

- (1) trends and developments in nanotechnology science and engineering;
- (2) progress made in implementing the Program;
- (3) the need to revise the Program;
- (4) the balance among the components of the Program, including funding levels for the program component areas;
- (5) whether the program component areas, priorities, and technical goals developed by the Council are helping to maintain United States leadership in nanotechnology;
- (6) the management, coordination, implementation, and activities of the Program; and
- (7) whether societal, ethical, legal, environmental, and workforce concerns are adequately addressed by the Program.

(d) Reports

Not later than 4 years after the date of the most recent assessment under subsection (c), and quadrennially thereafter, the Advisory Panel shall submit to the President, the Committee on Commerce, Science, and Transportation of the Senate, and the Committee on Science, Space, and Technology of the House of Representatives a report its¹ assessments under subsection (c) and its recommendations for ways to improve the Program.

(e) Travel expenses of non-Federal members

Non-Federal members of the Advisory Panel, while attending meetings of the Advisory Panel or while otherwise serving at the request of the head of the Advisory Panel away from their homes or regular places of business, may be allowed travel expenses, including per diem in lieu of subsistence, as authorized by section 5703 of title 5 for individuals in the government serving without pay. Nothing in this subsection shall be construed to prohibit members of the Advisory Panel who are officers or employees of the United States from being allowed travel expenses, including per diem in lieu of subsistence, in accordance with existing law.

(f) Exemption from sunset

Section 14 of the Federal Advisory Committee Act shall not apply to the Advisory Panel.

(Pub. L. 108-153, § 4, Dec. 3, 2003, 117 Stat. 1927; Pub. L. 114-329, title II, § 204(b)(2), Jan. 6, 2017, 130 Stat. 2999.)

REFERENCES IN TEXT

Section 14 of the Federal Advisory Committee Act, referred to in subsec. (f), is section 14 of Pub. L. 92-463, which is set out in the Appendix to Title 5, Government Organization and Employees.

AMENDMENTS

2017—Subsec. (d). Pub. L. 114-329 amended subsec. (d) generally. Prior to amendment, text read as follows: “The Advisory Panel shall report, not less frequently than once every 2 fiscal years, to the President on its assessments under subsection (c) and its recommendations for ways to improve the Program. The first report under this subsection shall be submitted within 1 year after December 3, 2003. The Director of the Office of Science and Technology Policy shall transmit a copy of each report under this subsection to the Senate Committee on Commerce, Science, and Technology, the

House of Representatives Committee on Science, and other appropriate committees of the Congress.”

TRANSFER OF FUNCTIONS

President’s Council of Advisors on Science and Technology to serve as the advisory panel identified in this section and to be known as the National Nanotechnology Advisory Panel when performing the functions of such advisory committee, see section 3(a)(iv) of Ex. Ord. No. 13895, set out as a note under section 6601 of Title 42, The Public Health and Welfare.

§ 7504. Quadrennial external review of the National Nanotechnology Program

(a) In general

The Director of the National Nanotechnology Coordination Office shall enter into an arrangement with the National Research Council of the National Academy of Sciences to conduct a quadrennial evaluation of the Program, including—

- (1) an evaluation of the technical accomplishments of the Program, including a review of whether the Program has achieved the goals under the metrics established by the Council;
- (2) a review of the Program’s management and coordination across agencies and disciplines;
- (3) a review of the funding levels at each agency for the Program’s activities and the ability of each agency to achieve the Program’s stated goals with that funding;
- (4) an evaluation of the Program’s success in transferring technology to the private sector;
- (5) an evaluation of whether the Program has been successful in fostering interdisciplinary research and development;
- (6) an evaluation of the extent to which the Program has adequately considered ethical, legal, environmental, and other appropriate societal concerns;
- (7) recommendations for new or revised Program goals;
- (8) recommendations for new research areas, partnerships, coordination and management mechanisms, or programs to be established to achieve the Program’s stated goals;
- (9) recommendations on policy, program, and budget changes with respect to nanotechnology research and development activities;
- (10) recommendations for improved metrics to evaluate the success of the Program in accomplishing its stated goals;
- (11) a review of the performance of the National Nanotechnology Coordination Office and its efforts to promote access to and early application of the technologies, innovations, and expertise derived from Program activities to agency missions and systems across the Federal Government and to United States industry;
- (12) an analysis of the relative position of the United States compared to other nations with respect to nanotechnology research and development, including the identification of any critical research areas where the United States should be the world leader to best achieve the goals of the Program; and
- (13) an analysis of the current impact of nanotechnology on the United States economy

¹ So in original.

and recommendations for increasing its future impact.

(b) Study on molecular self-assembly

As part of the first quadrennial review conducted in accordance with subsection (a), the National Research Council shall conduct a one-time study to determine the technical feasibility of molecular self-assembly for the manufacture of materials and devices at the molecular scale.

(c) Study on the responsible development of nanotechnology

As part of the first quadrennial review conducted in accordance with subsection (a), the National Research Council shall conduct a one-time study to assess the need for standards, guidelines, or strategies for ensuring the responsible development of nanotechnology, including, but not limited to—

- (1) self-replicating nanoscale machines or devices;
- (2) the release of such machines in natural environments;
- (3) encryption;
- (4) the development of defensive technologies;
- (5) the use of nanotechnology in the enhancement of human intelligence; and
- (6) the use of nanotechnology in developing artificial intelligence.

(d) Report

(1) In general

Not later than 30 days after the date the first evaluation under subsection (a) is received, and quadrennially thereafter, the Director of the National Nanotechnology Coordination Office shall report to the President its assessments under subsection (c) and its recommendations for ways to improve the Program.

(2) Congress

Not later than 30 days after the date the President receives the report under paragraph (1), the Director of the Office of Science and Technology Policy shall transmit a copy of the report to Congress.

(Pub. L. 108–153, § 5, Dec. 3, 2003, 117 Stat. 1928; Pub. L. 114–329, title II, § 204(b)(3), Jan. 6, 2017, 130 Stat. 2999.)

AMENDMENTS

2017—Pub. L. 114–329, § 204(b)(3)(A)–(D), substituted “Quadrennial” for “Triennial” in section catchline and “quadrennial” for “triennial” in subsecs. (a) to (c).

Subsec. (d). Pub. L. 114–329, § 204(b)(3)(E), amended subsec. (d) generally. Prior to amendment, text read as follows: “The Director of the National Nanotechnology Coordination Office shall transmit the results of any evaluation for which it made arrangements under subsection (a) to the Advisory Panel, the Senate Committee on Commerce, Science, and Transportation and the House of Representatives Committee on Science upon receipt. The first such evaluation shall be transmitted no later than June 10, 2005, with subsequent evaluations transmitted to the Committees every 3 years thereafter.”

§ 7505. Authorization of appropriations

(a) National Science Foundation

There are authorized to be appropriated to the Director of the National Science Foundation to

carry out the Director’s responsibilities under this chapter—

- (1) \$385,000,000 for fiscal year 2005;
- (2) \$424,000,000 for fiscal year 2006;
- (3) \$449,000,000 for fiscal year 2007; and
- (4) \$476,000,000 for fiscal year 2008.

(b) Department of Energy

There are authorized to be appropriated to the Secretary of Energy to carry out the Secretary’s responsibilities under this chapter—

- (1) \$317,000,000 for fiscal year 2005;
- (2) \$347,000,000 for fiscal year 2006;
- (3) \$380,000,000 for fiscal year 2007; and
- (4) \$415,000,000 for fiscal year 2008.

(c) National Aeronautics and Space Administration

There are authorized to be appropriated to the Administrator of the National Aeronautics and Space Administration to carry out the Administrator’s responsibilities under this chapter—

- (1) \$34,100,000 for fiscal year 2005;
- (2) \$37,500,000 for fiscal year 2006;
- (3) \$40,000,000 for fiscal year 2007; and
- (4) \$42,300,000 for fiscal year 2008.

(d) National Institute of Standards and Technology

There are authorized to be appropriated to the Director of the National Institute of Standards and Technology to carry out the Director’s responsibilities under this chapter—

- (1) \$68,200,000 for fiscal year 2005;
- (2) \$75,000,000 for fiscal year 2006;
- (3) \$80,000,000 for fiscal year 2007; and
- (4) \$84,000,000 for fiscal year 2008.

(e) Environmental Protection Agency

There are authorized to be appropriated to the Administrator of the Environmental Protection Agency to carry out the Administrator’s responsibilities under this chapter—

- (1) \$5,500,000 for fiscal year 2005;
- (2) \$6,050,000 for fiscal year 2006;
- (3) \$6,413,000 for fiscal year 2007; and
- (4) \$6,800,000 for fiscal year 2008.

(Pub. L. 108–153, § 6, Dec. 3, 2003, 117 Stat. 1929.)

§ 7506. Department of Commerce programs

(a) NIST programs

The Director of the National Institute of Standards and Technology shall—

- (1) as part of the Program activities under section 7501(b)(7) of this title, establish a program to conduct basic research on issues related to the development and manufacture of nanotechnology, including metrology; reliability and quality assurance; processes control; and manufacturing best practices; and

- (2) utilize the Manufacturing Extension Partnership program¹ to the extent possible to ensure that the research conducted under paragraph (1) reaches small- and medium-sized manufacturing companies.

(b) Clearinghouse

The Secretary of Commerce or his designee, in consultation with the National Nanotechnology

¹ See Change of Name note below.