

ation of national user facilities from the Office of Science.

(Pub. L. 109–58, title IX, §955, Aug. 8, 2005, 119 Stat. 887; Pub. L. 115–248, §2(e), Sept. 28, 2018, 132 Stat. 3156.)

AMENDMENTS

2018—Subsecs. (c), (d). Pub. L. 115–248 added subsec. (c) and struck out former subsecs. (c) and (d) which required development of a comprehensive plan for the facilities at the Idaho National Laboratory and transmittal of the plan to Congress.

§ 16276. Security of nuclear facilities

The Secretary shall conduct a research and development program on cost-effective technologies for increasing—

- (1) the safety of nuclear facilities from natural phenomena; and
- (2) the security of nuclear facilities from deliberate attacks.

(Pub. L. 109–58, title IX, §956, Aug. 8, 2005, 119 Stat. 888; Pub. L. 115–248, §2(f), Sept. 28, 2018, 132 Stat. 3157.)

AMENDMENTS

2018—Pub. L. 115–248 struck out “, acting through the Director of the Office of Nuclear Energy, Science and Technology,” after “The Secretary” in introductory provisions.

§ 16277. High-performance computation and supportive research

(a) Modeling and simulation

The Secretary shall carry out a program to enhance the capabilities of the United States to develop new reactor technologies through high-performance computation modeling and simulation techniques.

(b) Coordination

In carrying out the program under subsection (a), the Secretary shall coordinate with relevant Federal agencies as described by the National Strategic Computing Initiative established by Executive Order 13702 (80 Fed. Reg. 46177 (July 29, 2015)), while taking into account the following objectives:

- (1) Using expertise from the private sector, institutions of higher education, and the National Laboratories to develop computational software and capabilities that prospective users may access to accelerate research and development of advanced nuclear reactor systems and reactor systems for space exploration.
- (2) Developing computational tools to simulate and predict nuclear phenomena that may be validated through physical experimentation.
- (3) Increasing the utility of the research infrastructure of the Department by coordinating with the Advanced Scientific Computing Research program within the Office of Science.
- (4) Leveraging experience from the Energy Innovation Hub for Modeling and Simulation.
- (5) Ensuring that new experimental and computational tools are accessible to relevant research communities, including private sec-

tor entities engaged in nuclear energy technology development.

(c) Supportive research activities

The Secretary shall consider support for additional research activities to maximize the utility of the research facilities of the Department, including physical processes—

- (1) to simulate degradation of materials and behavior of fuel forms; and
- (2) for validation of computational tools.

(Pub. L. 109–58, title IX, §957, Aug. 8, 2005, 119 Stat. 888; Pub. L. 115–248, §2(g), Sept. 28, 2018, 132 Stat. 3157.)

REFERENCES IN TEXT

Executive Order 13702, referred to in subsec. (b), is set out as a note under section 5501 of Title 15, Commerce and Trade.

AMENDMENTS

2018—Pub. L. 115–248 amended section generally. Prior to amendment, section related to survey and plan regarding alternatives to industrial radioactive sources.

§ 16278. Enabling nuclear energy innovation

(a) National Reactor Innovation Center

There is authorized a program to enable the testing and demonstration of reactor concepts to be proposed and funded, in whole or in part, by the private sector.

(b) Technical expertise

In carrying out the program under subsection (a), the Secretary shall leverage the technical expertise of relevant Federal agencies and the National Laboratories in order to minimize the time required to enable construction and operation of privately funded experimental reactors at National Laboratories or other Department-owned sites.

(c) Objectives

The reactors described in subsection (b) shall operate to meet the following objectives:

- (1) Enabling physical validation of advanced nuclear reactor concepts.
- (2) Resolving technical uncertainty and increasing practical knowledge relevant to safety, resilience, security, and functionality of advanced nuclear reactor concepts.
- (3) General research and development to improve nascent technologies.

(d) Sharing technical expertise

In carrying out the program under subsection (a), the Secretary may enter into a memorandum of understanding with the Chairman of the Commission in order to share technical expertise and knowledge through—

- (1) enabling the testing and demonstration of advanced nuclear reactor concepts to be proposed and funded, in whole or in part, by the private sector;
- (2) operating a database to store and share data and knowledge relevant to nuclear science and engineering between Federal agencies and the private sector;
- (3) developing and testing electric and non-electric integration and energy conversion systems relevant to advanced nuclear reactors;