AMENDMENT TO RULES COMMITTEE PRINT 116-57

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Page 1455, after line 25, insert the following:

SEC. 5502. DEPARTMENT OF ENERGY VETERANS’ HEALTH INITIATIVE.

(a) DEFINITIONS.—In this section:

(1) DEPARTMENT.—The term “Department” means the Department of Energy.

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

(3) SECRETARY.—The term “Secretary” means the Secretary of Energy.

(b) PURPOSES.—The purposes of this section are to advance Department of Energy expertise in artificial intelligence and high-performance computing in order to improve health outcomes for veteran populations by—

(1) supporting basic research through the application of artificial intelligence, high-performance computing, modeling and simulation, machine learning, and large-scale data analytics to identify and
solve outcome-defined challenges in the health sciences;

(2) maximizing the impact of the Department of Veterans Affairs’ health and genomics data housed at the National Laboratories, as well as data from other sources, on science, innovation, and health care outcomes through the use and advancement of artificial intelligence and high-performance computing capabilities of the Department of Energy;

(3) promoting collaborative research through the establishment of partnerships to improve data sharing between Federal agencies, National Laboratories, institutions of higher education, and nonprofit institutions;

(4) establishing multiple scientific computing user facilities to house and provision available data to foster transformational outcomes; and

(5) driving the development of technology to improve artificial intelligence, high-performance computing, and networking relevant to mission applications of the Department of Energy, including modeling, simulation, machine learning, and advanced data analytics.

c) Department of Energy Veterans Health Research and Development.—
(1) IN GENERAL.—The Secretary shall establish and carry out a research program in artificial intelligence and high-performance computing, focused on the development of tools to solve big data challenges associated with veteran’s healthcare, and to support the efforts of the Department of Veterans Affairs to identify potential health risks and challenges utilizing data on long-term healthcare, health risks, and genomic data collected from veteran populations. The Secretary shall carry out this program through a competitive, merit-reviewed process, and consider applications from National Laboratories, institutions of higher education, multi-institutional collaborations, and other appropriate entities.

(2) PROGRAM COMPONENTS.—In carrying out the program established under paragraph (1), the Secretary may—

(A) conduct basic research in modeling and simulation, machine learning, large-scale data analytics, and predictive analysis in order to develop novel or optimized algorithms for prediction of disease treatment and recovery;

(B) develop methods to accommodate large data sets with variable quality and scale, and to provide insight and models for complex systems;
(C) develop new approaches and maximize the use of algorithms developed through artificial intelligence, machine learning, data analytics, natural language processing, modeling and simulation, and develop new algorithms suitable for high-performance computing systems and large biomedical data sets;

(D) advance existing and construct new data enclaves capable of securely storing data sets provided by the Department of Veterans Affairs, Department of Defense, and other sources; and

(E) promote collaboration and data sharing between National Laboratories, research entities, and user facilities of the Department by providing the necessary access and secure data transfer capabilities.

(3) COORDINATION.—In carrying out the program required under paragraph (1), the Secretary is authorized to—

(A) enter into memoranda of understanding in order to carry out reimbursable agreements with the Department of Veterans Affairs and other entities in order to maximize the effectiveness of Department of Energy re-
search and development to improve veterans’ healthcare;

(B) consult with the Department of Veterans Affairs and other Federal agencies as appropriate; and

(C) ensure that data storage meets all privacy and security requirements established by the Department of Veterans Affairs, and that access to data is provided in accordance with relevant Department of Veterans Affairs data access policies, including informed consent.

(4) REPORT.—Not later than 2 years after the date of the enactment of this Act, the Secretary shall submit to the Committee on Science, Space, and Technology and the Committee on Veterans’ Affairs of the House of Representatives, and the Committee on Energy and Natural Resources and the Committee on Veterans’ Affairs of the Senate, a report detailing the effectiveness of—

(A) the interagency coordination between each Federal agency involved in the research program carried out under this subsection;

(B) collaborative research achievements of the program; and
(C) potential opportunities to expand the technical capabilities of the Department.

(5) FUNDING.—There are authorized to be appropriated to the Secretary of Veterans Affairs to carry out this section $5,400,000 for fiscal year 2021.

(d) INTERAGENCY COLLABORATION.—

(1) IN GENERAL.—The Secretary is authorized to carry out research, development, and demonstration activities to develop tools to apply to big data that enable Federal agencies, institutions of higher education, nonprofit research organizations, and industry to better leverage the capabilities of the Department to solve complex, big data challenges. The Secretary shall carry out these activities through a competitive, merit-reviewed process, and consider applications from National Laboratories, institutions of higher education, multi-institutional collaborations, and other appropriate entities.

(2) ACTIVITIES.—In carrying out the research, development, and demonstration activities authorized under paragraph (1), the Secretary may—

(A) utilize all available mechanisms to prevent duplication and coordinate research efforts across the Department;
(B) establish multiple user facilities to serve as data enclaves capable of securely storing data sets created by Federal agencies, institutions of higher education, nonprofit organizations, or industry at National Laboratories; and

(C) promote collaboration and data sharing between National Laboratories, research entities, and user facilities of the Department by providing the necessary access and secure data transfer capabilities.

(3) REPORT.—Not later than 2 years after the date of the enactment of this Act, 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 report evaluating the effectiveness of the activities authorized under paragraph (1).

(4) FUNDING.—There are authorized to be appropriated to the Secretary of Energy to carry out paragraph (1) $15,000,000 for fiscal year 2021.