

Calendar No. 251116TH CONGRESS
1ST SESSION**S. 1317****[Report No. 116–131]**

To facilitate the availability, development, and environmentally responsible production of domestic resources to meet national material or critical mineral needs, and for other purposes.

IN THE SENATE OF THE UNITED STATES

MAY 2, 2019

Ms. MURKOWSKI (for herself, Mr. MANCHIN, Mr. SULLIVAN, Ms. MCSALLY, Mr. CRAMER, Mr. RISCH, Mr. JONES, Mr. TILLIS, Mr. BARRASSO, Mrs. CAPITO, Mr. CRAPO, and Mr. DAINES) introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

OCTOBER 22, 2019

Reported by Ms. MURKOWSKI, with an amendment

[Strike out all after the enacting clause and insert the part printed in *italie*]

A BILL

To facilitate the availability, development, and environmentally responsible production of domestic resources to meet national material or critical mineral needs, 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,*

1 **SECTION 1. SHORT TITLE.**

2 This Act may be cited as the “American Mineral Se-
3 curity Act”.

4 **SEC. 2. DEFINITIONS.**

5 In this Act:

6 (1) **CRITICAL MINERAL.**—

7 (A) **IN GENERAL.**—The term “critical min-
8 eral” means any mineral, element, substance, or
9 material designated as critical by the Secretary
10 under section 4.

11 (B) **EXCLUSIONS.**—The term “critical
12 mineral” does not include—

13 (i) fuel minerals, including oil, natural
14 gas, or any other fossil fuels; or

15 (ii) water, ice, or snow.

16 (2) **CRITICAL MINERAL MANUFACTURING.**—The
17 term “critical mineral manufacturing” means—

18 (A) the exploration, development, mining,
19 production, processing, refining, alloying, sepa-
20 ration, concentration, magnetic sintering, melt-
21 ing, or beneficiation of critical minerals within
22 the United States;

23 (B) the fabrication, assembly, or produc-
24 tion, within the United States, of equipment,
25 components, or other goods with energy tech-

1 nology, defense, agriculture, consumer elec-
2 tronics, or health care-related applications; or

3 (C) any other value-added, manufacturing-
4 related use of critical minerals undertaken with-
5 in the United States.

6 (3) INDIAN TRIBE.—The term “Indian tribe”
7 has the meaning given the term in section 4 of the
8 Indian Self-Determination and Education Assistance
9 Act (25 U.S.C. 5304).

10 (4) SECRETARY.—The term “Secretary” means
11 the Secretary of the Interior.

12 (5) STATE.—The term “State” means—

13 (A) a State;

14 (B) the District of Columbia;

15 (C) the Commonwealth of Puerto Rico;

16 (D) Guam;

17 (E) American Samoa;

18 (F) the Commonwealth of the Northern
19 Mariana Islands; and

20 (G) the United States Virgin Islands.

21 **SEC. 3. POLICY.**

22 (a) IN GENERAL.—Section 3 of the National Mate-
23 rials and Minerals Policy, Research and Development Act
24 of 1980 (30 U.S.C. 1602) is amended in the second sen-
25 tence—

1 (1) by striking paragraph (3) and inserting the
2 following:

3 “(3) establish an analytical and forecasting ca-
4 pability for identifying critical mineral demand, sup-
5 ply, and other factors to allow informed actions to
6 be taken to avoid supply shortages, mitigate price
7 volatility, and prepare for demand growth and other
8 market shifts;”;

9 (2) in paragraph (6), by striking “and” after
10 the semicolon at the end; and

11 (3) by striking paragraph (7) and inserting the
12 following:

13 “(7) facilitate the availability, development, and
14 environmentally responsible production of domestic
15 resources to meet national material or critical min-
16 eral needs;

17 “(8) avoid duplication of effort, prevent unnee-
18 cessary paperwork, and minimize delays in the ad-
19 ministration of applicable laws (including regula-
20 tions) and the issuance of permits and authoriza-
21 tions necessary to explore for, develop, and produce
22 critical minerals and to construct critical mineral
23 manufacturing facilities in accordance with applica-
24 ble environmental and land management laws;

25 “(9) strengthen—

1 “(A) educational and research capabilities
2 at not lower than the secondary school level;
3 and

4 “(B) workforce training for exploration
5 and development of critical minerals and critical
6 mineral manufacturing;

7 “(10) bolster international cooperation through
8 technology transfer, information sharing, and other
9 means;

10 “(11) promote the efficient production, use, and
11 recycling of critical minerals;

12 “(12) develop alternatives to critical minerals;
13 and

14 “(13) establish contingencies for the production
15 of, or access to, critical minerals for which viable
16 sources do not exist within the United States.”.

17 (b) CONFORMING AMENDMENT.—Section 2(b) of the
18 National Materials and Minerals Policy, Research and De-
19 velopment Act of 1980 (30 U.S.C. 1601(b)) is amended
20 by striking “(b) As used in this Act, the term” and insert-
21 ing the following:

22 “(b) DEFINITIONS.—In this Act:

23 “(1) CRITICAL MINERAL.—The term ‘critical
24 mineral’ means any mineral, element, substance, or
25 material designated as critical by the Secretary

1 under section 4 of the American Mineral Security
2 Act.

3 ~~“(2) MATERIALS.—The term”.~~

4 **SEC. 4. CRITICAL MINERAL DESIGNATIONS.**

5 (a) **DRAFT METHODOLOGY AND LIST.**—The Sec-
6 retary, acting through the Director of the United States
7 Geological Survey (referred to in this section as the “Sec-
8 retary”), shall publish in the Federal Register for public
9 comment—

10 (1) a description of the draft methodology used
11 to identify a draft list of critical minerals; and

12 (2) a draft list of minerals, elements, sub-
13 stances, and materials that qualify as critical min-
14 erals.

15 (b) **AVAILABILITY OF DATA.**—If available data is in-
16 sufficient to provide a quantitative basis for the method-
17 ology developed under this section, qualitative evidence
18 may be used to the extent necessary.

19 (c) **FINAL METHODOLOGY AND LIST.**—After review-
20 ing public comments on the draft methodology and the
21 draft list of critical minerals published under subsection
22 (a) and updating the methodology and list as appropriate,
23 not later than 45 days after the date on which the public
24 comment period with respect to the draft methodology and

1 draft list closes, the Secretary shall publish in the Federal
2 Register—

3 (1) a description of the final methodology for
4 determining which minerals, elements, substances,
5 and materials qualify as critical minerals; and

6 (2) the final list of critical minerals.

7 (d) DESIGNATIONS.—

8 (1) IN GENERAL.—For purposes of carrying out
9 this section, the Secretary shall maintain a list of
10 minerals, elements, substances, and materials des-
11 ignated as critical, pursuant to the final method-
12 ology published under subsection (c), that the Sec-
13 retary determines—

14 (A) are essential to the economic or na-
15 tional security of the United States;

16 (B) the supply chain of which is vulnerable
17 to disruption (including restrictions associated
18 with foreign political risk, abrupt demand
19 growth, military conflict, violent unrest, anti-
20 competitive or protectionist behaviors, and other
21 risks throughout the supply chain); and

22 (C) serve an essential function in the man-
23 ufacturing of a product (including energy tech-
24 nology, defense, currency, agriculture, con-
25 sumer electronics, and health care-related ap-

1 plications); the absence of which would have
2 significant consequences for the economic or na-
3 tional security of the United States.

4 (2) INCLUSIONS.—Notwithstanding the criteria
5 under subsection (c), the Secretary may designate
6 and include on the list any mineral, element, sub-
7 stance, or material determined by another Federal
8 agency to be strategic and critical to the defense or
9 national security of the United States.

10 (3) REQUIRED CONSULTATION.—The Secretary
11 shall consult with the Secretaries of Defense, Com-
12 merce, Agriculture, and Energy and the United
13 States Trade Representative in designating minerals,
14 elements, substances, and materials as critical under
15 this subsection.

16 (c) SUBSEQUENT REVIEW.—

17 (1) IN GENERAL.—The Secretary, in consulta-
18 tion with the Secretaries of Defense, Commerce, Ag-
19 riculture, and Energy and the United States Trade
20 Representative, shall review the methodology and list
21 under subsection (c) and the designations under sub-
22 section (d) at least every 3 years, or more frequently
23 as the Secretary considers to be appropriate.

24 (2) REVISIONS.—Subject to subsection (d)(1),
25 the Secretary may—

1 (A) revise the methodology described in
2 this section;

3 (B) determine that minerals, elements,
4 substances, and materials previously determined
5 to be critical minerals are no longer critical
6 minerals; and

7 (C) designate additional minerals, ele-
8 ments, substances, or materials as critical min-
9 erals.

10 (f) NOTICE.—On finalization of the methodology and
11 the list under subsection (e), or any revision to the meth-
12 odology or list under subsection (e), the Secretary shall
13 submit to Congress written notice of the action.

14 **SEC. 5. RESOURCE ASSESSMENT.**

15 (a) IN GENERAL.—Not later than 4 years after the
16 date of enactment of this Act, in consultation with applica-
17 ble State (including geological surveys), local, academic,
18 industry, and other entities, the Secretary shall complete
19 a comprehensive national assessment of each critical min-
20 eral that—

21 (1) identifies and quantifies known critical min-
22 eral resources, using all available public and private
23 information and datasets, including exploration his-
24 tories; and

1 (2) provides a quantitative and qualitative as-
2 sessment of undiscovered critical mineral resources
3 throughout the United States, including probability
4 estimates of tonnage and grade, using all available
5 public and private information and datasets, includ-
6 ing exploration histories.

7 (b) SUPPLEMENTARY INFORMATION.—In carrying
8 out this section, the Secretary may carry out surveys and
9 field work (including drilling, remote sensing, geophysical
10 surveys, topographical and geological mapping, and geo-
11 chemical sampling and analysis) to supplement existing in-
12 formation and datasets available for determining the exist-
13 ence of critical minerals in the United States.

14 (c) PUBLIC ACCESS.—Subject to applicable law, to
15 the maximum extent practicable, the Secretary shall make
16 all data and metadata collected from the comprehensive
17 national assessment carried out under subsection (a) pub-
18 lically and electronically accessible.

19 (d) TECHNICAL ASSISTANCE.—At the request of the
20 Governor of a State or the head of an Indian tribe, the
21 Secretary may provide technical assistance to State gov-
22 ernments and Indian tribes conducting critical mineral re-
23 source assessments on non-Federal land.

24 (e) PRIORITIZATION.—

1 (1) IN GENERAL.—The Secretary may sequence
2 the completion of resource assessments for each crit-
3 ical mineral such that critical minerals considered to
4 be most critical under the methodology established
5 under section 4 are completed first.

6 (2) REPORTING.—During the period beginning
7 not later than 1 year after the date of enactment of
8 this Act and ending on the date of completion of all
9 of the assessments required under this section, the
10 Secretary shall submit to Congress on an annual
11 basis an interim report that—

12 (A) identifies the sequence and schedule
13 for completion of the assessments if the Sec-
14 retary sequences the assessments; or

15 (B) describes the progress of the assess-
16 ments if the Secretary does not sequence the
17 assessments.

18 (f) UPDATES.—The Secretary may periodically up-
19 date the assessments conducted under this section based
20 on—

21 (1) the generation of new information or
22 datasets by the Federal Government; or

23 (2) the receipt of new information or datasets
24 from critical mineral producers, State geological sur-

1 veys, academic institutions, trade associations, or
2 other persons.

3 (g) **ADDITIONAL SURVEYS.**—The Secretary shall
4 complete a resource assessment for each additional min-
5 eral or element subsequently designated as a critical min-
6 eral under section 4(e)(2) not later than 2 years after the
7 designation of the mineral or element.

8 (h) **REPORT.**—Not later than 2 years after the date
9 of enactment of this Act, the Secretary shall submit to
10 Congress a report describing the status of geological sur-
11 veying of Federal land for any mineral commodity—

12 (1) for which the United States was dependent
13 on a foreign country for more than 25 percent of the
14 United States supply, as depicted in the report
15 issued by the United States Geological Survey enti-
16 tled “Mineral Commodity Summaries 2019”; but

17 (2) that is not designated as a critical mineral
18 under section 4.

19 **SEC. 6. PERMITTING.**

20 (a) **SENSE OF CONGRESS.**—It is the sense of Con-
21 gress that—

22 (1) critical minerals are fundamental to the
23 economy, competitiveness, and security of the United
24 States;

1 (2) to the maximum extent practicable, the crit-
2 ical mineral needs of the United States should be
3 satisfied by minerals responsibly produced and recy-
4 cled in the United States; and

5 (3) the Federal permitting process has been
6 identified as an impediment to mineral production
7 and the mineral security of the United States.

8 (b) PERFORMANCE IMPROVEMENTS.—To improve
9 the quality and timeliness of decisions, the Secretary (act-
10 ing through the Director of the Bureau of Land Manage-
11 ment) and the Secretary of Agriculture (acting through
12 the Chief of the Forest Service) (referred to in this section
13 as the “Secretaries”) shall, to the maximum extent prac-
14 ticable, with respect to critical mineral production on Fed-
15 eral land, complete Federal permitting and review proc-
16 esses with maximum efficiency and effectiveness, while
17 supporting vital economic growth, by—

18 (1) establishing and adhering to timelines and
19 schedules for the consideration of, and final deci-
20 sions regarding, applications, operating plans, leases,
21 licenses, permits, and other use authorizations for
22 mineral-related activities on Federal land;

23 (2) establishing clear, quantifiable, and tem-
24 poral permitting performance goals and tracking
25 progress against those goals;

1 (3) engaging in early collaboration among agen-
2 cies, project sponsors, and affected stakeholders—

3 (A) to incorporate and address the inter-
4 ests of those parties; and

5 (B) to minimize delays;

6 (4) ensuring transparency and accountability by
7 using cost-effective information technology to collect
8 and disseminate information regarding individual
9 projects and agency performance;

10 (5) engaging in early and active consultation
11 with State, local, and Indian tribal governments to
12 avoid conflicts or duplication of effort, resolve con-
13 cerns, and allow for concurrent, rather than sequen-
14 tial, reviews;

15 (6) providing demonstrable improvements in the
16 performance of Federal permitting and review proc-
17 esses, including lower costs and more timely deci-
18 sions;

19 (7) expanding and institutionalizing permitting
20 and review process improvements that have proven
21 effective;

22 (8) developing mechanisms to better commu-
23 nicate priorities and resolve disputes among agencies
24 at the national, regional, State, and local levels; and

1 (9) developing other practices, such as
2 preapplication procedures.

3 (c) REVIEW AND REPORT.—Not later than 1 year
4 after the date of enactment of this Act, the Secretaries
5 shall submit to Congress a report that—

6 (1) identifies additional measures (including
7 regulatory and legislative proposals, as appropriate)
8 that would increase the timeliness of permitting ac-
9 tivities for the exploration and development of do-
10 mestic critical minerals;

11 (2) identifies options (including cost recovery
12 paid by permit applicants) for ensuring adequate
13 staffing and training of Federal entities and per-
14 sonnel responsible for the consideration of applica-
15 tions, operating plans, leases, licenses, permits, and
16 other use authorizations for critical mineral-related
17 activities on Federal land;

18 (3) quantifies the amount of time typically re-
19 quired (including range derived from minimum and
20 maximum durations, mean, median, variance, and
21 other statistical measures or representations) to
22 complete each step (including those aspects outside
23 the control of the executive branch, such as judicial
24 review, applicant decisions, or State and local gov-
25 ernment involvement) associated with the develop-

1 ment and processing of applications, operating
2 plans, leases, licenses, permits, and other use au-
3 thorizations for critical mineral-related activities on
4 Federal land, which shall serve as a baseline for the
5 performance metric under subsection (d); and

6 (4) describes actions carried out pursuant to
7 subsection (b).

8 (d) PERFORMANCE METRIC.—Not later than 90 days
9 after the date of submission of the report under subsection
10 (e), the Secretaries, after providing public notice and an
11 opportunity to comment, shall develop and publish a per-
12 formance metric for evaluating the progress made by the
13 executive branch to expedite the permitting of activities
14 that will increase exploration for, and development of, do-
15 mestic critical minerals, while maintaining environmental
16 standards.

17 (e) ANNUAL REPORTS.—Beginning with the first
18 budget submission by the President under section 1105
19 of title 31, United States Code, after publication of the
20 performance metric required under subsection (d), and an-
21 nually thereafter, the Secretaries shall submit to Congress
22 a report that—

23 (1) summarizes the implementation of rec-
24 ommendations, measures, and options identified in
25 paragraphs (1) and (2) of subsection (e);

1 (2) using the performance metric under sub-
2 section (d), describes progress made by the executive
3 branch, as compared to the baseline established pur-
4 suant to subsection (c)(3), on expediting the permit-
5 ting of activities that will increase exploration for,
6 and development of, domestic critical minerals; and

7 (3) compares the United States to other coun-
8 tries in terms of permitting efficiency and any other
9 criteria relevant to the globally competitive critical
10 minerals industry.

11 (f) **INDIVIDUAL PROJECTS.**—Using data from the
12 Secretaries generated under subsection (c), the Director
13 of the Office of Management and Budget shall prioritize
14 inclusion of individual critical mineral projects on the
15 website operated by the Office of Management and Budget
16 in accordance with section 1122 of title 31, United States
17 Code.

18 (g) **REPORT OF SMALL BUSINESS ADMINISTRA-**
19 **TION.**—Not later than 1 year and 300 days after the date
20 of enactment of this Act, the Administrator of the Small
21 Business Administration shall submit to the applicable
22 committees of Congress a report that assesses the per-
23 formance of Federal agencies with respect to—

24 (1) complying with chapter 6 of title 5, United
25 States Code (commonly known as the “Regulatory

1 Flexibility Act”), in promulgating regulations appli-
2 eable to the critical minerals industry; and

3 (2) performing an analysis of regulations appli-
4 eable to the critical minerals industry that may be
5 outmoded, inefficient, duplicative, or excessively bur-
6 densome.

7 (h) APPLICATION.—Section 41001(6)(A) of the
8 FAST Act (42 U.S.C. 4370m(6)(A)) is amended in the
9 matter preceding clause (i) by inserting “(including crit-
10 ical mineral manufacturing (as defined in section 2 of the
11 American Mineral Security Act))” after “manufacturing”.

12 **SEC. 7. FEDERAL REGISTER PROCESS.**

13 (a) DEPARTMENTAL REVIEW.—Absent any extraor-
14 dinary circumstance, and except as otherwise required by
15 law, the Secretary and the Secretary of Agriculture shall
16 ensure that each Federal Register notice described in sub-
17 section (b) shall be—

18 (1) subject to any required reviews within the
19 Department of the Interior or the Department of
20 Agriculture; and

21 (2) published in final form in the Federal Reg-
22 ister not later than 45 days after the date of initial
23 preparation of the notice.

24 (b) PREPARATION.—The preparation of Federal Reg-
25 ister notices required by law associated with the issuance

1 of a critical mineral exploration or mine permit shall be
2 delegated to the organizational level within the agency re-
3 sponsible for issuing the critical mineral exploration or
4 mine permit.

5 (c) TRANSMISSION.—All Federal Register notices re-
6 garding official document availability, announcements of
7 meetings, or notices of intent to undertake an action shall
8 be originated in, and transmitted to the Federal Register
9 from, the office in which, as applicable—

10 (1) the documents or meetings are held; or

11 (2) the activity is initiated.

12 **SEC. 8. RECYCLING, EFFICIENCY, AND ALTERNATIVES.**

13 (a) ESTABLISHMENT.—The Secretary of Energy (re-
14 ferred to in this section as the “Secretary”) shall conduct
15 a program of research and development—

16 (1) to promote the efficient production, use,
17 and recycling of critical minerals throughout the
18 supply chain; and

19 (2) to develop alternatives to critical minerals
20 that do not occur in significant abundance in the
21 United States.

22 (b) COOPERATION.—In carrying out the program, the
23 Secretary shall cooperate with appropriate—

24 (1) Federal agencies and National Laboratories;

25 (2) critical mineral producers;

- 1 ~~(3)~~ critical mineral processors;
- 2 ~~(4)~~ critical mineral manufacturers;
- 3 ~~(5)~~ trade associations;
- 4 ~~(6)~~ academic institutions;
- 5 ~~(7)~~ small businesses; and
- 6 ~~(8)~~ other relevant entities or individuals.

7 ~~(e)~~ ACTIVITIES.—Under the program, the Secretary
8 shall carry out activities that include the identification and
9 development of—

10 ~~(1)~~ advanced critical mineral extraction, pro-
11 duction, separation, alloying, or processing tech-
12 nologies that decrease the energy consumption, envi-
13 ronmental impact, and costs of those activities, in-
14 cluding—

15 ~~(A)~~ efficient water and wastewater man-
16 agement strategies;

17 ~~(B)~~ technologies and management strate-
18 gies to control the environmental impacts of
19 radionuclides in ore tailings; and

20 ~~(C)~~ technologies for separation and proe-
21 cessing;

22 ~~(2)~~ technologies or process improvements that
23 minimize the use, or lead to more efficient use, of
24 critical minerals across the full supply chain;

1 ~~(3)~~ technologies, process improvements, or de-
2 sign optimizations that facilitate the recycling of
3 critical minerals, and options for improving the rates
4 of collection of products and scrap containing critical
5 minerals from post-consumer, industrial, or other
6 waste streams;

7 ~~(4)~~ commercial markets, advanced storage
8 methods, energy applications, and other beneficial
9 uses of critical minerals processing byproducts;

10 ~~(5)~~ alternative minerals, metals, and materials,
11 particularly those available in abundance within the
12 United States and not subject to potential supply re-
13 strictions, that lessen the need for critical minerals;
14 and

15 ~~(6)~~ alternative energy technologies or alter-
16 native designs of existing energy technologies, par-
17 ticularly those that use minerals that—

18 ~~(A)~~ occur in abundance in the United
19 States; and

20 ~~(B)~~ are not subject to potential supply re-
21 strictions.

22 ~~(d)~~ REPORTS.—Not later than 2 years after the date
23 of enactment of this Act, and annually thereafter, the Sec-
24 retary shall submit to Congress a report summarizing the
25 activities, findings, and progress of the program.

1 **SEC. 9. ANALYSIS AND FORECASTING.**

2 (a) CAPABILITIES.—In order to evaluate existing crit-
3 ical mineral policies and inform future actions that may
4 be taken to avoid supply shortages, mitigate price vola-
5 tility, and prepare for demand growth and other market
6 shifts, the Secretary, in consultation with the Energy In-
7 formation Administration, academic institutions, and oth-
8 ers in order to maximize the application of existing com-
9 petencies related to developing and maintaining computer-
10 models and similar analytical tools, shall conduct and pub-
11 lish the results of an annual report that includes—

12 (1) as part of the annually published Mineral
13 Commodity Summaries from the United States Geo-
14 logical Survey, a comprehensive review of critical
15 mineral production, consumption, and recycling pat-
16 terns, including—

17 (A) the quantity of each critical mineral
18 domestically produced during the preceding
19 year;

20 (B) the quantity of each critical mineral
21 domestically consumed during the preceding
22 year;

23 (C) market price data or other price data
24 for each critical mineral;

25 (D) an assessment of—

1 (i) critical mineral requirements to
2 meet the national security, energy, eco-
3 nomic, industrial, technological, and other
4 needs of the United States during the pre-
5 ceeding year;

6 (ii) the reliance of the United States
7 on foreign sources to meet those needs
8 during the preceding year; and

9 (iii) the implications of any supply
10 shortages, restrictions, or disruptions dur-
11 ing the preceding year;

12 (E) the quantity of each critical mineral
13 domestically recycled during the preceding year;

14 (F) the market penetration during the pre-
15 ceeding year of alternatives to each critical min-
16 eral;

17 (G) a discussion of international trends as-
18 sociated with the discovery, production, con-
19 sumption, use, costs of production, prices, and
20 recycling of each critical mineral as well as the
21 development of alternatives to critical minerals;
22 and

23 (H) such other data, analyses, and evalua-
24 tions as the Secretary finds are necessary to
25 achieve the purposes of this section; and

1 (2) a comprehensive forecast, entitled the “An-
2 nual Critical Minerals Outlook”, of projected critical
3 mineral production, consumption, and recycling pat-
4 terns, including—

5 (A) the quantity of each critical mineral
6 projected to be domestically produced over the
7 subsequent 1-year, 5-year, and 10-year periods;

8 (B) the quantity of each critical mineral
9 projected to be domestically consumed over the
10 subsequent 1-year, 5-year, and 10-year periods;

11 (C) an assessment of—

12 (i) critical mineral requirements to
13 meet projected national security, energy,
14 economic, industrial, technological, and
15 other needs of the United States;

16 (ii) the projected reliance of the
17 United States on foreign sources to meet
18 those needs; and

19 (iii) the projected implications of po-
20 tential supply shortages, restrictions, or
21 disruptions;

22 (D) the quantity of each critical mineral
23 projected to be domestically recycled over the
24 subsequent 1-year, 5-year, and 10-year periods;

1 (E) the market penetration of alternatives
2 to each critical mineral projected to take place
3 over the subsequent 1-year, 5-year, and 10-year
4 periods;

5 (F) a discussion of reasonably foreseeable
6 international trends associated with the dis-
7 covery, production, consumption, use, costs of
8 production, and recycling of each critical min-
9 eral as well as the development of alternatives
10 to critical minerals; and

11 (G) such other projections relating to each
12 critical mineral as the Secretary determines to
13 be necessary to achieve the purposes of this sec-
14 tion.

15 (b) PROPRIETARY INFORMATION.—In preparing a re-
16 port described in subsection (a), the Secretary shall en-
17 sure, consistent with section 5(f) of the National Materials
18 and Minerals Policy, Research and Development Act of
19 1980 (30 U.S.C. 1604(f)), that—

20 (1) no person uses the information and data
21 collected for the report for a purpose other than the
22 development of or reporting of aggregate data in a
23 manner such that the identity of the person or firm
24 who supplied the information is not discernible and

1 is not material to the intended uses of the informa-
2 tion;

3 ~~(2) no person discloses any information or data~~
4 ~~collected for the report unless the information or~~
5 ~~data has been transformed into a statistical or ag-~~
6 ~~gregate form that does not allow the identification of~~
7 ~~the person or firm who supplied particular informa-~~
8 ~~tion; and~~

9 ~~(3) procedures are established to require the~~
10 ~~withholding of any information or data collected for~~
11 ~~the report if the Secretary determines that with-~~
12 ~~holding is necessary to protect proprietary informa-~~
13 ~~tion, including any trade secrets or other confiden-~~
14 ~~tial information.~~

15 **SEC. 10. EDUCATION AND WORKFORCE.**

16 (a) **WORKFORCE ASSESSMENT.**—Not later than 1
17 year and 300 days after the date of enactment of this Act,
18 the Secretary of Labor (in consultation with the Secretary,
19 the Director of the National Science Foundation, institu-
20 tions of higher education with substantial expertise in
21 mining, institutions of higher education with significant
22 expertise in minerals research, including fundamental re-
23 search into alternatives, and employers in the critical min-
24 erals sector) shall submit to Congress an assessment of
25 the domestic availability of technically trained personnel

1 necessary for critical mineral exploration, development, as-
2 sessment, production, manufacturing, recycling, analysis,
3 forecasting, education, and research, including an analysis
4 of—

5 (1) skills that are in the shortest supply as of
6 the date of the assessment;

7 (2) skills that are projected to be in short sup-
8 ply in the future;

9 (3) the demographics of the critical minerals in-
10 dustry and how the demographics will evolve under
11 the influence of factors such as an aging workforce;

12 (4) the effectiveness of training and education
13 programs in addressing skills shortages;

14 (5) opportunities to hire locally for new and ex-
15 isting critical mineral activities;

16 (6) the sufficiency of personnel within relevant
17 areas of the Federal Government for achieving the
18 policies described in section 3 of the National Mate-
19 rials and Minerals Policy, Research and Develop-
20 ment Act of 1980 (30 U.S.C. 1602); and

21 (7) the potential need for new training pro-
22 grams to have a measurable effect on the supply of
23 trained workers in the critical minerals industry.

24 (b) CURRICULUM STUDY.—

1 (1) IN GENERAL.—The Secretary and the Sec-
2 retary of Labor shall jointly enter into an arrange-
3 ment with the National Academy of Sciences and the
4 National Academy of Engineering under which the
5 Academies shall coordinate with the National
6 Science Foundation on conducting a study—

7 (A) to design an interdisciplinary program
8 on critical minerals that will support the critical
9 mineral supply chain and improve the ability of
10 the United States to increase domestic, critical
11 mineral exploration, development, production,
12 manufacturing, research, including fundamental
13 research into alternatives, and recycling;

14 (B) to address undergraduate and grad-
15 uate education, especially to assist in the devel-
16 opment of graduate level programs of research
17 and instruction that lead to advanced degrees
18 with an emphasis on the critical mineral supply
19 chain or other positions that will increase do-
20 mestic, critical mineral exploration, develop-
21 ment, production, manufacturing, research, in-
22 cluding fundamental research into alternatives,
23 and recycling;

24 (C) to develop guidelines for proposals
25 from institutions of higher education with sub-

1 stantial capabilities in the required disciplines
2 for activities to improve the critical mineral
3 supply chain and advance the capacity of the
4 United States to increase domestic, critical min-
5 eral exploration, research, development, produc-
6 tion, manufacturing, and recycling; and

7 ~~(D)~~ to outline criteria for evaluating per-
8 formance and recommendations for the amount
9 of funding that will be necessary to establish
10 and carry out the program described in sub-
11 section ~~(c)~~.

12 ~~(2)~~ REPORT.—Not later than 2 years after the
13 date of enactment of this Act, the Secretary shall
14 submit to Congress a description of the results of
15 the study required under paragraph ~~(1)~~.

16 ~~(c)~~ PROGRAM.—

17 ~~(1)~~ ESTABLISHMENT.—The Secretary and the
18 Secretary of Labor shall jointly conduct a competi-
19 tive grant program under which institutions of high-
20 er education may apply for and receive 4-year grants
21 for—

22 ~~(A)~~ startup costs for newly designated fac-
23 ulty positions in integrated critical mineral edu-
24 cation, research, innovation, training, and work-

1 force development programs consistent with
2 subsection (b);

3 ~~(B)~~ internships, scholarships, and fellow-
4 ships for students enrolled in programs related
5 to critical minerals;

6 ~~(C)~~ equipment necessary for integrated
7 critical mineral innovation, training, and work-
8 force development programs; and

9 ~~(D)~~ research of critical minerals and their
10 applications, particularly concerning the manu-
11 facture of critical components vital to national
12 security.

13 ~~(2) RENEWAL.—~~A grant under this subsection
14 shall be renewable for up to 2 additional 3-year
15 terms based on performance criteria outlined under
16 subsection ~~(b)(1)(D)~~.

17 **SEC. 11. NATIONAL GEOLOGICAL AND GEOPHYSICAL DATA**
18 **PRESERVATION PROGRAM.**

19 Section 351(k) of the Energy Policy Act of 2005 (42
20 U.S.C. 15908(k)) is amended by striking “\$30,000,000
21 for each of fiscal years 2006 through 2010” and inserting
22 “\$5,000,000 for each of fiscal years 2020 through 2029,
23 to remain available until expended”.

1 **SEC. 12. ADMINISTRATION.**

2 (a) **IN GENERAL.**—The National Critical Materials
3 Act of 1984 (30 U.S.C. 1801 et seq.) is repealed.

4 (b) **CONFORMING AMENDMENT.**—Section 3(d) of the
5 National Superconductivity and Competitiveness Act of
6 1988 (15 U.S.C. 5202(d)) is amended in the first sentence
7 by striking “, with the assistance of the National Critical
8 Materials Council as specified in the National Critical Ma-
9 terials Act of 1984 (30 U.S.C. 1801 et seq.),”.

10 (c) **SAVINGS CLAUSES.**—

11 (1) **IN GENERAL.**—Nothing in this Act or an
12 amendment made by this Act modifies any require-
13 ment or authority provided by—

14 (A) the matter under the heading “**GEO-**
15 **LOGICAL SURVEY**” of the first section of the
16 Act of March 3, 1879 (43 U.S.C. 31(a)); or

17 (B) the first section of Public Law 87–626
18 (43 U.S.C. 31(b)).

19 (2) **EFFECT ON DEPARTMENT OF DEFENSE.**—
20 Nothing in this Act or an amendment made by this
21 Act affects the authority of the Secretary of Defense
22 with respect to the work of the Department of De-
23 fense on critical material supplies in furtherance of
24 the national defense mission of the Department of
25 Defense.

1 ~~(3) SECRETARIAL ORDER NOT AFFECTED.—~~

2 This Act shall not apply to any mineral described in
3 Secretarial Order No. ~~3324~~, issued by the Secretary
4 of the Interior on December ~~3~~, 2012, in any area to
5 which the order applies.

6 **SEC. 13. AUTHORIZATION OF APPROPRIATIONS.**

7 There is authorized to be appropriated to carry out
8 this Act \$50,000,000 for each of fiscal years 2020 through
9 2029.

10 **SECTION 1. SHORT TITLE; TABLE OF CONTENTS.**

11 (a) *SHORT TITLE.*—*This Act may be cited as the*
12 *“American Mineral Security Act”.*

13 (b) *TABLE OF CONTENTS.*—*The table of contents for*
14 *this Act is as follows:*

Sec. 1. Short title; table of contents.

TITLE I—AMERICAN MINERAL SECURITY

Sec. 101. Definitions.

Sec. 102. Policy.

Sec. 103. Critical mineral designations.

Sec. 104. Resource assessment.

Sec. 105. Permitting.

Sec. 106. Federal Register process.

Sec. 107. Recycling, efficiency, and alternatives.

Sec. 108. Analysis and forecasting.

Sec. 109. Education and workforce.

Sec. 110. National geological and geophysical data preservation program.

Sec. 111. Administration.

Sec. 112. Authorization of appropriations.

**TITLE II—RARE EARTH ELEMENT ADVANCED COAL
TECHNOLOGIES**

*Sec. 201. Program for extraction and recovery of rare earth elements and min-
erals from coal and coal byproducts.*

Sec. 202. Report.

1 **TITLE I—AMERICAN MINERAL**
2 **SECURITY**

3 **SEC. 101. DEFINITIONS.**

4 *In this title:*

5 (1) *BYPRODUCT.*—*The term “byproduct” means*
6 *a critical mineral—*

7 (A) *the recovery of which depends on the*
8 *production of a host mineral that is not des-*
9 *ignated as a critical mineral; and*

10 (B) *that exists in sufficient quantities to be*
11 *recovered during processing or refining.*

12 (2) *CRITICAL MINERAL.*—

13 (A) *IN GENERAL.*—*The term “critical min-*
14 *eral” means any mineral, element, substance, or*
15 *material designated as critical by the Secretary*
16 *under section 103.*

17 (B) *EXCLUSIONS.*—*The term “critical min-*
18 *eral” does not include—*

19 (i) *fuel minerals, including oil, natural*
20 *gas, or any other fossil fuels; or*

21 (ii) *water, ice, or snow.*

22 (3) *CRITICAL MINERAL MANUFACTURING.*—*The*
23 *term “critical mineral manufacturing” means—*

24 (A) *the exploration, development, mining,*
25 *production, processing, refining, alloying, sepa-*

1 *ration, concentration, magnetic sintering, melt-*
 2 *ing, or beneficiation of critical minerals within*
 3 *the United States;*

4 *(B) the fabrication, assembly, or produc-*
 5 *tion, within the United States, of equipment,*
 6 *components, or other goods with energy tech-*
 7 *nology-, defense-, agriculture-, consumer elec-*
 8 *tronics-, or health care-related applications; or*

9 *(C) any other value-added, manufacturing-*
 10 *related use of critical minerals undertaken with-*
 11 *in the United States.*

12 (4) *INDIAN TRIBE.*—*The term “Indian tribe” has*
 13 *the meaning given the term in section 4 of the Indian*
 14 *Self-Determination and Education Assistance Act (25*
 15 *U.S.C. 5304).*

16 (5) *SECRETARY.*—*The term “Secretary” means*
 17 *the Secretary of the Interior.*

18 (6) *STATE.*—*The term “State” means—*

19 *(A) a State;*

20 *(B) the District of Columbia;*

21 *(C) the Commonwealth of Puerto Rico;*

22 *(D) Guam;*

23 *(E) American Samoa;*

24 *(F) the Commonwealth of the Northern*
 25 *Mariana Islands; and*

1 (G) the United States Virgin Islands.

2 **SEC. 102. POLICY.**

3 (a) *IN GENERAL.*—Section 3 of the National Materials
4 and Minerals Policy, Research and Development Act of
5 1980 (30 U.S.C. 1602) is amended in the second sentence—

6 (1) by striking paragraph (3) and inserting the
7 following:

8 “(3) establish an analytical and forecasting ca-
9 pability for identifying critical mineral demand, sup-
10 ply, and other factors to allow informed actions to be
11 taken to avoid supply shortages, mitigate price vola-
12 tility, and prepare for demand growth and other
13 market shifts;”;

14 (2) in paragraph (6), by striking “and” after the
15 semicolon at the end; and

16 (3) by striking paragraph (7) and inserting the
17 following:

18 “(7) facilitate the availability, development, and
19 environmentally responsible production of domestic
20 resources to meet national material or critical min-
21 eral needs;

22 “(8) avoid duplication of effort, prevent unneces-
23 sary paperwork, and minimize delays in the adminis-
24 tration of applicable laws (including regulations) and
25 the issuance of permits and authorizations necessary

1 *to explore for, develop, and produce critical minerals*
2 *and to construct critical mineral manufacturing fa-*
3 *cilities in accordance with applicable environmental*
4 *and land management laws;*

5 “(9) strengthen—

6 “(A) educational and research capabilities
7 at not lower than the secondary school level; and

8 “(B) workforce training for exploration and
9 development of critical minerals and critical
10 mineral manufacturing;

11 “(10) bolster international cooperation through
12 technology transfer, information sharing, and other
13 means;

14 “(11) promote the efficient production, use, and
15 recycling of critical minerals;

16 “(12) develop alternatives to critical minerals;
17 and

18 “(13) establish contingencies for the production
19 of, or access to, critical minerals for which viable
20 sources do not exist within the United States.”.

21 (b) *CONFORMING AMENDMENT.*—Section 2(b) of the
22 *National Materials and Minerals Policy, Research and De-*
23 *velopment Act of 1980 (30 U.S.C. 1601(b)) is amended by*
24 *striking “(b) As used in this Act, the term” and inserting*
25 *the following:*

1 “(b) *DEFINITIONS.—In this Act:*

2 “(1) *CRITICAL MINERAL.—The term ‘critical*
3 *mineral’ means any mineral, element, substance, or*
4 *material designated as critical by the Secretary under*
5 *section 103 of the American Mineral Security Act.*

6 “(2) *MATERIALS.—The term”.*

7 **SEC. 103. CRITICAL MINERAL DESIGNATIONS.**

8 (a) *DRAFT METHODOLOGY AND LIST.—The Secretary,*
9 *acting through the Director of the United States Geological*
10 *Survey (referred to in this section as the “Secretary”), shall*
11 *publish in the Federal Register for public comment—*

12 (1) *a description of the draft methodology used*
13 *to identify a draft list of critical minerals;*

14 (2) *a draft list of minerals, elements, substances,*
15 *and materials that qualify as critical minerals; and*

16 (3) *a draft list of critical minerals recovered as*
17 *byproducts.*

18 (b) *AVAILABILITY OF DATA.—If available data is in-*
19 *sufficient to provide a quantitative basis for the method-*
20 *ology developed under this section, qualitative evidence may*
21 *be used to the extent necessary.*

22 (c) *FINAL METHODOLOGY AND LIST.—After reviewing*
23 *public comments on the draft methodology and the draft*
24 *list of critical minerals published under subsection (a) and*
25 *updating the methodology and list as appropriate, not later*

1 *than 45 days after the date on which the public comment*
2 *period with respect to the draft methodology and draft list*
3 *closes, the Secretary shall publish in the Federal Register—*

4 *(1) a description of the final methodology for de-*
5 *termining which minerals, elements, substances, and*
6 *materials qualify as critical minerals; and*

7 *(2) the final list of critical minerals.*

8 *(d) DESIGNATIONS.—*

9 *(1) IN GENERAL.—For purposes of carrying out*
10 *this section, the Secretary shall maintain a list of*
11 *minerals, elements, substances, and materials des-*
12 *ignated as critical, pursuant to the final methodology*
13 *published under subsection (c), that the Secretary de-*
14 *termines—*

15 *(A) are essential to the economic or na-*
16 *tional security of the United States;*

17 *(B) the supply chain of which is vulnerable*
18 *to disruption (including restrictions associated*
19 *with foreign political risk, abrupt demand*
20 *growth, military conflict, violent unrest, anti-*
21 *competitive or protectionist behaviors, and other*
22 *risks throughout the supply chain); and*

23 *(C) serve an essential function in the manu-*
24 *facturing of a product (including energy tech-*
25 *nology-, defense-, currency-, agriculture-, con-*

1 *sumer electronics-, and health care-related appli-*
2 *cations), the absence of which would have signifi-*
3 *cant consequences for the economic or national*
4 *security of the United States.*

5 (2) *INCLUSIONS.*—*Notwithstanding the criteria*
6 *under subsection (c), the Secretary may designate and*
7 *include on the list any mineral, element, substance, or*
8 *material determined by another Federal agency to be*
9 *strategic and critical to the defense or national secu-*
10 *rity of the United States.*

11 (3) *REQUIRED CONSULTATION.*—*The Secretary*
12 *shall consult with the Secretaries of Defense, Com-*
13 *merce, Agriculture, and Energy and the United States*
14 *Trade Representative in designating minerals, ele-*
15 *ments, substances, and materials as critical under*
16 *this subsection.*

17 (e) *SUBSEQUENT REVIEW.*—

18 (1) *IN GENERAL.*—*The Secretary, in consultation*
19 *with the Secretaries of Defense, Commerce, Agri-*
20 *culture, and Energy and the United States Trade*
21 *Representative, shall review the methodology and list*
22 *under subsection (c) and the designations under sub-*
23 *section (d) at least every 3 years, or more frequently*
24 *as the Secretary considers to be appropriate.*

1 (2) *REVISIONS.*—Subject to subsection (d)(1), the
2 Secretary may—

3 (A) revise the methodology described in this
4 section;

5 (B) determine that minerals, elements, sub-
6 stances, and materials previously determined to
7 be critical minerals are no longer critical min-
8 erals; and

9 (C) designate additional minerals, elements,
10 substances, or materials as critical minerals.

11 (f) *NOTICE.*—On finalization of the methodology and
12 the list under subsection (c), or any revision to the method-
13 ology or list under subsection (e), the Secretary shall submit
14 to Congress written notice of the action.

15 **SEC. 104. RESOURCE ASSESSMENT.**

16 (a) *IN GENERAL.*—Not later than 4 years after the
17 date of enactment of this Act, in consultation with applica-
18 ble State (including geological surveys), local, academic, in-
19 dustry, and other entities, the Secretary shall complete a
20 comprehensive national assessment of each critical mineral
21 that—

22 (1) identifies and quantifies known critical min-
23 eral resources, using all available public and private
24 information and datasets, including exploration his-
25 tories; and

1 (2) *provides a quantitative and qualitative as-*
2 *essment of undiscovered critical mineral resources*
3 *throughout the United States, including probability*
4 *estimates of tonnage and grade, using all available*
5 *public and private information and datasets, includ-*
6 *ing exploration histories.*

7 (b) *SUPPLEMENTARY INFORMATION.—In carrying out*
8 *this section, the Secretary may carry out surveys and field*
9 *work (including drilling, remote sensing, geophysical sur-*
10 *veys, topographical and geological mapping, and geo-*
11 *chemical sampling and analysis) to supplement existing in-*
12 *formation and datasets available for determining the exist-*
13 *ence of critical minerals in the United States.*

14 (c) *PUBLIC ACCESS.—Subject to applicable law, to the*
15 *maximum extent practicable, the Secretary shall make all*
16 *data and metadata collected from the comprehensive na-*
17 *tional assessment carried out under subsection (a) pub-*
18 *lically and electronically accessible.*

19 (d) *TECHNICAL ASSISTANCE.—At the request of the*
20 *Governor of a State or the head of an Indian tribe, the Sec-*
21 *retary may provide technical assistance to State govern-*
22 *ments and Indian tribes conducting critical mineral re-*
23 *source assessments on non-Federal land.*

24 (e) *PRIORITIZATION.—*

1 (1) *IN GENERAL.*—*The Secretary may sequence*
2 *the completion of resource assessments for each crit-*
3 *ical mineral such that critical minerals considered to*
4 *be most critical under the methodology established*
5 *under section 103 are completed first.*

6 (2) *REPORTING.*—*During the period beginning*
7 *not later than 1 year after the date of enactment of*
8 *this Act and ending on the date of completion of all*
9 *of the assessments required under this section, the Sec-*
10 *retary shall submit to Congress on an annual basis*
11 *an interim report that—*

12 (A) *identifies the sequence and schedule for*
13 *completion of the assessments if the Secretary se-*
14 *quences the assessments; or*

15 (B) *describes the progress of the assessments*
16 *if the Secretary does not sequence the assess-*
17 *ments.*

18 (f) *UPDATES.*—*The Secretary may periodically update*
19 *the assessments conducted under this section based on—*

20 (1) *the generation of new information or datasets*
21 *by the Federal Government; or*

22 (2) *the receipt of new information or datasets*
23 *from critical mineral producers, State geological sur-*
24 *veys, academic institutions, trade associations, or*
25 *other persons.*

1 (g) *ADDITIONAL SURVEYS.*—*The Secretary shall com-*
2 *plete a resource assessment for each additional mineral or*
3 *element subsequently designated as a critical mineral under*
4 *section 103(e)(2) not later than 2 years after the designa-*
5 *tion of the mineral or element.*

6 (h) *REPORT.*—*Not later than 2 years after the date*
7 *of enactment of this Act, the Secretary shall submit to Con-*
8 *gress a report describing the status of geological surveying*
9 *of Federal land for any mineral commodity—*

10 (1) *for which the United States was dependent*
11 *on a foreign country for more than 25 percent of the*
12 *United States supply, as depicted in the report issued*
13 *by the United States Geological Survey entitled “Min-*
14 *eral Commodity Summaries 2019”;* but

15 (2) *that is not designated as a critical mineral*
16 *under section 103.*

17 **SEC. 105. PERMITTING.**

18 (a) *SENSE OF CONGRESS.*—*It is the sense of Congress*
19 *that—*

20 (1) *critical minerals are fundamental to the*
21 *economy, competitiveness, and security of the United*
22 *States;*

23 (2) *to the maximum extent practicable, the crit-*
24 *ical mineral needs of the United States should be sat-*

1 *isfied by minerals responsibly produced and recycled*
2 *in the United States; and*

3 *(3) the Federal permitting process has been iden-*
4 *tified as an impediment to mineral production and*
5 *the mineral security of the United States.*

6 *(b) PERFORMANCE IMPROVEMENTS.—To improve the*
7 *quality and timeliness of decisions, the Secretary (acting*
8 *through the Director of the Bureau of Land Management)*
9 *and the Secretary of Agriculture (acting through the Chief*
10 *of the Forest Service) (referred to in this section as the “Sec-*
11 *retaries”)* shall, to the maximum extent practicable, with
12 *respect to critical mineral production on Federal land, com-*
13 *plete Federal permitting and review processes with max-*
14 *imum efficiency and effectiveness, while supporting vital*
15 *economic growth, by—*

16 *(1) establishing and adhering to timelines and*
17 *schedules for the consideration of, and final decisions*
18 *regarding, applications, operating plans, leases, li-*
19 *censes, permits, and other use authorizations for min-*
20 *eral-related activities on Federal land;*

21 *(2) establishing clear, quantifiable, and temporal*
22 *permitting performance goals and tracking progress*
23 *against those goals;*

24 *(3) engaging in early collaboration among agen-*
25 *cies, project sponsors, and affected stakeholders—*

1 (A) to incorporate and address the interests
2 of those parties; and

3 (B) to minimize delays;

4 (4) ensuring transparency and accountability by
5 using cost-effective information technology to collect
6 and disseminate information regarding individual
7 projects and agency performance;

8 (5) engaging in early and active consultation
9 with State, local, and Indian tribal governments to
10 avoid conflicts or duplication of effort, resolve con-
11 cerns, and allow for concurrent, rather than sequen-
12 tial, reviews;

13 (6) providing demonstrable improvements in the
14 performance of Federal permitting and review proc-
15 esses, including lower costs and more timely decisions;

16 (7) expanding and institutionalizing permitting
17 and review process improvements that have proven ef-
18 fective;

19 (8) developing mechanisms to better commu-
20 nicate priorities and resolve disputes among agencies
21 at the national, regional, State, and local levels; and

22 (9) developing other practices, such as
23 preapplication procedures.

1 (c) *REVIEW AND REPORT.*—Not later than 1 year after
2 the date of enactment of this Act, the Secretaries shall sub-
3 mit to Congress a report that—

4 (1) identifies additional measures (including
5 regulatory and legislative proposals, as appropriate)
6 that would increase the timeliness of permitting ac-
7 tivities for the exploration and development of domes-
8 tic critical minerals;

9 (2) identifies options (including cost recovery
10 paid by permit applicants) for ensuring adequate
11 staffing and training of Federal entities and per-
12 sonnel responsible for the consideration of applica-
13 tions, operating plans, leases, licenses, permits, and
14 other use authorizations for critical mineral-related
15 activities on Federal land;

16 (3) quantifies the amount of time typically re-
17 quired (including range derived from minimum and
18 maximum durations, mean, median, variance, and
19 other statistical measures or representations) to com-
20 plete each step (including those aspects outside the
21 control of the executive branch, such as judicial re-
22 view, applicant decisions, or State and local govern-
23 ment involvement) associated with the development
24 and processing of applications, operating plans,
25 leases, licenses, permits, and other use authorizations

1 *for critical mineral-related activities on Federal land,*
2 *which shall serve as a baseline for the performance*
3 *metric under subsection (d); and*

4 (4) *describes actions carried out pursuant to sub-*
5 *section (b).*

6 (d) *PERFORMANCE METRIC.*—*Not later than 90 days*
7 *after the date of submission of the report under subsection*
8 *(c), the Secretaries, after providing public notice and an*
9 *opportunity to comment, shall develop and publish a per-*
10 *formance metric for evaluating the progress made by the*
11 *executive branch to expedite the permitting of activities that*
12 *will increase exploration for, and development of, domestic*
13 *critical minerals, while maintaining environmental stand-*
14 *ards.*

15 (e) *ANNUAL REPORTS.*—*Beginning with the first*
16 *budget submission by the President under section 1105 of*
17 *title 31, United States Code, after publication of the per-*
18 *formance metric required under subsection (d), and annu-*
19 *ally thereafter, the Secretaries shall submit to Congress a*
20 *report that—*

21 (1) *summarizes the implementation of rec-*
22 *ommendations, measures, and options identified in*
23 *paragraphs (1) and (2) of subsection (c);*

24 (2) *using the performance metric under sub-*
25 *section (d), describes progress made by the executive*

1 *branch, as compared to the baseline established pursu-*
2 *ant to subsection (c)(3), on expediting the permitting*
3 *of activities that will increase exploration for, and de-*
4 *velopment of, domestic critical minerals; and*

5 *(3) compares the United States to other countries*
6 *in terms of permitting efficiency and any other cri-*
7 *teria relevant to the globally competitive critical min-*
8 *erals industry.*

9 *(f) INDIVIDUAL PROJECTS.—Using data from the Sec-*
10 *retaries generated under subsection (e), the Director of the*
11 *Office of Management and Budget shall prioritize inclusion*
12 *of individual critical mineral projects on the website oper-*
13 *ated by the Office of Management and Budget in accordance*
14 *with section 1122 of title 31, United States Code.*

15 *(g) REPORT OF SMALL BUSINESS ADMINISTRATION.—*
16 *Not later than 1 year and 300 days after the date of enact-*
17 *ment of this Act, the Administrator of the Small Business*
18 *Administration shall submit to the applicable committees*
19 *of Congress a report that assesses the performance of Federal*
20 *agencies with respect to—*

21 *(1) complying with chapter 6 of title 5, United*
22 *States Code (commonly known as the “Regulatory*
23 *Flexibility Act”), in promulgating regulations appli-*
24 *cable to the critical minerals industry; and*

1 (2) *performing an analysis of regulations appli-*
2 *cable to the critical minerals industry that may be*
3 *outmoded, inefficient, duplicative, or excessively bur-*
4 *densome.*

5 (h) *APPLICATION.—Section 41001(6)(A) of the FAST*
6 *Act (42 U.S.C. 4370m(6)(A)) is amended in the matter pre-*
7 *ceding clause (i) by inserting “(including critical mineral*
8 *manufacturing (as defined in section 101 of the American*
9 *Mineral Security Act))” after “manufacturing”.*

10 **SEC. 106. FEDERAL REGISTER PROCESS.**

11 (a) *DEPARTMENTAL REVIEW.—Absent any extraor-*
12 *dinary circumstance, and except as otherwise required by*
13 *law, the Secretary and the Secretary of Agriculture shall*
14 *ensure that each Federal Register notice described in sub-*
15 *section (b) shall be—*

16 (1) *subject to any required reviews within the*
17 *Department of the Interior or the Department of Ag-*
18 *riculture; and*

19 (2) *published in final form in the Federal Reg-*
20 *ister not later than 45 days after the date of initial*
21 *preparation of the notice.*

22 (b) *PREPARATION.—The preparation of Federal Reg-*
23 *ister notices required by law associated with the issuance*
24 *of a critical mineral exploration or mine permit shall be*
25 *delegated to the organizational level within the agency re-*

1 *sponsible for issuing the critical mineral exploration or*
2 *mine permit.*

3 (c) *TRANSMISSION.—All Federal Register notices re-*
4 *garding official document availability, announcements of*
5 *meetings, or notices of intent to undertake an action shall*
6 *be originated in, and transmitted to the Federal Register*
7 *from, the office in which, as applicable—*

8 (1) *the documents or meetings are held; or*

9 (2) *the activity is initiated.*

10 **SEC. 107. RECYCLING, EFFICIENCY, AND ALTERNATIVES.**

11 (a) *ESTABLISHMENT.—The Secretary of Energy (re-*
12 *ferred to in this section as the “Secretary”) shall conduct*
13 *a program of research and development—*

14 (1) *to promote the efficient production, use, and*
15 *recycling of critical minerals throughout the supply*
16 *chain; and*

17 (2) *to develop alternatives to critical minerals*
18 *that do not occur in significant abundance in the*
19 *United States.*

20 (b) *COOPERATION.—In carrying out the program, the*
21 *Secretary shall cooperate with appropriate—*

22 (1) *Federal agencies and National Laboratories;*

23 (2) *critical mineral producers;*

24 (3) *critical mineral processors;*

25 (4) *critical mineral manufacturers;*

1 (5) *trade associations;*

2 (6) *academic institutions;*

3 (7) *small businesses; and*

4 (8) *other relevant entities or individuals.*

5 (c) *ACTIVITIES.—Under the program, the Secretary*
6 *shall carry out activities that include the identification and*
7 *development of—*

8 (1) *advanced critical mineral extraction, produc-*
9 *tion, separation, alloying, or processing technologies*
10 *that decrease the energy consumption, environmental*
11 *impact, and costs of those activities, including—*

12 (A) *efficient water and wastewater manage-*
13 *ment strategies;*

14 (B) *technologies and management strategies*
15 *to control the environmental impacts of radio-*
16 *nuclides in ore tailings;*

17 (C) *technologies for separation and proc-*
18 *essing; and*

19 (D) *technologies for increasing the recovery*
20 *rates of byproducts from host metal ores;*

21 (2) *technologies or process improvements that*
22 *minimize the use, or lead to more efficient use, of crit-*
23 *ical minerals across the full supply chain;*

24 (3) *technologies, process improvements, or design*
25 *optimizations that facilitate the recycling of critical*

1 *minerals, and options for improving the rates of col-*
2 *lection of products and scrap containing critical min-*
3 *erals from post-consumer, industrial, or other waste*
4 *streams;*

5 *(4) commercial markets, advanced storage meth-*
6 *ods, energy applications, and other beneficial uses of*
7 *critical minerals processing byproducts;*

8 *(5) alternative minerals, metals, and materials,*
9 *particularly those available in abundance within the*
10 *United States and not subject to potential supply re-*
11 *strictions, that lessen the need for critical minerals;*
12 *and*

13 *(6) alternative energy technologies or alternative*
14 *designs of existing energy technologies, particularly*
15 *those that use minerals that—*

16 *(A) occur in abundance in the United*
17 *States; and*

18 *(B) are not subject to potential supply re-*
19 *strictions.*

20 *(d) REPORTS.—Not later than 2 years after the date*
21 *of enactment of this Act, and annually thereafter, the Sec-*
22 *retary shall submit to Congress a report summarizing the*
23 *activities, findings, and progress of the program.*

1 **SEC. 108. ANALYSIS AND FORECASTING.**

2 (a) *CAPABILITIES.*—*In order to evaluate existing crit-*
3 *ical mineral policies and inform future actions that may*
4 *be taken to avoid supply shortages, mitigate price volatility,*
5 *and prepare for demand growth and other market shifts,*
6 *the Secretary, in consultation with the Energy Information*
7 *Administration, academic institutions, and others in order*
8 *to maximize the application of existing competencies related*
9 *to developing and maintaining computer-models and simi-*
10 *lar analytical tools, shall conduct and publish the results*
11 *of an annual report that includes—*

12 (1) *as part of the annually published Mineral*
13 *Commodity Summaries from the United States Geo-*
14 *logical Survey, a comprehensive review of critical*
15 *mineral production, consumption, and recycling pat-*
16 *terns, including—*

17 (A) *the quantity of each critical mineral do-*
18 *mestically produced during the preceding year;*

19 (B) *the quantity of each critical mineral*
20 *domestically consumed during the preceding*
21 *year;*

22 (C) *market price data or other price data*
23 *for each critical mineral;*

24 (D) *an assessment of—*

25 (i) *critical mineral requirements to*
26 *meet the national security, energy, eco-*

1 *conomic, industrial, technological, and other*
2 *needs of the United States during the pre-*
3 *ceding year;*

4 *(ii) the reliance of the United States on*
5 *foreign sources to meet those needs during*
6 *the preceding year; and*

7 *(iii) the implications of any supply*
8 *shortages, restrictions, or disruptions dur-*
9 *ing the preceding year;*

10 *(E) the quantity of each critical mineral*
11 *domestically recycled during the preceding year;*

12 *(F) the market penetration during the pre-*
13 *ceding year of alternatives to each critical min-*
14 *eral;*

15 *(G) a discussion of international trends as-*
16 *sociated with the discovery, production, con-*
17 *sumption, use, costs of production, prices, and*
18 *recycling of each critical mineral as well as the*
19 *development of alternatives to critical minerals;*
20 *and*

21 *(H) such other data, analyses, and evalua-*
22 *tions as the Secretary finds are necessary to*
23 *achieve the purposes of this section; and*

24 *(2) a comprehensive forecast, entitled the “An-*
25 *nuual Critical Minerals Outlook”, of projected critical*

1 *mineral production, consumption, and recycling pat-*
2 *terns, including—*

3 *(A) the quantity of each critical mineral*
4 *projected to be domestically produced over the*
5 *subsequent 1-year, 5-year, and 10-year periods;*

6 *(B) the quantity of each critical mineral*
7 *projected to be domestically consumed over the*
8 *subsequent 1-year, 5-year, and 10-year periods;*

9 *(C) an assessment of—*

10 *(i) critical mineral requirements to*
11 *meet projected national security, energy,*
12 *economic, industrial, technological, and*
13 *other needs of the United States;*

14 *(ii) the projected reliance of the United*
15 *States on foreign sources to meet those*
16 *needs; and*

17 *(iii) the projected implications of po-*
18 *tential supply shortages, restrictions, or dis-*
19 *ruptions;*

20 *(D) the quantity of each critical mineral*
21 *projected to be domestically recycled over the sub-*
22 *sequent 1-year, 5-year, and 10-year periods;*

23 *(E) the market penetration of alternatives*
24 *to each critical mineral projected to take place*

1 *over the subsequent 1-year, 5-year, and 10-year*
2 *periods;*

3 *(F) a discussion of reasonably foreseeable*
4 *international trends associated with the dis-*
5 *covery, production, consumption, use, costs of*
6 *production, and recycling of each critical min-*
7 *eral as well as the development of alternatives to*
8 *critical minerals; and*

9 *(G) such other projections relating to each*
10 *critical mineral as the Secretary determines to*
11 *be necessary to achieve the purposes of this sec-*
12 *tion.*

13 *(b) PROPRIETARY INFORMATION.—In preparing a re-*
14 *port described in subsection (a), the Secretary shall ensure,*
15 *consistent with section 5(f) of the National Materials and*
16 *Minerals Policy, Research and Development Act of 1980 (30*
17 *U.S.C. 1604(f)), that—*

18 *(1) no person uses the information and data col-*
19 *lected for the report for a purpose other than the de-*
20 *velopment of or reporting of aggregate data in a man-*
21 *ner such that the identity of the person or firm who*
22 *supplied the information is not discernible and is not*
23 *material to the intended uses of the information;*

24 *(2) no person discloses any information or data*
25 *collected for the report unless the information or data*

1 *has been transformed into a statistical or aggregate*
2 *form that does not allow the identification of the per-*
3 *son or firm who supplied particular information; and*

4 (3) *procedures are established to require the*
5 *withholding of any information or data collected for*
6 *the report if the Secretary determines that with-*
7 *holding is necessary to protect proprietary informa-*
8 *tion, including any trade secrets or other confidential*
9 *information.*

10 **SEC. 109. EDUCATION AND WORKFORCE.**

11 (a) *WORKFORCE ASSESSMENT.*—*Not later than 1 year*
12 *and 300 days after the date of enactment of this Act, the*
13 *Secretary of Labor (in consultation with the Secretary, the*
14 *Director of the National Science Foundation, institutions*
15 *of higher education with substantial expertise in mining,*
16 *institutions of higher education with significant expertise*
17 *in minerals research, including fundamental research into*
18 *alternatives, and employers in the critical minerals sector)*
19 *shall submit to Congress an assessment of the domestic*
20 *availability of technically trained personnel necessary for*
21 *critical mineral exploration, development, assessment, pro-*
22 *duction, manufacturing, recycling, analysis, forecasting,*
23 *education, and research, including an analysis of—*

24 (1) *skills that are in the shortest supply as of the*
25 *date of the assessment;*

1 (2) *skills that are projected to be in short supply*
2 *in the future;*

3 (3) *the demographics of the critical minerals in-*
4 *dustry and how the demographics will evolve under*
5 *the influence of factors such as an aging workforce;*

6 (4) *the effectiveness of training and education*
7 *programs in addressing skills shortages;*

8 (5) *opportunities to hire locally for new and ex-*
9 *isting critical mineral activities;*

10 (6) *the sufficiency of personnel within relevant*
11 *areas of the Federal Government for achieving the*
12 *policies described in section 3 of the National Mate-*
13 *rials and Minerals Policy, Research and Development*
14 *Act of 1980 (30 U.S.C. 1602); and*

15 (7) *the potential need for new training programs*
16 *to have a measurable effect on the supply of trained*
17 *workers in the critical minerals industry.*

18 (b) *CURRICULUM STUDY.—*

19 (1) *IN GENERAL.—The Secretary and the Sec-*
20 *retary of Labor shall jointly enter into an arrange-*
21 *ment with the National Academy of Sciences and the*
22 *National Academy of Engineering under which the*
23 *Academies shall coordinate with the National Science*
24 *Foundation on conducting a study—*

1 (A) to design an interdisciplinary program
2 on critical minerals that will support the critical
3 mineral supply chain and improve the ability of
4 the United States to increase domestic, critical
5 mineral exploration, development, production,
6 manufacturing, research, including fundamental
7 research into alternatives, and recycling;

8 (B) to address undergraduate and graduate
9 education, especially to assist in the development
10 of graduate level programs of research and in-
11 struction that lead to advanced degrees with an
12 emphasis on the critical mineral supply chain or
13 other positions that will increase domestic, crit-
14 ical mineral exploration, development, produc-
15 tion, manufacturing, research, including funda-
16 mental research into alternatives, and recycling;

17 (C) to develop guidelines for proposals from
18 institutions of higher education with substantial
19 capabilities in the required disciplines for activi-
20 ties to improve the critical mineral supply chain
21 and advance the capacity of the United States to
22 increase domestic, critical mineral exploration,
23 research, development, production, manufac-
24 turing, and recycling; and

1 (D) to outline criteria for evaluating per-
2 formance and recommendations for the amount
3 of funding that will be necessary to establish and
4 carry out the program described in subsection
5 (c).

6 (2) *REPORT.*—Not later than 2 years after the
7 date of enactment of this Act, the Secretary shall sub-
8 mit to Congress a description of the results of the
9 study required under paragraph (1).

10 (c) *PROGRAM.*—

11 (1) *ESTABLISHMENT.*—The Secretary and the
12 Secretary of Labor shall jointly conduct a competitive
13 grant program under which institutions of higher
14 education may apply for and receive 4-year grants
15 for—

16 (A) startup costs for newly designated fac-
17 ulty positions in integrated critical mineral edu-
18 cation, research, innovation, training, and work-
19 force development programs consistent with sub-
20 section (b);

21 (B) internships, scholarships, and fellow-
22 ships for students enrolled in programs related to
23 critical minerals;

1 (C) equipment necessary for integrated crit-
2 ical mineral innovation, training, and workforce
3 development programs; and

4 (D) research of critical minerals and their
5 applications, particularly concerning the manu-
6 facture of critical components vital to national
7 security.

8 (2) *RENEWAL.*—A grant under this subsection
9 shall be renewable for up to 2 additional 3-year terms
10 based on performance criteria outlined under sub-
11 section (b)(1)(D).

12 **SEC. 110. NATIONAL GEOLOGICAL AND GEOPHYSICAL DATA**
13 **PRESERVATION PROGRAM.**

14 Section 351(k) of the Energy Policy Act of 2005 (42
15 U.S.C. 15908(k)) is amended by striking “\$30,000,000 for
16 each of fiscal years 2006 through 2010” and inserting
17 “\$5,000,000 for each of fiscal years 2020 through 2029, to
18 remain available until expended”.

19 **SEC. 111. ADMINISTRATION.**

20 (a) *IN GENERAL.*—The National Critical Materials
21 Act of 1984 (30 U.S.C. 1801 et seq.) is repealed.

22 (b) *CONFORMING AMENDMENT.*—Section 3(d) of the
23 National Superconductivity and Competitiveness Act of
24 1988 (15 U.S.C. 5202(d)) is amended in the first sentence
25 by striking “, with the assistance of the National Critical

1 *Materials Council as specified in the National Critical Ma-*
2 *terials Act of 1984 (30 U.S.C. 1801 et seq.),”.*

3 (c) *SAVINGS CLAUSES.—*

4 (1) *IN GENERAL.—Nothing in this title or an*
5 *amendment made by this title modifies any require-*
6 *ment or authority provided by—*

7 (A) *the matter under the heading “**GEO-***
8 ***LOGICAL SURVEY**” of the first section of the*
9 *Act of March 3, 1879 (43 U.S.C. 31(a)); or*

10 (B) *the first section of Public Law 87–626*
11 *(43 U.S.C. 31(b)).*

12 (2) *EFFECT ON DEPARTMENT OF DEFENSE.—*
13 *Nothing in this title or an amendment made by this*
14 *title affects the authority of the Secretary of Defense*
15 *with respect to the work of the Department of Defense*
16 *on critical material supplies in furtherance of the na-*
17 *tional defense mission of the Department of Defense.*

18 (3) *SECRETARIAL ORDER NOT AFFECTED.—This*
19 *title shall not apply to any mineral described in Sec-*
20 *retarial Order No. 3324, issued by the Secretary on*
21 *December 3, 2012, in any area to which the order ap-*
22 *plies.*

23 (d) *APPLICATION OF CERTAIN PROVISIONS.—*

24 (1) *IN GENERAL.—Sections 105 and 106 shall*
25 *apply to—*

1 (A) an exploration project in which the
2 presence of a byproduct is reasonably expected,
3 based on known mineral companionship, geo-
4 logic formation, mineralogy, or other factors;
5 and

6 (B) a project that demonstrates that the by-
7 product is of sufficient grade that, when com-
8 bined with the production of a host mineral, the
9 byproduct is economic to recover, as determined
10 by the applicable Secretary in accordance with
11 paragraph (2).

12 (2) *REQUIREMENT.*—In making the determina-
13 tion under paragraph (1)(B), the applicable Sec-
14 retary shall consider the cost effectiveness of the by-
15 products recovery.

16 **SEC. 112. AUTHORIZATION OF APPROPRIATIONS.**

17 There is authorized to be appropriated to carry out
18 this title \$50,000,000 for each of fiscal years 2020 through
19 2029.

1 **TITLE II—RARE EARTH ELEMENT**
2 **ADVANCED COAL TECH-**
3 **NOLOGIES**

4 **SEC. 201. PROGRAM FOR EXTRACTION AND RECOVERY OF**
5 **RARE EARTH ELEMENTS AND MINERALS**
6 **FROM COAL AND COAL BYPRODUCTS.**

7 (a) *IN GENERAL.*—*The Secretary of Energy, acting*
8 *through the Assistant Secretary for Fossil Energy (referred*
9 *to in this title as the “Secretary”), shall carry out a pro-*
10 *gram under which the Secretary shall develop advanced sep-*
11 *aration technologies for the extraction and recovery of rare*
12 *earth elements and minerals from coal and coal byproducts.*

13 (b) *AUTHORIZATION OF APPROPRIATIONS.*—*There is*
14 *authorized to be appropriated to the Secretary to carry out*
15 *the program described in subsection (a) \$23,000,000 for*
16 *each of fiscal years 2020 through 2027.*

17 **SEC. 202. REPORT.**

18 *Not later than 1 year after the date of enactment of*
19 *this Act, the Secretary shall submit to the Committee on*
20 *Energy and Natural Resources of the Senate and the Com-*
21 *mittee on Energy and Commerce of the House of Represent-*
22 *atives a report evaluating the development of advanced sep-*
23 *aration technologies for the extraction and recovery of rare*
24 *earth elements and minerals from coal and coal byproducts,*
25 *including acid mine drainage from coal mines.*

Calendar No. 251

116TH CONGRESS
1ST Session

S. 1317

[Report No. 116-131]

A BILL

To facilitate the availability, development, and environmentally responsible production of domestic resources to meet national material or critical mineral needs, and for other purposes.

OCTOBER 22, 2019

Reported with an amendment