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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.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the “Rare Earth Cooperative 21st Century Manufacturing Act” or the “RE-Coop 21st Century Manufacturing Act”.

SEC. 2. FINDINGS; STATEMENT OF POLICY.

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

(1) Rare earth elements are critical for advanced energy technologies, national defense, and other commercial and industrial applications.

(2) The People's Republic of China (referred to in this subsection as "China") has leveraged its monopoly control over the rare earth value chain to force corporations from the United States, Europe, Japan, and South Korea to transfer manufacturing facilities, technology, and jobs to China in exchange for secure supply contracts.

(3) The increasingly aggressive mercantile behavior of China has led to involuntary transfers of technology, manufacturing, and jobs, which has resulted in onerous trade imbalances with the United States and trading partners of the United States.

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

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

(6) Thorium is a radioactive element commonly associated with the lanthanide elements in most rare earth deposits located in the United States and elsewhere.

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

(8) Meeting the strategic national interest objectives of the United States and economic and environmental goals are best achieved through the creation of a rare earth cooperative.

(9) A rare earth cooperative could—

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

(B) ensure environmental safety; and

(C) lower the cost of the production and financial risks faced by rare earth producers in the United States.

(10) Historically, agricultural and electric cooperatives have stood as one of the greatest success stories of the United States.

(b) STATEMENT OF POLICY.—It is the policy of the United States to advance domestic refining of rare earth elements and the safe storage of thorium in anticipation of the potential future industrial uses of thorium, including energy, because—

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

(2) there is a great need to develop domestic refining capacity to process domestic rare earth element deposits; and

(3) the economy of the United States would benefit from the rapid development and control of intellectual property relating to the commercial development of technology utilizing thorium.

SEC. 3. DEFINITIONS.

In this Act:

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

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

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

(4) NATIONAL LABORATORY.—The term “National Laboratory” has the meaning given the term in section 2 of the Energy Policy Act of 2005 ([42 U.S.C. 15801](#)).

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

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

(B) any of the series of 15 metallic elements between lanthanum, with atomic number 57, and lutetium, with atomic number 71, on the periodic table; or

(C) any of the series of 15 metallic elements between actinium, with atomic number 89, and lawrencium, with atomic number 103, on the periodic table.

SEC. 4. RARE EARTH REFINERY COOPERATIVE.

(a) **ESTABLISHMENT.**—Not later than 60 days after the date of enactment of this Act, the Secretary of Commerce shall coordinate with any relevant Federal agencies to procure the issuance of a Federal charter for a privately funded, privately operated, and privately managed cooperative with respect to rare earth elements, which—

(1) shall—

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

(B) coordinate the establishment of a fully integrated United States value chain with respect to rare earth elements to serve the national security needs of the United States and the needs of industry in the United States; and

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

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

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

(2) may—

(A) accept domestic and international investment from—

(i) commercial or industrial users of products containing rare earth elements, including trade groups or

associations formed to act on behalf of the defense industry or other end-users of those products; or

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

(B) accept investment or funding from foreign governments, State agencies, or State-sponsored entities, including universities or research institutions, subject to the approval of the Committee on Foreign Investment in the United States established under section 721(k) of the Defense Production Act of 1950 ([50 U.S.C. 4565\(k\)](#));

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

(D) on behalf of the owners of the Cooperative, sell surplus finished goods on the open market; and

(E) accept and process rare earth resources, or other critical minerals, with elevated levels of thorium or uranium that are—

(i) mined in the United States;

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

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

(b) SECURING RARE EARTHS.—The following materials shall be considered to be an unrefined and unprocessed ore, as defined in section 40.4 of title 10, Code of Federal Regulations, or any successor regulation:

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

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

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

(B) sold and shipped under a supply agreement with the Cooperative.

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

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

(1) the Federal Government shall not be liable for any activities of the Cooperative under this section; and

(2) the Cooperative shall establish and secure sufficient financial surety bonding and other insurance, consistent with private industry standards.

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

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

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

(2) in accordance with all applicable laws, regulations, and rules, shall—

(A) on a preprocessing basis, assume liability for and ownership of all thorium and mineralogically associated or related actinides and decay products contained within the rare earth element ores utilized by the Cooperative;

(B) take physical possession and safely store all thorium-containing actinide byproducts, with the costs of the storage to be paid by the Cooperative; and

(C) manage the sale of all valuable actinide and decay products, utilizing the proceeds for the development of commercial uses and market for thorium, including energy.

(b) THORIUM STORAGE.—The Corporation shall establish not less than 1 facility, each of which shall—

(1) be known as a “Thorium Bank”;

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

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

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

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

(1) developing intellectual property;

(2) acquiring technology;

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

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

(e) INTERNATIONAL PARTNERSHIPS.—

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

(2) FOREIGN INVESTORS.—Any foreign investor in the Corporation shall make a voluntary filing with the Committee on

Foreign Investment in the United States established under section 721(k) of the Defense Production Act of 1950 ([50 U.S.C. 4565\(k\)](#)).

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

(1) the Federal Government shall not be liable for any activities of the Corporation under this section; and

(2) the Corporation shall establish and secure sufficient financial surety bonding and other insurance, consistent with private industry standards, for the management and storage of radioactive materials and other waste and hazards.

SEC. 6. FEDERAL SUPPORT.

(a) **MEETINGS WITH RELEVANT PARTIES.**—The Secretary of Commerce and the Secretary of Defense shall provide initial assistance to the Cooperative, and the Secretary of Energy and the Secretary of Defense shall provide initial assistance to the Corporation, by establishing peer-to-peer meetings with allies of the United States in the North Atlantic Treaty Organization, other allied foreign governments, Federal and State agencies, science and technology research institutions, and commercial users and consumers of rare earth elements and energy.

(b) **ELIGIBILITY FOR CERTAIN SUPPORT.**—

(1) **GRANT AND LOAN PROGRAMS.**—The Cooperative and the Corporation may apply for funding assistance provided by any relevant grant or loan program carried out by the Department of Energy, the Department of Defense, or the Department of Commerce, including, with respect to the Corporation—

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

(B) any program of the Office of Advanced Reactor Technologies of the Department of Energy.

(2) **TECHNICAL AND DATA SUPPORT TO THE CORPORATION.**—The National Laboratories shall provide technical and data support to the Corporation on parity with transfers made before the date of enactment of this Act by the National Laboratories

to the Chinese Academy of Sciences and any other foreign agent or entity.

(c) **DEPARTMENT OF ENERGY POLICY.**—The Secretary of Energy shall adopt and execute a policy that promotes the United States, acting in conjunction with the Corporation, as a global leader in thorium energy systems.

SEC. 7. APPOINTMENT OF INITIAL OFFICERS.

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

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

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

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

(1) the development of a platform—

(A) that is based in the United States;

(B) that is funded using multinational sources; and

(C) the purpose of which is the development of a fully integrated rare earth value chain; and

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

(c) **RESPONSIBILITIES.**—The individuals appointed under subsection (a) shall work with the Secretary of Commerce to develop corporate bylaws and terms of governance for the Cooperative, and with the Secretary of Energy to develop those bylaws and terms for the Corporation, which shall be set forth in a Memorandum of Understanding for each such entity that outlines specific obligations, commitments, limitations on sources of international investment, and goals that are specific to the national interests of the United States.

(d) DURATION OF SERVICE.—The individuals appointed under subsection (a) shall continue to serve in those roles for as long as provided under the terms of governance developed under subsection (c).

SEC. 8. OTHER PROVISIONS.

(a) ANNUAL AUDITS.—The Cooperative and the Corporation shall, on the date that is 180 days after the date on which each such entity is established, and annually thereafter, submit to the Secretary of Commerce, the Secretary of Energy, and the Secretary of Defense an audited report, which shall—

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

(2) for the period covered by the report, evaluate the progress and success of the Cooperative and the Corporation in meeting all targets and objectives established by the Secretary, in consultation with the heads of other relevant Federal agencies.

(b) AUTHORITY OF THE SECRETARY OF DEFENSE.—The Secretary of Defense may monitor the output of the Cooperative and the Corporation with respect to the national security objectives set forth in the Memorandum of Understanding required for each entity under section 7(c).
