

stone-driven research goals established by the Secretary.

(D) Additional activities

The Secretary may organize additional activities under this subsection through other organizational structures.

(2) Research program

(A) In general

The Secretary shall carry out under the Initiative a program to support research needed for, and discover knowledge relevant to, the sequestration of carbon in geologic formations.

(B) Activities

As part of the program described in subparagraph (A), the Director of the Office of Science shall support fundamental research to pursue distinct lines of scientific inquiry, including—

(i) gathering geologic data for pore space characterization, including improvements to geologic seismic imaging;

(ii) evaluating pore space quality, including evaluation of geologic samples, to determine appropriate sequestration zones for carbon;

(iii) testing carbon sequestration;

(iv) monitoring carbon migration in geologic formations;

(v) advancements in data analytics, including the analysis of seismic data, and computational science to improve the advanced computing, visualization, and imaging of geologic formations for the sequestration of carbon; and

(vi) predictive understanding of coupled processes in complex subsurface geologic systems for secure carbon storage.

(C) Review

The Secretary shall periodically review activities carried out under the program described in subparagraph (A) to evaluate achievement of scientific objectives and research milestones.

(3) Carbon storage research and geologic computational science centers

(A) In general

In carrying out the activities authorized under paragraph (2), the Secretary shall select and establish not more than 2 carbon storage research and geologic computational science centers (referred to in this paragraph as a “Center”) to develop and advance improvements to data collection, analysis, and modeling of subsurface geology for the purpose of advancing carbon sequestration in geologic formations.

(B) Selection

(i) In general

The Secretary shall—

(I) select Centers under subparagraph (A) on a competitive, merit-reviewed basis; and

(II) to the maximum extent practicable, locate each Center in a geographically diverse region with estab-

lished and ongoing geologic carbon sequestration research and demonstration.

(ii) Applications

In selecting Centers under subparagraph (A), the Secretary shall consider applications from institutions of higher education, multi-institutional collaborations, and other appropriate entities.

(C) Duration

(i) New Centers

A Center established after August 9, 2022, shall receive support for a period of not more than 5 years beginning on the date of establishment of that Center, subject to the availability of appropriations.

(ii) Existing Centers

A Center already in existence on August 9, 2022, may continue to receive support for a period of not more than 5 years beginning on August 9, 2022.

(iii) Renewal

On expiration of a period of support described in clause (i) or (ii), the Secretary may renew support for the Center, on a merit-reviewed basis, for a period of not more than 5 years.

(4) Coordination with existing programs and Centers

In carrying out this subsection, the Secretary shall—

(A) ensure coordination with—

(i) the United States Geological Survey; and

(ii) the programs established under section 16293 of this title; and

(B) avoid duplication of efforts to the maximum extent practicable.

(g) Funding for Carbon Initiatives

Of the funds authorized to be appropriated for basic energy sciences in a fiscal year, there is authorized to be appropriated to the Secretary to carry out activities under subsections (e) and (f) \$50,000,000 for each of fiscal years 2023 through 2027.

(Pub. L. 117–167, div. B, title I, §10102, Aug. 9, 2022, 136 Stat. 1409.)

Editorial Notes

CODIFICATION

Section is comprised of section 10102 of div. B of Pub. L. 117–167. Subsecs. (a), (b), and (c) of section 10102 of div. B of Pub. L. 117–167 amended sections 18641, 16313, and 16315 of this title, respectively.

§ 18912. Research security

(a) Definitions

In this section:

(1) Country of risk

(A) In general

The term “country of risk” means a foreign country determined by the Secretary, in accordance with subparagraph (B), to present a risk of theft of United States intellectual property or a threat to the national

security of the United States if nationals of the country, or entities owned or controlled by the country or nationals of the country, participate in any research, development, demonstration, or deployment activity authorized under this division or division A or an amendment made by this division or division A.

(B) Determination

In making a determination under subparagraph (A), the Secretary, in coordination with the Director of the Office of Intelligence and Counterintelligence, shall take into consideration—

- (i) the most recent World Wide Threat Assessment of the United States Intelligence Community, prepared by the Director of National Intelligence; and
- (ii) the most recent National Counterintelligence Strategy of the United States.

(2) Covered support

The term “covered support” means any grant, contract, subcontract, award, loan, program, support, or other activity authorized under this division or division A, or an amendment made by this division or division A.

(3) Entity of concern

The term “entity of concern” means any entity, including a national, that is—

- (A) identified under section 1237(b) of the Strom Thurmond National Defense Authorization Act for Fiscal Year 1999 (50 U.S.C. 1701 note; Public Law 105-261);
- (B) identified under section 1260H of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (10 U.S.C. 113 note; Public Law 116-283);
- (C) on the Entity List maintained by the Bureau of Industry and Security of the Department of Commerce and set forth in Supplement No. 4 to part 744 of title 15, Code of Federal Regulations;
- (D) included in the list required by section 9(b)(3) of the Uyghur Human Rights Policy Act of 2020 (Public Law 116-145; 134 Stat. 656); or

(E) identified by the Secretary, in coordination with the Director of the Office of Intelligence and Counterintelligence and the applicable office that would provide, or is providing, covered support, as posing an unmanageable threat—

- (i) to the national security of the United States; or
- (ii) of theft or loss of United States intellectual property.

(4) National

The term “national” has the meaning given the term in section 1101 of title 8.

(5) Secretary

The term “Secretary” means the Secretary of Energy.

(b) Science and technology risk assessment

(1) In general

The Secretary shall develop and maintain tools and processes to manage and mitigate research security risks, such as a science and

technology risk matrix, informed by threats identified by the Director of the Office of Intelligence and Counterintelligence, to facilitate determinations of the risk of loss of United States intellectual property or threat to the national security of the United States posed by activities carried out under any covered support.

(2) Content and implementation

In developing and using the tools and processes developed under paragraph (1), the Secretary shall—

- (A) deploy risk-based approaches to evaluating, awarding, and managing certain research, development, demonstration, and deployment activities, including designations that will indicate the relative risk of activities;
- (B) assess, to the extent practicable, ongoing high-risk activities;

(C) designate an officer or employee of the Department of Energy to be responsible for tracking and notifying recipients of any covered support of unmanageable threats to United States national security or of theft or loss of United States intellectual property posed by an entity of concern;

(D) consider requiring recipients of covered support to implement additional research security mitigations for higher-risk activities if appropriate; and

(E) support the development of research security training for recipients of covered support on the risks posed by entities of concern.

(3) Annual updates

The tools and processes developed under paragraph (1) shall be evaluated annually and updated as needed, with threat-informed input from the Office of Intelligence and Counterintelligence, to reflect changes in the risk designation under paragraph (2)(A) of research, development, demonstration, and deployment activities conducted by the Department.

(c) Entity of concern

(1) Prohibition

Except as provided in paragraph (2), no entity of concern, or individual that owns or controls, is owned or controlled by, or is under common ownership or control with an entity of concern, may receive, or perform work under, any covered support.

(2) Waiver of prohibition

(A) In general

The Secretary may waive the prohibition under paragraph (1) if determined by the Secretary to be in the national interest.

(B) Notification to Congress

Not less than 2 weeks prior to issuing a waiver under subparagraph (A), the Secretary shall notify the Committee on Energy and Natural Resources of the Senate and the Committee on Science, Space, and Technology of the House of Representatives of the intent to issue the waiver, including a justification for the waiver.

(3) Penalty**(A) Termination of support**

On finding that any entity of concern or individual described in paragraph (1) has received covered support and has not received a waiver under paragraph (2), the Secretary shall terminate all covered support to that entity of concern or individual, as applicable.

(B) Penalties

An entity of concern or individual identified under subparagraph (A) shall be—

- (i) prohibited from receiving or participating in covered support for a period of not less than 1 year but not more than 10 years, as determined by the Secretary; or
- (ii) instead of the penalty described in clause (i), subject to any other penalties authorized under applicable law or regulations that the Secretary determines to be in the national interest.

(C) Notification to Congress

Prior to imposing a penalty under subparagraph (B), the Secretary shall notify the Committee on Energy and Natural Resources of the Senate and the Committee on Science, Space, and Technology of the House of Representatives of the intent to impose the penalty, including a description of and justification for the penalty.

(4) Coordination

The Secretary shall—

- (A) share information about the unmanageable threats described in subsection (a)(3)(E) with other Federal agencies; and
- (B) develop consistent approaches to identifying entities of concern.

(d) International agreements

This section shall be applied in a manner consistent with the obligations of the United States under international agreements.

(e) Report required

Not later than 240 days after August 9, 2022, the Secretary shall submit to Congress a report that—

- (1) describes—
 - (A) the tools and processes developed under subsection (b)(1) and any updates to those tools and processes; and
 - (B) if applicable, the science and technology risk matrix developed under that subsection and how that matrix has been applied;
- (2) includes a mitigation plan for managing risks posed by countries of risk with respect to future or ongoing research and development activities of the Department of Energy; and
- (3) defines critical research areas, designated by risk, as determined by the Secretary.

(Pub. L. 117–167, div. B, title I, §10114, Aug. 9, 2022, 136 Stat. 1469.)

Editorial Notes

REFERENCES IN TEXT

This division, referred to in subsec. (a)(1)(A), (2), is div. B of Pub. L. 117–167, Aug. 9, 2022, 136 Stat. 1399,

which enacted this chapter and enacted, amended, and repealed numerous other sections and notes in the Code. For complete classification of div. B to the Code, see Short Title note set out under section 18901 of this title and Tables.

Division A, referred to in subsec. (a)(1)(A), (2), is div. A of Pub. L. 117–167, Aug. 9, 2022, 136 Stat. 1372, known as the CHIPS Act of 2022. For complete classification of div. A to the Code, see Short Title of 2022 Amendment note set out under section 4651 of Title 15, Commerce and Trade, and Tables.

Section 9(b)(3) of the Uyghur Human Rights Policy Act of 2020, referred to in subsec. (a)(3)(D), is section 9(b)(3) of Pub. L. 116–145, June 17, 2020, 134 Stat. 656, which is not classified to the Code.

SUBCHAPTER II—NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY FOR THE FUTURE

§ 18921. Definitions

In this subchapter:

(1) Director

The term “Director” means the Director of the National Institute of Standards and Technology.

(2) Enrollment of needy students

The term “enrollment of needy students” has the meaning given the term in section 1058(d) of title 20.

(3) Framework

The term “Framework” means the Framework for Improving Critical Infrastructure Cybersecurity developed by the National Institute of Standards and Technology and referred to in Executive Order No. 13800 issued on May 11, 2017 (82 Fed. Reg. 22391 et seq.).

(4) Institute

The term “Institute” means the National Institute of Standards and Technology.

(5) International standards organization

The term “international standards organization” has the meaning given such term in section 2571 of title 19.

(6) Secretary

The term “Secretary” means the Secretary of Commerce.

(Pub. L. 117–167, div. B, title II, §10201, Aug. 9, 2022, 136 Stat. 1471.)

Editorial Notes

REFERENCES IN TEXT

Executive Order No. 13800, referred to in par. (3), is set out as a note preceding section 1500 of Title 6, Domestic Security.

PART A—MEASUREMENT RESEARCH

§ 18931. Engineering biology and biometrology**(a) In general**

The Director, in coordination with the National Engineering Biology Research and Development Initiative established pursuant to subchapter IV, shall—

- (1) support basic measurement science and technology research for engineering biology, biomanufacturing, and biometrology to advance—