

116TH CONGRESS
1ST SESSION

S. 1690

To improve United States missile defense, and for other purposes.

IN THE SENATE OF THE UNITED STATES

MAY 23 (legislative day, MAY 22), 2019

Mr. SULLIVAN (for himself and Mr. MANCHIN) introduced the following bill;
which was read twice and referred to the Committee on Armed Services

A BILL

To improve United States missile defense, and for other
purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Modernizing America’s
5 Missile Defense Act of 2019”.

6 **SEC. 2. EXPANSION OF NATIONAL MISSILE DEFENSE POL-**
7 **ICY AND PROGRAM REDESIGNATION.**

8 (a) FINDINGS.—Congress finds that the 2019 Missile
9 Defense Review—

10 (1) is fully aligned with the 2017 National Se-
11 curity Strategy (NSS), the 2018 National Defense

1 Strategy (NDS), and the 2018 Nuclear Posture Re-
2 view (NPR);

3 (2) establishes a policy framework for United
4 States missile defense that is responsive to new
5 threats and exploits new approaches to the defensive
6 mission;

7 (3) adopts a balanced and integrated approach
8 to countering missile threats through a combination
9 of deterrence, active and passive missile defenses,
10 and attack operations;

11 (4) is entitled the “Missile Defense Review”
12 (MDR) because of the expanding offensive missile
13 threat includes nonballistic systems, such as ad-
14 vanced cruise missiles and hypersonic weapons;

15 (5) states that the United States, allies, and
16 partners will pursue a comprehensive missile defense
17 strategy that will deliver integrated and effective ca-
18 pabilities to counter ballistic, cruise, and hypersonic
19 missile threats; and

20 (6) hedges against future unanticipated offen-
21 sive missile threats and pledges to develop and field
22 innovative and advanced missile defense capabilities
23 to counter future threats.

24 (b) SENSE OF THE SENATE.—It is the Sense of the
25 Senate that—

1 (1) the United States must continue to pursue
2 a comprehensive missile defense strategy that will
3 deliver integrated and effective capabilities to
4 counter ballistic, cruise, and hypersonic missile
5 threats;

6 (2) adversaries are quickly expanding the capa-
7 bilities of their existing missile systems, adding new
8 and unprecedented types of missile capabilities to
9 their arsenals, and further integrating offensive mis-
10 siles into their coercive threats, military exercises,
11 and war planning;

12 (3) both Russia and China are rapidly enhanc-
13 ing their existing offensive missile systems and de-
14 veloping advanced sea-, ground-, and air-launched
15 cruise missiles as well as hypersonic capabilities;

16 (4) due to the proliferation of offensive ballistic
17 and cruise missiles and the emergence of game-
18 changing hypersonic weapons technologies, all of
19 which threaten regional balances, our allies and
20 partners, United States deployed armed forces, and
21 the United States homeland, missile defenses become
22 an even more critical element of United States strat-
23 egy; and

24 (5) the United States must outpace adversary
25 offensive missile capabilities.

1 (c) EXPANSION OF POLICY.—Section 1681(a) of the
2 National Defense Authorization Act for Fiscal Year 2017
3 (Public Law 114–328; 10 U.S.C. 2431 note) is amended
4 by striking “ballistic missile threat” and inserting “bal-
5 listic, cruise, and hypersonic missile threats”.

6 (d) REDESIGNATION REQUIREMENT.—Not later than
7 the date on which the President submits to Congress pur-
8 suant to section 1105 of title 31, United States Code, the
9 annual budget request of the President for fiscal year
10 2021, the Secretary of Defense shall, as the Secretary con-
11 siders appropriate, redesignate all strategies, policies, pro-
12 grams, and systems under the jurisdiction of the Secretary
13 to reflect that missile defense programs of the United
14 States defend against ballistic, cruise, and hypersonic mis-
15 siles in all phases of flight.

16 **SEC. 3. ACCELERATION OF THE DEPLOYMENT OF PER-**
17 **SISTENT SPACE-BASED SENSOR ARCHITEC-**
18 **TURE.**

19 (a) FINDINGS.—Congress makes the following find-
20 ings:

21 (1) The Missile Defense Agency currently oper-
22 ates the Space Tracking and Surveillance System-
23 Demonstration (STSS–D), a two-satellite constella-
24 tion for testing purposes, which uses sensors capable
25 of detecting visible and infrared light and serves as

1 an experimental space tracker for the ballistic mis-
2 sile defense system.

3 (2) Conceptually developed in 2009, the Preci-
4 sion Tracking Space System (PTSS) would have
5 provided the persistent space-based tracking of bal-
6 listic missiles, including object characterization and
7 discrimination, and would have also supported home-
8 land, regional, and theater missile defense.

9 (3) Projected to enter orbit in 2018, the Missile
10 Defense Agency and the Applied Physics Laboratory
11 of Johns Hopkins University is currently conducting
12 a Space-Based Kill Assessment (SKA) experiment, a
13 network of small sensors hosted on commercial sat-
14 ellites, used to collect the energy signature of the im-
15 pact between a ballistic missile threat and an inter-
16 ceptor from the ballistic missile defense system.

17 (4) Section 236 of the National Defense Au-
18 thorization Act for Fiscal Year 2014 (127 Stat. 715;
19 Public Law 113–66) required the Secretary of De-
20 fense to conduct an evaluation of options and alter-
21 natives for future sensor architectures for ballistic
22 missile defense in order to enhance the ballistic mis-
23 sile defense capabilities of the United States.

24 (5) General John Hyten, Commander of the
25 United States Strategic Command, has argued for

1 the “deployment of a global space-based sensor sys-
2 tem with discrimination capability” as a “critical
3 component to improving the effectiveness of our de-
4 ployed interceptors” to “conduct both the character-
5 ization of these new threats . . . as well as discrimi-
6 nate better and earlier the mid-course element of the
7 threat that exists today”, and finally to “target
8 against . . . hypersonic capabilities [and] other ca-
9 pabilities in the boost phase.”.

10 (6) General O’Shaughnessy, Commander of the
11 United States Northern Command, stated that—

12 (A) “A space-based sensor network will
13 provide far greater coverage, survivability, and
14 persistence—all of which are necessary to main-
15 taining confidence in our ability to deter, de-
16 tect, and defeat missile threats to the home-
17 land.”;

18 (B) “We must take prudent steps now to
19 ensure our next generation defensive capabili-
20 ties to include a space-based sensing layer [are]
21 not late to need.”; and

22 (C) “The space-based sensing layer . . . is
23 of the highest urgency [and] that we gain that
24 capability as soon as possible because our ad-

1 versaries are actively developing these weapons
2 as we speak.”.

3 (7) General Samuel Greaves, a former Director
4 of the Missile Defense Agency, has stated that—

5 (A) space provides the critical vantage
6 point necessary to address rapidly advancing
7 threats across multiple regions of interest and
8 the only vantage point for global persistence to
9 address warfighter requirements;

10 (B) a space-based sensor layer consisting
11 of two separate constellations, one for tracking
12 and discriminating ballistic missiles and one for
13 tracking dim ballistic targets and hypersonic
14 missiles, would enable the United States to use
15 interceptor inventory more efficiently and effec-
16 tively to counter a broad array of threats; and

17 (C) space-based sensors are “absolutely
18 critical for the real threat that we see in front
19 of us, the hypersonic threat”.

20 (8) Admiral James Syring, a former Director of
21 the Missile Defense Agency, has stated, “From a
22 missile defense perspective, we have to develop a fu-
23 ture operational space layer. Given where the threat
24 is going with hypersonics and more ICBMs and so

1 forth this persistent tracking and discrimination ca-
2 pability from space is a must.”.

3 (9) The Department of Defense’s 2019 Missile
4 Defense Review states that—

5 (A) the exploitation of space provides a
6 missile defense posture that is more effective,
7 resilient, and adaptable to known and unantici-
8 pated threats;

9 (B) space-based sensors, for example, can
10 monitor, detect, and track missile launches
11 from locations almost anywhere on the globe—
12 they enjoy a measure of flexibility of movement
13 that is unimpeded by the constraints that geo-
14 graphic limitations impose on terrestrial sen-
15 sors; and

16 (C) unlike land-based sensors, space sen-
17 sors do not require basing rights or agreements
18 with foreign states enabling them to be placed
19 where necessary to achieve the ideal viewing ge-
20 ometry for launch detection, missile tracking,
21 threat discrimination, and intercept detection/
22 kill assessment of missile threats to the United
23 States homeland, our forces abroad, and to our
24 allies and partners.

1 (b) SENSE OF CONGRESS.—It is the sense of Con-
2 gress that—

3 (1) the two most recently enacted National De-
4 fense Authorization Acts have expressed support for
5 a space-based missile defense sensor program;

6 (2) the Secretary of Defense should rapidly de-
7 velop and deploy a persistent, space-based sensor ar-
8 chitecture to ensure missile defenses of the United
9 States are more effective against ballistic missile
10 threats and more responsive to emergent threats
11 from hypersonic and cruise missiles;

12 (3) the responsibility for developing and deploy-
13 ing a hypersonic and ballistic tracking space sensor
14 should remain within the Director of the Missile De-
15 fense Agency; and

16 (4) the Director of the Missile Defense Agency
17 should deploy a hypersonic and ballistic tracking
18 space sensor constellation as soon as technically fea-
19 sible.

20 (c) ASSIGNMENT OF PRIMARY RESPONSIBILITY FOR
21 DEVELOPMENT AND DEPLOYMENT OF THE HYPERSONIC
22 AND BALLISTIC TRACKING SPACE SENSOR.—Not later
23 than 30 days after the date of the enactment of this Act,
24 the Secretary shall—

1 (1) assign the Director of the Missile Defense
2 Agency with the principal responsibility for the de-
3 velopment and deployment of a hypersonic and bal-
4 listic tracking space sensor; and

5 (2) submit to the congressional defense commit-
6 tees certification of such assignment.

7 (d) CERTIFICATION REGARDING FUNDING OF
8 HYPERSONIC AND BALLISTIC TRACKING SPACE SENSOR
9 PROGRAM.—At the same time that the President submits
10 to Congress pursuant to section 1105 of title 31, United
11 States Code, the annual budget request of the President
12 for fiscal year 2021, the Under Secretary of Defense
13 Comptroller and the Director for Cost Assessment and
14 Program Evaluation shall jointly certify to the congres-
15 sional defense committees whether the hypersonic and bal-
16 listic tracking space sensor program is sufficiently funded
17 in the Future-Years Defense Program for the Missile De-
18 fense Agency.

19 (e) DEPLOYMENT DEADLINE.—Section 1683(a) of
20 the National Defense Authorization Act for Fiscal Year
21 2018 (Public Law 115–91; 10 U.S.C. 2431 note) is
22 amended—

23 (1) by striking “(A) IN GENERAL.—” and in-
24 serting the following:

1 “(a) DEVELOPMENT, TESTING, AND DEPLOY-
2 MENT.—

3 “(1) DEVELOPMENT.—”; and

4 (2) by adding at the end the following new
5 paragraphs:

6 “(2) TESTING AND DEPLOYMENT.—The Direc-
7 tor shall begin on-orbit testing of a hypersonic and
8 ballistic tracking space sensor no later than Decem-
9 ber 31, 2021, with full operational deployment as
10 soon as technically feasible thereafter.

11 “(3) WAIVER.—The Secretary of Defense may
12 waive the deadline for testing specified in paragraph
13 (2) if the Secretary submits to the congressional de-
14 fense committees a report containing—

15 “(A) the explanation why the Secretary
16 cannot meet such deadline;

17 “(B) the technical risks and estimated cost
18 of accelerating the program to attempt to meet
19 such deadline;

20 “(C) an assessment of threat systems that
21 could not be detected or tracked persistently
22 due to waiving such deadline; and

23 “(D) a plan, including a timeline, for be-
24 ginning the required testing.”.

25 (f) REPORT ON PROGRESS.—

1 (1) IN GENERAL.—Not later than 90 days after
2 the date of the enactment of this Act, the Secretary
3 of Defense shall submit to the congressional defense
4 committees a report on the progress of all efforts
5 being made by the Missile Defense Agency, the De-
6 fense Advanced Research Projects Agency, the Air
7 Force, and the Space Development Agency relating
8 to space-based sensing and tracking capabilities for
9 missile defense and how each of such organizations
10 will work together to avoid duplication of efforts.

11 (2) FORM.—The report required by paragraph
12 (1) shall be submitted in unclassified form, but may
13 include a classified annex.

14 **SEC. 4. NONSTANDARD ACQUISITION PROCESSES OF MIS-**
15 **SILE DEFENSE AGENCY.**

16 (a) FINDINGS.—Congress makes the following find-
17 ings:

18 (1) In 2002, four years prior to North Korea's
19 Taepodong-2 ICBM/SLV test in 2006, the Depart-
20 ment of Defense directed the Missile Defense Agency
21 to utilize flexible acquisition approaches to quickly
22 develop missile defense capabilities, which led to the
23 fielding of an initial operational homeland missile
24 defense system by the fall of 2004.

1 (2) The Department of Defense’s 2018 Na-
2 tional Defense Strategy states that the Department
3 of Defense must “[d]eliver performance at the speed
4 of relevance [and to] prioritize speed of delivery,
5 continuous adaptation, and frequent modular up-
6 grades.”.

7 (3) The Department of Defense’s 2019 Missile
8 Defense Review states that—

9 (A) the Department must adopt processes
10 and cultures that enable the Missile Defense
11 Agency and the military departments to deliver
12 missile defense capabilities faster, learn from
13 failure and rapidly adjust, and swiftly adapt
14 systems once fielded;

15 (B) the Department cannot meet this goal
16 by returning the Missile Defense Agency to the
17 standard acquisition and requirements genera-
18 tion processes; and

19 (C) the Department must instead continue
20 to streamline and refine acquisition processes
21 and ensure flexibility in the development, test-
22 ing, and fielding of missile defenses.

23 (4) General Greaves, the former Director of the
24 Missile Defense Agency, stated that—

1 (A) the Missile Defense Agency under-
2 stands the importance of innovating, devel-
3 oping, and delivering new missile defense capa-
4 bilities quickly, accelerating where possible mis-
5 sile defense acquisition timelines while adhering
6 to sound acquisition principles; and

7 (B) United States missile defenses must be
8 responsive to existing and new threats and le-
9 verage new approaches to the homeland and re-
10 gional defensive missions by delivering capabili-
11 ties faster, learning from failures to make rapid
12 adjustments, and swiftly adapting our systems
13 once they are fielded.

14 (b) SENSE OF CONGRESS.—It is the sense Congress
15 that—

16 (1) in order for the Department of Defense to
17 provide more lethal capabilities at the speed of rel-
18 evance, the Department needs to ensure its acquisi-
19 tion processes continue to fulfill the needs of mem-
20 bers of the Armed Forces now and in the future;

21 (2) significant defense acquisition reforms en-
22 acted over the past three National Defense Author-
23 ization Acts have improved access to nontraditional
24 and commercial innovation and to expanded flexible
25 acquisition authorities in the development of alter-

1 native acquisition pathways to acquire critical na-
2 tional security capabilities;

3 (3) the Department appropriately recognized
4 the Missile Defense Agency for its acquisition suc-
5 cess by presenting it with the 2018 David Packard
6 Excellence in Acquisition Award for the development
7 of the Space-Based Kill Assessment (SKA) program
8 and the Missile Defense Agency should be com-
9 mended for its numerous and rapid acquisition suc-
10 cesses;

11 (4) the recently completed Missile Defense Re-
12 view explicitly highlights, in stark terms, the threat
13 posed to the United States by ballistic and
14 hypersonic missile threats; and

15 (5) the Missile Defense Agency should maintain
16 its nonstandard acquisition authorities in order to
17 continue to rapidly design, test, and deliver critically
18 needed defensive capabilities to the warfighter.

19 (c) CHANGES TO NONSTANDARD ACQUISITION PROC-
20 ESSES AND RESPONSIBILITIES.—

21 (1) LIMITATION.—None of the funds authorized
22 to be appropriated by this Act may be obligated or
23 expended to change the nonstandard acquisition
24 processes and responsibilities described in paragraph

25 (2) until the Secretary—

1 (A) has consulted with the Under Sec-
2 retary of Defense for Engineering and Policy,
3 the secretaries of the military departments, the
4 Chairman of the Joint Chiefs of Staff, the
5 Commander of United States Strategic Com-
6 mand (USSTRATCOM), the Commander of
7 United States Northern Command (US-
8 NORTHCOM), and the Director of the Missile
9 Defense Agency;

10 (B) certifies to the congressional defense
11 committees that the Secretary has coordinated
12 the changes with and received the views of the
13 individuals referred to in subparagraph (A);

14 (C) submits to the congressional defense
15 committees a report describing the changes, the
16 rationale for the changes, and the views of the
17 individuals referred to in subparagraph (A)
18 with respect to such changes; and

19 (D) a period of 270 days has elapsed since
20 submittal of the report under subparagraph
21 (C).

22 (2) NONSTANDARD ACQUISITION PROCESSES
23 AND RESPONSIBILITIES DESCRIBED.—The non-
24 standard acquisition processes and responsibilities

1 described in this paragraph are such processes and
2 responsibilities described in—

3 (A) the memorandum of the Secretary of
4 Defense titled “Missile Defense Program Direc-
5 tion” signed on January 2, 2002; and

6 (B) Department of Defense Directive
7 5134.09, as in effect on the date of the enact-
8 ment of this Act.

9 **SEC. 5. PLAN FOR THE REDESIGNED KILL VEHICLE.**

10 (a) SENSE OF CONGRESS.—It is the sense of Con-
11 gress that—

12 (1) the ground-based midcourse defense system
13 is the only system capable of defending the United
14 States from long-range ballistic missile threats and
15 is critical to our national security;

16 (2) the redesigned kill vehicle for the ground-
17 based interceptor is a top priority for the Missile
18 Defense Agency and a critical element to increasing
19 system reliability to build warfighter confidence;

20 (3) the Missile Defense Agency must continue
21 to leverage mature technologies from proven fielded
22 components in a modular design to reduce the num-
23 ber of production processes and improve reliability,
24 producibility, and maintainability of the redesigned
25 kill vehicle;

1 (4) the consensus among senior Department of
2 Defense experts on missile defense, including Gen-
3 eral Terrance O’Shaughnessy, Commander of the
4 United States Northern Command, and Lieutenant
5 General Greaves, the Director the Missile Defense
6 Agency, is that the redesigned kill vehicle will make
7 homeland defenses much more robust and will im-
8 prove our ability to defend the homeland of the
9 United States;

10 (5) the Redesignated Kill Vehicle Program is vital
11 to providing the warfighter with a more reliable and
12 effective capability to defend the homeland from
13 long-range ballistic missile threats; and

14 (6) the Missile Defense Agency should be com-
15 mended for its rigorous and disciplined acquisition
16 and engineering processes it has applied to the Re-
17 designed Kill Vehicle Program.

18 (b) REPORT REQUIRED.—The Director of the Missile
19 Defense Agency shall submit to the congressional defense
20 committees a report on the delay in the Redesignated Kill
21 Vehicle Program.

22 (c) ELEMENTS.—The report required by subsection
23 (b) shall include the following:

24 (1) A description of the reason for the delay.

1 (2) An overview of the revised program sched-
2 ule including a revised test plan and revised acquisi-
3 tion strategy.

4 (3) A detailed description of any recommenda-
5 tions that could be utilized to accelerate the sched-
6 uled fielding including modifications to the acquisi-
7 tion strategy or the procurement and assembly of
8 long-lead materials unaffected by the reason for the
9 delay.

10 (4) A timeline associated with such rec-
11 ommendations.

12 (5) Additional funding required to carry out
13 such recommendations.

14 (6) An assessment of risk associated with such
15 recommendations.

16 (7) A description of any recommendations that
17 were submitted to the Director by contractors that
18 the Director considers reasonable but were not
19 adopted.

20 (8) An explanation as to why the recommenda-
21 tions described in paragraph (7) were not adopted.

22 (d) FORM OF REPORT.—The report required under
23 subsection (b) shall be submitted in unclassified form, but
24 may contain a classified annex.

1 **SEC. 6. REPORT ON IMPROVING GROUND-BASED MID-**
2 **COURSE DEFENSE ELEMENT OF BALLISTIC**
3 **MISSILE DEFENSE SYSTEM.**

4 (a) FINDINGS.—Congress makes the following find-
5 ings:

6 (1) A report from Johns Hopkins University,
7 published in 2015, and entitled “North Korea’s Nu-
8 clear Futures: Technology and Strategy”, concluded
9 that, by 2020, North Korea could have as many as
10 100 nuclear weapons.

11 (2) Currently, the United States will have 44
12 operational ground-based interceptors distributed be-
13 tween Fort Greely, Alaska, and Vandenberg Air
14 Force Base, California.

15 (3) Section 1686 of the National Defense Au-
16 thorization Act for Fiscal Year 2018 (Public Law
17 115–91; 10 U.S.C. 2431 note) authorizes up 28 ad-
18 ditional ground-based interceptors (GBIs) and be-
19 gins the deployment of 20 additional ground-based
20 interceptors to Fort Greely.

21 (4) In September 2017, Congress approved a
22 Department of Defense reprogramming of fiscal year
23 2017 funding of more than \$400,000,000 to counter
24 the North Korean missile threat.

25 (5) In November 2017, the President submitted
26 an amendment to his fiscal year 2018 budget re-

1 quest, which Congress subsequently approved, for
2 \$4,000,000,000 for missile defeat and defense, in-
3 cluding funding to begin the construction of a new
4 missile field at Fort Greely, Alaska, and additional
5 procurement funding necessary for 20 new ground-
6 based interceptors.

7 (6) The 2000 Final Environmental Impact
8 Statement for Fort Greely included the authoriza-
9 tion for up to 100 ground-based interceptors to en-
10 sure that growth would not incur any unexpected en-
11 vironmental delays.

12 (7) The current maximum potential capacity for
13 ground-based interceptors is 104, with up to 100 at
14 Fort Greely, and 4 at Vandenberg Air Force Base.

15 (b) REPORT REQUIRED.—Not later than 90 days
16 after the date of the enactment of this Act, the Director
17 of the Missile Defense Agency shall submit to the congres-
18 sional defense committees a report on—

19 (1) the options to increase the capability, capac-
20 ity, and reliability of the ground-based midcourse de-
21 fense element of the United States ballistic missile
22 defense system; and

23 (2) the infrastructure requirements for increas-
24 ing the number of ground-based interceptors as part
25 of such element.

1 (c) CONTENTS.—The report required by subsection
2 (b) shall include the following:

3 (1) An assessment of the requirements of the
4 ground-based midcourse defense element of the
5 United States ballistic missile defense system to
6 meet threats outlined in the 2018 National Defense
7 Strategy and the 2019 Missile Defense Review.

8 (2) An assessment of the feasibility of fielding
9 up to 104 ground-based interceptors as part of such
10 element, including a description of the additional in-
11 frastructure and components needed to further out-
12 fit missile fields at Fort Greely, Alaska.

13 (3) A cost estimate of such infrastructure and
14 components.

15 (4) An estimated schedule for completing such
16 construction as may be required for such infrastruc-
17 ture and components.

18 (5) An identification of any environmental as-
19 sessments or impact studies that would need to be
20 conducted to expand missile fields at Fort Greely be-
21 yond current capacity.

22 (6) A determination of the appropriate fleet mix
23 of ground-based interceptor kill vehicles and boosters
24 to maximize overall system effectiveness and in-
25 crease its capacity and capability, including the costs

1 and benefits of continued inclusion of capability en-
2 hancement II block 1 interceptors after the fielding
3 of the redesigned kill vehicle.

4 (7) The modernization requirements for the
5 ground-based midcourse system, including all com-
6 mand and control, ground systems, sensors and sen-
7 sor interfaces, boosters and kill vehicles, and inte-
8 gration of known future systems and components.

9 (8) A discussion of the obsolescence of such sys-
10 tems and components.

11 (9) The industrial base requirements relating to
12 the ground-based midcourse system, as determined
13 by the Director of the Missile Defense Agency.

14 (10) Such other matters as the Director con-
15 siders appropriate.

16 (d) FORM.—The report submitted under subsection
17 (b) shall be submitted in unclassified form, but may in-
18 clude a classified annex.

19 **SEC. 7. SENSE OF CONGRESS ON RECENT MISSILE DE-**
20 **FENSE AGENCY TESTS.**

21 It is the sense of Congress that the Office of the
22 Under Secretary of Defense for Research and Engineer-
23 ing, the Missile Defense Agency, the Office of the Director
24 for Operational Test and Evaluation, the operational test

1 agencies, the military departments, and warfighters
2 should—

3 (1) be strongly commended for a highly success-
4 ful 2018 flight test campaign, which consisted of 13
5 total flight test events including—

6 (A) FTX-35, which successfully proved
7 interoperability between Terminal High Altitude
8 Area Defense (THAAD) and the Phased Array
9 Tracking Radar to Intercept on Target (PA-
10 TRIOT) to detect and track a simulated en-
11 gagement with a short-range ballistic missile;

12 (B) Pacific Dragon 2018, which success-
13 fully demonstrated joint ballistic missile defense
14 interoperability with Japan and Korea to en-
15 gage a short-range ballistic missile with a
16 Standard Missile 3 (SM-3) Block IB by a Jap-
17 anese ship and an Aegis Ashore site;

18 (C) JFTM-5, which successfully dem-
19 onstrated the intercept of a short-range ballistic
20 missile with a Standard Missile 3 Block IB
21 threat upgrade from a Japanese ship;

22 (D) FTM-45, which successfully dem-
23 onstrated the intercept of a medium-range bal-
24 listic missile with a Standard Missile 3 Block
25 IIA from a United States ship; and

- 1 (E) FTI-03, which as a part of the oper-
2 ational test of the European Phased Adaptive
3 Approach (EPAA) Phase 3 architecture, suc-
4 cessfully demonstrated the intercept of an inter-
5 mediate-range ballistic missile using the Aegis
6 Weapon System's Engage-on-Remote capability;
- 7 (2) be especially recognized for the success of
8 FTG-11, the first salvo test of the United States
9 Ground-based Midcourse Defense system, during
10 which two ground-based interceptors were launched
11 nearly simultaneously from the same location and
12 successfully intercepted a threat-representative inter-
13 continental ballistic missile target, and then the next
14 most lethal object;
- 15 (3) continue to pursue an increasingly rigorous
16 testing regime for all elements of the Ballistic Mis-
17 sile Defense System, in coordination with the Office
18 of the Director, Operational Test and Evaluation, to
19 more rapidly deliver capabilities to the warfighter as
20 the threat evolves;
- 21 (4) not consider tests which do not achieve an
22 intercept or the main objective as failures; and
- 23 (5) recognize, in an effort to deliver capabilities
24 at the speed of relevance, the learning value of indi-
25 vidual advancements made by all test events, rather

1 than viewing any total outcome as an indication of
2 the reliability of entire missile defense systems.

3 **SEC. 8. SENSE OF CONGRESS ON MISSILE DEFENSE TECH-**
4 **NOLOGY DEVELOPMENT PRIORITIES.**

5 It is the sense of Congress that—

6 (1) the 2019 Missile Defense Review articulates
7 a comprehensive approach to preventing and defeat-
8 ing the rapidly expanding offensive missile threat
9 through a combination of deterrence, active and pas-
10 sive missile defense, and attack operations;

11 (2) to counter the expanding offense missile ca-
12 pabilities of potential adversaries and hedge against
13 unanticipated missile threats, the Secretary of De-
14 fense should aggressively pursue new missile defense
15 capabilities and examine concepts and technologies
16 for advanced missile defense systems;

17 (3) the Secretary should fully implement the
18 2019 Missile Defense Review’s focus on increasing
19 investments in and deploying new technologies and
20 concepts, including—

21 (A) the redesigned kill vehicle;

22 (B) a hypersonic and ballistic tracking
23 space sensor;

24 (C) hypersonic glide vehicle defense;

- 1 (D) directed energy for missile defense to
2 include laser scaling;
- 3 (E) the multi-object kill vehicle;
- 4 (F) a space-based missile intercept layer;
- 5 (G) improved Standard Missile 3 (SM-3)
6 ballistic missile interceptors;
- 7 (H) F-35 sensor suite missile defense inte-
8 gration;
- 9 (I) neutral particle beam; and
- 10 (J) missile defense capabilities from Mis-
11 sile Defense Agency-configured airborne plat-
12 forms, including the discrimination sensor dem-
13 onstrator; and
- 14 (4) the Secretary should work to ensure that all
15 missile defense systems are more survivable, includ-
16 ing through—
- 17 (A) more distributed air and missile de-
18 fense operations; and
- 19 (B) improved camouflage, concealment,
20 and deception, including emission control.

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