

**As Passed by the House**

**134th General Assembly**

**Regular Session**

**2021-2022**

**Am. H. B. No. 434**

**Representative Stein**

**Cosponsors: Representatives Callender, Carfagna, Carruthers, Click, Dean, Fowler Arthur, Fraizer, Grendell, Gross, Hillyer, Holmes, Johnson, Koehler, Lipps, McClain, Riedel, Seitz, Sheehy, Stephens, Swearingen, Wiggam, Wilkin, Abrams, Baldrige, Ginter, John, Kick, LaRe, Miller, J., Patton, Plummer, Troy, Speaker Cupp**

**A BILL**

To amend section 3748.03 and to enact sections 1  
3748.23, 4164.01, 4164.02, 4164.04, 4164.05, 2  
4164.051, 4164.052, 4164.053, 4164.06, 4164.07, 3  
4164.08, 4164.09, 4164.091, 4164.092, 4164.093, 4  
4164.094, 4164.096, 4164.097, 4164.098, 5  
4164.099, 4164.0911, 4164.0912, 4164.0913, 6  
4164.0914, 4164.0916, 4164.0917, 4164.0918, 7  
4164.10, 4164.11, 4164.12, 4164.13, 4164.15, 8  
4164.16, 4164.18, 4164.19, and 4164.20 of the 9  
Revised Code to enact the Advanced Nuclear 10  
Technology Helping Energize Mankind (ANTHEM) Act 11  
by establishing the Ohio Nuclear Development 12  
Authority. 13

**BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF OHIO:**

**Section 1.** That section 3748.03 be amended and sections 14  
3748.23, 4164.01, 4164.02, 4164.04, 4164.05, 4164.051, 4164.052, 15  
4164.053, 4164.06, 4164.07, 4164.08, 4164.09, 4164.091, 16  
4164.092, 4164.093, 4164.094, 4164.096, 4164.097, 4164.098, 17

4164.099, 4164.0911, 4164.0912, 4164.0913, 4164.0914, 4164.0916, 18  
4164.0917, 4164.0918, 4164.10, 4164.11, 4164.12, 4164.13, 19  
4164.15, 4164.16, 4164.18, 4164.19, and 4164.20 of the Revised 20  
Code be enacted to read as follows: 21

**Sec. 3748.03.** (A) (1) (a) The governor, on behalf of the 22  
state, may enter into agreements with the United States nuclear 23  
regulatory commission as authorized by section 274(b) of the 24  
"Atomic Energy Act of 1954," 68 Stat. 919, 42 U.S.C.A. 2011, as 25  
amended, for the discontinuation of specified licensing and 26  
related regulatory authority of the commission with respect to 27  
byproduct material, source material, the commercial disposal of 28  
low-level radioactive waste, and special nuclear material in 29  
quantities not sufficient to form a critical mass and the 30  
assumption of that authority by the state. 31

(b) The governor, on behalf of the state, may also enter 32  
into agreements described in division (A) (1) (a) of this section 33  
with the the United States department of energy or branches of 34  
the United States military. 35

(2) The governor shall appoint a state liaison officer to 36  
the United States nuclear regulatory commission, who shall serve 37  
at the pleasure of the governor. 38

(B) ~~The general assembly hereby designates the department 39  
of health, in addition to the Ohio nuclear development authority 40  
as the agency authorized to by division (F) of section 4164.11 41  
of the Revised Code, may pursue agreement state status, on 42  
behalf of the governor, for the assumption by the state of 43  
specified licensing and related regulatory authority from the 44  
commission pursuant to division (A) of this section. The 45  
department shall and the Ohio nuclear development authority may 46  
enter into negotiations with the commission for that purpose. 47~~

(C) Any person who, on the effective date of an agreement 48  
entered into by the state and the commission pursuant to 49  
divisions (A) and (B) of this section, holds a license issued by 50  
the commission for radioactive materials that are subject to the 51  
agreement is deemed to hold a license issued under this chapter 52  
and rules adopted under it. That license shall expire ninety 53  
days after the holder receives a notice of expiration from the 54  
department or on the date of expiration specified in the license 55  
issued by the commission, whichever is later, provided that no 56  
such license shall expire during the ninety days immediately 57  
following the effective date of the agreement. 58

Sec. 3748.23. The rules adopted under this chapter shall 59  
neither conflict with nor supersede the rules adopted under 60  
Chapter 4164. of the Revised Code. 61

Sec. 4164.01. As used in this chapter, unless the context 62  
otherwise requires: 63

(A) "Authority" means the Ohio nuclear development 64  
authority created and constituted under section 4164.04 of the 65  
Revised Code. 66

(B) "Council" means the Ohio nuclear development authority 67  
nominating council created and constituted under section 4164.09 68  
of the Revised Code. 69

Sec. 4164.02. It is the intent of the general assembly in 70  
enacting this chapter of the Revised Code to encourage its use 71  
as a model for future legislation to further the pursuit of 72  
innovative research and development for any industry in this 73  
state. 74

Sec. 4164.04. There is hereby created and constituted 75  
within the department of development, the Ohio nuclear 76

development authority. The authority's exercise of powers 77  
conferred by this chapter is the performance of an essential 78  
governmental function and addresses matters of public necessity 79  
for which public moneys may be spent and private property 80  
acquired. 81

**Sec. 4164.05.** (A) The authority shall consist of nine 82  
members appointed by the governor, representing the following 83  
three stakeholder groups within the nuclear-engineering-and- 84  
manufacturing industry: 85

(1) Safety; 86

(2) Industry; 87

(3) Engineering research and development. 88

(B) (1) A member appointed from the safety group shall hold 89  
at least a bachelor's degree in nuclear, mechanical, chemical, 90  
or electrical engineering and at least one of the following 91  
shall also apply: 92

(a) The member is a recognized professional in nuclear- 93  
reactor safety or developing ISO 9000 standards. 94

(b) The member has been employed by or has worked closely 95  
with the United States department of energy or the nuclear 96  
regulatory commission and the member also has a professional 97  
background in nuclear-energy-technology development or advanced- 98  
nuclear-reactor concepts. 99

(c) The member has been employed by a contractor that has 100  
built concept reactors and the member also worked with hazardous 101  
substances, either nuclear or chemical, during that employment. 102

(2) A member appointed from the industry group shall have 103  
at least five years of experience in one or more of the 104

<u>following:</u>	105
<u>(a) Nuclear-power-plant operation;</u>	106
<u>(b) Processing and extracting isotopes;</u>	107
<u>(c) Managing a facility that deals with hazardous</u> <u>substances, either nuclear or chemical;</u>	108 109
<u>(d) Handling and storing nuclear waste.</u>	110
<u>(3) A member appointed from the engineering research and</u> <u>development group shall hold at least a bachelor's degree in</u> <u>nuclear, mechanical, chemical, or electrical engineering and the</u> <u>member shall also be a recognized professional in at least one</u> <u>of the following areas of study:</u>	111 112 113 114 115
<u>(a) Advanced nuclear reactors;</u>	116
<u>(b) Materials science involving the study of alloys and</u> <u>metallurgy, ceramics, or composites;</u>	117 118
<u>(c) Molten-salt chemistry;</u>	119
<u>(d) Solid-state chemistry;</u>	120
<u>(e) Chemical physics;</u>	121
<u>(f) Actinide chemistry;</u>	122
<u>(g) Instrumentation and sensors;</u>	123
<u>(h) Control systems.</u>	124
<u>(C) The members shall be United States citizens and</u> <u>residents of this state.</u>	125 126
<u>(D) The members shall serve five-year terms.</u>	127
<u>(E) Any appointment to fill a vacancy on the authority</u> <u>shall be made for the unexpired term of the member whose death,</u>	128 129

resignation, or removal created the vacancy. 130

(F) Initial appointments under this section shall be made 131  
not later than sixty days after the effective date of an 132  
agreement made with the United States nuclear regulatory 133  
commission, the United States department of energy, or branches 134  
of the United States military under section 3748.03 of the 135  
Revised Code. 136

Sec. 4164.051. The governor shall appoint members, and 137  
fill vacancies in the membership, of the authority from lists of 138  
nominees recommended by the council. The governor shall fill a 139  
vacancy not later than thirty days after receipt of the 140  
council's recommendations. 141

Sec. 4164.052. The governor, in the governor's discretion, 142  
may reject all of the nominees recommended by the council and 143  
reconvene the council for it to recommend additional nominees. 144  
If the governor reconvenes the council and the council provides 145  
a second list of nominees, the governor shall make the required 146  
appointment from one of the names on the first or second list. 147

Sec. 4164.053. All appointments by the governor to the 148  
authority are subject to the advice and consent of the senate. 149

Sec. 4164.06. No member shall be appointed to the 150  
authority until an agreement is reached under section 3748.03 of 151  
the Revised Code, consistent with division (F) of section 152  
4164.05 of the Revised Code. 153

Sec. 4164.07. Immediately after appointment to the 154  
authority under section 4164.05 of the Revised Code, the members 155  
shall enter upon the performance of their duties. 156

Sec. 4164.08. Notwithstanding any law to the contrary, no 157  
officer or employee of this state shall be deemed to have 158

forfeited, or shall have forfeited, the officer's or employee's 159  
office or employment due to acceptance of membership on the 160  
authority or by providing service to the authority. 161

**Sec. 4164.09.** There is hereby created the Ohio nuclear 162  
development authority nominating council. 163

**Sec. 4164.091.** The council shall review, evaluate, and 164  
make recommendations to the governor regarding potential 165  
appointees to serve as members of the authority. 166

**Sec. 4164.092.** (A) Consistent with division (B) of section 167  
4164.05 of the Revised Code, and for the purpose of making 168  
initial and subsequent appointments, and for filling vacancies, 169  
the council shall provide the governor with a list of 170  
individuals who are, in the judgment of the council, the most 171  
fully qualified to become members of the authority. 172

(B) For each initial appointment, and for each subsequent 173  
or vacancy appointment, the council shall provide a list of four 174  
possible appointees. 175

(C) The council shall provide the lists at the following 176  
times: 177

(1) For each subsequent appointment, not more than eighty- 178  
five, nor less than sixty, days before the expiration of the 179  
term of an authority member to be renewed or replaced; 180

(2) For each vacancy appointment, not more than thirty 181  
days after the death of, resignation of, or termination of 182  
service by, an authority member for whom a vacancy exists. 183

**Sec. 4164.093.** In reviewing, evaluating, and recommending 184  
potential appointees to serve as members of the authority, the 185  
council may solicit and accept comments from, and cooperate 186

<u>with, any individual.</u>	187
<u>Sec. 4164.094. The council may make recommendations to the</u>	188
<u>general assembly concerning changes in law to assist the council</u>	189
<u>in the performance of its duties.</u>	190
<u>Sec. 4164.096. The council shall consist of seven members:</u>	191
<u>(A) The president of the senate, or the president's</u>	192
<u>designee;</u>	193
<u>(B) The speaker of the house of representatives, or the</u>	194
<u>speaker's designee.</u>	195
<u>(C) Five members of the Ohio state university's nuclear</u>	196
<u>engineering external advisory board.</u>	197
<u>Sec. 4164.097. (A) Of the seven members of the council,</u>	198
<u>the five members from the Ohio state university's nuclear</u>	199
<u>engineering external advisory board shall be appointed by the</u>	200
<u>governor.</u>	201
<u>(B) Initial appointments under this section shall be made</u>	202
<u>not later than thirty days after the effective date of this</u>	203
<u>section.</u>	204
<u>Sec. 4164.098. The term of office for council members</u>	205
<u>appointed by the governor shall be two years. Each appointed</u>	206
<u>member shall serve as a member of the council from the date of</u>	207
<u>appointment until the end of the term for which the member was</u>	208
<u>appointed.</u>	209
<u>The president of the senate, or the president's designee,</u>	210
<u>and the speaker of the house of representatives, or the</u>	211
<u>speaker's designee, shall serve on the council only during the</u>	212
<u>tenure of the president or speaker.</u>	213



Sec. 4164.099. Any member appointed to fill a vacancy 214  
occurring before the expiration of the term for which the member 215  
was appointed shall hold office for the remainder of such term. 216  
Any member shall continue in office after the expiration date of 217  
the term for which the member was appointed until the member's 218  
successor takes office, or until a period of sixty days has 219  
elapsed, whichever occurs first. Each vacancy of an appointed 220  
member shall be filled by appointment not later than sixty days 221  
after the vacancy occurs and shall be filled in the same manner 222  
as the original appointment. 223

Sec. 4164.0911. The council shall elect a chairperson and 224  
a secretary at its initial meeting. 225

Sec. 4164.0912. The council shall hold its initial meeting 226  
not later than thirty days after an agreement is reached under 227  
section 3748.03 of the Revised Code. Subsequent meetings of the 228  
council may be called by the chairperson. Special meetings shall 229  
be called by the chairperson upon receipt of a written request 230  
for a meeting signed by two or more members of the council. 231

Sec. 4164.0913. Before each meeting of the council, 232  
written notice of the time and place of each meeting shall be 233  
sent to each member of the council by mail or electronic mail. 234

Sec. 4164.0914. Four members of the council, or their 235  
alternates, constitute a quorum. No measure shall be voted on, 236  
or any action taken by the council unless a quorum is present. 237

Sec. 4164.0916. The council shall keep a record of its 238  
proceedings. 239

Sec. 4164.0917. The council may adopt bylaws governing its 240  
proceedings. 241

Sec. 4164.0918. Members of the council shall serve without 242

<u>compensation.</u>	243
<u>Sec. 4164.10. The authority is established for both of the</u>	244
<u>following purposes:</u>	245
<u>(A) To be an information resource for this state, the</u>	246
<u>United States nuclear regulatory commission, all branches of the</u>	247
<u>United States military, and the United States department of</u>	248
<u>energy on advanced-nuclear-research reactors, isotopes, and</u>	249
<u>isotope technologies;</u>	250
<u>(B) To make this state all of the following:</u>	251
<u>(1) A leader in the development and construction of new-</u>	252
<u>type advanced-nuclear-research reactors;</u>	253
<u>(2) A national and global leader in the commercial</u>	254
<u>production of isotopes and research;</u>	255
<u>(3) A leader in the research and development of high-</u>	256
<u>level-nuclear-waste reduction and storage technology.</u>	257
<u>Sec. 4164.11. The authority shall have all powers</u>	258
<u>necessary and convenient for carrying out its statutory</u>	259
<u>purposes, including the following powers:</u>	260
<u>(A) To adopt bylaws for the management and regulation of</u>	261
<u>its affairs;</u>	262
<u>(B) To develop and adopt a strategic plan for carrying out</u>	263
<u>the purposes set forth in this chapter;</u>	264
<u>(C) To foster innovative partnerships and relationships in</u>	265
<u>the state and among the state's public institutions of higher</u>	266
<u>education, private companies, federal laboratories, and</u>	267
<u>nonprofit organizations, to accomplish the purposes set forth in</u>	268
<u>this chapter;</u>	269

(D) To identify and support, in cooperation with the 270  
public and private sectors, the development of education 271  
programs related to Ohio's isotope industry; 272

(E) To assume any regulatory powers delegated from the 273  
United States nuclear regulatory commission, the United States 274  
department of energy, or any branch of the United States 275  
military, or similar federal agencies, departments, or programs, 276  
governing the construction and operation of noncommercial power- 277  
producing nuclear reactors and the handling of radioactive 278  
materials; 279

(F) To act in place of the governor in approving 280  
agreements with the United States nuclear regulatory commission 281  
and joint-development agreements with the United States 282  
department of energy or an equivalent regulatory agency in the 283  
event that any of the following occur: 284

(1) The authority requests the commission to delegate 285  
rules for a state-based nuclear research-and-development 286  
program. 287

(2) The authority requests to jointly develop advanced- 288  
nuclear-research-reactor technology with the department under 289  
the department's authority. 290

(3) The authority requests to jointly develop advanced- 291  
nuclear-research-reactor technology with the United States 292  
department of defense or another United States military agency 293  
under the authority of the department or agency. 294

**Sec. 4164.12.** For the purpose of carrying out the Ohio 295  
nuclear development authority's duties under sections 4164.01 to 296  
4164.20 of the Revised Code, the authority may make use of the 297  
staff and experts employed at the department of development in 298

such manner as is provided by mutual arrangement between the 299  
authority and the department. 300

Sec. 4164.13. Meetings of the authority shall be held in 301  
compliance with section 121.22 of the Revised Code. 302

Sec. 4164.15. The authority shall work with industrial and 303  
academic institutions and the United States department of energy 304  
or branches of the United States military to approve designs for 305  
the commercialization of advanced-nuclear-reactor components, 306  
which may include any of the following: 307

(A) Advanced-nuclear-reactor-neutronics analysis and 308  
experimentation, including reactor, plant, shielding, nuclear 309  
data, source-program software, nuclear database, conceptual 310  
design, core and system design, certification in the phases, 311  
core-management and fuel-management technology, modeling, and 312  
calculation; 313

(B) Advanced-nuclear-reactor safety and plant safety, 314  
including reactor-system safety standards, accident-analysis 315  
software, and accident-management regulations; 316

(C) Advanced-nuclear-reactor fuels and materials, 317  
including long-life fuel, clad materials, structural materials, 318  
component materials, absorber materials, circuit materials, raw 319  
materials, fuels-and-materials research and development, testing 320  
programs used to develop fuels and materials-manufacturing 321  
processes, experimental data, formulae, technological processes, 322  
and facilities and equipment used to manufacture advanced- 323  
nuclear-reactor fuels and materials; 324

(D) Advanced-nuclear-reactor-nuclear-steam-supply systems 325  
and their associated components and equipment, including design 326  
standards, component, equipment, and systems design, thermal 327

<u>hydraulics, mechanics, and chemistry analysis;</u>	328
<u>(E) Advanced-nuclear-reactor engineered-safety features</u>	329
<u>and their associated components, including design standards,</u>	330
<u>component design, system design, and structural design;</u>	331
<u>(F) Advanced-nuclear-reactor building, including</u>	332
<u>containment design, structural analysis, and architectural</u>	333
<u>analysis;</u>	334
<u>(G) Advanced-nuclear-reactor instrumentation and control</u>	335
<u>and application of computer science, including survey, monitor,</u>	336
<u>control, and protection systems;</u>	337
<u>(H) Advanced-nuclear-reactor-quality practices,</u>	338
<u>nondestructive-inspection practices, and in-service-inspection</u>	339
<u>technology;</u>	340
<u>(I) Advanced-nuclear-reactor plant design and</u>	341
<u>construction, debug, test-run, operation, maintenance, and</u>	342
<u>decommissioning technology;</u>	343
<u>(J) Advanced-nuclear-reactor economic methodology and</u>	344
<u>evaluation technology;</u>	345
<u>(K) Treatment, storage, recycling, and disposal technology</u>	346
<u>for advanced-nuclear-reactor and system-spent fuel;</u>	347
<u>(L) Treatment, storage, and disposal technology for</u>	348
<u>advanced-nuclear-reactor and system radioactive waste;</u>	349
<u>(M) Other areas that the parties or their executive agents</u>	350
<u>agree upon in writing.</u>	351
<b><u>Sec. 4164.16. The authority shall give priority to</u></b>	352
<b><u>projects that reduce nuclear waste and produce isotopes.</u></b>	353
<b><u>Sec. 4164.18. On or before the fourth day of July of each</u></b>	354

year, the authority shall submit an annual report of its 355  
activities to the governor, the speaker of the house of 356  
representatives, the president of the senate, and the chairs of 357  
the house and senate committees that oversee energy-related 358  
issues. The report shall be posted to the authority's web site. 359

**Sec. 4164.19.** Nothing in this chapter shall be construed 360  
to supersede any agreement between the department of health and 361  
the United States nuclear regulatory commission entered into 362  
under section 3748.03 of the Revised Code with respect to 363  
regulating activities not within the scope of activities of the 364  
authority. 365

**Sec. 4164.20.** The authority shall, under Chapter 119. of 366  
the Revised Code, adopt rules provided for by the United States 367  
nuclear regulatory commission, department of energy, department 368  
of defense or another United States military agency, or a 369  
comparable federal agency for an Ohio state nuclear technology 370  
research program for the purposes of developing and studying 371  
advanced-nuclear research reactors to produce isotopes and to 372  
reduce this state's high-level nuclear waste. The rules shall 373  
reasonably ensure Ohioans of their safety in respect to nuclear 374  
technology research and development and radioactive materials. 375

**Section 2.** That existing section 3748.03 of the Revised 376  
Code is hereby repealed. 377

**Section 3.** Not later than thirty days after the effective 378  
date of this section, the Ohio nuclear development authority 379  
nominating council shall provide the governor with a list of 380  
possible initial appointees. 381