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.

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

SECTION 1. SHORT TITLE.

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

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

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

(1) is fully aligned with the 2017 National Se-
curity Strategy (NSS), the 2018 National Defense
Strategy (NDS), and the 2018 Nuclear Posture Review (NPR);

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

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

(4) is entitled the “Missile Defense Review” (MDR) because of the expanding offensive missile threat includes nonballistic systems, such as advanced cruise missiles and hypersonic weapons;

(5) states that the United States, allies, and partners will pursue a comprehensive missile defense strategy that will deliver integrated and effective capabilities to counter ballistic, cruise, and hypersonic missile threats; and

(6) hedges against future unanticipated offensive missile threats and pledges to develop and field innovative and advanced missile defense capabilities to counter future threats.

(b) SENSE OF THE SENATE.—It is the Sense of the Senate that—
(1) the United States must continue to pursue a comprehensive missile defense strategy that will deliver integrated and effective capabilities to counter ballistic, cruise, and hypersonic missile threats;

(2) adversaries are quickly expanding the capabilities of their existing missile systems, adding new and unprecedented types of missile capabilities to their arsenals, and further integrating offensive missiles into their coercive threats, military exercises, and war planning;

(3) both Russia and China are rapidly enhancing their existing offensive missile systems and developing advanced sea-, ground-, and air-launched cruise missiles as well as hypersonic capabilities;

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

(5) the United States must outpace adversary offensive missile capabilities.
(c) EXPANSION OF POLICY.—Section 1681(a) of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328; 10 U.S.C. 2431 note) is amended by striking “ballistic missile threat” and inserting “ballistic, cruise, and hypersonic missile threats”.

(d) REDESIGNATION REQUIREMENT.—Not later than the date on which the President submits to Congress pursuant to section 1105 of title 31, United States Code, the annual budget request of the President for fiscal year 2021, the Secretary of Defense shall, as the Secretary considers appropriate, redesignate all strategies, policies, programs, and systems under the jurisdiction of the Secretary to reflect that missile defense programs of the United States defend against ballistic, cruise, and hypersonic missiles in all phases of flight.

SEC. 3. ACCELERATION OF THE DEPLOYMENT OF PERSISTENT SPACE-BASED SENSOR ARCHITECTURE.

(a) FINDINGS.—Congress makes the following findings:

(1) The Missile Defense Agency currently operates the Space Tracking and Surveillance System Demonstration (STSS–D), a two-satellite constellation for testing purposes, which uses sensors capable of detecting visible and infrared light and serves as
an experimental space tracker for the ballistic missile defense system.

(2) Conceptually developed in 2009, the Precision Tracking Space System (PTSS) would have provided the persistent space-based tracking of ballistic missiles, including object characterization and discrimination, and would have also supported homeland, regional, and theater missile defense.

(3) Projected to enter orbit in 2018, the Missile Defense Agency and the Applied Physics Laboratory of Johns Hopkins University is currently conducting a Space-Based Kill Assessment (SKA) experiment, a network of small sensors hosted on commercial satellites, used to collect the energy signature of the impact between a ballistic missile threat and an interceptor from the ballistic missile defense system.

(4) Section 236 of the National Defense Authorization Act for Fiscal Year 2014 (127 Stat. 715; Public Law 113–66) required the Secretary of Defense to conduct an evaluation of options and alternatives for future sensor architectures for ballistic missile defense in order to enhance the ballistic missile defense capabilities of the United States.

(5) General John Hyten, Commander of the United States Strategic Command, has argued for
the “deployment of a global space-based sensor system with discrimination capability” as a “critical component to improving the effectiveness of our deployed interceptors” to “conduct both the characterization of these new threats . . . as well as discriminate better and earlier the mid-course element of the threat that exists today”, and finally to “target against . . . hypersonic capabilities [and] other capabilities in the boost phase.”.

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

(A) “A space-based sensor network will provide far greater coverage, survivability, and persistence—all of which are necessary to maintaining confidence in our ability to deter, detect, and defeat missile threats to the homeland.”;

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

(C) “The space-based sensing layer . . . is of the highest urgency [and] that we gain that capability as soon as possible because our ad-
versaries are actively developing these weapons as we speak.”.

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

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

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

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

(8) Admiral James Syring, a former Director of the Missile Defense Agency, has stated, “From a missile defense perspective, we have to develop a future operational space layer. Given where the threat is going with hypersonics and more ICBMs and so
forth this persistent tracking and discrimination ca-

capability from space is a must.”.

(9) The Department of Defense’s 2019 Missile

Defense Review states that—

(A) the exploitation of space provides a

missile defense posture that is more effective,

resilient, and adaptable to known and unantici-

pated threats;

(B) space-based sensors, for example, can

monitor, detect, and track missile launches

from locations almost anywhere on the globe—

they enjoy a measure of flexibility of movement

that is unimpeded by the constraints that geo-

graphic limitations impose on terrestrial sen-

sors; and

(C) unlike land-based sensors, space sen-

sors do not require basing rights or agreements

with foreign states enabling them to be placed

where necessary to achieve the ideal viewing ge-

ometry for launch detection, missile tracking,

threat discrimination, and intercept detection/

kill assessment of missile threats to the United

States homeland, our forces abroad, and to our

allies and partners.
(b) **Sense of Congress.**—It is the sense of Congress that—

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

(2) the Secretary of Defense should rapidly develop and deploy a persistent, space-based sensor architecture to ensure missile defenses of the United States are more effective against ballistic missile threats and more responsive to emergent threats from hypersonic and cruise missiles;

(3) the responsibility for developing and deploying a hypersonic and ballistic tracking space sensor should remain within the Director of the Missile Defense Agency; and

(4) the Director of the Missile Defense Agency should deploy a hypersonic and ballistic tracking space sensor constellation as soon as technically feasible.

(c) **Assignment of Primary Responsibility for Development and Deployment of the Hypersonic and Ballistic Tracking Space Sensor.**—Not later than 30 days after the date of the enactment of this Act, the Secretary shall—
1. (1) assign the Director of the Missile Defense Agency with the principal responsibility for the development and deployment of a hypersonic and ballistic tracking space sensor; and

(2) submit to the congressional defense committees certification of such assignment.

(d) Certification Regarding Funding of Hypersonic and Ballistic Tracking Space Sensor Program.—At the same time that the President submits to Congress pursuant to section 1105 of title 31, United States Code, the annual budget request of the President for fiscal year 2021, the Under Secretary of Defense Comptroller and the Director for Cost Assessment and Program Evaluation shall jointly certify to the congressional defense committees whether the hypersonic and ballistic tracking space sensor program is sufficiently funded in the Future-Years Defense Program for the Missile Defense Agency.

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

(1) by striking “(a) In General.—” and inserting the following:
“(a) DEVELOPMENT, TESTING, AND DEPLOYMENT.—

“(1) DEVELOPMENT.—”;

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

“(2) TESTING AND DEPLOYMENT.—The Director shall begin on-orbit testing of a hypersonic and ballistic tracking space sensor no later than December 31, 2021, with full operational deployment as soon as technically feasible thereafter.

“(3) WAIVER.—The Secretary of Defense may waive the deadline for testing specified in paragraph (2) if the Secretary submits to the congressional defense committees a report containing—

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

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

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

“(D) a plan, including a timeline, for beginning the required testing.”.

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

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

SEC. 4. NONSTANDARD ACQUISITION PROCESSES OF MISSILE DEFENSE AGENCY.

(a) FINDINGS.—Congress makes the following findings:

(1) In 2002, four years prior to North Korea’s Taepodong-2 ICBM/SLV test in 2006, the Department of Defense directed the Missile Defense Agency to utilize flexible acquisition approaches to quickly develop missile defense capabilities, which led to the fielding of an initial operational homeland missile defense system by the fall of 2004.
(2) The Department of Defense’s 2018 National Defense Strategy states that the Department of Defense must “[d]eliver performance at the speed of relevance [and to] prioritize speed of delivery, continuous adaptation, and frequent modular upgrades.”.

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

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

(B) the Department cannot meet this goal by returning the Missile Defense Agency to the standard acquisition and requirements generation processes; and

(C) the Department must instead continue to streamline and refine acquisition processes and ensure flexibility in the development, testing, and fielding of missile defenses.

(4) General Greaves, the former Director of the Missile Defense Agency, stated that—
(A) the Missile Defense Agency understands the importance of innovating, developing, and delivering new missile defense capabilities quickly, accelerating where possible missile defense acquisition timelines while adhering to sound acquisition principles; and

(B) United States missile defenses must be responsive to existing and new threats and leverage new approaches to the homeland and regional defensive missions by delivering capabilities faster, learning from failures to make rapid adjustments, and swiftly adapting our systems once they are fielded.

(b) Sense of Congress.—It is the sense Congress that—

(1) in order for the Department of Defense to provide more lethal capabilities at the speed of relevance, the Department needs to ensure its acquisition processes continue to fulfill the needs of members of the Armed Forces now and in the future;

(2) significant defense acquisition reforms enacted over the past three National Defense Authorization Acts have improved access to nontraditional and commercial innovation and to expanded flexible acquisition authorities in the development of alter-
native acquisition pathways to acquire critical national security capabilities;

(3) the Department appropriately recognized the Missile Defense Agency for its acquisition success by presenting it with the 2018 David Packard Excellence in Acquisition Award for the development of the Space-Based Kill Assessment (SKA) program and the Missile Defense Agency should be commended for its numerous and rapid acquisition successes;

(4) the recently completed Missile Defense Review explicitly highlights, in stark terms, the threat posed to the United States by ballistic and hypersonic missile threats; and

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

(c) CHANGES TO NONSTANDARD ACQUISITION PROCESSES AND RESPONSIBILITIES.—

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

(2) until the Secretary—
(A) has consulted with the Under Secretary of Defense for Engineering and Policy, the secretaries of the military departments, the Chairman of the Joint Chiefs of Staff, the Commander of United States Strategic Command (USSTRATCOM), the Commander of United States Northern Command (USNORTHCOM), and the Director of the Missile Defense Agency;

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

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

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

(2) NONSTANDARD ACQUISITION PROCESSES AND RESPONSIBILITIES DESCRIBED.—The non-standard acquisition processes and responsibilities
described in this paragraph are such processes and responsibilities described in—

(A) the memorandum of the Secretary of Defense titled “Missile Defense Program Direction” signed on January 2, 2002; and

(B) Department of Defense Directive 5134.09, as in effect on the date of the enactment of this Act.

SEC. 5. PLAN FOR THE REDESIGNED KILL VEHICLE.

(a) SENSE OF CONGRESS.—It is the sense of Congress that—

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

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

(3) the Missile Defense Agency must continue to leverage mature technologies from proven fielded components in a modular design to reduce the number of production processes and improve reliability, producibility, and maintainability of the redesigned kill vehicle;
(4) the consensus among senior Department of Defense experts on missile defense, including General Terrance O'Shaughnessy, Commander of the United States Northern Command, and Lieutenant General Greaves, the Director the Missile Defense Agency, is that the redesigned kill vehicle will make homeland defenses much more robust and will improve our ability to defend the homeland of the United States;

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

(6) the Missile Defense Agency should be commended for its rigorous and disciplined acquisition and engineering processes it has applied to the Redesigned Kill Vehicle Program.

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

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

(1) A description of the reason for the delay.
(2) An overview of the revised program schedule including a revised test plan and revised acquisition strategy.

(3) A detailed description of any recommendations that could be utilized to accelerate the scheduled fielding including modifications to the acquisition strategy or the procurement and assembly of long-lead materials unaffected by the reason for the delay.

(4) A timeline associated with such recommendations.

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

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

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

(8) An explanation as to why the recommendations described in paragraph (7) were not adopted.

(d) FORM OF REPORT.—The report required under subsection (b) shall be submitted in unclassified form, but may contain a classified annex.
SEC. 6. REPORT ON IMPROVING GROUND-BASED MID-COURSE DEFENSE ELEMENT OF BALLISTIC MISSILE DEFENSE SYSTEM.

(a) FINDINGS.—Congress makes the following findings:

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

(2) Currently, the United States will have 44 operational ground-based interceptors distributed between Fort Greely, Alaska, and Vandenberg Air Force Base, California.

(3) Section 1686 of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115–91; 10 U.S.C. 2431 note) authorizes up 28 additional ground-based interceptors (GBIs) and begins the deployment of 20 additional ground-based interceptors to Fort Greely.

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

(5) In November 2017, the President submitted an amendment to his fiscal year 2018 budget re-
quest, which Congress subsequently approved, for $4,000,000,000 for missile defeat and defense, including funding to begin the construction of a new missile field at Fort Greely, Alaska, and additional procurement funding necessary for 20 new ground-based interceptors.

(6) The 2000 Final Environmental Impact Statement for Fort Greely included the authorization for up to 100 ground-based interceptors to ensure that growth would not incur any unexpected environmental delays.

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

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

(1) the options to increase the capability, capacity, and reliability of the ground-based midcourse defense element of the United States ballistic missile defense system; and

(2) the infrastructure requirements for increasing the number of ground-based interceptors as part of such element.
(c) CONTENTS.—The report required by subsection (b) shall include the following:


(2) An assessment of the feasibility of fielding up to 104 ground-based interceptors as part of such element, including a description of the additional infrastructure and components needed to further outfit missile fields at Fort Greely, Alaska.

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

(4) An estimated schedule for completing such construction as may be required for such infrastructure and components.

(5) An identification of any environmental assessments or impact studies that would need to be conducted to expand missile fields at Fort Greely beyond current capacity.

(6) A determination of the appropriate fleet mix of ground-based interceptor kill vehicles and boosters to maximize overall system effectiveness and increase its capacity and capability, including the costs
and benefits of continued inclusion of capability enhancement II block 1 interceptors after the fielding of the redesigned kill vehicle.

(7) The modernization requirements for the ground-based midcourse system, including all command and control, ground systems, sensors and sensor interfaces, boosters and kill vehicles, and integration of known future systems and components.

(8) A discussion of the obsolescence of such systems and components.

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

(10) Such other matters as the Director considers appropriate.

(d) FORM.—The report submitted under subsection (b) shall be submitted in unclassified form, but may include a classified annex.

SEC. 7. SENSE OF CONGRESS ON RECENT MISSILE DEFENSE AGENCY TESTS.

It is the sense of Congress that the Office of the Under Secretary of Defense for Research and Engineering, the Missile Defense Agency, the Office of the Director for Operational Test and Evaluation, the operational test
agencies, the military departments, and warfighters should—

(1) be strongly commended for a highly successful 2018 flight test campaign, which consisted of 13 total flight test events including—

(A) FTX–35, which successfully proved interoperability between Terminal High Altitude Area Defense (THAAD) and the Phased Array Tracking Radar to Intercept on Target (Patriot) to detect and track a simulated engagement with a short-range ballistic missile;

(B) Pacific Dragon 2018, which successfully demonstrated joint ballistic missile defense interoperability with Japan and Korea to engage a short-range ballistic missile with a Standard Missile 3 (SM–3) Block IB by a Japanese ship and an Aegis Ashore site;

(C) JFTM–5, which successfully demonstrated the intercept of a short-range ballistic missile with a Standard Missile 3 Block IB threat upgrade from a Japanese ship;

(D) FTM–45, which successfully demonstrated the intercept of a medium-range ballistic missile with a Standard Missile 3 Block IIA from a United States ship; and
(E) FTI–03, which as a part of the operational test of the European Phased Adaptive Approach (EPAA) Phase 3 architecture, successfully demonstrated the intercept of an intermediate-range ballistic missile using the Aegis Weapon System’s Engage-on-Remote capability;

(2) be especially recognized for the success of FTG–11, the first salvo test of the United States Ground-based Midcourse Defense system, during which two ground-based interceptors were launched nearly simultaneously from the same location and successfully intercepted a threat-representative intercontinental ballistic missile target, and then the next most lethal object;

(3) continue to pursue an increasingly rigorous testing regime for all elements of the Ballistic Missile Defense System, in coordination with the Office of the Director, Operational Test and Evaluation, to more rapidly deliver capabilities to the warfighter as the threat evolves;

(4) not consider tests which do not achieve an intercept or the main objective as failures; and

(5) recognize, in an effort to deliver capabilities at the speed of relevance, the learning value of individual advancements made by all test events, rather
than viewing any total outcome as an indication of the reliability of entire missile defense systems.

SEC. 8. SENSE OF CONGRESS ON MISSILE DEFENSE TECHNOLOGY DEVELOPMENT PRIORITIES.

It is the sense of Congress that—

(1) the 2019 Missile Defense Review articulates a comprehensive approach to preventing and defeating the rapidly expanding offensive missile threat through a combination of deterrence, active and passive missile defense, and attack operations;

(2) to counter the expanding offense missile capabilities of potential adversaries and hedge against unanticipated missile threats, the Secretary of Defense should aggressively pursue new missile defense capabilities and examine concepts and technologies for advanced missile defense systems;

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

(A) the redesigned kill vehicle;

(B) a hypersonic and ballistic tracking space sensor;

(C) hypersonic glide vehicle defense;
(D) directed energy for missile defense to include laser scaling;

(E) the multi-object kill vehicle;

(F) a space-based missile intercept layer;

(G) improved Standard Missile 3 (SM–3) ballistic missile interceptors;

(H) F–35 sensor suite missile defense integration;

(I) neutral particle beam; and

(J) missile defense capabilities from Missile Defense Agency-configured airborne platforms, including the discrimination sensor demonstrator; and

(4) the Secretary should work to ensure that all missile defense systems are more survivable, including through—

(A) more distributed air and missile defense operations; and

(B) improved camouflage, concealment, and deception, including emission control.