

Amendment by Pub. L. 116-283 effective Jan. 1, 2022, with additional provisions for delayed implementation and applicability of existing law, see section 1801(d) of Pub. L. 116-283, set out as a note preceding section 3001 of this title.

#### TERMINATION OF REPORTING REQUIREMENTS

For termination, effective Dec. 31, 2021, of provisions in subsec. (g) of this section requiring submittal of annual report to Congress, see section 1061 of Pub. L. 114-328, set out as a note under section 111 of this title.

#### ENHANCEMENTS TO TRANSPARENCY IN TEST AND EVALUATION PROCESSES AND DATA

Pub. L. 115-91, div. A, title VIII, § 839, Dec. 12, 2017, 131 Stat. 1475, provided that:

“(a) ADDITIONAL TEST AND EVALUATION DUTIES OF MILITARY SECRETARIES AND DEFENSE AGENCY HEADS.—

“(1) REPORT ON COMPARISON OF OPERATIONAL TEST AND EVALUATION RESULTS TO LEGACY ITEMS OR COMPONENTS.—Concurrent with the submission of a report required under section 2399(b)(2) of title 10, United States Code [now 10 U.S.C. 4171(b)(2)], the Secretary of a military department or the head of a Defense Agency may provide to the congressional defense committees [Committees on Armed Services and Appropriations of the Senate and the House of Representatives] and the Secretary of Defense a report describing the performance of the items or components evaluated as part of the operational test and evaluation for each major defense acquisition program conducted under such section by the Director of Operational Test and Evaluation in relation to comparable legacy items or components, if such items or components exist and relevant data are available without requiring additional testing.

“(2) ADDITIONAL REPORT ON OPERATIONAL TEST AND EVALUATION ACTIVITIES.—Within 45 days after the submission of an annual report required by section 139(h) of title 10, United States Code, the Secretaries of the military departments may each submit to the congressional defense committees a report addressing any concerns related to information included in the annual report, or providing updated or additional information, as appropriate.

“(b) REQUIREMENTS FOR COLLECTION OF COST DATA ON TEST AND EVALUATION.—

“(1) IN GENERAL.—Not later than one year after the date of the enactment of this Act [Dec. 12, 2017] and subject to paragraph (2), the Director of Operational Test and Evaluation, the senior official of the Department of Defense with responsibility for developmental testing, and the Director of the Test Resource Management Center shall jointly develop policies, procedures, guidance, and a method to collect data that ensures that consistent and high quality data are collected on the full range of estimated and actual developmental, live fire, and operational testing costs for major defense acquisition programs.

“(2) CONCURRENCE AND COORDINATION REQUIRED.—Before implementing the policies, procedures, guidance, and method developed under paragraph (1), the Director of Operational Test and Evaluation, the senior official of the Department of Defense with responsibility for developmental testing, and the Director of the Test Resource Management Center shall—

“(A) obtain the concurrence of the Director for Cost Assessment and Program Evaluation; and

“(B) coordinate with the Secretaries of the military departments.

“(3) DATA REQUIREMENTS.—

“(A) ELECTRONIC DATABASE.—Data on estimated and actual developmental, live fire, and operational testing costs shall be maintained in an electronic database maintained by the Director for Cost Assessment and Program Evaluation or another appropriate official of the Department of Defense, and shall be made available for analysis by testing, acquisition, and other appropriate officials of the De-

partment of Defense, as determined by the Director of Operational Test and Evaluation, the senior official of the Department of Defense with responsibility for developmental testing, or the Director of the Test Resource Management Center.

“(B) DIAGGREGATION [sic] BY COSTS.—To the maximum extent practicable, data collected under this subsection shall be set forth separately by costs for developmental testing, operational testing, and training.

“(c) MAJOR DEFENSE ACQUISITION PROGRAM DEFINED.—In this section, the term ‘major defense acquisition program’ has the meaning provided in section 2430 of title 10, United States Code [now 10 U.S.C. 4201].”

#### § 4172. Major systems and munitions programs: survivability testing and lethality testing required before full-scale production

(a) REQUIREMENTS.—(1) The Secretary of Defense shall provide that—

(A) a covered system may not proceed beyond low-rate initial production until realistic survivability testing of the system is completed in accordance with this section and the report required by subsection (d) with respect to that testing is submitted in accordance with that subsection; and

(B) a major munition program or a missile program may not proceed beyond low-rate initial production until realistic lethality testing of the program is completed in accordance with this section and the report required by subsection (d) with respect to that testing is submitted in accordance with that subsection.

(2) The Secretary of Defense shall provide that a covered product improvement program may not proceed beyond low-rate initial production until—

(A) in the case of a product improvement to a covered system, realistic survivability testing is completed in accordance with this section; and

(B) in the case of a product improvement to a major munitions program or a missile program, realistic lethality testing is completed in accordance with this section.

(b) TEST GUIDELINES.—(1) Survivability and lethality tests required under subsection (a) shall be carried out sufficiently early in the development phase of the system or program (including a covered product improvement program) to allow any design deficiency demonstrated by the testing to be corrected in the design of the system, munition, or missile (or in the product modification or upgrade to the system, munition, or missile) before proceeding beyond low-rate initial production.

(2) The costs of all tests required under that subsection shall be paid from funds available for the system being tested.

(c) WAIVER AUTHORITY.—(1) The Secretary of Defense may waive the application of the survivability and lethality tests of this section to a covered system, munitions program, missile program, or covered product improvement program if the Secretary determines that live-fire testing of such system or program would be unreasonably expensive and impractical and submits a certification of that determination to Congress—

(A) before Milestone B approval for the system or program; or

(B) in the case of a system or program initiated at—

(i) Milestone B, as soon as is practicable after the Milestone B approval; or

(ii) Milestone C, as soon as is practicable after the Milestone C approval.

(2) In the case of a covered system (or covered product improvement program for a covered system), the Secretary may waive the application of the survivability and lethality tests of this section to such system or program and instead allow testing of the system or program in combat by firing munitions likely to be encountered in combat at components, subsystems, and sub-assemblies, together with performing design analyses, modeling and simulation, and analysis of combat data. Such alternative testing may not be carried out in the case of any covered system (or covered product improvement program for a covered system) unless the Secretary certifies to Congress, before the system or program enters system development and demonstration, that the survivability and lethality testing of such system or program otherwise required by this section would be unreasonably expensive and impracticable.

(3) The Secretary shall include with any certification under paragraph (1) or (2) a report explaining how the Secretary plans to evaluate the survivability or the lethality of the system or program and assessing possible alternatives to realistic survivability testing of the system or program.

(4) In time of war or mobilization, the President may suspend the operation of any provision of this section.

(d) REPORTING TO CONGRESS.—(1) At the conclusion of survivability or lethality testing under subsection (a), the Secretary of Defense shall submit a report on the testing to the congressional defense committees. Each such report shall describe the results of the survivability or lethality testing and shall give the Secretary's overall assessment of the testing.

(2) If a decision is made within the Department of Defense to proceed to operational use of a system, or to make procurement funds available for a system, before Milestone C approval of that system, the Secretary of Defense shall submit to the congressional defense committees, as soon as practicable after such decision, the following:

(A) A report describing the status of survivability and live fire testing of that system.

(B) The report required under paragraph (1).

(e) DEFINITIONS.—In this section:

(1) The term “covered system” means—

(A) a vehicle, weapon platform, or conventional weapon system that—

(i) includes features designed to provide some degree of protection to users in combat; and

(ii) is a major system as defined in section 3041 of this title; or

(B) any other system or program designated by the Secretary of Defense for purposes of this section.

(2) The term “major munitions program” means—

(A) a munition program for which more than 1,000,000 rounds are planned to be acquired; or

(B) a conventional munitions program that is a major system within the meaning of that term in section 3041 of this title.

(3) The term “realistic survivability testing” means, in the case of a covered system (or a covered product improvement program for a covered system), testing for vulnerability of the system in combat by firing munitions likely to be encountered in combat (or munitions with a capability similar to such munitions) at the system configured for combat, with the primary emphasis on testing vulnerability with respect to potential user casualties and taking into equal consideration the susceptibility to attack and combat performance of the system.

(4) The term “realistic lethality testing” means, in the case of a major munitions program or a missile program (or a covered product improvement program for such a program), testing for lethality by firing the munition or missile concerned at appropriate targets configured for combat.

(5) The term “configured for combat”, with respect to a weapon system, platform, or vehicle, means loaded or equipped with all dangerous materials (including all flammables and explosives) that would normally be on board in combat.

(6) The term “covered product improvement program” means a program under which—

(A) a modification or upgrade will be made to a covered system which (as determined by the Secretary of Defense) is likely to affect significantly the survivability of such system; or

(B) a modification or upgrade will be made to a major munitions program or a missile program which (as determined by the Secretary of Defense) is likely to affect significantly the lethality of the munition or missile produced under the program.

(7) The term “Milestone B approval” means a decision to enter into system development and demonstration pursuant to guidance prescribed by the Secretary of Defense for the management of Department of Defense acquisition programs.

(8) The term “Milestone C approval” means a decision to enter into production and deployment pursuant to guidance prescribed by the Secretary of Defense for the management of Department of Defense acquisition programs.

(Added Pub. L. 99-500, § 101(c) [title X, § 910(a)(1)], Oct. 18, 1986, 100 Stat. 1783-82, 1783-143, and Pub. L. 99-591, § 101(c) [title X, § 910(a)(1)], Oct. 30, 1986, 100 Stat. 3341-82, 3341-143, § 2366; Pub. L. 99-661, div. A, title IX, formerly title IV, § 910(a)(1), Nov. 14, 1986, 100 Stat. 3923, renumbered title IX, Pub. L. 100-26, § 3(5), Apr. 21, 1987, 101 Stat. 273; amended Pub. L. 100-180, div. A, title VIII, § 802, title XII, § 1231(11), Dec. 4, 1987, 101 Stat. 1123, 1160; Pub. L. 100-456, div. A, title XII, § 1233(l)(3), Sept. 29, 1988, 102 Stat. 2058; Pub. L. 101-189, div. A, title VIII, §§ 802(c)(1)-(4)(A), 804, Nov. 29, 1989, 103 Stat. 1486, 1488; Pub. L. 101-510, div. A, title XIV, § 1484(h)(7), Nov. 5, 1990, 104 Stat. 1718; Pub.

L. 103-160, div. A, title VIII, §828(d)(2), Nov. 30, 1993, 107 Stat. 1715; Pub. L. 103-355, title III, §3014, Oct. 13, 1994, 108 Stat. 3332; Pub. L. 104-106, div. A, title XV, §1502(a)(18), Feb. 10, 1996, 110 Stat. 504; Pub. L. 106-65, div. A, title X, §1067(1), Oct. 5, 1999, 113 Stat. 774; Pub. L. 107-107, div. A, title VIII, §821(a), Dec. 28, 2001, 115 Stat. 1181; Pub. L. 107-314, div. A, title VIII, §818, Dec. 2, 2002, 116 Stat. 2611; Pub. L. 108-136, div. A, title X, §1043(b)(13), Nov. 24, 2003, 117 Stat. 1611; Pub. L. 110-417, [div. A], title II, §251(a), (b), Oct. 14, 2008, 122 Stat. 4400; renumbered §4172 and amended Pub. L. 116-283, div. A, title XVIII, §§1845(b), 1883(b)(2), Jan. 1, 2021, 134 Stat. 4247, 4294; Pub. L. 117-81, div. A, title XVII, §1701(u)(6)(B), Dec. 27, 2021, 135 Stat. 2154.)

### Editorial Notes

#### CODIFICATION

Pub. L. 99-591 is a corrected version of Pub. L. 99-500. Pub. L. 99-500, Pub. L. 99-591, and Pub. L. 99-661 added identical sections.

#### AMENDMENTS

2021—Pub. L. 116-283, §1845(b), as amended by Pub. L. 117-81, §1701(u)(6)(B), renumbered section 2366 of this title as this section.

Subsec. (e)(1)(A)(ii), (2)(B). Pub. L. 116-283, §1883(b)(2), substituted “section 3041” for “section 2302(5)”.

2008—Subsec. (d). Pub. L. 110-417, §251(b), designated existing provisions as par. (1) and added par. (2).

Subsec. (e)(1). Pub. L. 110-417, §251(a), amended par. (1) generally. Prior to amendment, par. (1) read as follows: “The term ‘covered system’ means a vehicle, weapon platform, or conventional weapon system—

“(A) that includes features designed to provide some degree of protection to users in combat; and

“(B) that is a major system within the meaning of that term in section 2302(5) of this title.”

2003—Subsec. (e)(7) to (9). Pub. L. 108-136 redesignated pars. (8) and (9) as (7) and (8), respectively, and struck out former par. (7) which read as follows: “The term ‘congressional defense committees’ means—

“(A) the Committee on Armed Services and the Committee on Appropriations of the Senate; and

“(B) the Committee on Armed Services and the Committee on Appropriations of the House of Representatives.”

2002—Subsec. (c)(1). Pub. L. 107-314, §818(a), amended par. (1) generally. Prior to amendment par. (1) read as follows: “The Secretary of Defense may waive the application of the survivability and lethality tests of this section to a covered system, munitions program, missile program, or covered product improvement program if the Secretary, before the system or program enters system development and demonstration, certifies to Congress that live-fire testing of such system or program would be unreasonably expensive and impractical.”

Subsec. (e)(8), (9). Pub. L. 107-314, §818(b), added pars. (8) and (9).

2001—Subsec. (c)(1), (2). Pub. L. 107-107 substituted “system development and demonstration” for “engineering and manufacturing development”.

1999—Subsec. (e)(7)(B). Pub. L. 106-65 substituted “Committee on Armed Services” for “Committee on National Security”.

1996—Subsec. (d). Pub. L. 104-106, §1502(a)(18)(A), substituted “the congressional defense committees” for “the Committees on Armed Services and on Appropriations of the Senate and House of Representatives”.

Subsec. (e)(7). Pub. L. 104-106, §1502(a)(18)(B), added par. (7).

1994—Subsec. (c)(1). Pub. L. 103-355, §3014(a)(2), (b), substituted “engineering and manufacturing development” for “full-scale engineering development” in first sentence and redesignated second sentence as par. (3).

Subsec. (c)(2). Pub. L. 103-355, §3014(a)(1), (3), added par. (2) and redesignated former par. (2) as (4).

Subsec. (c)(3). Pub. L. 103-355, §3014(a)(2), redesignated second sentence of par. (1) as par. (3) and substituted “certification under paragraph (1) or (2)” for “such certification”.

Subsec. (c)(4). Pub. L. 103-355, §3014(a)(1), redesignated par. (2) as (4).

1993—Subsec. (d). Pub. L. 103-160 substituted “to the Committees on Armed Services and on Appropriations of the Senate and House of Representatives” for “to the defense committees of Congress (as defined in section 2362(e)(3) of this title)”.

1990—Subsec. (a)(1)(A), (B). Pub. L. 101-510 made technical correction to directory language of Pub. L. 101-189, §804(a), see 1989 Amendment note below.

1989—Pub. L. 101-189, §802(c)(4)(A), substituted “testing and lethality testing required before full-scale production” for “and lethality testing; operational testing” in section catchline.

Subsec. (a)(1)(A). Pub. L. 101-189, §§802(c)(1)(A), 804(a), as amended by Pub. L. 101-510, substituted “this section and the report required by subsection (d) with respect to that testing is submitted in accordance with that subsection; and” for “this section;”.

Subsec. (a)(1)(B). Pub. L. 101-189, §§802(c)(1)(B), 804(a), as amended by Pub. L. 101-510, substituted “this section and the report required by subsection (d) with respect to that testing is submitted in accordance with that subsection.” for “this section; and”.

Subsec. (a)(1)(C). Pub. L. 101-189, §802(c)(1)(C), struck out subpar. (C) which read as follows: “a major defense acquisition program may not proceed beyond low-rate initial production until initial operational test and evaluation of the program is completed in accordance with this section.”

Subsec. (b)(2), (3). Pub. L. 101-189, §802(c)(2), redesignated par. (3) as (2) and struck out former par. (2) which read as follows: “In the case of a major defense acquisition program, 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.”

Subsec. (d). Pub. L. 101-189, §804(b), inserted at end “Each such report shall describe the results of the survivability or lethality testing and shall give the Secretary’s overall assessment of the testing.”

Subsec. (e)(3) to (8). Pub. L. 101-189, §802(c)(3), redesignated pars. (4), (5), (6), and (8) as (3), (4), (5), and (6), respectively, and struck out former par. (3) which defined “major defense acquisition program” and former par. (7) which defined “operational test and evaluation”.

1988—Subsec. (a)(2). Pub. L. 100-456 made technical correction to directory language of Pub. L. 100-180, §802(a)(1)(C). See 1987 Amendment note below.

1987—Subsec. (a). Pub. L. 100-180, §802(a)(1), as amended by Pub. L. 100-456, designated existing provisions as par. (1), redesignated former pars. (1) to (3) as subpars. (A) to (C), and added par. (2).

Subsec. (b)(1). Pub. L. 100-180, §802(a)(2), inserted “(including a covered product improvement program)” after “system or program” and “(or in the product modification or upgrade to the system, munition, or missile)” after “or missile”.

Subsec. (b)(2). Pub. L. 100-180, §802(b), inserted at end “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.”

Subsec. (c). Pub. L. 100-180, §802(a)(3), (c), (d)(1), designated existing provisions as par. (1), substituted “missile program, or covered product improvement program” for “or missile program”, and inserted at end

“The Secretary shall include with any such certification a report explaining how the Secretary plans to evaluate the survivability or the lethality of the system or program and assessing possible alternatives to realistic survivability testing of the system or program.”

Pub. L. 100-180, §802(d)(2), designated existing provisions of former subsec. (d) as par. (2) of subsec. (c) and struck out heading of former subsec. (d) “Waiver in time of war or mobilization”.

Subsec. (d). Pub. L. 100-180, §802(d)(3), added subsec. (d). Former subsec. (d) redesignated subsec. (c)(2).

Subsec. (e)(1)(B). Pub. L. 100-180, §1231(11), substituted “section 2302(5)” for “section 2303(5)”.

Subsec. (e)(4). Pub. L. 100-180, §802(a)(4)(A), (e), inserted “(or a covered product improvement program for a covered system)” after “covered system”, struck out “and survivability” after “for vulnerability”, and substituted “susceptibility to attack” for “operational requirements”.

Subsec. (e)(5). Pub. L. 100-180, §802(a)(4)(B), inserted “(or a covered product improvement program for such a program)” after “missile program”.

Subsec. (e)(8). Pub. L. 100-180, §802(a)(4)(C), added par. (8).

### Statutory Notes and Related Subsidiaries

#### EFFECTIVE DATE OF 2021 AMENDMENT

Amendment by Pub. L. 117-81 applicable as if included in the enactment of title XVIII of Pub. L. 116-283 as enacted, see section 1701(a)(2) of Pub. L. 117-81, set out in a note preceding section 3001 of this title and note below.

Amendment by Pub. L. 116-283 effective Jan. 1, 2022, with additional provisions for delayed implementation and applicability of existing law, see section 1801(d) of Pub. L. 116-283, set out as a note preceding section 3001 of this title.

#### EFFECTIVE DATE OF 1988 AMENDMENT

Pub. L. 100-456, div. A, title XII, §1233(l)(5), Sept. 29, 1988, 102 Stat. 2058, provided that: “The amendments made by this subsection [amending this section and sections 4214 and 8855 of this title and section 301c of Title 37, Pay and Allowances of the Uniformed Services] shall apply as if included in the enactment of Public Law 100-180.”

#### EFFECTIVE DATE

Pub. L. 99-500, §101(c) [title X, §910(b)], Oct. 18, 1986, 100 Stat. 1783-82, 1783-145, Pub. L. 99-591, §101(c) [title X, §910(b)], Oct. 30, 1986, 100 Stat. 3341-82, 3341-145, and Pub. L. 99-661, div. A, title IX, formerly title IV, §910(b), Nov. 14, 1986, 100 Stat. 3924, renumbered title IX, Pub. L. 100-26, §3(5), Apr. 21, 1987, 101 Stat. 273, provided that: “Section 2366 of title 10, United States Code [now 10 U.S.C. 4172] (as added by subsection (a)), shall apply with respect to any decision to proceed with a program beyond low-rate initial production that is made—

“(1) after May 31, 1987, in the case of a decision referred to in subsection (a)(1) or (a)(2) of such section; or

“(2) after the date of the enactment of this Act [Oct. 18, 1986], in the case of a decision referred to in subsection (a)(3) of such section.”

#### CONSIDERATION OF LETHALITY IN THE ANALYSIS OF ALTERNATIVES FOR MUNITIONS

Pub. L. 118-31, div. A, title II, §242, Dec. 22, 2023, 137 Stat. 208, provided that:

“(a) ANALYSIS OF ALTERNATIVES REVIEW.—The Secretary of Defense shall ensure that lethality is considered in any analysis of alternatives conducted prior to issuing a capability development document for purposes of procuring any new munition or modifying an existing munition.

“(b) CONSIDERATION OF ENERGETIC MATERIALS.—In assessing the lethality of a munition for purposes of the

analysis of alternatives described under subsection (a), the Secretary of Defense shall include the margin of effectiveness, increased system capacities, and cost implications afforded by the potential use of novel or alternative energetic materials in the munition to achieve increased explosive effects.

“(c) ENERGETIC MATERIALS DEFINED.—In this section, the term ‘energetic materials’ means critical chemicals that—

“(1) release large amounts of energy in a short amount of time; and

“(2) are capable of being used in explosives that create lethal effects in warheads.”

#### PILOT PROGRAM ON INCORPORATION OF THE CL20 COMPOUND IN CERTAIN WEAPON SYSTEMS

Pub. L. 118-31, div. A, title II, §243, Dec. 22, 2023, 137 Stat. 209, provided that:

“(a) PILOT PROGRAM REQUIRED.—The Secretary of Defense shall carry out a pilot program under which the Secretary incorporates the CL20 compound as the energetic material for the main fill in the warheads or propellants of three weapon systems under development by the Department of Defense for the purpose of determining cost, schedule, and lethality performance parameters for such systems.

“(b) SELECTION OF WEAPON SYSTEMS.—Each of the three weapon systems selected under subsection (a) shall be a weapon system that does not, as of the date of the enactment of this Act [Dec. 22, 2023], already incorporate the CL20 compound as the energetic material for the main fill in the warhead or propellant of the system.

“(c) TIMELINE FOR INTEGRATION.—The Secretary of Defense shall ensure that the CL20 energetic compound is integrated into each weapon system selected under subsection (a) by not later than three years after the date of the enactment of this Act.

“(d) BRIEFING.—Not later than one year after the date of the enactment of this Act, the Secretary of Defense shall provide to the congressional defense committees [Committees on Armed Services and Appropriations of the Senate and the House of Representatives] a briefing on progress of the Secretary in carrying out the pilot program under this section, including—

“(1) identification of the weapon systems selected by the Secretary under subsection (a);

“(2) with respect to each such weapon system, identification of—

“(A) a timeline for incorporating the CL20 energetic compound into such weapon system;

“(B) the organization within the Department of Defense responsible for carrying out activities under the pilot program for such weapon system; and

“(C) any locations at which testing associated with such weapon system under the program is expected to be carried out; and

“(3) the baseline cost, schedule, and lethality objectives that will be used to evaluate the performance of weapon systems under the program.

“(e) DEFINITIONS.—In this section, the term ‘energetic material’ means critical chemicals and formulations that—

“(1) release large amounts of stored chemical energy; and

“(2) are capable of being used as explosives, propellants, pyrotechnics, and reactive materials that—

“(A) create lethal effects in warheads in kinetic weapons components and systems; or

“(B) increase propellant performance in a weapon propulsion system as related to lethal effects, range, or speed.”

#### DEVELOPMENT AND IMPLEMENTATION OF DIGITAL TECHNOLOGIES FOR SURVIVABILITY AND LETHALITY TESTING

Pub. L. 117-81, div. A, title II, §223, Dec. 27, 2021, 135 Stat. 1601, provided that:

“(a) EXPANSION OF SURVIVABILITY AND LETHALITY TESTING.—

“(1) IN GENERAL.—The Secretary, in coordination with covered officials, shall—

“(A) expand the survivability and lethality testing of covered systems to include testing against non-kinetic threats; and

“(B) develop digital technologies to test such systems against such threats throughout the life cycle of each such system.

“(2) DEVELOPMENT OF DIGITAL TECHNOLOGIES FOR LIVE FIRE TESTING.—

“(A) IN GENERAL.—The Secretary, in coordination with covered officials, shall develop—

“(i) digital technologies to enable the modeling and simulation of the live fire testing required under section 2366 of title 10, United States Code [now 10 U.S.C. 4172]; and

“(ii) a process to use data from physical live fire testing to inform and refine the digital technologies described in clause (i).

“(B) OBJECTIVES.—In carrying out subparagraph (A), the Secretary shall seek to achieve the following objectives:

“(i) Enable assessments of full spectrum survivability and lethality of each covered system with respect to kinetic and non-kinetic threats.

“(ii) Inform the development and refinement of digital technology to test and improve covered systems.

“(iii) Enable survivability and lethality assessments of the warfighting capabilities of a covered system with respect to—

“(I) communications;

“(II) firepower;

“(III) mobility;

“(IV) catastrophic survivability; and

“(V) lethality.

“(C) DEMONSTRATION ACTIVITIES.—

“(i) IN GENERAL.—The Secretary, acting through the Director, shall carry out activities to demonstrate the digital technologies for full spectrum survivability testing developed under subparagraph (A).

“(ii) PROGRAM SELECTION.—The Secretary shall assess and select not fewer than three and not more than ten programs of the Department to participate in the demonstration activities required under clause (i).

“(iii) ARMED FORCES PROGRAMS.—Of the programs selected pursuant to clause (ii), the Director shall select—

“(I) at least one such program from the Army;

“(II) at least one such program from the Navy or the Marine Corps; and

“(III) at least one such program from the Air Force or the Space Force.

“(3) REGULAR SURVIVABILITY AND LETHALITY TESTING THROUGHOUT LIFE CYCLE.—

“(A) IN GENERAL.—The Secretary, in coordination with covered officials, shall—

“(i) develop a process to regularly test through the use of digital technologies the survivability and lethality of each covered system against kinetic and non-kinetic threats throughout the life cycle of such system as threats evolve; and

“(ii) establish guidance for such testing.

“(B) ELEMENTS.—In carrying out subparagraph (A), the Secretary shall determine the following:

“(i) When to deploy digital technologies to provide timely and up-to-date insights with respect to covered systems without unduly delaying fielding of capabilities.

“(ii) The situations in which it may be necessary to develop and use digital technologies to assess legacy fleet vulnerabilities.

“(b) REPORTS AND BRIEFING.—

“(1) ASSESSMENT AND SELECTION OF PROGRAMS.—Not later than 180 days after the date of the enactment of this Act [Dec. 27, 2021], the Secretary shall submit to

the congressional defense committees [Committees on Armed Services and Appropriations of the Senate and the House of Representatives] a report that identifies the programs selected to participate in the demonstration activities under subsection (a)(2)(C).

“(2) MODERNIZATION AND DIGITIZATION REPORT.—

“(A) IN GENERAL.—Not later than March 15, 2023, the Director shall submit to the congressional defense committees a report that includes—

“(i) an assessment of the progress of the Secretary in carrying out subsection (a);

“(ii) an assessment of each of the demonstration activities carried out under subsection (a)(2)(C), including a comparison of—

“(I) the risks, benefits, and costs of using digital technologies for live fire testing and evaluation; and

“(II) the risks, benefits, and costs of traditional physical live fire testing approaches that—

“(aa) are not supported by digital technologies;

“(bb) do not include testing against non-kinetic threats; and

“(cc) do not include full spectrum survivability;

“(iii) an explanation of—

“(I) how real-world operational and digital survivability and lethality testing data will be used to inform and enhance digital technology;

“(II) the contribution of such data to the digital modernization efforts required under section 836 of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (Public Law 116-283) [10 U.S.C. 3101 note]; and

“(III) the contribution of such data to the decision-support processes for managing and overseeing acquisition programs of the Department;

“(iv) an assessment of the ability of the Department to perform full spectrum survivability and lethality testing of each covered system with respect to kinetic and non-kinetic threats;

“(v) an assessment of the processes implemented by the Department to manage digital technologies developed pursuant to subsection (a); and

“(vi) an assessment of the processes implemented by the Department to develop digital technology that can perform full spectrum survivability and lethality testing with respect to kinetic and non-kinetic threats.

“(B) BRIEFING.—Not later than April 14, 2023, the Director shall provide to the congressional defense committees a briefing that identifies any changes to existing law that may be necessary to implement subsection (a).

“(c) DEFINITIONS.—In this section:

“(1) The term ‘covered officials’ means—

“(A) the Under Secretary of Defense for Research and Engineering;

“(B) the Under Secretary of Defense for Acquisition and Sustainment;

“(C) the Chief Information Officer;

“(D) the Director;

“(E) the Director of Cost Assessment and Program Evaluation;

“(F) the Service Acquisition Executives;

“(G) the Service testing commands;

“(H) the Director of the Defense Digital Service; and

“(I) representatives from—

“(i) the Department of Defense Test Resource Management Center;

“(ii) the High Performance Computing Modernization Program Office; and

“(iii) the Joint Technical Coordination Group for Munitions Effectiveness.

“(2) The term ‘covered system’ means any warfighting capability that can degrade, disable, deceive, or destroy forces or missions.

“(3) The term ‘Department’ means the Department of Defense.

“(4) The term ‘digital technologies’ includes digital models, digital simulations, and digital twin capabilities that may be used to test the survivability and lethality of a covered system.

“(5) The term ‘Director’ means the Director of Operational Test and Evaluation.

“(6) The term ‘full spectrum survivability and lethality testing’ means a series of assessments of the effects of kinetic and non-kinetic threats on the communications, firepower, mobility, catastrophic survivability, and lethality of a covered system.

“(7) The term ‘non-kinetic threats’ means unconventional threats, including—

“(A) cyber attacks;

“(B) electromagnetic spectrum operations;

“(C) chemical, biological, radiological, nuclear effects and high yield explosives; and

“(D) directed energy weapons.

“(8) The term ‘Secretary’ means the Secretary of Defense.”

### § 4173. Department of Defense Test Resource Management Center

(a) ESTABLISHMENT AS DEPARTMENT OF DEFENSE FIELD ACTIVITY.—The Secretary of Defense shall establish within the Department of Defense under section 191 of this title a Department of Defense Test Resource Management Center (hereinafter in this section referred to as the “Center”). The Secretary shall designate the Center as a Department of Defense Field Activity.

(b) DIRECTOR AND DEPUTY DIRECTOR.—(1) At the head of the Center shall be a Director, selected by the Secretary from among individuals who have substantial experience in the field of test and evaluation.

(2) There shall be a Deputy Director of the Center, selected by the Secretary from among individuals who have substantial experience in the field of test and evaluation. The Deputy Director shall act for, and exercise the powers of, the Director when the Director is disabled or the position of Director is vacant.

(c) DUTIES OF DIRECTOR.—(1) The Director shall have the following duties:

(A) To review and provide oversight of proposed Department of Defense budgets and expenditures for—

(i) the test and evaluation facilities and resources of the Major Range and Test Facility Base of the Department of Defense; and

(ii) all other test and evaluation facilities and resources within and outside of the Department of Defense, other than budgets and expenditures for activities described in section 139(j) of this title.

(B) To review proposed significant changes to the test and evaluation facilities and resources of the Major Range and Test Facility Base, including with respect to the expansion, divestment, consolidation, or curtailment of activities, before they are implemented by the Secretaries of the military departments or the heads of the Defense Agencies with test and evaluation responsibilities and advise the Secretary of Defense and the Under Secretary of Defense for Research and Engineering of the impact of such changes on the adequacy of such test and evaluation facilities and resources to meet the test and evaluation requirements of the Department.

(C) To complete and maintain the quadrennial strategic plan required by subsection (d).

(D) To review proposed budgets under subsection (e) and submit reports and certifications required by such subsection.

(E) To administer the Central Test and Evaluation Investment Program and the program of the Department of Defense for test and evaluation science and technology.

(F) To the extent practicable, to consult with the Secretary of the Army on installation infrastructure, workforce requirements, information technology, and other resources that support the activities of the Major Range and Test Facility Base.

(2) The Director shall have access to such records and data of the Department of Defense (including the appropriate records and data of each military department and Defense Agency) that are necessary in order to carry out the duties of the Director under this section.

(d) QUADRENNIAL STRATEGIC PLAN FOR DEPARTMENT OF DEFENSE TEST AND EVALUATION RESOURCES.—(1) Not less often than once every four fiscal years, and within one year after release of the National Defense Strategy, the Under Secretary of Defense for Research and Engineering, in coordination with the Director of the Department of Defense Test Resource Management Center, the Director of Operational Test and Evaluation, the Director of the Defense Intelligence Agency, the Secretaries of the military departments, and the heads of Defense Agencies with test and evaluation responsibilities, shall complete a quadrennial strategic plan reflecting the future needs of the Department of Defense with respect to test and evaluation facilities and resources. Each quadrennial strategic plan shall cover the period of thirty fiscal years beginning with the fiscal year in which the plan is submitted under paragraph (3). The quadrennial strategic plan shall be based on a comprehensive review of both funded and unfunded test and evaluation requirements of the Department, future threats to national security, and the adequacy of the test and evaluation facilities and resources of the Department to meet those future requirements and threats.

(2) The quadrennial strategic plan shall include the following:

(A) An assessment of the test and evaluation requirements of the Department for the period covered by the plan.

(B) An identification of performance measures associated with the successful achievement of test and evaluation objectives for the period covered by the plan.

(C) An assessment of the test and evaluation facilities and resources that will be needed to meet current and future requirements for test and evaluation of the Department of Defense major weapon systems based on current and emerging threats.

(D) An assessment of the current state of the test and evaluation facilities and resources of the Department.

(E) An assessment of plans and business case analyses supporting any significant modification of the test and evaluation facilities and resources of the Department projected, proposed, or recommended by the Secretary of a