

“(A) Goals and vision for maintaining a credible and sustainable program relating to the engagement and support under the strategy.

“(B) Metrics to enhance scientific, technical, engineering, and mathematics capabilities at covered educational institutions, including with respect to measuring progress toward increasing the success of such institutions to compete for broader research funding sources other than set-aside funds.

“(C) Promotion of mentoring opportunities between covered educational institutions and other research institutions.

“(D) Regular assessment of activities that are used to develop, maintain, and grow scientific, technical, engineering, and mathematics capabilities.

“(E) Inclusion of faculty of covered educational institutions into program reviews, peer reviews, and other similar activities.

“(F) Targeting of undergraduate, graduate, and postgraduate students at covered educational institutions for inclusion into research or internship opportunities within the military department.

“(b) OFFICE OF THE SECRETARY.—The Secretary of Defense shall develop and implement a strategy for how to engage with and support the development of scientific, technical, engineering, and mathematics capabilities of covered educational institutions pursuant to the strategies developed under subsection (a).

“(c) Submission.—

“(1) BASIC RESEARCH ENTITIES.—Not later than 180 days after the date of the enactment of this Act [Nov. 25, 2015], the heads of each basic research entity shall each submit to the congressional defense committees [Committees on Armed Services and Appropriations of the Senate and the House of Representatives] the strategy developed by the head under subsection (a)(1).

“(2) OFFICE OF THE SECRETARY.—Not later than one year after the date of the enactment of this Act, the Secretary of Defense shall submit to the congressional defense committees the strategy developed under subsection (b).

“(d) COVERED INSTITUTION DEFINED.—In this section:

“(1) The term ‘basic research entity’ means an entity of the Department of Defense that executes research, development, test, and evaluation budget activity 1 funding, as described in the Department of Defense Financial Management Regulation.

“(2) The term ‘covered educational institution’ has the meaning given that term in section 2362(e) of title 10, United States Code [now 10 U.S.C. 4144(f)].”

## [§§ 4145 to 4147. Omitted]

### Editorial Notes

#### CODIFICATION

Sections 4145 to 4147 were initially transferred from sections 2350f, 2368, and 2367 of this title, respectively, by Pub. L. 116-283, div. A, title XVIII, §1844(b), Jan. 1, 2021, 134 Stat. 4246, to become effective Jan. 1, 2022. Subsequently, Pub. L. 117-81, div. A, title XVII, §1701(u)(5)(B), Dec. 27, 2021, 135 Stat. 2154, struck out and added a new section 1844(b) of Pub. L. 116-283, effective as if included therein. The new section 1844(b) did not direct any transfers to sections 4145 to 4147, thereby omitting these sections before they took effect. After other amendments by Pub. L. 117-81, section 2350f was not transferred, and sections 2368 and 2367 were transferred to sections 4124 and 4126 of this title, respectively.

### CHAPTER 307—TEST AND EVALUATION

Sec. 4171.	Operational test and evaluation of defense acquisition programs.
4172.	Major systems and munitions programs: survivability testing and lethality testing required before full-scale production.

Sec. 4173.	Department of Defense Test Resource Management Center.
4174.	Contracts: acquisition, construction, or furnishing of test facilities and equipment.
4175.	Use of test and evaluation installations by commercial entities.

### Editorial Notes

#### CODIFICATION

Pub. L. 116-283, div. A, title XVIII, §1844(a), Jan. 1, 2021, 134 Stat. 4245, initially enacted chapter 307 of this title, consisting of sections 4141 to 4147, which was to become effective Jan. 1, 2022. However, Pub. L. 117-81, div. A, title XVII, §1701(u)(5)(A), Dec. 27, 2021, 135 Stat. 2153, amended section 1844(a) of Pub. L. 116-283, effective as if included therein, so that instead of enacting chapter 307, it enacted chapter 305 of this title consisting of sections 4141 to 4144.

#### AMENDMENTS

2021—Pub. L. 117-81, div. A, title XVII, §1701(u)(6)(A), (C), Dec. 27, 2021, 135 Stat. 2154, amended Pub. L. 116-283, div. A, title XVIII, §1845(a), Jan. 1, 2021, 134 Stat. 4247, which added this analysis, by redesignating chapter 309 as this chapter and by adding items 4174 and 4175.

### Statutory Notes and Related Subsidiaries

PILOT PROGRAM TO TEST MACHINE-VISION TECHNOLOGIES TO DETERMINE THE AUTHENTICITY AND SECURITY OF MICROELECTRONIC PARTS IN WEAPON SYSTEMS

Pub. L. 115-232, div. A, title VIII, §843, Aug. 13, 2018, 132 Stat. 1878, as amended by Pub. L. 116-283, div. A, title XVIII, §§1806(e)(3)(C), 1866(d)(1), Jan. 1, 2021, 134 Stat. 4156, 4280, provided that:

“(a) PILOT PROGRAM AUTHORIZED.—The Undersecretary of Defense for Research and Engineering, in coordination with the Defense Microelectronics Activity, shall establish a pilot program to test the feasibility and reliability of using machine-vision technologies to determine the authenticity and security of microelectronic parts in weapon systems.

“(b) OBJECTIVES OF PILOT PROGRAM.—The Undersecretary of Defense for Research and Engineering, in coordination with the Defense Microelectronics Activity, shall design any pilot program conducted under this section to determine the following:

“(1) The effectiveness and technology readiness level of machine-vision technologies to determine the authenticity of microelectronic parts at the time of the creation of such part through final insertion of such part into weapon systems.

“(2) The best method of incorporating machine-vision technologies into the process of developing, transporting, and inserting microelectronics into weapon systems.

“(3) The rules, regulations, or processes that hinder the development and incorporation of machine-vision technologies, and the application of such rules, regulations, or processes to mitigate counterfeit microelectronics proliferation throughout the Department of Defense.

“(c) CONSULTATION.—To develop the pilot program under this section, the Undersecretary of Defense for Research and Engineering, in coordination with the Defense Microelectronics Activity, may consult with the following entities:

“(1) Manufacturers of semiconductors or electronics.

“(2) Industry associations relating to semiconductors or electronics.

“(3) Original equipment manufacturers of products for the Department of Defense.

“(4) Nontraditional defense contractors (as defined in section 3014 of title 10, United States Code) that are machine vision companies.

“(5) Federal laboratories (as defined in section 4801(5) of title 10, United States Code).

“(6) Other elements of the Department of Defense that fall under the authority of the Undersecretary of Defense for Research and Engineering.

“(d) COMMENCEMENT AND DURATION.—The pilot program established under this section shall be established not later than April 1, 2019, and all activities under such pilot program shall terminate not later than December 31, 2020.”

[Pub. L. 116-283, § 1866(d)(1)(A), which directed amendment of section 843(c)(4) of Pub. L. 115-232, set out above, by substituting “section 3021” for “section 2302(9)”, could not be executed because of the intervening amendment by section 1806(e)(3)(C) of Pub. L. 116-283, which had substituted “section 3014” for “section 2302(9)”.]

#### § 4171. Operational test and evaluation of defense acquisition programs

(a) CONDITION FOR PROCEEDING BEYOND LOW-RATE INITIAL PRODUCTION.—(1) The Secretary of Defense shall provide that a covered major defense acquisition program, a covered designated major subprogram, or an element of the ballistic missile defense system may not proceed beyond low-rate initial production until initial operational test and evaluation of the program, subprogram, or element is completed.

(2) In this subsection:

(A) The term “covered major defense acquisition program” means a major defense acquisition program that involves the acquisition of a weapon system that is a major system.

(B) The term “covered designated major subprogram” means a major subprogram designated under section 4203(a)(1) of this title that is a major subprogram of a covered major defense acquisition program.

(b) OPERATIONAL TEST AND EVALUATION.—(1) Operational testing of a major defense acquisition program may not be conducted until the Director of Operational Test and Evaluation of the Department of Defense approves (in writing) the adequacy of the plans (including the projected level of funding) for operational test and evaluation to be conducted in connection with that program.

(2) The Director shall analyze the results of the operational test and evaluation conducted for each major defense acquisition program. At the conclusion of such testing, the Director shall prepare a report stating—

(A) the opinion of the Director as to—

(i) whether the test and evaluation performed were adequate; and

(ii) whether the results of such test and evaluation confirm that the items or components actually tested are effective and suitable for combat; and

(B) additional information on the operational capabilities of the items or components that the Director considers appropriate based on the testing conducted.

(3) The Director shall submit each report under paragraph (2) to the Secretary of Defense, the Under Secretary of Defense for Acquisition and Sustainment, the Under Secretary of Defense for Research and Engineering, and the congressional defense committees. Each such report shall be submitted to those committees in pre-

cisely the same form and with precisely the same content as the report originally was submitted to the Secretary and Under Secretary and shall be accompanied by such comments as the Secretary may wish to make on the report.

(4) A final decision within the Department of Defense to proceed with a major defense acquisition program beyond low-rate initial production may not be made until the Director has submitted to the Secretary of Defense the report with respect to that program under paragraph (2) and the congressional defense committees have received that report.

(5) If, before a final decision described in paragraph (4) is made for a major defense acquisition program, a decision is made within the Department of Defense to proceed to operational use of that program or to make procurement funds available for that program, the Director shall submit to the Secretary of Defense and the congressional defense committees the report with respect to that program under paragraph (2) as soon as practicable after the decision described in this paragraph is made.

(6) In this subsection, the term “major defense acquisition program” has the meaning given that term in section 139(a)(2)(B) of this title.

(c) DETERMINATION OF QUANTITY OF ARTICLES REQUIRED FOR OPERATIONAL TESTING.—The quantity of articles of a new system that are to be procured for operational testing shall be determined by—

(1) the Director of Operational Test and Evaluation of the Department of Defense, in the case of a new system that is a major defense acquisition program (as defined in section 139(a)(2)(B) of this title); or

(2) the operational test and evaluation agency of the military department concerned, in the case of a new system that is not a major defense acquisition program.

(d) IMPARTIALITY OF CONTRACTOR TESTING PERSONNEL.—In the case of a major defense acquisition program (as defined in subsection (a)(2)), no person employed by the contractor for the system being tested may be involved in the conduct of the operational test and evaluation required under subsection (a). The limitation in the preceding sentence does not apply to the extent that the Secretary of Defense plans for persons employed by that contractor to be involved in the operation, maintenance, and support of the system being tested when the system is deployed in combat.

(e) IMPARTIAL CONTRACTED ADVISORY AND ASSISTANCE SERVICES.—(1) The Director may not contract with any person for advisory and assistance services with regard to the test and evaluation of a system if that person participated in (or is participating in) the development, production, or testing of such system for a military department or Defense Agency (or for another contractor of the Department of Defense).

(2) The Director may waive the limitation under paragraph (1) in any case if the Director determines in writing that sufficient steps have been taken to ensure the impartiality of the contractor in providing the services. The Inspector General of the Department of Defense shall review each such waiver and shall include in the