

HOUSE No. 109

The Commonwealth of Massachusetts

PRESENTED BY:

Patricia A. Duffy, (BY REQUEST)

To the Honorable Senate and House of Representatives of the Commonwealth of Massachusetts in General Court assembled:

The undersigned legislators and/or citizens respectfully petition for the adoption of the accompanying bill:

An Act improving non-ionizing radiation regulation and monitoring.

PETITION OF:

NAME:	DISTRICT/ADDRESS:	DATE ADDED:
<i>Kirstin Beatty</i>	<i>149 Central Park Drive, Holyoke, MA 01040</i>	<i>2/19/2021</i>

HOUSE No. 109

By Ms. Duffy of Holyoke (by request), a petition (accompanied by bill, House, No. 109) of Kirstin Beatty relative to improving non-ionizing radiation regulation and monitoring. Advanced Information Technology, the Internet and Cybersecurity.

The Commonwealth of Massachusetts

**In the One Hundred and Ninety-Second General Court
(2021-2022)**

An Act improving non-ionizing radiation regulation and monitoring.

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

1 SECTION 1. The legislature finds and confirms all of the following:-

2 Whereas, the radiation regulation and licensing authority should be separate from the
3 authority for civil penalties to prevent corruption.

4 Whereas, the FCC fails to regulate many different non-ionizing radiation frequencies, nor
5 does any there federal agency do so.

6 Whereas, consumers should know if an appliance or device is wireless, the type of
7 exposure, and have a choice to make safer purchases.

8 Whereas, a registry of cell towers is necessary for study of non-ionizing radiation health
9 effects.

10 Whereas, residents should have the right to be informed and ability to sue if legal
11 radiation limits are exceeded.

12 Whereas, other countries have recognized hazards of wireless by adopting more stringent
13 limits and by limiting use in sensitive locations such as schools and hospitals.

14 SECTION 2. Chapter 111 of the General Laws is hereby amended by striking out Section
15 5N as appearing in the 2021 Official Edition and inserting in place thereof the following
16 section:--

17 Section 5N. (a) Definitions. As used in this section, the following words shall have the
18 following meanings:

19 “Building Biology EMRS certification” refers to an electromagnetic radiation specialist
20 certification offered by the Building Biology Institute, a 501(c)(3) founded in 1987 based on the
21 German principles of Building Biology.

22 (b) Mission. There shall be a Radiation Regulatory Agency, hereafter called the agency,
23 within the department of public health. The mission of the agency shall be to enhance and protect
24 public health, safety, and environmental quality in the Commonwealth through establishment
25 and implementation of regulations, licensing, inspection, and programs that protect individuals
26 and their environment from the potentially harmful effects of radiation.

27 (c) Transparency and coordination. The agency shall keep the public and all other
28 legitimate interests as completely informed as possible on matters relating to radiation
29 development and control, maintaining public transparency with limited exceptions only to
30 prevent crime. The agency shall maintain a record and file of all license applications, issuances,
31 denials, amendments, transfers, renewals, modifications, suspensions, and revocations. The
32 agency shall, as far as possible and as relevant to its mission, assure the coordination of its

33 programs with relevant local, state, and federal government authorities, departments, and
34 agencies, including the Atomic Energy Commission.

35 (d) Duties. For the purpose of protecting the general public and individuals against
36 hazards associated with the possession, use, transportation, storage, packaging, sale, distribution,
37 production, and disposal thereof of ionizing and non-ionizing radiation, the agency shall adopt
38 programs and regulations for issuance, amendment, suspension and revocation of general and
39 specific licenses for electromagnetic radiative by-product, source, device, and equipment
40 including, but not limited to, the following:

41 (1) The agency shall adopt rules and regulations for electromagnetic radiation exposures
42 based on optimum exposure ranges, conditions, and limitations, and these shall be clear and
43 accessible to the public and to applicants along with warnings with regard to non-compliance.
44 Such rules and regulations shall be based on cautionary interpretations of current science.

45 (2) The agency shall manage the licensing of radioactive materials, registration of X-ray-
46 producing machines, certification of medical and industrial X-ray and radioactive material users,
47 registration of lasers, inspection of facilities using or emitting radiation, inspection of devices
48 using or emitting radiation, investigation of radiation incidents, surveillance of radioactive
49 contamination in the environment, inspection of decontamination compliance, and any other
50 state-wide licensing, registration, certification, and inspection necessary for electromagnetic
51 radiation products and services are safe for the public with regard to both ionizing and non-
52 ionizing radiation.

53 (3) The agency shall adopt regulations that require personnel and facilities using
54 radiation-producing equipment for medical and dental purposes to maintain and implement

55 medical and dental quality assurance standards that protect the public health and safety by
56 reducing unnecessary exposure to radiation while ensuring that images are of diagnostic quality.
57 The standards shall require quality assurance tests to be performed on all radiation-producing
58 equipment used for medical and dental purposes. For purposes of this section, “medical and
59 dental quality assurance” means the detection of a change in X-ray and ancillary equipment that
60 adversely affects the quality of films or images and the radiation dose to the patients, and the
61 correction of this change.

62 (4) The agency shall promulgate rules and regulations that will ensure optimum exposure
63 ranges for safe and effective diagnostic radiographic examinations. Such rules and regulations
64 shall be no less stringent than the most current standards and guidelines developed by the
65 National Council on Radiation Protection and Measurements, the American College of
66 Radiology, the Conference of Radiation Control Program Directors and other pertinent national
67 and international organizations. Such rules and regulations shall not limit the intentional
68 exposure of patients to radiation for the purpose of lawful therapy or research conducted by
69 licensed health professionals, but the rules and regulations shall make note of preferable and
70 safer exposures and associated technologies. Such rules and regulations shall be filed with the
71 state secretary at least thirty days prior to their effective date and shall become effective thirty
72 days thereafter unless a later effective date is specified by the agency.

73 (5) The agency shall develop and manage a program to support a qui tam provision to
74 deputize all citizens and allow any citizen to retain the services of a licensed technical expert to
75 ascertain radiation exposures and compliance with regulations.

76 (6) The agency shall maintain a public registry of non-ionizing radiation specialists that
77 provides the following public information: (i) name; (ii) services and frequency bands served;
78 (iii) clientele (such as industry, residential, municipal); (iv) geographic region served; (v)
79 equipment utilized and calibration; (vi) degree; (vii) relevant certifications, such as but not
80 limited to the Building Biology EMRS certification; (viii) contact information, including website
81 and hours of availability. Non-ionizing radiation specialists shall further provide a transcript of
82 relevant education, proof of relevant certifications, a work sample to indicate basic competence,
83 and basic interview – the agency may choose to refer to this process as state certification.
84 Provided all of this information is provided, excepting website, non-ionizing radiation specialists
85 may be included on the registry provided all of this information is provided.

86 (7) The agency shall retain at least 5 full-time non-ionizing radiation specialists to
87 provide the following public services: (i) maintain and vet the non-ionizing radiation registry; (ii)
88 monitor ambient non-ionizing radiation levels across the region; (iii) provide or assist with
89 investigations of Indoor Air Quality; (iv) provide qui tam assistance as described in paragraph
90 (5); (v) lead, manage, or assist with reducing non-ionizing radiation exposures in state buildings;
91 (vi) assist with non-ionizing radiation product investigations or certifications; (vii) provide
92 assistance to municipalities; and (viii) provide such other assistance as helpful to the needs of the
93 agency and commonwealth.

94 (6) The agency shall investigate radiation incidents.

95 (7) The agency shall provide comprehensive advance planning and programs to deal with
96 radiation emergencies from both ionizing and non-ionizing radiation.

97 (8) The agency shall coordinate with municipal, regional, and the department of public
98 utilities to assure ongoing inspection of electrical infrastructure and other utilities for good power
99 quality, limitation of ground current, and limits on field strength. The agency shall have the right
100 to conduct its own investigations and shall share the data with the department of public utilities.

101 (9) The agency may provide a stamp of product certification regarding devices or
102 products which meet the Building Biology non-ionizing radiation guidelines of no concern.

103 (10) The agency shall establish a state-wide registry of non-ionizing radiation antennas
104 and an accompanying searchable database and a location map with exposure data that shall be
105 freely available and easily accessible to the public that includes peak exposures and a
106 visualization of higher versus lower exposure areas. For legal operation, full registration shall be
107 required for federally licensed and unlicensed transmitting antennas. The agency shall establish a
108 filing system for initial registration and subsequent updates to assure accuracy and public access.
109 For personal devices purchased by consumers, the agency shall establish an alternate registration
110 process and database which limits the consumer's part in registration and focuses upon providing
111 consumers with access to registration information. Excepting exemptions where not applicable to
112 the antenna or device, registration shall include the following, and shall be formatted and may be
113 further defined or expanded upon by the agency:

114 (i) GPS coordinates and street address, electromagnetic frequency, range and direction of
115 signal, peak volts per meter or other equally accurate signal measurement at named distances
116 appropriate to use, time period the signal transmits, and any other technical parameters of the
117 transmitted signal or antenna required by the department;

118 (ii) Full legal contact information for all entities legally responsible for the safety of the
119 antenna, including partners or board members where applicable, and including but not limited to
120 the (A) installer; (B) manufacturer; (C) personal wireless service provider; (D) parent companies;
121 (E) antenna or permit owner; and (F) property owner;

122 (iii) Where required by municipal, state, or federal law, a current copy of the certificates
123 providing evidence of insurance with licensed third party providers, not a self-insured indemnity
124 substitute, and the accompanying policies with insurance terms.

125 (iv) A report that the antenna or antennas, as used in actual practice, are safe and in
126 compliance with town, state, and federal laws with respect to electromagnetic exposures,
127 electromagnetic interference, engineering, and public safety, and for all of which the report is
128 verified under oath, under penalties of perjury, by the person who prepared any such report and
129 for which the sworn verification is attached.

130 (e) Inspection. The duly authorized inspectors of the agency shall have the power to enter
131 at all reasonable times or at any time during relevant radiation emergency upon any private or
132 public property subject to its jurisdiction for the purpose of determining whether there is
133 compliance with or violation of sections five N to five Q, inclusive, or any rule, regulation,
134 license, registration or order adopted or issued thereunder.

135 (f) Municipalities. Nothing in this chapter shall be construed as precluding municipalities
136 from establishing additional permitting, inspection, and zoning requirements with regard to
137 sources of radiation.

138 (g) Department of Labor. Nothing in this section shall prevent the department of labor
139 standards from establishing rules and regulations for the protection of the health and safety of

140 employees against radiation in any place of employment as defined in section one of chapter one
141 hundred and forty-nine. Said department of labor standards shall consult with the department of
142 public health at least thirty days prior to the adoption or modification of any rules or regulations
143 insofar as they pertain to the health aspects of ionizing and non-ionizing radiation.

144 (h) Conflicts of Interest. All agency employees, including agency leadership, shall file a
145 conflict of interest statement, which shall be freely available for public view, with the Secretary
146 of State annually during employment that details any relevant conflicts of interest, including
147 activities of immediate and extended family members.

148 No agency employee, including agency leadership, shall (1) have a history involving
149 telecommunications, energy, IT, or utility industry clients; (2) have a current investment
150 portfolio with conflicts of interest in the areas of energy, telecommunications, IT, or utilities; (3)
151 accept gifts, paid speaking engagements, or payment other than the existing salary and funding
152 provided by the agency, except where salary is inadequate and the payment is not tied to the
153 energy, telecommunications, IT, or utilities industry sectors, and where such evidence is filed
154 with the Secretary of State, including amount of payment and job; (4) take a lucrative assignment
155 with the energy, telecommunications, IT, or utility industry sectors within 5 years after leaving
156 the agency. A conflict of interest may be used as grounds for a civil suit, result in loss of any
157 qualified immunity protections, and result in financial penalties, imprisonment, or both.

158 (i) Fees. The Agency may set reasonable fees for its services, including for registration
159 and licensure, and may set a sliding scale fee.

160 SECTION 3. Chapter 111 of the General Laws is hereby amended by striking out
161 Section 5O as appearing in the 2021 Official Edition and inserting in place thereof the following
162 section:--

163 (a) Notice of violation. The Radiation Regulatory Agency, hereafter called the agency,
164 shall issue notices of violation and orders as necessary to enforce the provisions of sections five
165 N to five Q, inclusive, or any rule, regulation, license or registration adopted or issued under
166 such sections. Such orders may include, but not be limited to, orders modifying, suspending or
167 revoking licenses or registrations and orders requiring persons to cease any activity that is in
168 violation of the provisions of said sections five N to five Q, inclusive, or any rule, regulation,
169 license or registration adopted or issued by the department under said sections.

170 Such orders may include, but not be limited to, orders modifying, suspending, revoking
171 licenses or registrations and orders requiring persons to cease any activity that is in violation of
172 the provisions of said sections five N to five Q, inclusive, or any rule, regulation, license or
173 registration adopted or issued under said sections.

174 Orders shall be issued after notice and an opportunity for a hearing except where public
175 health, safety or the environment would be threatened by delay in the issuance of an order; in
176 such circumstance, an opportunity for hearing shall be provided promptly after the issuance of
177 such order.

178 (b) Hearing. Every action regarding violation shall be heard by a radiation tribunal
179 consisting of a single justice of the superior court, one member of the jury, and a non-ionizing
180 radiation technical expert of the agency who was not privy to the original finding. In favor of the
181 public interest, every action and all accompanying evidence shall be logged with the court, shall

182 be public, and shall in no case be sealed, although personal identifying birth date and social
183 security number shall be censored from public records if present. The hearing shall serve to
184 determine if violation occurred and where appropriate to set a civil penalty and sentence.

185 (c) Civil Penalty. In determining the amount of the civil penalty, the radiation tribunal
186 shall consider the willfulness of the violation, the actual and potential danger or injury to the
187 public health or the environment; the actual and potential cost of such damage or injury; the
188 actual or potential danger or injury to the public health or the environment; the actual and
189 potential cost of such damage or injury; the actual or potential cost to the commonwealth of
190 enforcing the provisions of this chapter; whether the person being assessed the civil penalty did
191 everything reasonable to prevent the failure to comply from occurring, to come into compliance
192 promptly, and to remedy and mitigate whatever harm might have been done as a result of the
193 failure to comply; whether the person being assessed the civil penalty has previously failed to
194 comply with any other order issued pursuant to said sections five N to five Q, inclusive, or any
195 rule or regulation adopted by the department thereunder; deterring future noncompliance; the
196 financial condition of the person being assessed the civil penalty; and public safety and the
197 public interest. Such civil penalty may be assessed whether or not the violation was willful.

198 Additionally, a fee shall be assessed to provide for notification of the public and nearby
199 residents of the actual or predicted radiation exposure characteristics in comparison to municipal,
200 state, and federal requirements and where to find information regarding the hearing.

201 (d) Enforcement. If, after a notice has been issued and an opportunity for a hearing has
202 been provided, a person or facility still is not in compliance with an order issued pursuant to this
203 section, or with any provision of section five N, five P or five Q or any such sections rule,

204 regulation, license or registration adopted or issued under, the supreme judicial court or superior
205 court, upon application of the tribunal or upon application of any party interested may enforce
206 the provisions of said sections five N to five Q, inclusive, and any rule or regulation, license,
207 registration or order adopted or issued thereunder by the department, when said court determines
208 that any person has engaged in, or is about to engage in any act or practice which constitutes or
209 will constitute a violation of such provision, rule, regulation, license, registration or order, and
210 may restrain such act or practice or the use or occupation of premises or such parts thereof as the
211 tribunal may specify until such provision, rule, regulation, license, registration or order have
212 been complied with.

213 (e) Public Notice. If radiation exposures were non-compliant with rules and regulations,
214 the agency shall inform the public and nearby residents of the actual or predicted radiation
215 exposure characteristics in comparison to municipal, state, and federal requirements, as well as
216 where to find information regarding the hearing.

217 (f) Qui Tam. Any resident may bring to the radiation tribunal evidence of a violation.
218 Further, any resident with good cause may bring to district court a relevant personal injury case.

219 (g) Civil Penalty Fees. Excepting payment to provide funds for public notice, all civil
220 penalties shall be provided to the Massachusetts General Fund for delegation by legislators.

221 SECTION 4. Chapter 111 of the General Laws is hereby amended by striking out
222 Section 5P as appearing in the 2021 Official Edition and inserting in place thereof the following
223 section:--

224 It shall be unlawful for any person to use, manufacture, produce, transfer, receive,
225 acquire, own, or possess any source of ionizing radiation unless licensed, registered or exempted

226 from licensing or registration requirements by the department pursuant to section five N. Any
227 person who violates said section five N or five O, or any rule, regulation, license, registration or
228 order adopted or issued under said section five N or five O shall be fined not less than 300
229 dollars and up to 2% of the preceding years' income, including with respect to a business, or be
230 imprisoned for a period of not more than two years, or both. Any person who continues to violate
231 the provisions of this section after due notice shall be fined not less than one thousand dollars
232 and up to 4% of the preceding years income, or be imprisoned for a period of not more than
233 twenty years, or both. After due notice has been issued by the Radiation Regulatory Agency or
234 Radiation Tribunal, each day of such violation shall constitute a separate offense.

235 SECTION 5. Section 5Q of Chapter 111 of the General Laws as appearing in the 2021
236 Official Edition is hereby amended by striking out in line 1 the word "department" and inserting
237 in place thereof the following phrase:--

238 Radiation Regulatory Agency, hereafter called agency,

239 SECTION 6. Section 5Q of Chapter 111 of the General Laws as appearing in the 2021
240 Official Edition is hereby amended by striking out the fifth sentence and inserting in place
241 thereof the following:--

242 The agency may accept, in lieu of the above, certification by the American College of
243 Radiology or other recognized organization as deemed status for licensing; provided, however,
244 that the standards of said organization shall be no less stringent than the most current standards
245 of the American College of Radiology as well as state and federal standards.

246 SECTION 7. Section 5Q of Chapter 111 of the General Laws as appearing in the 2021
247 Official Edition is hereby amended by striking out the word “department” in the sixth sentence
248 and inserting in place thereof:--

249 agency

250 SECTION 8. Section 5Q of Chapter 111 of the General Laws as appearing in the 2021
251 Official Edition is hereby amended by striking out the word “department” in subsection (d) and
252 inserting in place thereof:--

253 agency

254 SECTION 9. Section 5Q of Chapter 111 of the General Laws as appearing in the 2021
255 Official Edition is hereby amended by striking out the word “department” in subsection (e) and
256 inserting in place thereof:--

257 agency

258 SECTION 10. Section 5Q of Chapter 111 of the General Laws as appearing in the 2021
259 Official Edition is hereby amended by striking out the word “department” in subsection (f) and
260 inserting in place thereof:--

261 agency

262 SECTION 11. Section 5Q of Chapter 111 of the General Laws as appearing in the 2021
263 Official Edition is hereby amended by striking out the word “department” in subsection (g) and
264 inserting in place thereof:--

265 agency

266 SECTION 12. Section 5Q of Chapter 111 of the General Laws as appearing in the 2021
267 Official Edition is hereby amended by striking out the word “department” in subsection (h) and
268 inserting in place thereof:--

269 agency

270 SECTION 13. Section 5Q of Chapter 111 of the General Laws as appearing in the 2021
271 Official Edition is hereby amended by striking out the word “department” in subsection (i) and
272 inserting in place thereof:--

273 agency

274 SECTION 14. Section 5Q of Chapter 111 of the General Laws as appearing in the 2021
275 Official Edition is hereby amended by striking out the word “department” in subsection (e) and
276 inserting in place thereof:--

277 agency