

116TH CONGRESS
1ST SESSION

S. 2093

To provide for the establishment of the Thorium-Bearing Rare Earth Refinery Cooperative, and for other purposes.

IN THE SENATE OF THE UNITED STATES

JULY 11, 2019

Mr. RUBIO introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

A BILL

To provide for the establishment of the Thorium-Bearing Rare Earth Refinery Cooperative, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Rare Earth Coopera-
5 tive 21st Century Manufacturing Act” or the “RE-Coop
6 21st Century Manufacturing Act”.

7 **SEC. 2. FINDINGS; STATEMENT OF POLICY.**

8 (a) FINDINGS.—Congress finds the following:

1 (1) Rare earth elements are critical for ad-
2 vanced energy technologies, national defense, and
3 other commercial and industrial applications.

4 (2) The People’s Republic of China (referred to
5 in this subsection as “China”) has leveraged its mo-
6 nopoly control over the rare earth value chain to
7 force corporations from the United States, Europe,
8 Japan, and South Korea to transfer manufacturing
9 facilities, technology, and jobs to China in exchange
10 for secure supply contracts.

11 (3) The increasingly aggressive mercantile be-
12 havior of China has led to involuntary transfers of
13 technology, manufacturing, and jobs, which has re-
14 sulted in onerous trade imbalances with the United
15 States and trading partners of the United States.

16 (4) The Comptroller General of the United
17 States has confirmed that the monopoly control of
18 China over the rare earth value chain has resulted
19 in vulnerabilities in the procurement of multiple
20 United States weapons systems.

21 (5) Direct links exist between rare earth min-
22 eralogy and thorium.

23 (6) Thorium is a radioactive element commonly
24 associated with the lanthanide elements in most rare

1 earth deposits located in the United States and else-
2 where.

3 (7) Regulations regarding thorium represent a
4 barrier to the development of a rare earth industry
5 that is based in the United States.

6 (8) Meeting the strategic national interest ob-
7 jectives of the United States and economic and envi-
8 ronmental goals are best achieved through the cre-
9 ation of a rare earth cooperative.

10 (9) A rare earth cooperative could—

11 (A) greatly increase the production of rare
12 earth elements;

13 (B) ensure environmental safety; and

14 (C) lower the cost of the production and fi-
15 nancial risks faced by rare earth producers in
16 the United States.

17 (10) Historically, agricultural and electric co-
18 operatives have stood as one of the greatest success
19 stories of the United States.

20 (b) STATEMENT OF POLICY.—It is the policy of the
21 United States to advance domestic refining of rare earth
22 elements and the safe storage of thorium in anticipation
23 of the potential future industrial uses of thorium, includ-
24 ing energy, because—

1 (1) thorium has a mineralogical association
2 with valuable rare earth elements;

3 (2) there is a great need to develop domestic re-
4 fining capacity to process domestic rare earth ele-
5 ment deposits; and

6 (3) the economy of the United States would
7 benefit from the rapid development and control of
8 intellectual property relating to the commercial de-
9 velopment of technology utilizing thorium.

10 **SEC. 3. DEFINITIONS.**

11 In this Act:

12 (1) **ACTINIDE.**—The term “actinide” means a
13 natural element associated with any of the series of
14 15 metallic elements between actinium, with atomic
15 number 89, and lawrencium, with atomic number
16 103, on the periodic table.

17 (2) **COOPERATIVE.**—The term “Cooperative”
18 means the Thorium-Bearing Rare Earth Refinery
19 Cooperative established under section 4(a).

20 (3) **CORPORATION.**—The term “Corporation”
21 means the Thorium Storage, Energy, and Industrial
22 Products Corporation established under section 5(a).

23 (4) **NATIONAL LABORATORY.**—The term “Na-
24 tional Laboratory” has the meaning given the term

1 in section 2 of the Energy Policy Act of 2005 (42
2 U.S.C. 15801).

3 (5) RARE EARTH ELEMENT.—The term “rare
4 earth element” means a natural element associated
5 with—

6 (A) the metallic element scandium, with
7 atomic number 21, or yttrium, with atomic
8 number 39;

9 (B) any of the series of 15 metallic ele-
10 ments between lanthanum, with atomic number
11 57, and lutetium, with atomic number 71, on
12 the periodic table; or

13 (C) any of the series of 15 metallic ele-
14 ments between actinium, with atomic number
15 89, and lawrencium, with atomic number 103,
16 on the periodic table.

17 **SEC. 4. RARE EARTH REFINERY COOPERATIVE.**

18 (a) ESTABLISHMENT.—Not later than 60 days after
19 the date of enactment of this Act, the Secretary of Com-
20 merce shall coordinate with any relevant Federal agencies
21 to procure the issuance of a Federal charter for a privately
22 funded, privately operated, and privately managed cooper-
23 ative with respect to rare earth elements, which—

24 (1) shall—

1 (A) be known as the Thorium-Bearing
2 Rare Earth Refinery Cooperative;

3 (B) coordinate the establishment of a fully
4 integrated United States value chain with re-
5 spect to rare earth elements to serve the na-
6 tional security needs of the United States and
7 the needs of industry in the United States; and

8 (C) produce products that use rare earth
9 elements, including metal powders (such as rare
10 earth oxides and rare earth salts, including
11 chlorides and nitrates), metals containing rare
12 earth elements, alloys, magnets, and other
13 value-added products using rare earth elements,
14 as required by—

15 (i) the owners of, and investors in, the
16 Cooperative; and

17 (ii) the defense industry of the United
18 States; and

19 (2) may—

20 (A) accept domestic and international in-
21 vestment from—

22 (i) commercial or industrial users of
23 products containing rare earth elements,
24 including trade groups or associations
25 formed to act on behalf of the defense in-

1 industry or other end-users of those prod-
2 ucts; or

3 (ii) any of the resource suppliers of
4 the Cooperative;

5 (B) accept investment or funding from for-
6 eign governments, State agencies, or State-
7 sponsored entities, including universities or re-
8 search institutions, subject to the approval of
9 the Committee on Foreign Investment in the
10 United States established under section 721(k)
11 of the Defense Production Act of 1950 (50
12 U.S.C. 4565(k));

13 (C) distribute finished goods and profits in
14 proportion to investment;

15 (D) on behalf of the owners of the Cooper-
16 ative, sell surplus finished goods on the open
17 market; and

18 (E) accept and process rare earth re-
19 sources, or other critical minerals, with elevated
20 levels of thorium or uranium that are—

21 (i) mined in the United States;

22 (ii) from any domestic waste product,
23 co-product, or byproduct of some other
24 mined commodity; or

1 (iii) produced by any foreign supplier
2 that has invested in the Cooperative.

3 (b) SECURING RARE EARTHS.—The following mate-
4 rials shall be considered to be an unrefined and unproc-
5 essed ore, as defined in section 40.4 of title 10, Code of
6 Federal Regulations, or any successor regulation:

7 (1) Any material accepted by the Cooperative
8 under subsection (a)(2)(E).

9 (2) A thorium bearing rare earth ore that is—

10 (A) a byproduct or coproduct of another
11 mined commodity; and

12 (B) sold and shipped under a supply agree-
13 ment with the Cooperative.

14 (c) PRODUCERS OF RARE EARTHS.—A producer that
15 acts under a supply contract with the Cooperative may,
16 under the rules for unrefined and unprocessed ore under
17 part 40 of title 10, Code of Federal Regulations, process,
18 manage, and transport any material with respect to which
19 the contract applies.

20 (d) LIABILITY.—Notwithstanding any other provision
21 of law or regulation—

22 (1) the Federal Government shall not be liable
23 for any activities of the Cooperative under this sec-
24 tion; and

1 (2) the Cooperative shall establish and secure
2 sufficient financial surety bonding and other insur-
3 ance, consistent with private industry standards.

4 **SEC. 5. THORIUM STORAGE, ENERGY, AND INDUSTRIAL**
5 **PRODUCTS CORPORATION.**

6 (a) ESTABLISHMENT.—Not later than 60 days after
7 the date of enactment of this Act, the Secretary of Energy
8 shall coordinate with relevant Federal agencies to procure
9 the issuance of a Federal charter for a privately funded
10 and privately operated corporation, which—

11 (1) shall be known as the Thorium Storage,
12 Energy, and Industrial Products Corporation; and

13 (2) in accordance with all applicable laws, regu-
14 lations, and rules, shall—

15 (A) on a preprocessing basis, assume liabil-
16 ity for and ownership of all thorium and
17 mineralogically associated or related actinides
18 and decay products contained within the rare
19 earth element ores utilized by the Cooperative;

20 (B) take physical possession and safely
21 store all thorium-containing actinide byprod-
22 ucts, with the costs of the storage to be paid by
23 the Cooperative; and

24 (C) manage the sale of all valuable actinide
25 and decay products, utilizing the proceeds for

1 the development of commercial uses and market
2 for thorium, including energy.

3 (b) THORIUM STORAGE.—The Corporation shall es-
4 tablish not less than 1 facility, each of which shall—

5 (1) be known as a “Thorium Bank”;

6 (2) provide safe and long-term storage for all
7 thorium produced as a byproduct in the production
8 of rare earth elements for the Cooperative; and

9 (3) hold and maintain financial surety bonding
10 and insurance consistent with private industry
11 standards.

12 (c) INDUSTRIAL PRODUCTS.—The Corporation may
13 establish not less than 1 division, each of which shall be
14 known as an “Industrial Products Corporation”, for the
15 certification, licensing, insuring, and commercial develop-
16 ment of all nonenergy uses for thorium (including thorium
17 isotopes and thorium daughter elements), including alloys,
18 catalysts, medical isotopes, and other products.

19 (d) ENERGY APPLICATIONS.—The Corporation may
20 establish not less than 1 energy products, energy systems,
21 or energy applications division for the certification, licens-
22 ing, insuring, commercial development, deployment, lease,
23 and licensing of such products and services, including—

24 (1) developing intellectual property;

25 (2) acquiring technology;

1 (3) developing, manufacturing, operating, or
2 leasing commercial thorium energy systems; and

3 (4) developing, manufacturing, operating, or
4 leasing related thermal processing systems.

5 (e) INTERNATIONAL PARTNERSHIPS.—

6 (1) IN GENERAL.—The Corporation may sell or
7 distribute equity and establish partnerships with the
8 United States.

9 (2) FOREIGN INVESTORS.—Any foreign investor
10 in the Corporation shall make a voluntary filing with
11 the Committee on Foreign Investment in the United
12 States established under section 721(k) of the De-
13 fense Production Act of 1950 (50 U.S.C. 4565(k)).

14 (f) LIABILITY.—Notwithstanding any other provision
15 of law or regulation—

16 (1) the Federal Government shall not be liable
17 for any activities of the Corporation under this sec-
18 tion; and

19 (2) the Corporation shall establish and secure
20 sufficient financial surety bonding and other insur-
21 ance, consistent with private industry standards, for
22 the management and storage of radioactive materials
23 and other waste and hazards.

1 **SEC. 6. FEDERAL SUPPORT.**

2 (a) MEETINGS WITH RELEVANT PARTIES.—The Sec-
3 retary of Commerce and the Secretary of Defense shall
4 provide initial assistance to the Cooperative, and the Sec-
5 retary of Energy and the Secretary of Defense shall pro-
6 vide initial assistance to the Corporation, by establishing
7 peer-to-peer meetings with allies of the United States in
8 the North Atlantic Treaty Organization, other allied for-
9 eign governments, Federal and State agencies, science and
10 technology research institutions, and commercial users
11 and consumers of rare earth elements and energy.

12 (b) ELIGIBILITY FOR CERTAIN SUPPORT.—

13 (1) GRANT AND LOAN PROGRAMS.—The Coop-
14 erative and the Corporation may apply for funding
15 assistance provided by any relevant grant or loan
16 program carried out by the Department of Energy,
17 the Department of Defense, or the Department of
18 Commerce, including, with respect to the Corpora-
19 tion—

20 (A) the Small Modular Reactor Licensing
21 Technical Support Program of the Department
22 of Energy; and

23 (B) any program of the Office of Advanced
24 Reactor Technologies of the Department of En-
25 ergy.

1 (2) TECHNICAL AND DATA SUPPORT TO THE
2 CORPORATION.—The National Laboratories shall
3 provide technical and data support to the Corpora-
4 tion on parity with transfers made before the date
5 of enactment of this Act by the National Labora-
6 tories to the Chinese Academy of Sciences and any
7 other foreign agent or entity.

8 (c) DEPARTMENT OF ENERGY POLICY.—The Sec-
9 retary of Energy shall adopt and execute a policy that pro-
10 motes the United States, acting in conjunction with the
11 Corporation, as a global leader in thorium energy systems.

12 **SEC. 7. APPOINTMENT OF INITIAL OFFICERS.**

13 (a) IN GENERAL.—The Secretary of Commerce and
14 the Secretary of Energy shall jointly appoint 2 citizens
15 of the United States—

16 (1) neither of whom may be an employee of,
17 consultant to, advisor to, or affiliate of the United
18 States Government; and

19 (2) who shall act as the initial officers and
20 Board of Directors of both the Cooperative and the
21 Corporation.

22 (b) QUALIFICATIONS.—The 2 individuals appointed
23 under subsection (a) shall each have expertise in, and a
24 history of promoting—

25 (1) the development of a platform—

1 (A) that is based in the United States;

2 (B) that is funded using multinational
3 sources; and

4 (C) the purpose of which is the develop-
5 ment of a fully integrated rare earth value
6 chain; and

7 (2) the commercial development of uses and
8 markets for thorium, including energy.

9 (c) RESPONSIBILITIES.—The individuals appointed
10 under subsection (a) shall work with the Secretary of
11 Commerce to develop corporate bylaws and terms of gov-
12 ernance for the Cooperative, and with the Secretary of En-
13 ergy to develop those bylaws and terms for the Corpora-
14 tion, which shall be set forth in a Memorandum of Under-
15 standing for each such entity that outlines specific obliga-
16 tions, commitments, limitations on sources of inter-
17 national investment, and goals that are specific to the na-
18 tional interests of the United States.

19 (d) DURATION OF SERVICE.—The individuals ap-
20 pointed under subsection (a) shall continue to serve in
21 those roles for as long as provided under the terms of gov-
22 ernance developed under subsection (c).

23 **SEC. 8. OTHER PROVISIONS.**

24 (a) ANNUAL AUDITS.—The Cooperative and the Cor-
25 poration shall, on the date that is 180 days after the date

1 on which each such entity is established, and annually
2 thereafter, submit to the Secretary of Commerce, the Sec-
3 retary of Energy, and the Secretary of Defense an audited
4 report, which shall—

5 (1) be conducted by an outside auditing firm;

6 and

7 (2) for the period covered by the report, evalu-
8 ate the progress and success of the Cooperative and
9 the Corporation in meeting all targets and objectives
10 established by the Secretary, in consultation with the
11 heads of other relevant Federal agencies.

12 (b) **AUTHORITY OF THE SECRETARY OF DEFENSE.**—

13 The Secretary of Defense may monitor the output of the
14 Cooperative and the Corporation with respect to the na-
15 tional security objectives set forth in the Memorandum of
16 Understanding required for each entity under section 7(c).

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