at 35 Ill. Reg. 9009, 93 effective June 2, 2011; amended at 37 Ill. Reg. 5789, effective April 16, 2013; amended at 37 Ill. 94 Reg. 7960, effective May 31, 2013; amended at 38 Ill. Reg. 21451, effective October 31, 2014; 95 amended at 39 Ill. Reg. 11905, effective August 17, 2015; amended at 39 Ill. Reg. 15706, effective November 24, 2015; amended at 40 Ill. Reg. 12971, effective August 25, 2016; 96 97 amended at 46 Ill. Reg. 866, effective December 21, 2021; amended at 48 Ill. Reg. 13634, 98 effective August 29, 2024; amended at 48 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_ 99 100 SUBPART A: GENERAL PROVISIONS 101 102 Section 330.40 License Exemption – Radioactive Materials Other Than Source Material 103 104 a) **Exempt Concentrations** 105 106 1) Any person is exempt from this Part to the extent that person receives, 107 possesses, uses, transfers, owns or acquires products containing radioactive material introduced in concentrations not in excess of those 108 109 listed in Appendix A provided they have been introduced or transferred as 110 described in subsection (a)(2) or (3). This Section shall not be deemed to authorize the import of radioactive materials or products containing 111 radioactive materials. 112 113 114 2) No person may introduce radioactive material into a product or material 115 knowing or having reason to believe that it will be transferred to persons 116 exempt under subsection (a)(1) or equivalent regulations of the U.S. 117 Nuclear Regulatory Commission (NRC) (10 CFR 30.14) or an Agreement State, except in accordance with a specific license issued pursuant to 118 119 Section 330.280(a). 120 121 3) A manufacturer, processor or producer of a product or material is exempt 122 from the requirements for a license set forth in this Part to the extent that 123 person transfers radioactive material contained in a product or material in 124 concentrations not in excess of those specified in Appendix A and 125 introduced into the product or material by a licensee holding a specific 126 license issued by the Agency expressly authorizing that introduction. This 127 exemption does not apply to the transfer of radioactive material contained in any food, beverage, cosmetic, drug or other commodity or product 128 129 designed for ingestion or inhalation by, or application to, a human being.

131	b)	Exempt Quantities	
132			
133		) Except as restricted by subsections (b)(2) through	(4), any person is
134		exempt from this Part to the extent that person rece	eives, possesses, uses,
135		transfers, owns or acquires radioactive material in	individual quantities
136		each of which does not exceed the applicable quan	tity set forth in
137		Appendix B. Furthermore, any person is exempt fr	om this Part to the
138		extent that person possesses, uses, transfers or own	ns radioactive material
139		that was received or acquired before September 25	, 1971 under the general
140		license then provided by the regulations of the U.S	. Atomic Energy
141		Commission (10 CFR 31.4) or the equivalent regul	lations of an Agreement
142		State.	U
143			
144		AGENCY NOTE: Capsules distributed pursuant t	o 10 CFR 32.21 that
145		contain carbon-14 urea are only authorized for "in-	-vivo" diagnostic use for
146		humans. Any person who desires to use the capsu	les for research
147		involving human subjects shall apply for and recei	ve a specific license
148		from the Agency. Nothing in this Section relieves	persons from
149		complying with applicable Federal and State requi	rements governing
150		receipt, administration and use of drugs.	0 0
151			
152		) This subsection (b) does not authorize the product	on, packaging or
153		repackaging of radioactive material for purposes o	f commercial
154		distribution, or the incorporation of radioactive ma	terial into products
155		intended for commercial distribution.	1
156			
157		) No person may, for purposes of commercial distrib	oution, transfer
158		radioactive material in the individual quantities set	forth in Appendix B,
159		knowing or having reason to believe that such qua	ntities of radioactive
160		material will be transferred to persons exempt und	er this subsection (b) or
161		equivalent regulations of NRC or an Agreement St	ate, except in
162		accordance with a specific license issued by NRC	pursuant to 10 CFR
163		32.18 or 32.21, or by the Agency pursuant to Secti	on 330.280(b), which
164		states that the radioactive material may be transfer	red by the licensee to
165		persons exempt under this subsection (b) or the eq	uivalent regulations of
166		the U.S. Nuclear Regulatory Commission or an As	greement State.
167			·
168		) No person shall, for purposes of producing an incr	eased radiation level,
169		combine quantities of radioactive material covered	by the exemption in
170		subsection $(b)(1)$ so that the aggregate quantity exercise	ceeds the limits set forth
171		in Appendix B, except for radioactive material cor	nbined within a device
172		placed in use before May 3, 1999, or as otherwise	permitted by this Part.

130

173					
174			AGEN	CY NO	TE: Authority to transfer possession or control by the
175			manufa	acturer,	processor, or producer of any equipment, device,
176			commo	odity, or	other product containing byproduct material whose
177			subsea	uent po	ssession, use, transfer and disposal by all other persons are
178			exemp	ted from	regulatory requirements may be obtained only from the
179			U.S. N	uclear F	Regulatory Commission, Washington DC 20555.
180					
181	c)	Exemp	t Items		
182	- /	ſ			
183		1)	Certair	1 Items	Containing Radioactive Material. Except for persons who
184		/	apply r	adioact	ive material to, or persons who incorporate radioactive
185			materia	al into, t	he following products or persons who initially transfer for
186			sale or	distribu	tion the following products, any person is exempt from this
187			Part to	the exte	ent that he or she receives, possesses, uses, transfers, owns
188			or acci	ires the	c following products:
189			01 40 4		
190			AGEN	CY NO	TE: Authority to transfer possession or control by the
191			manufa	acturer.	processor, or producer of any equipment, device.
192			commo	odity, or	other product containing byproduct material whose
193			subsea	uent po	ssession, use, transfer and disposal by all other persons are
194			exemp	ted from	regulatory requirements may be obtained only from the
195			U.S. N	uclear F	Regulatory Commission, Washington DC 20555
196			0.511		
197			A)	Timeni	eces or hands or dials containing not more than the
198			)	followi	ng specified quantities of radioactive material and not
199				exceed	ing the following specified radiation dose rate:
200				eneccu	
201				i)	925 MBa (25 mCi) of tritium per timepiece:
202				-)	y ze miller (ze mier) of andam per americee,
202				ii)	185 MBa (5 mCi) of tritium per hand:
203				11)	The find (a mor) of unum per hand,
205				iii)	555 MBa (15 mCi) of tritium per dial (bezels when used
205				111)	shall be considered as part of the dial).
200					shuh be considered as part of the dial),
208				iv)	3.7 MBa (100 microCi) of promethium-147 per watch or
200				1.,	7 4 MBq (200 microCi) of promethium-147 per water of
210					timeniece:
210					unicproce;
212				V)	740 kBa (20 microCi) of promethium-147 per watch hand
212				•)	or 1 48 MBa (40 microCi) of promethium-147 per water hand
213					timeniece hand.
215					unicproce nuna,
213					

216 217 218 219 220		vi)	2.22 MBq (60 microCi) of promethium-147 per watch dial or 4.44 MBq (120 microCi) of promethium-147 per other timepiece dial (bezels when used shall be considered as part of the dial);
221		vii)	The radiation dose rate from hands and dials containing
222		,	promethium-147 will not exceed, when measured through
223			50 milligrams/square centimeter of absorber: for wrist
224			watches, 1 microGy (100 microrad)/hour at 10 centimeters
225			from any surface; for pocket watches, 1 microGy (100
226			microrad)/hour at 1 centimeter from any surface; for any
227			other timepiece, 2 microGy (200 microrad)/hour at 10
228			centimeters from any surface; or
229			
230		viii)	37 kBq (1 microCi) of radium-226 per timepiece in intact
231			timepieces manufactured prior to November 30, 2007.
232			
233	B)	Precisi	on balances containing not more than 37 MBq (1 mCi) of
234		tritium	per balance or not more than 18.5 MBq (500 microCi) of
235		tritium	per balance part manufactured before December 17, 2007.
236			
237	C)	Marine	compasses containing not more than 27.8 GBq (750 mCi)
238		of tritiu	Im gas and other marine navigational instruments containing
239		not mo	re than 9.25 GBq (250 mCi) of tritium gas manufactured
240		before	December 17, 2007.
241			
242	D)	Electro	on tubes; provided that each tube does not contain more than
243		one of	the following specified quantities of radioactive material:
244			
245		i)	5.55 GBq (150 mCi) of tritium per microwave receiver
246			protector tube or 370 MBq (10 mCi) of tritium per any
247			other electron tube;
248			
249		ii)	37 kBq (1 microCi) of cobalt-60;
250			
251		iii)	185 kBq (5 microCi) of nickel-63;
252			
253		iv)	1.11 MBq (30 microCi) of krypton-85;
254			
255		v)	185 kBq (5 microCi) of cesium-137; or
256			
257		vi)	1.11 MBq (30 microCi) of promethium-147;
258			

259		and provided further, that the radiation dose rate from each
260		electron tube containing radioactive material will not exceed 10
261		microGy (1 mrad)/hour at 1 centimeter from any surface when
262		measured through 7 milligrams/square centimeter of absorber.
263		
264		AGENCY NOTE: For purposes of subsection (c)(1)(D), "electron
265		tubes" include spark gap tubes, power tubes, gas tubes including
266		glow lamps receiving tubes microwave tubes indicator tubes
260		pick-up tubes, radiation detection tubes and any other completely
268		sealed tube that is designed to conduct or control electrical
269		currents
270		
271	E)	Ionizing radiation measuring instruments containing for purposes
271	L)	of internal calibration or standardization one or more sources of
272		radioactive material provided that
273		rudiouetrie material, provided mat.
275		i) Each source contains no more than one exempt quantity set
276		forth in Appendix B: and
270		Torui in Appendix D, und
278		ii) Each instrument contains no more than 10 exempt
279		quantities For purposes of this requirement an
280		instrument's sources may contain one or more radionuclides
281		and an individual exempt quantity may be composed of
282		fractional parts of one or more of the exempt quantities in
283		Appendix B, provided that the sum of the fractions shall
284		not exceed unity
285		not oncood anny.
286		AGENCY NOTE: For purposes of subsection $(c)(1)(E)$ , 1.85 kBa
287		(50  nCi) of americium-241 is considered an exempt quantity.
288		
289	F)	Ionization chamber smoke detectors containing not more than 37
290		kBq (1 microCi) of americium-241 per detector in the form of a
291		foil and designed to protect life and property from fires.
292		
293	G)	Static elimination devices designed for use as static eliminators
294	- /	that contain, as a sealed source or sources, radioactive material
295		consisting of a total of not more than 18.5 MBg (500 microCi) of
296		polonium-210 per device.
297		
298	H)	Ion generating tubes designed for ionization of air that contain, as a
299	,	sealed source or sources, byproduct material consisting of a total of
300		not more than 18.5 MBq (500 µCi) of polonium-210 per device or

301 302			of a total of not more than 1.85 GBq (50 mCi) of hydrogen-3 (tritium) per device.
303			
304		D	Devices described in subsections $(c)(1)(G)$ and $(H)$ authorized
305		/	before October 23, 2015 for use under the general license then
306			provided in Section 330.220(a) and manufactured, tested and
307			labeled by the manufacturer in accordance with the specifications
308			contained in a specific license issued by the Agency or the
309			equivalent regulations of NRC or of an Agreement State.
310			
311	2)	Self-Li	uminous Products Containing Radioactive Material
312	_/		
313		A)	Tritium, Krypton-85 or Promethium-147. Except for persons who
314		)	manufacture, process or produce self-luminous products containing
315			tritium, krypton-85 or promethium-147, any person is exempt from
316			this Part to the extent that person receives, possesses, uses.
317			transfers, owns or acquires tritium, krypton-85 or promethium-147
318			in self-luminous products manufactured, processed, produced.
319			imported or transferred in accordance with a specific license
320			issued by NRC pursuant to 10 CFR 32.22, which authorizes the
321			transfer of the product to persons who are exempt from regulatory
322			requirements. The exemption in this subsection $(c)(2)(A)$ does not
323			apply to tritium krypton-85 or promethium-147 used in products
324			for frivolous purposes or in toys or adornments NRC shall make
325			this determination of exemption
326			
327		B)	Any person who desires to manufacture, process, produce or
328		2)	initially transfer for sale or distribution self-luminous products
329			containing tritium krypton-85 or promethium-147 for use under
330			subsection $(c)(2)(A)$ should apply for a license under 10 CFR
331			32.22 and for a certificate of registration pursuant to 10 CFR
332			32.210 with NRC
333			
334		C)	Radium-226. Any person is exempt from this Part to the extent
335		0)	that person receives possesses uses transfers or owns articles
336			containing less than $3.7 \text{ kBa}$ (100 nCi) of radium-226 that were
337			acquired prior to May 1, 1974.
338			
339	3)	Gas an	d Aerosol Detectors Containing Radioactive Material
340	-,	Cuo un	
341		A)	Except for persons who manufacture process produce or initially
342		)	transfer for sale and distribution gas and aerosol detectors
343			containing radioactive material, any person is exempt from 32 Ill.

344 345 346 347 348 349			Adm. Code: Chapter II, Subchapters b and d to the extent that person receives, possesses, uses, transfers, owns or acquires radioactive material in gas and aerosol detectors designed to protect life or property from fires and airborne hazards. The detectors shall be manufactured, processed, produced or initially transferred in accordance with a specific license issued by NBC
350			pursuant to 10 CFR 32.26 that authorizes transfer of the detectors
357			have been issued a cartificate of registration in accordance with 10
352			CER 32 210 from NRC
354			CFR 52.210 from NRC.
355		B)	Gas and aerosol detectors previously manufactured and distributed
356		D)	to general licensees in accordance with a specific license issued by
357			an Agreement State or a former Licensing State shall be considered
358			exempt under subsection $(c)(3)(A)$ , provided that the device is
359			labeled in accordance with the specific license and provided
360			further that it meets the requirements of 10 CFR 32.26 in effect at
361			the time of distribution. This exemption also covers gas and
362			aerosol detectors manufactured or distributed before November 30,
363			2007, in accordance with a specific license issued by an
364			Agreement State under comparable provisions to NRC's 10 CFR
365			32.26 authorizing distribution to persons exempt from regulatory
366			requirements.
367			
368	4)	Certair	n Industrial Devices
369			
370		A)	Except for persons who manufacture, process, produce or initially
371			transfer for sale or distribution industrial devices containing
372			byproduct material designed and manufactured for the purpose of
373			detecting, measuring, gauging or controlling thickness, density,
374			level, interface location, radiation, leakage or qualitative or
375			quantitative chemical composition, or for producing an ionized
376			atmosphere, any person is exempt from the requirements for a
377			license set forth in Section 81 of the Act and from 32 Ill. Adm.
378			Code: Chapter II, Subchapters b and d to the extent that person
379			receives, possesses, uses, transfers, owns or acquires byproduct
380			material, in these certain detecting, measuring, gauging or
381			controlling devices and certain devices for producing an ionized
382			atmosphere, and manufactured, processed, produced or initially
383			transferred in accordance with a specific license issued under
384			NRC's 10 CFR 32.30, which license authorized the initial transfer
385			of the device for use under this Section. This exemption does not

386				cover sources not incorporated into a device, such as calibration
387				and reference sources.
388				
389			B)	Any person who desires to manufacture, process, produce or
390				initially transfer for sale or distribution industrial devices
391				containing byproduct material for use under subsection $(c)(4)(A)$ ,
392				should apply for a license under 10 CFR 32.30 and for a certificate
393				of registration in accordance with 10 CFR 32.210 from NRC.
394				C
395				AGENCY NOTE: Authority to transfer possession or control by
396				the manufacturer, processor or producer of any equipment, device.
397				commodity or other product containing byproduct material whose
398				subsequent possession, use, transfer and disposal by all other
399				persons are exempted from regulatory requirements may be
400				obtained only from the U.S. Nuclear Regulatory Commission.
401				Washington DC 20555.
402				
403	<u>ط</u>	Exemn	t Materi	ial.
404	u)	Latemp	t materi	
405		1)	Persone	s producing or in possession of residuals or sludge resulting from
406		1)	the trea	tment of water or sewage and containing naturally occurring
407			radium	from groundwater with concentrations of total radium (sum of
408			radium	<u>-226 and radium 228 concentrations) less than or equal to 200</u>
409			nCi/a (	dry weight basis) are exempt from the licensing requirements
410			per g (	ad they comply with this subsection (d). Persons producing or in
410			provide	tion of residuals or sludge resulting from the treatment of water or
412			sewage	and containing naturally occurring radium from groundwater with
412			concen	trations of total radium greater than 200 $pCi/q$ (dry weight basis)
-13 /1/			ara not	exampt and shall comply with requirements in 32 III. Adm. Code
414			330	exempt and shan compty with requirements in 52 m. Adm. Code
415			550.	
410		2)	The fol	lowing individuals or entities producing or in possession of
417			residua	ls or sludge resulting from the treatment of water or sewage and
410			contain	ing naturally occurring radium from groundwater with
419			concon	trations of total radium loss than or equal to 200 pCi/g (dry weight
420			basis) r	nust register directly with the Ageney
421			<del>Dasis) i</del>	nust register directly with the Agency:
422			<b>A</b> )	Owners and encysters of facilities or plants that produce residuals
423			<del>A)</del>	or aludae resulting from the treatment of water or service and
424 425				or studge resulting from the treatment of water or sewage and
423				containing radium occurring naturally from groundwater; and
420			<b>D</b> )	Owners and encystors of Illinois Environmental Protection Assessed
427			<del>D)</del>	(UEDA) normality of long dfills if the next deals and protection Agency
428				(IEPA) permitted landfills if the residuals or sludge is disposed of

429			in thos	<del>e landfills;</del>	and		
430		$\mathbf{C}$	Annlia	otore who	and the second state of the second seco		
431		$\overline{\mathbf{r}}$	rogulti	ators who a	tratment of water or sewage containing radium		
432			occurri	ng naturall	v from groundwater: and		
433			occum	ng naturan	y nom groundwater, and		
434		D)	Any of	har parson	or antity that the Agency determines is required		
435		<del>,</del>	to rogi	<del>nei person</del> stor undor t	be provisions of the Dediction Protection Act		
430			to regr		the provisions of the Radiation Protection Act.		
457	2)	Oumor	a and a	acretors of	facilities or plants that produce residuals or		
430	<del>3)</del>	sludge	<u>s and o</u> rogultin	a from the	treatment of water or service and containing		
439		siuuge	in con	<del>lg 110111 tile</del>	treatment of water of sewage and containing		
440		Faciliti	HI COIK	entration i	ess than of equal to 200 per/g (dry weight basis)		
441		occurri	<del>ing natu</del>	Fally Holli	groundwater will be exempt from the incensure		
442		and rec	require	ments of t	ne Radiation Protection Act.		
443	4)	Decide		udaa magul	ting from the treatment of water or services and		
444	<del>4)</del>	Residu	ing not	uuge resui	ung non the frequencies of water of sewage and		
445		ef in o	<del>iiiig iidi</del>	an with the	following provisions and the requirements of		
440			<del>coruan</del>	<del>ce with the</del>	of the Illinois Dollution Control Doord (Title 25		
447		iEPA i	tina the i	regulations	of the finitions Pollution Control Board (1108 35)		
448		of the III. Adm. Code: Subtitles C and G, and Part 391), as implemented					
449		<del>by IEP</del>	<del>A.</del>				
450		<b>A</b> )	If the 1	aval of rad	up in the residuals or sludge is loss then or equal		
451		<del>A)</del>	$\frac{11}{100}$ to 100	nCi/a (dm	weight basis):		
452			<del>to 100</del>	pei/g (ary	weight basis).		
455			;)	the ready	ale on shudes may be disposed of in an IEDA		
454			Ħ	normitted	landfill provided:		
455				permiteu	tanutini provided:		
450				• the	magiduals on sludge and sourced during		
457				- th	residuals of sludge are covered during		
458				tra	nsportation; and		
459				• the	residuals or sludge that are easily dispersible		
400				- <del>111</del>	the neekeesed on stabilized to move the dispersion		
461				HH due	is the packaged of stabilized to prevent dispersion		
462				au	ring transportation and/or landing placement; and		
463					no is stilled 10 foot of non-contenting to d		
464				• <del>the</del>	erbunden between the needed of an aludee and		
465				<del>0V</del>	erourden between the residuals of sludge and		
400				gra	ade level (at the time of landfill closure).		
40/			::)	4	de en chi dec mori les reced for estitutes d'utest		
408			<del>11)</del>	the residua	us or studge may be used for soft conditioning		
40Y				purposes (	on agricultural crop land (e.g., corn, soybeans)		
4/U 471				provided:			
4/1							

472 473 474	•	that use is in accordance with 35 Ill. Adm. Code 309.208; and
475		the concentration of the radium in the residuals or
476		sludge (dry weight basis) shall be determined by
477		laboratory analysis: and
478		
479	•	the level of radium in the residuals or sludge and the
480		application rate is such that, after the residuals or
481		sludge is mixed with soil (for agricultural use), the
482		cumulative increase of the total radium 226 and
483		radium 228 combined concentration in the soil does
484		not exceed 1.0 pCi/g (dry weight basis, an addition
485		of 1778 microCi/acre); and
486		
487	<b>.</b>	this increased limit applies to the sum of all land
488		applications of residuals or sludge on a specific
489		parcel of land; and
490		-
491		at no time shall the application of residuals or
492		sludge result in the total radium concentration in the
493		soil exceeding 3.0 pCi/g (the mean natural
494		background as determined by the Agency of 2.0
495		pCi/g and the soil concentration increase limit of
496		1.0 pCi/g due to residuals or sludge application);
497		and
498		
499	<b>.</b>	the landowner or an authorized agent of the
500		landowner must acknowledge, on a form issued by
501		the Agency, that he or she is aware that residuals or
502		sludge containing radium is being applied to the
503		land (this acknowledgement must be updated as
504		landownership changes); and
505		
506		prior to using a parcel of land for the application of
507		residuals or sludge containing radium for the first
508		time, the generator must determine the total radium
509		concentration in the soil using the soil sampling
510		protocol specified below:
511		
512		■ Soil sample collection shall be conducted so
513		as to be representative of the entire sludge
514		application site. Soil Plow Zone – one soil

515 516 517 518 519 520 521	sample shall be collected per 8 acres of sludge application site area to a depth of 12 inches. Each soil sample shall be taken as a homogenous mixture composed of at least 10 samples randomly collected within the 8 acre area; or
522 522 523 524 525 526 527 528 529 530	<ul> <li>Sampling protocols in compliance with the 24th edition of the Illinois Agronomy Handbook as published by the University of Illinois Extension Service (with sampling depth increased to 12 inches) (Pubs Plus, 1917 South Wright Street, Champaign IL 61820, 217/333-2007, PubsPlus@illinois.edu, 2009); and</li> </ul>
530 531 532 533	<ul> <li>Testing protocol specified by the Agency; and</li> </ul>
535 534 535 536 537	AGENCY NOTE: The Agency will develop and provide a guidance document on residuals and sludge sampling, acceptable analysis methods and Agency reporting requirements.
538 539 540 541 542 543	lands used for the application must have a pH equal to or greater than 6.0, have a 6-inch soil layer with a minimum clay content of at least 18% within the top 5 feet and above bedrock and the groundwater level (as determined by the County Soil Survey
544 545 546 547 548 540	Book), and a 6-inch layer with an organic content of at least 12 tons/acre within the top 5 feet and above bedrock and the groundwater level (as determined by site specific testing); and
549 550 551 552	radium shall not be used for the cultivation of tobacco; and
553 • 554 555 556 557	when the cumulative increase of the radium concentration in the soil is determined by calculation to be 0.8 pCi/g or when the total radium in soil is calculated to be 2.8 pCi/g (based on initial testing and subsequent applications of residuals or

558				sludge containing radium), the generator must
559				repeat the soil sampling and analysis to determine
560				the actual total radium concentration in the soil and
561				report the findings to the Agency; and
562				
563				when calculating the increase in radium
564				concentration, a soil density value of 90
565				pounds/cubic foot and a mixing depth of 1 foot
566				should be used.
567				
568		<del>B)</del>	If the l	evel of radium in the residuals or sludge is greater than 100
569		<i>.</i>	<del>pCi/g (</del>	dry weight basis) and less than or equal to 200 pCi/g (dry
570			weight	basis):
571			U	, ,
572			i)	in accordance with 32 Ill. Adm. Code 340.1020, the
573				method of disposal must be reviewed and approved by
574				IEMA-DNS in advance; and
575				
576			<del>ii)</del>	the residuals or sludge may be disposed of in a licensed
577				low-level radioactive waste disposal facility.
578				
579	<del>5)</del>	By Jur	<del>ne 1, 201</del>	11, all persons applying water treatment residuals or sewage
580		treatm	ent slud	ge containing radium to land in Illinois must sample fields
581		curren	tly being	g used for land application using a sampling and testing
582		protoc	ol speci	fied by the Agency to determine the total radium
583		concer	tration-	of the soil and report the findings to the Agency. Any field
584		<del>that ha</del>	i <mark>s a total</mark>	radium concentration greater than 3.0 pCi/g may no longer
585		be use	d for the	e land application of water treatment residuals or sewage
586		treatme	ent slud	ge containing radium.
587				
588	<del>6)</del>	<del>On an</del>	annual I	basis, each person producing water treatment residuals or
589		sewage	<del>e treatm</del>	ent sludge containing radium must report, in a manner
590		specifi	ed by th	ne Agency, the following:
591		-	-	
592		<del>A)</del>	Person	s who dispose of water treatment residuals or sewage
593			treatme	ent sludge containing radium in a landfill must report:
594				
595			i)	the quantity of residuals or sludge containing radium; and
596				
597			<del>ii)</del>	the concentration of radium (in pCi/g (dry weight basis))
598				contained in the residuals or sludge; and
599				

602603iv)604residuals or sludge; and605	
604residuals or sludge; and605	
605	
606 v) any additional information deemed appropriate by the	
607 Agency.	
608	
609 B) Persons who land apply water treatment residuals or sewage	
610 treatment sludge containing radium must report:	
611	
612 i) the identification, location and background radium	
613 concentrations, as determined prior to use for land	
614 application, of the field receiving the land application	<del>of</del>
615 residuals or sludge containing radium; and	
616	
617 ii) the concentration of radium in pCi/g (dry weight basis)	<del>.) in</del>
618 the residuals or sludge; and	/
619	
620 <u>iii</u> ) the application rate in dry tons/acre; and	
621	
622 iv) the date of the land application; and	
623	
624 <del>v)</del> any additional information deemed appropriate by the	
625 Agency.	
626	
627 7) All analysis of residuals or sludge must be conducted by a laboratory	
628 certified by the U.S. Environmental Protection Agency or the Nationa	al
629 Environmental Laboratory Accreditation Conference (NELAC) to per	rform
630 radiological analysis, and concentration of radium will be determined	bv a
631 method approved by the Agency.	- <b>j</b>
632	
633 8) Owners and operators of facilities that produce residuals or sludge the	<del>at is</del>
634 land applied or disposed of in a landfill are not subject to the registrat	ion
635 requirements specified in Section 4 and the fees specified in Section 1	13 of
636 the Illinois Low Level Radioactive Waste Management Act [420 ILC	<u>19</u>
637 20/4 and 13] and are not subject to the reporting requirements of Accor	ess to
638 Facilities for Treatment Storage or Disposal of Low Level Radioacti	ive
639 Waste (32.11) Adm Code 609) and Registration of Low-Level	
640 Radioactive Waste Generators (32 III Adm. Code 620)	
641	

642	<del>9)</del>	Owners and operators of facilities that produce residuals or sludge that is
643		disposed of in a licensed low-level radioactive waste disposal facility are
644		subject to the registration requirements specified in Section 4 and the fees
645		specified in Section 13 of the Illinois Low-Level Radioactive Waste
646		Management Act and are subject to the reporting requirements of 32 Ill.
647		Adm. Code 609 and 620.
648		
649	(Source: Ame	nded at 48 Ill. Reg, effective)