are compatible with photon-based quantum bits in the optical or telecommunications wavelengths;

(F) long-range entanglement distribution, including allowing entanglement-based protocols between small- and large[1] scale quantum processors, at the terrestrial and space-based level using quantum repeaters and optical or laser communications;

(G) quantum routers, multiplexers, repeaters, and related technologies necessary to create secure long-distance quantum communication; and

(H) integration of systems across the quantum technology stack into traditional computing networks, including the development of remote controlled, high-performance, and reliable implementations of key quantum network components by leveraging the expertise, infrastructure and supplemental investments at the National Laboratories in the Energy Sciences Network User Facility;

(3) engage with the Quantum Economic Development Consortium and other organizations, as applicable, to transition component technologies to help facilitate as appropriate the development of a quantum supply chain for quantum network technologies;

(4) advance basic research in advanced scientific computing, particle and nuclear physics, and material science to enhance the understanding, prediction, and manipulation of materials, processes, and physical phenomena relevant to quantum network infrastructure;

(5) develop experimental tools and testbeds in collaboration with the Energy Sciences Network User Facility necessary to support cross-cutting fundamental research and development activities with diverse stakeholders from industry, National Laboratories, and institutions of higher education; and

(6) consider quantum network infrastructure applications that span the Department of Energy's missions in energy, environment, and national security.

(c) Leveraging

In carrying out this section, the Secretary shall leverage resources, infrastructure, and expertise across the Department of Energy and from—

(1) the National Institute of Standards and Technology;

(2) the National Science Foundation;

(3) the National Aeronautics and Space Administration;

(4) other relevant Federal agencies;

(5) the National Laboratories;

(6) industry stakeholders;

(7) institutions of higher education; and

(8) the National Quantum Information Science Research Centers.

(d) Research plan

Not later than 180 days after August 9, 2022, the Secretary shall submit to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Energy and Natural Resources of the Senate a 4-year research plan that identifies and prioritizes basic research needs relating to quantum network infrastructure.

(e) Standard of review

The Secretary shall review activities carried out under this section to determine the achievement of technical milestones.

(f) Funding

Of the funds authorized to be appropriated for the Department of Energy's Office of Science, there is authorized to be appropriated to the Secretary to carry out the activities under this section $100,000,000 for each of fiscal years 2023 through 2027.

(Pub. L. 115–368, title IV, § 403, as added Pub. L. 117–167, div. B, title I, § 10104(b)(2)(A), Aug. 9, 2022, 136 Stat. 1438.)

§ 8854. Department of Energy Quantum User Expansion for Science and Technology program

(a) In general

The Secretary of Energy (referred to in this section as the ''Secretary'') shall establish and carry out a program, to be known as the ''Quantum User Expansion for Science and Technology program'' or ''QUEST program'', to encourage and facilitate access to United States quantum computing hardware and quantum computing clouds for research purposes—

(1) to enhance the United States quantum research enterprise;

(2) to educate the future quantum computing workforce;

(3) to accelerate the advancement of United States quantum computing capabilities; and

(4) to advance the relevant domestic supply chains, manufacturing processes, and associated simulations or modeling capabilities.

(b) Program

In carrying out this section, the Secretary shall—

(1) coordinate with—

(A) the Director of the National Science Foundation;

(B) the Director of the National Institute of Standards and Technology;

(C) the Chair of the Subcommittee on Quantum Information Science of the National Science and Technology Council established under section 8813(a) of this title; and

(D) the Chair of the Subcommittee on the Economic and Security Implications of Quantum Science;

(2) provide researchers based within the United States with access to, and use of, United States quantum computing resources through a competitive, merit-reviewed process;

(3) consider applications from the National Laboratories, multi-institutional collaborations, institutions of higher education, industry stakeholders, and any other entities that the Secretary determines are appropriate to provide national leadership on quantum computing related issues;

(4) coordinate with private sector stakeholders, the user community, and interagency

[1] So in original. Probably should be followed by a hyphen.

partners on program development and best management practices; and

(5) to the extent practicable, balance user access to commercial prototypes available for use across a broad class of applications and Federal research prototypes that enable benchmarking a wider variety of early-stage devices.

(c) Leveraging

In carrying out this section, the Secretary shall leverage resources and expertise across the Department of Energy and from—

(1) the National Institute of Standards and Technology;

(2) the National Science Foundation;

(3) the National Aeronautics and Space Administration;

(4) other relevant Federal agencies;

(5) the National Laboratories;

(6) industry stakeholders;

(7) institutions of higher education; and

(8) the National Quantum Information Science Research Centers.

(d) Security

In carrying out the activities authorized by this section, the Secretary, in consultation with the Director of the National Science Foundation and the Director of the National Institute of Standards and Technology, shall ensure proper security controls are in place to protect sensitive information, as appropriate.

(e) Funding

Of the funds authorized to be appropriated for the Department of Energy's Office of Science, there are authorized to be appropriated to the Secretary to carry out the activities under this section—

(1) $30,000,000 for fiscal year 2023;

(2) $31,500,000 for fiscal year 2024;

(3) $33,075,000 for fiscal year 2025;

(4) $34,728,750 for fiscal year 2026; and

(5) $36,465,188 for fiscal year 2027.

(Pub. L. 115–368, title IV, §404, as added Pub. L. 117–167, div. B, title I, §10104(b)(2)(A), Aug. 9, 2022, 136 Stat. 1440.)

CHAPTER 115—PERFLUOROALKYL AND POLYFLUOROALKYL SUBSTANCES AND EMERGING CONTAMINANTS

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SUBCHAPTER V—OTHER MATTERS

8961. PFAS destruction and disposal guidance.
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8963. Interagency body on research related to per- and polyfluoroalkyl substances.

§ 8901. Definition of Administrator

In this chapter, the term ''Administrator'' means the Administrator of the Environmental Protection Agency.

(Pub. L. 116–92, div. F, title LXXIII, §7302, Dec. 20, 2019, 133 Stat. 2275.)

Editorial Notes

REFERENCES IN TEXT

This chapter, referred to in text, was in the original ''this title'', meaning title LXXIII of Pub. L. 116–92, div. F, Dec. 20, 2019, 133 Stat. 2275, known as the PFAS Act of 2019, which is classified principally to this chapter. For complete classification of this Act to the Code, see Short Title note set out below and Tables.

Statutory Notes and Related Subsidiaries

SHORT TITLE

Pub. L. 116–92, div. F, title LXXIII, §7301, Dec. 20, 2019, 133 Stat. 2275, provided that: ''This title [enacting this chapter and amending section 2607 of this title and sections 300j–12 and 11023 of Title 42, The Public Health and Welfare] may be cited as the 'PFAS Act of 2019'.''

SUBCHAPTER I—DRINKING WATER

§ 8911. Monitoring and detection

(a) Monitoring program for unregulated contaminants

(1) In general

The Administrator shall include each substance described in paragraph (2) in the fifth publication of the list of unregulated contaminants to be monitored under section 300j–4(a)(2)(B)(i) of title 42.

(2) Substances described

The substances referred to in paragraph (1) are perfluoroalkyl and polyfluoroalkyl substances and classes of perfluoroalkyl and polyfluoroalkyl substances—

(A) for which a method to measure the level in drinking water has been validated by the Administrator; and

(B) that are not subject to a national primary drinking water regulation.

(3) Exception

The perfluoroalkyl and polyfluoroalkyl substances and classes of perfluoroalkyl and polyfluoroalkyl substances included in the list of unregulated contaminants to be monitored under section 300j–4(a)(2)(B)(i) of title 42 under paragraph (1) shall not count towards the limit of 30 unregulated contaminants to be monitored by public water systems under that section.

(b) Applicability

(1) In general

The Administrator shall—

(A) require public water systems serving more than 10,000 persons to monitor for the substances described in subsection (a)(2);