

113TH CONGRESS  
2D SESSION

# S. 2006

To provide for the establishment of a National Rare Earth Refinery Cooperative, and for other purposes.

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IN THE SENATE OF THE UNITED STATES

FEBRUARY 6, 2014

Mr. BLUNT (for himself and Mr. MANCHIN) introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

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## A BILL

To provide for the establishment of a National 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 “National Rare Earth  
5       Cooperative Act of 2014”.

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

7       (a) FINDINGS.—Congress makes the following find-  
8       ings:

9                   (1) Heavy rare earth elements are critical for  
10                  the national defense of the United States, advanced

1 energy technologies, and other desirable commercial  
2 and industrial applications.

3 (2) The Government Accountability Office has  
4 confirmed that the monopoly control of the People's  
5 Republic of China over the rare earth value chain  
6 has resulted in vulnerabilities in the procurement of  
7 multiple United States weapons systems.

8 (3) China has leveraged its monopoly control  
9 over the rare earth value chain to force United  
10 States, European, Japanese, and Korean corpora-  
11 tions to transfer manufacturing facilities, tech-  
12 nology, and jobs to China in exchange for secure  
13 supply contracts.

14 (4) China's increasingly aggressive mercantile  
15 behavior has resulted in involuntary transfers of  
16 technology, manufacturing, and jobs resulting in on-  
17 erous trade imbalances with the United States and  
18 trading partners of the United States.

19 (5) Direct links exist between heavy rare earth  
20 mineralogy and thorium.

21 (6) Thorium is a mildly radioactive element  
22 commonly associated with the lanthanide elements in  
23 the most heavy rare earth deposits that are located  
24 in the United States and elsewhere.

1                             (7) Regulations regarding thorium represent a  
2                             barrier to the development of a heavy rare earth in-  
3                             dustry that is based in the United States.

4                             (8) Balancing the strategic national interest ob-  
5                             jectives of the United States against economic and  
6                             environmental risks are best met through the cre-  
7                             ation of a rare earth cooperative.

8                             (9) A rare earth cooperative could—

9                                 (A) greatly increase rare earth production;  
10                              (B) ensure environmental safety; and  
11                              (C) lower the cost of the production and fi-  
12                             nancial risks faced by rare earth producers in  
13                             the United States.

14                             (10) Historically, agricultural and electric co-  
15                             operatives have stood as one of the greatest success  
16                             stories of the United States.

17                             (b) STATEMENT OF POLICY.—It is the policy of the  
18                             United States to advance domestic refining of heavy rare  
19                             earth materials and the safe storage of thorium in antici-  
20                             pation of the potential future industrial uses of thorium,  
21                             including energy, as—

22                             (1) thorium has a mineralogical association  
23                             with valuable heavy rare earth elements;

1                         (2) there is a great need to develop domestic re-  
2                         fining capacity to process domestic heavy rare earth  
3                         deposits; and

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

8 **SEC. 3. DEFINITIONS.**

9                         In this Act:

10                         (1) ACTINIDE.—The term “actinide” means a  
11                         natural element associated with any of the 15 rare  
12                         earth minerals with atomic number 43 and atomic  
13                         numbers 81 through 93 on the periodic table.

14                         (2) CONSUMER MEMBER.—

15                         (A) IN GENERAL.—The term “consumer  
16                         member” means a member of the Cooperative  
17                         that is—

18                         (i) an entity that is part of, or has a  
19                         role in, the value chain for rare earth ma-  
20                         terials or rare earth products, including  
21                         from the refined oxide stage to the stage in  
22                         which the rare earth elements are finished  
23                         in any physical or chemical form (including  
24                         oxides, metals, alloys, catalysts, or compo-  
25                         nents); or

(ii) a consumer of rare earth products.

(B) INCLUSIONS.—The term “consumer member” includes—

5 (i) a producer of or other entity that  
6 is part of the value chain for rare earth  
7 materials, including original equipment  
8 manufacturer producers, whose place of  
9 business is located in or outside the United  
10 States;

(ii) a defense contractor or contractors in the United States; and

(iii) any government agency in the  
United States or outside the United States  
that invests in the Cooperative.

22                             (5) CORPORATION.—The term “Corporation”  
23                             means the Thorium Storage, Energy, and Industrial  
24                             Products Corporation established under section  
25                             5(a)(1).

1                         (6) CORPORATION BOARD.—The term “Cor-  
2 poration Board” means the Board of Directors of  
3 the Corporation established under section 5(b)(1).

4                         (7) EXECUTIVE COMMITTEE.—The term “Exec-  
5 utive Committee” means the executive committee es-  
6 tablished under section 5(b)(2).

7                         (8) INITIAL BOARD OF DIRECTORS.—The term  
8 “Initial Board of Directors” means the initial Board  
9 of Directors for the Cooperative established under  
10 section 4(b)(1)(A).

11                         (9) INSTITUTION OF HIGHER EDUCATION.—The  
12 term “institution of higher education” has the  
13 meaning given that term in section 101(a) of the  
14 Higher Education Act of 1965 (20 U.S.C. 1001(a)).

15                         (10) NATIONAL LABORATORY.—The term “na-  
16 tional laboratory” has the meaning given that term  
17 in section 2 of the Energy Policy Act of 2005 (42  
18 U.S.C. 15801).

19                         (11) SECRETARY.—The term “Secretary”  
20 means the Secretary of Defense.

21                         (12) SUPPLIER MEMBER.—The term “supplier  
22 member” means a rare earth producer that enters  
23 into a contract to supply the Cooperative with rare  
24 earth ores.

1                         (13) TOLLING.—The term “tolling” means a  
2                         fee-for-services contract between the Cooperative and  
3                         a primary rare earth producer under which—

4                             (A) the producer retains ownership and  
5                         control of the finished product; and  
6                             (B) pays to the Cooperative a fee for serv-  
7                         ices rendered by the Cooperative.

8                         (14) UNPROCESSED AND UNREFINED ORE.—  
9                         The term “unprocessed and refined ore” includes  
10                         any ores or residual ores resulting from the mining,  
11                         extraction, beneficiation, and processing of other  
12                         natural resources.

13 **SEC. 4. THORIUM-BEARING RARE EARTH REFINERY COOP-  
14 ERATIVE.**

15                         (a) ESTABLISHMENT.—

16                         (1) IN GENERAL.—There is established a Coop-  
17                         erative, to be known as the “Thorium-Bearing Rare  
18                         Earth Refinery Cooperative”, to provide for the do-  
19                         mestic processing of thorium-bearing rare earth con-  
20                         centrates as residual unprocessed and unrefined  
21                         ores.

22                         (2) FEDERAL CHARTER; OWNERSHIP.—The Co-  
23                         operative shall operate under a Federal charter.

24                         (3) MEMBERSHIP.—

3 (i) supplier members; and  
4 (ii) consumer members.

**5 (B) SUPPLIER MEMBERS.—**

19 (C) CONSUMER MEMBER.—A consumer  
20 member—

finished rare earth products from the Co-operative at market price.

**8 (b) MANAGEMENT.—**

9 (1) INITIAL BOARD OF DIRECTORS.—

15 (i) 1 member shall represent the Defense Logistics Agency Strategic Materials  
16 program of the Department of Defense;  
17

(ii) 1 member shall represent the Assistant Secretary of Defense for Research and Engineering;

(iv) 1 member shall represent the

2 United States Geological Survey; and

3 (v) 1 member who shall—

6 (II) be recommended for appoint-  
7 ment by a majority vote of the other  
8 members of the Initial Board of Di-  
9 rectors appointed under clauses (i)  
10 through (iv).

20 (C) STANDING MEMBER.—The member ap-  
21 pointed under subparagraph (A)(v) shall remain  
22 on the Cooperative Board and Corporation  
23 Board, until such time as—

24 (i) the member voluntarily resigns; or

(ii) a majority of the members of the Cooperative Board and a majority of the members of the Corporation Board vote to remove the member from the Cooperative Board and the Corporation Board.

(D) TERMINATION.—The Initial Board of Directors shall terminate on the date on which the initial members of the Cooperative Board are appointed under paragraph (2).

(2) BOARD OF DIRECTORS.—

(A) IN GENERAL.—The Board of Directors of the Cooperative shall be comprised of 9 members, to be selected in accordance with the bylaws of the Cooperative established under paragraph (1)(B)(i), of whom—

(i) 5 members shall be consumer members:

(ii) 2 members shall be supplier members:

(iii) 1 member shall represent an advocacy group for defense contractors, other rare earth consumers, and suppliers who are not represented by the Board or through direct ownership in the Cooperative; and

(iv) 1 member shall be the member of  
the Initial Board of Directors appointed  
under paragraph (1)(A)(v).

14 (II) the value of supply member  
15 contracts, as determined based on the  
16 volume, term, and distributions of  
17 rare earth concentrates relative to  
18 processing costs; and

1           tions determined to be appropriate by the Coop-  
2           erative Board.

3           (c) POWERS; DUTIES.—

4           (1) INVESTMENT PARTNERSHIPS.—The Cooper-  
5           ative shall seek to enter into domestic and interna-  
6           tional investment partnerships for the develop-  
7           ment of the refinery.

8           (2) AGREEMENTS; DIRECT SALES.—The Cooper-  
9           ative may—

10           (A) enter into equity, financial, and sup-  
11           ply-based agreements or arrangements with  
12           value-added intermediaries, equipment manu-  
13           facturers, consumers of rare earth products,  
14           and Federal, State, or local agencies to provide  
15           economic incentives, leases, or public financing;  
16           and

17           (B) engage in direct market sales of rare  
18           earth products.

19           (3) SUPPLY CONTRACTS AND TOLLING SERV-  
20           ICES.—

21           (A) IN GENERAL.—The Cooperative may—  
22           (i) directly purchase rare earth mate-  
23           rials obtained from any byproduct pro-  
24           ducers of rare earths;

(ii) transport those materials in accordance with part 40 of title 10, Code of Federal Regulations (or any corresponding similar regulation or ruling);

(iii) offer supplier members short-term or direct purchase contracts; and

(iv) allow primary rare earth producers to be tolling customers of the Cooperative.

(B) REQUIREMENTS.—A tolling customer under subparagraph (A)(iii) shall—

(i) retain control of the rare earth products during the processing, refining, or value adding of the rare earth products by the Cooperative; and

(ii) take possession of the rare earth products after—

(I) tolling services are rendered by the Cooperative; and

(II) the Cooperative has received payment in full for the tolling services rendered.

(C) FEE.—The Cooperative may charge tolling customers under subparagraph (A)(iii) a tolling fee not to exceed the sum of—

5 (ii) the amount equal to 5 percent of  
6 the market value of the finished product  
7 provided to the tolling customer by the Co-  
8 operative.

15 (E) LIMITATIONS.—A direct purchase con-  
16 sumer under subparagraph (A)(ii) or a tolling  
17 customer under subparagraph (A)(iii)—

**25**                   (d) AUDITS.—

1                     (1) IN GENERAL.—The Cooperative shall retain  
2                     an independent auditor to evaluate the extent to  
3                     which Federal funds, if any, made available to the  
4                     Cooperative for research and development activities  
5                     have been expended in a manner that is consistent  
6                     with the purposes of this Act and the charter, by-  
7                     laws, and rules of the Cooperative.

8                     (2) REPORTS.—The auditor retained under  
9                     paragraph (1) shall submit to the Secretary of De-  
10                    fense, the Cooperative, and the Comptroller General  
11                    of the United States an annual report containing the  
12                    findings and determinations of the auditor.

13                    (3) REVIEW BY COMPTROLLER GENERAL.—The  
14                    Comptroller General of the United States shall—

15                         (A) review each annual report submitted to  
16                     the Comptroller General by the auditor under  
17                     paragraph (2); and

18                         (B) submit to the Committee on Armed  
19                     Services of the Senate and the Committee on  
20                     Armed Services of the House of Representatives  
21                     a report containing the comments of the Com-  
22                     ptroller General on the accuracy and complete-  
23                     ness of the report and any other matters relat-  
24                     ing to the report that the Comptroller General  
25                     considers appropriate.

1       (e) REIMBURSEMENT OF FEDERAL GOVERNMENT.—  
2 Not later than 7 years of the date of the enactment of  
3 this Act, the Cooperative shall reimburse the Federal Gov-  
4 ernment for administrative costs associated with the es-  
5 tablishment of its charter.

## 6 SEC. 5. THORIUM STORAGE, ENERGY, AND INDUSTRIAL 7 PRODUCTS CORPORATION.

**8 (a) ESTABLISHMENT.—**

9                         (1) IN GENERAL.—As soon as practicable after  
10                         the date of the enactment of this Act, the Cooperative  
11                         Board, in consultation with the Secretary of Defense,  
12                         shall establish the Thorium Storage, Energy,  
13                         and Industrial Products Corporation to develop uses  
14                         and markets for thorium, including energy.

**17 (b) MANAGEMENT.—**

18 (1) BOARD OF DIRECTORS.—

(i) 1 member, who shall represent the  
Assistant Secretary of Defense for Re-  
search and Engineering.

4 (ii) 1 member, who shall represent the  
5 Advanced Energy Program of the Defense  
6 Advanced Research Project Agency.

11 (iv) 1 member, who shall represent a  
12 national laboratory.

13 (v) 1 member, who is the member of  
14 the Initial Board of Directors appointed  
15 under section 4(b)(1)(A)(v).

(C) SUBSEQUENT MEMBERS.—Subject to subparagraphs (A) and (D), subsequent members of the Corporation Board and Executive Committee shall be appointed in accordance with the bylaws of the Corporation established under paragraph (2)(B)(i).

(D) STANDING MEMBERS.—The initial members appointed under clauses (iv) and (v) of subparagraph (B) shall remain on the Cor-

1 poration Board and the Executive Committee,  
2 until such time as—

- 3 (i) the members voluntarily resign;
- 4 (ii) in the case of a member appointed  
5 under subparagraph (B)(iv), a majority of  
6 the members of the Corporation Board  
7 vote to remove the member from the Cor-  
8 poration Board; or
- 9 (iii) in the case of a member ap-  
10 pointed under subparagraph (B)(v), a ma-  
11 jority of the members of the Corporation  
12 Board and a majority of the members of  
13 the Cooperative Board vote to remove the  
14 member from the Corporation Board and  
15 the Cooperative Board.

16 (2) EXECUTIVE COMMITTEE.—

17 (A) IN GENERAL.—The Executive Com-  
18 mittee for the Corporation shall be composed of  
19 the initial members of the Corporation Board  
20 appointed under clauses (iv) and (v) of para-  
21 graph (1)(B).

22 (B) DUTIES.—The Executive Committee  
23 shall—

6 (c) POWERS.—

7                   (1) ESTABLISHMENT OF SUBSEQUENT ENTI-  
8 TIES.—

(i) alloys;

17 (ii) catalysts;

18 (iii) medical isotopes; and

19 (iv) other products.

(B) AUTHORITY OF ENTITIES.—The entities described in subparagraph (A) may—

22 (i) develop standards, procedures, and  
23 protocols for the approval of commercial  
24 and industrial applications for thorium;

1 (ii) carry out directly the production  
2 and sale of thorium-related non-energy  
3 products; and

6 (C) SALE OR DISTRIBUTION OF INDUS-  
7 TRIAL PRODUCTS CORPORATION; CREATION OF  
8 BUSINESSES AND PARTNERSHIPS.—To develop  
9 and commercialize non-energy uses for thorium,  
10 the Corporation Board may—

24 (A) to create capital;

(B) to develop intellectual property;

- (C) to acquire technology;
- (D) to establish business partnerships and raw material supply chains;
- (E) to commercially develop thorium energy systems;
- (F) to commercially develop systems for the reduction of spent fuel;
- (G) to develop hardened energy systems for the United States military; and
- (H) to develop process heat technologies systems for coal-to-liquid fuel separation, desalination, chemical synthesis, and other applications.

(d) DUTIES.—

1            thorium-containing actinide byproducts, with  
2            the costs of the storage to be paid by the Cor-  
3            poration from fees charged or revenue from  
4            sales of other valuable actinides;

5                 (C) develop new markets and uses for tho-  
6                 rium;

7                 (D) develop energy systems from thorium;  
8                 and

9                 (E) develop, manage, and control national  
10                and international energy leasing and distribu-  
11                tion platforms related to thorium energy sys-  
12                tems.

13                 (2) SAFE, LONG-TERM STORAGE; DEVELOP-  
14                MENT OF USES AND MARKETS.—The Corporation  
15                shall—

16                 (A) in consultation with the Administrator  
17                of the Environmental Protection Agency and  
18                the Secretary of Energy, be responsible for the  
19                safe, long-term storage for all thorium and tho-  
20                rium decay products generated through the Co-  
21                operative, consistent with part 192 of title 40,  
22                Code of Federal Regulations (as in effect on the  
23                date of the enactment of this Act), while taking  
24                into account the low relative risks relating to  
25                thorium; and

(B) develop uses and markets for thorium, including energy, including by coordinating and structuring domestic and international investment partnerships for the development of commercial and industrial uses for thorium.

**6 (e) AUDITS.—**

(3) REVIEW BY COMPTROLLER GENERAL.—The Comptroller General of the United States shall—

(A) review each annual report submitted to the Comptroller General by the auditor under paragraph (2); and

1           Armed Services of the House of Representatives  
2           a report containing the comments of the Comptroller General on the accuracy and completeness of the report and any other matters relating to the report that the Comptroller General  
3           considers appropriate.

4           (f) REIMBURSEMENT OF FEDERAL GOVERNMENT.—  
5           Not later than 7 years of the date of the enactment of  
6           this Act, the Corporation shall reimburse the Federal Government for administrative costs associated with the establishment of its charter.

7           **SEC. 6. DUTIES OF SECRETARY OF DEFENSE.**

8           (a) ADVANCEMENT OF RARE EARTH INITIATIVES.—  
9           The Secretary shall coordinate with other Federal agencies  
10          to advance and protect—

11                 (1) domestic rare earth mining;  
12                 (2) the refining of rare earth elements;  
13                 (3) basic rare earth metals production; and  
14                 (4) the development and commercialization of thorium, including—  
15                         (A) energy technologies and products; and  
16                         (B) products containing thorium.

17           (b) ANNUAL REPORTS.—Not later than one year after the date of the enactment of this Act, and annually

1 thereafter, the Secretary shall submit to Congress a report  
2 that, for the period covered by the report—

3                 (1) contains a description of the progress in the  
4 development of—

5                     (A) a domestic rare earth refining capac-  
6 ity; and

7                     (B) commercial uses and energy-related  
8 uses for thorium; and

9                 (2) takes into account each report submitted to  
10 the Secretary by the Cooperative and the Corpora-  
11 tion.

12 (c) FEDERAL AGENCIES; NATIONAL LABORA-  
13 TORIES.—Each Federal agency (including the Nuclear  
14 Regulatory Commission and the Defense Advanced Re-  
15 search Projects Agency), each national laboratory, and  
16 each facility funded by the Federal Government shall pro-  
17 vide assistance to the Cooperative and the Corporation  
18 under this Act.

19 (d) INSTITUTIONS OF HIGHER EDUCATION.—Each  
20 institution of higher education is encouraged—

21                 (1) to develop training and national expertise in  
22 the field of thorium development; and

23                 (2) to promote—

24                     (A) the marketing of thorium;

- 1                             (B) the advancement of the strategic uses  
2                             of thorium; and  
3                             (C) salt chemistry science and radio chem-  
4                             ists.

5       **SEC. 7. AUTHORIZATION OF DEPARTMENT OF DEFENSE TO**  
6                             **ESTABLISH EQUITY STAKE IN COOPERATIVE.**

7       The Secretary may acquire and maintain a 10 per-  
8       cent equity stake in the Cooperative in accordance with  
9       the provisions of the Strategic and Critical Materials  
10      Stock Piling Act (50 U.S.C. 98 et seq.) for the purpose  
11      of accessing strategic rare earth materials and eliminating  
12      the need to acquire such materials under that Act.

