

115TH CONGRESS  
1ST SESSION

# S. 1196

To expand the capacity and capability of the ballistic missile defense system of the United States, and for other purposes.

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## IN THE SENATE OF THE UNITED STATES

MAY 22, 2017

Mr. SULLIVAN (for himself, Mr. CRUZ, Mr. SCHATZ, Mr. PETERS, Mr. COTTON, Mr. MANCHIN, Mrs. CAPITO, and Mr. RUBIO) introduced the following bill; which was read twice and referred to the Committee on Armed Services

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## A BILL

To expand the capacity and capability of the ballistic missile defense system of the United States, 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 “Advancing America’s  
5 Missile Defense Act of 2017”.

1 **SEC. 2. SENSE OF CONGRESS ON CURRENT STATE OF**  
2 **UNITED STATES MISSILE DEFENSE, FUTURE**  
3 **INVESTMENT, AND ACCELERATING CAPABILI-**  
4 **TIES TO OUTPACE CURRENT THREATS.**

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

7 (1) According to the Commander of United  
8 States Northern Command, General Lori Robinson,  
9 the ground-based midcourse defense (GMD) element  
10 of the ballistic missile defense system “defend[s] the  
11 homeland against a limited long-range ballistic mis-  
12 sile attack” and “is designed to intercept incoming  
13 threats in the midcourse phase of flight.”.

14 (2) Spanning 15 time zones, the ground-based  
15 midcourse defense element of the ballistic missile de-  
16 fense system and its associated elements represents  
17 the only system currently capable of defeating an  
18 adversary’s intercontinental ballistic missile (ICBM)  
19 in the midcourse segment of flight.

20 (3) Terminal High Altitude Area Defense  
21 (THAAD) is a United States Army weapon system  
22 that is transportable, globally deployable, and capa-  
23 ble of defeating ballistic missiles inside or outside  
24 the atmosphere during a missile’s terminal phase of  
25 flight.

1           (4) In response to the aggressive behavior of  
2 North Korea, the United States initially deployed a  
3 Terminal High Altitude Area Defense battery to the  
4 United States territory of Guam in April of 2013,  
5 made that deployment permanent in July of 2015,  
6 and began to deploy a Terminal High Altitude Area  
7 Defense battery to South Korea in March of 2017.

8           (5) Aegis Ballistic Missile Defense is the naval  
9 component of the ballistic missile defense system ca-  
10 pable of defeating short-to-intermediate-range, mid-  
11 course-phase, ballistic missile threats and short-  
12 range ballistic missiles in the terminal phase.

13           (6) The Navy currently has 33 Aegis Ballistic  
14 Missile Defense combatants, 5 cruisers (CGs) and  
15 28 destroyers (DDGs), and will add an additional  
16 ballistic missile defense-capable destroyer by the end  
17 of fiscal year 2017.

18           (7) Aegis Ashore is the land-based component  
19 of the Aegis Ballistic Missile Defense system and is  
20 currently capable of defeating short- to intermediate-  
21 range ballistic missile threats.

22           (8) In 2015, the United States deployed the  
23 first Aegis Ashore unit to Romania, and in 2018,  
24 the United States plans to deploy an Aegis Ashore  
25 unit to Poland.

1           (9) The current leader of North Korea, Kim  
2 Jong-un, has threatened a “preemptive nuclear  
3 strike” against the United States and has publicly  
4 stated that North Korea “can tip new-type inter-  
5 continental ballistic rockets with more powerful nu-  
6 clear warheads” capable of ranging the United  
7 States mainland.

8           (10) Kim Jong-un has rapidly increased the ca-  
9 dence of nuclear and ballistic missile testing.

10          (11) North Korea’s testing is steadily pro-  
11 gressing toward their stated goal and has achieved  
12 some notable successes, including its first sub-  
13 marine-launched ballistic missile in 2016 and its  
14 first solid-fueled, medium-range ballistic missile in  
15 early 2017.

16          (12) According to General John E. Hyten,  
17 Commander of United States Strategic Command,  
18 during a hearing of the Committee on Armed Serv-  
19 ices of the Senate on February 11, 2017, “the North  
20 Koreans launched a new solid, medium-range bal-  
21 listic missile . . . A solid rocket [that] can be rolled  
22 out and launched at a moment’s notice.”.

23          (13) General Hyten further testified that the  
24 February 11th test also “showed a new technology  
25 [and] a new North Korean capability . . . [The

1 North Koreans] moved what was demonstrated at  
2 sea onto land, onto a new launcher, and did it in a  
3 very quick way.”.

4 (14) On May 14, 2017, North Korea launched  
5 a new missile, reported as a Hwasong-12, that re-  
6 portedly flew a highly lofted trajectory reaching an  
7 altitude of over 2,000 kilometers and traveling more  
8 than 700 kilometers in distance before falling into  
9 the East Sea.

10 (15) Several senior officials at the Department  
11 of Defense have publicly stated their belief that, due  
12 to the new pace of North Korean missile testing, it  
13 is no longer a matter of if North Korea gets the ca-  
14 pability to threaten the contiguous United States  
15 with a nuclear intercontinental ballistic missile, but  
16 when North Korea will achieve that capability.

17 (16) During the past six years, under the re-  
18 gime of Kim Jong-un, North Korea has conducted  
19 approximately 80 ballistic missile and three nuclear  
20 tests.

21 (17) During the same span of six years, the  
22 Missile Defense Agency, due to funding reductions,  
23 budget uncertainty, and a risk-averse testing cul-  
24 ture, has only conducted four flight tests of the

1 ground-based midcourse defense element of the bal-  
2 listic missile defense system.

3 (18) Since 2006 and adjusted for inflation,  
4 funding for the Missile Defense Agency's budget has  
5 decreased 23.4 percent, from \$11,000,000,000 to  
6 \$8,400,000,000.

7 (19) Meanwhile, Iran continues to develop bal-  
8 listic missiles in violation of United Nations Security  
9 Council Resolution 2231 (2015), has developed me-  
10 dium-range ballistic missiles to target Israel and  
11 other allies of the United States, and is working to-  
12 wards an intercontinental ballistic missile capability.

13 (20) In March 2013, in response to a nuclear  
14 detonation by North Korea, Secretary of Defense  
15 Chuck Hagel, citing "irresponsible and reckless  
16 provocations", announced plans to restore the num-  
17 ber of deployed ground-based interceptors from 30  
18 to 44 by the end of 2017.

19 (21) The Missile Defense Agency will soon fin-  
20 ish the expansion to 44 ground-based interceptors  
21 and begin the construction of a new S-band radar,  
22 the Long Range Discrimination Radar (LRDR), at  
23 Clear Air Force Station, Alaska, starting in 2018.

24 (22) The Missile Defense Agency is currently  
25 researching, testing, and developing the Configura-

1       tion-3 (C3) booster, a selectable two- or three-stage  
2       booster, and has plans to field this capability by  
3       September 30, 2023.

4               (23) Section 1682 of the National Defense Au-  
5       thorization Act for Fiscal Year 2016 (Public Law  
6       114–92; 10 U.S.C. 2431 note) directs the Director  
7       of the Missile Defense Agency to modernize and im-  
8       prove the reliability of the ground-based interceptor  
9       fleet by speeding the development of the redesigned  
10      kill vehicle (RKV) to replace all capability-enhance-  
11      ment I exoatmospheric kill vehicles by September  
12      30, 2022.

13              (24) Section 1681 of the National Defense Au-  
14      thorization Act for Fiscal Year 2016 (Public Law  
15      114–92; 10 U.S.C. 2431 note) makes the multi-ob-  
16      ject kill vehicle (MOKV), which is a new technology  
17      that would allow single interceptors to engage more  
18      than one target, a program of record and directs the  
19      Director of the Missile Defense Agency to begin rig-  
20      orous flight testing of a multiple-object kill vehicle  
21      for the ground-based midcourse defense system by  
22      2020.

23              (25) Section 1680 of the National Defense Au-  
24      thorization Act for Fiscal Year 2016 (Public Law  
25      114–92; 10 U.S.C. 2431 note) required the Sec-

1       retary of Defense to report on the efforts of the De-  
2       partment of Defense to develop and deploy an air-  
3       borne or other boost phase defense system for mis-  
4       sile defense by fiscal year 2025.

5           (26) Section 1685 of the National Defense Au-  
6       thorization Act for Fiscal Year 2016 (Public Law  
7       114–92) requires the Director to commence the con-  
8       cept definition of a space-based ballistic missile  
9       intercept layer to the ballistic missile defense system  
10      and to draft operational concepts for how a space-  
11      based ballistic missile intercept layer would function  
12      in the context of a multi-layer missile defense archi-  
13      tecture.

14          (27) Section 1683 of the National Defense Au-  
15      thorization Act for Fiscal Year 2016 (Public Law  
16      114–92) and section 238 of the National Defense  
17      Authorization Act for Fiscal Year 2014 (Public Law  
18      113–66) requires the Director to plan the future  
19      construction of an additional missile defense site in  
20      the United States, including the possibility of a site  
21      on the East Coast of the United States that is capa-  
22      ble of protecting the homeland.

23          (28) The Department of Defense and the Mis-  
24      sile Defense Agency are continuing to deploy Aegis  
25      Ballistic Missile Defense, Aegis Ashore, and Ter-

1 minal High Altitude Area Defense systems to more  
2 robustly defend members of the Armed Forces, allies  
3 and partners of the United States, cities and popu-  
4 lations centers in the United States, and critical in-  
5 frastructure of the United States.

6 (29) The current United States missile defense  
7 architecture, including the ground-based midcourse  
8 defense and terminal segment defenses like the Ter-  
9 minal High Altitude Area Defense, Aegis Ballistic  
10 Missile Defense, Aegis Ashore, and Patriot Air and  
11 Missile Defense System, are presently capable of de-  
12 fending deployed Armed Forces of the United  
13 States, as well as allies and partners of the United  
14 States.

15 (30) General Robinson, in testimony before the  
16 Committee on Armed Services of the Senate on April  
17 6, 2017, stated “As adversaries continue to pursue  
18 credible and advanced capabilities, we too must  
19 evolve our missile defense capabilities to outpace in-  
20 creasingly complex threats.”.

21 (b) SENSE OF CONGRESS.—It is the sense of Con-  
22 gress that the Secretary of Defense should use the upcom-  
23 ing Ballistic Missile Defense Review (BMDR) and the  
24 Missile Defeat Review (MDR) to accelerate the develop-  
25 ment of new and existing means to increase the capacity,

1 capability, and reliability of the ground-based midcourse  
2 defense element of the ballistic missile defense system and  
3 other missile defense programs.

4 (c) ACCELERATION OF DEVELOPMENT OF CERTAIN  
5 ADVANCED MISSILE DEFENSE TECHNOLOGIES TOWARD  
6 FIELDING.—

7 (1) IN GENERAL.—To the degree practicable,  
8 the Director of the Missile Defense Agency shall use  
9 the policies of the Department of Defense to accel-  
10 erate the development, testing, and fielding of the  
11 redesigned kill vehicle, the multi-object kill vehicle,  
12 the C3 booster, a space-based sensor layer, an air-  
13 borne laser on unmanned aerial vehicles, and an ad-  
14 ditional missile defense site, including the completion  
15 of any outstanding environmental impact statements  
16 (EISs) for an additional missile defense site on the  
17 East Coast or in the Midwest regions of the United  
18 States.

19 (2) PRIORITY.—The Director shall prioritize  
20 the development of capabilities listed in paragraph  
21 (1) subject to annual authorization and appropria-  
22 tion of funding.

23 (3) DEVELOPMENT.—The Director shall use  
24 sound acquisition processes and program manage-

1 ment to develop the capabilities set forth in para-  
2 graph (1).

3 **SEC. 3. AUTHORIZATION TO INCREASE CURRENT GROUND-**  
4 **BASED MIDCOURSE DEFENSE CAPACITY BY**  
5 **28 GROUND-BASED INTERCEPTORS.**

6 (a) FINDINGS.—Congress makes the following find-  
7 ings:

8 (1) A report from Johns Hopkins University,  
9 published in 2015, and entitled “North Korea’s Nu-  
10 clear Futures: Technology and Strategy”, concluded  
11 that, by 2020, North Korea could have as many as  
12 100 nuclear weapons.

13 (2) By December 31, 2017, the United States  
14 will have 44 operational ground-based interceptors  
15 distributed between Fort Greely, Alaska, and Van-  
16 denberg Air Force Base, California.

17 (3) Missile Field 1 and Missile Field 2 at Fort  
18 Greely have the capacity to house an additional 14  
19 and 6 ground-based interceptors, respectively, with-  
20 out the added infrastructure costs of some common  
21 ground systems.

22 (4) A report by the Department of Defense,  
23 submitted to Congress in 2013, and entitled “Home-  
24 land Defense Hedging Policy and Strategy”, rec-  
25 ommended acquiring 14 operational and testing

1 spares for increased testing requirements and to  
2 support increased capacity as a hedge against  
3 emerging threats.

4 (b) INCREASE IN CAPACITY.—The Secretary of De-  
5 fense shall, subject to the annual authorization of appro-  
6 priations and the annual appropriation of funds for Na-  
7 tional Missile Defense, increase the number of United  
8 States ground-based interceptors by 28.

9 (c) REPORT TO CONGRESS.—

10 (1) IN GENERAL.—Not later than 90 days after  
11 the date of the enactment of this Act, the Director  
12 of the Missile Defense Agency shall submit to the  
13 congressional defense committees (as defined in sec-  
14 tion 101(a) of title 10, United States Code) a report  
15 on infrastructure requirements to increase the num-  
16 ber of ground-based interceptors at Missile Field 1  
17 and Missile Field 2 at Fort Greely to 20 ground-  
18 based interceptors each.

19 (2) CONTENTS.—The report required by para-  
20 graph (1) shall include the following:

21 (A) An analysis of the strategic, oper-  
22 ational, and tactical benefits of adding addi-  
23 tional ground-based interceptors at each missile  
24 field.

1 (B) A detailed description of the infra-  
2 structure needed and costs associated with ex-  
3 panding each missile field.

4 (C) An identification of any environmental,  
5 technical, or logistical barriers to expanding  
6 each missile field.

7 (D) Any analysis of alternatively using  
8 Missile Field 4 and Missile Field 5 to increase  
9 the number of ground-based interceptors.

10 (3) FORM.—The report submitted under para-  
11 graph (1) shall be submitted in unclassified form,  
12 but may include a classified annex.

13 (d) DEPLOYMENT.—Not later than December 31,  
14 2021, the Secretary of Defense shall—

15 (1) execute any requisite construction to ensure  
16 that Missile Field 1 or Missile Field 2 at Fort  
17 Greely or alternative missile fields at Fort Greely  
18 which may be identified pursuant to subsection (c),  
19 are capable of supporting and sustaining additional  
20 ground-based interceptors;

21 (2) deploy 14 additional ground-based intercep-  
22 tors to Missile Field 1 or an alternative missile field  
23 at Fort Greely as soon as technically feasible; and

1           (3) identify a ground-based interceptor stockpile  
2           storage site for a minimum of 14 ground-based  
3           interceptors.

4 **SEC. 4. MISSILE DEFENSE AGENCY REPORT ON INCREAS-**  
5 **ING NUMBER OF GROUND-BASED INTERCEP-**  
6 **TORS UP TO 100.**

7           (a) FINDINGS.—Congress makes the following find-  
8           ings:

9           (1) In six years of being in power, Kim Jong-  
10          un has conducted more missile tests, and more than  
11          twice as many nuclear tests, as both his father and  
12          grandfather conducted in their 60 total years of  
13          being in power.

14          (2) According to senior Department of Defense  
15          officials, Iran, which has the most active and diverse  
16          ballistic missile development program in the Middle  
17          East, may be able to deploy an operational inter-  
18          continental ballistic missile by 2020.

19          (3) A 2013 Department of Defense report to  
20          Congress, entitled “Homeland Defense Hedging Pol-  
21          icy and Strategy”, stated that the most cost-effective  
22          and near-term option for increasing homeland inter-  
23          ceptor capacity is at existing missile fields.

1           (4) Phase 3 of former President Clinton’s  
2           “3+3” strategy for national missile defense outlined  
3           as many as 250 interceptors.

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

9           (b) SENSE OF CONGRESS.—It is the sense of Con-  
10          gress that it is the policy of the United States to maintain  
11          and improve, with the allies of the United States, an effec-  
12          tive, robust layered missile defense system capable of de-  
13          fending the citizens of the United States residing in terri-  
14          tories and States of the United States, allies of the United  
15          States, and deployed Armed Forces of the United States.

16          (c) REPORT TO CONGRESS.—

17               (1) IN GENERAL.—Not later than 90 days after  
18               the date of the enactment of this Act, the Director  
19               of the Missile Defense Agency shall submit to the  
20               congressional defense committees a report on in-  
21               creasing the capacity of the ground-based midcourse  
22               defense element of the ballistic missile defense sys-  
23               tem.

24               (2) CONTENTS.—The report required by para-  
25               graph (1) shall include the following:

1 (A) An identification of potential sites—  
2 new or existing—to allow for the increase of up  
3 to 100 ground-based interceptors.

4 (B) An analysis of the strategic, oper-  
5 ational, tactical, and cost benefits of each site.

6 (C) A description of any environmental,  
7 legal, or tactical challenges associated with each  
8 site.

9 (D) A detailed description of the infra-  
10 structure needed and costs associated with each  
11 site.

12 (E) A summary of any completed or out-  
13 standing environmental impact statements  
14 (EIS) on each site.

15 (F) An operational evaluation and cost  
16 analysis of the deployment of transportable  
17 ground-based interceptors, including an identi-  
18 fication of potential sites, including in the east-  
19 ern United States and at Vandenberg Air Force  
20 Base, and an examination of any environ-  
21 mental, legal, or tactical challenges associated  
22 with such deployments, including to any sites  
23 identified in subparagraph (A).

24 (G) A determination of the appropriate  
25 fleet mix of ground-based interceptor kill vehi-

1           cles and boosters to maximize overall system ef-  
2           fectiveness and increase its capacity and capa-  
3           bility, including the costs and benefits of contin-  
4           ued inclusion of capability enhancement II  
5           (CE–II) Block 1 interceptors after the fielding  
6           of the redesigned kill vehicle.

7           (H) A description of the planned improve-  
8           ments to homeland ballistic missile defense sen-  
9           sor and discrimination capabilities and an as-  
10          sessment of the expected operational benefits of  
11          such improvements to homeland ballistic missile  
12          defense.

13          (I) The benefit of supplementing ground-  
14          based midcourse defense elements with other,  
15          more distributed, elements, including both Aegis  
16          ships and Aegis Ashore installations with  
17          Standard Missile-3 Block IIA and other inter-  
18          ceptors in Hawaii and at other locations for  
19          homeland missile defense.

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

1 **SEC. 5. EVALUATION AND EVOLUTION OF TERRESTRIAL**  
2 **GROUND-BASED MIDCOURSE DEFENSE SEN-**  
3 **SORS.**

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

6 (1) United States missile defense sensors are  
7 the unheralded backbone of the missile defense ar-  
8 chitecture of the United States, positioned to provide  
9 the Armed Forces with critical data needed to suc-  
10 cessfully intercept threats from rogue nations like  
11 Iran and North Korea.

12 (2) The United States uses a wide variety of  
13 UHF, L-, S-, and X-band ground-based sensors and  
14 only a few infrared space-based sensors for early  
15 warning, tracking, and discrimination of ballistic  
16 missiles.

17 (3) The United States currently has operational  
18 upgraded early warning radars (UEWRs) for home-  
19 land missile defense at Beale Air Force Base, Cali-  
20 fornia, Fylingdales, United Kingdom, and Thule Air  
21 Force Base, Greenland, and will soon add upgrade  
22 early warning radars at Cape Cod, Massachusetts,  
23 and Clear Air Force Station, Alaska.

24 (4) Originally constructed in the 1970s, the  
25 COBRA DANE radar at Eareckson Air Station on

1 Shemya, Alaska, provides critical information on  
2 missile defense threats to the Armed Forces.

3 (5) The Long Range Discrimination Radar  
4 (LRDR), a new, land-based, S-band radar on Clear  
5 Air Force Station will begin to deliver persistent  
6 long-range discrimination, precision tracking, and  
7 hit estimation when construction completes on the  
8 radar by 2020.

9 (b) REPORT TO CONGRESS.—

10 (1) IN GENERAL.—Not later than 90 days after  
11 the date of the enactment of this Act, the Director  
12 of the Missile Defense Agency, in coordination with  
13 the Secretary of the Air Force, shall submit to the  
14 congressional defense committees (as defined in sec-  
15 tion 101(a) of title 10, United States Code) a report  
16 on the status of the integrated layers of missile de-  
17 fense radars.

18 (2) CONTENTS.—The report required by para-  
19 graph (1) shall include the following:

20 (A) A detailed analysis of the expected im-  
21 provements resulting from the integration of  
22 the Long Range Discrimination Radar into the  
23 missile defense system architecture of the  
24 United States, including—

1 (i) any adjustments to homeland mis-  
2 sile defense tactics, techniques, and proce-  
3 dures;

4 (ii) possible adjustments to ground-  
5 based midcourse defense shot-doctrine and  
6 required interceptor capacity;

7 (iii) possibilities for direct integration  
8 with Fort Greely's Command and Control  
9 node; and

10 (iv) impacts on regional missile de-  
11 fense systems including Aegis Ballistic  
12 Missile Defense, Aegis Ashore, and Ter-  
13 minal High Altitude Area Defense.

14 (B) A detailed comparison of the capabili-  
15 ties of Long Range Discrimination Radar and  
16 the COBRA DANE radar, including—

17 (i) the unique capabilities of each  
18 radar;

19 (ii) the overlapping capabilities of  
20 each radar; and

21 (iii) the advantages and disadvantages  
22 of each radar's location.

23 (C) A modernization plan for the long-term  
24 continued operations and maintenance of the  
25 COBRA DANE radar or a plan to replace its

1           capability if COBRA DANE cannot remain  
2           operational, and the costs associated with each  
3           plan.

4           (c) ASSESSMENT BY COMPTROLLER GENERAL OF  
5 THE UNITED STATES.—Not later than 90 days after the  
6 date on which the Director submits the report under sub-  
7 section (b)(1), the Comptroller General of the United  
8 States shall—

9           (1) complete a review of the plan required by  
10          subsection (b)(2)(C); and

11          (2) submit to the congressional defense commit-  
12          tees (as defined in section 101(a) of title 10, United  
13          States Code) a report on such review that includes  
14          the findings and recommendations of the Comp-  
15          troller General.

16          (d) FORM.—The reports submitted under subsections  
17 (b) and (c) shall be submitted in unclassified form, but  
18 may include a classified annex.

19 **SEC. 6. DEVELOPMENT AND DEPLOYMENT OF A SPACE-**  
20 **BASED MISSILE DEFENSE SENSOR ARCHITEC-**  
21 **TURE.**

22          (a) FINDINGS.—Congress makes the following find-  
23 ings:

24           (1) The Missile Defense Agency currently oper-  
25          ates the Space Tracking and Surveillance System-

1 Demonstration (STSS-D), a two satellite constella-  
2 tion for testing purposes, which uses sensors capable  
3 of detecting visible and infrared light and serves as  
4 an experimental space tracker for the ballistic mis-  
5 sile defense system.

6 (2) Conceptually developed in 2009, the Preci-  
7 sion Tracking Space (PTSS) would have provided  
8 the persistent space-based tracking of ballistic mis-  
9 siles, including object characterization and discrimi-  
10 nation, and would have also supported homeland, re-  
11 gional, and theater missile defense.

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

20 (4) Section 236 of the National Defense Au-  
21 thorization Act for Fiscal Year 2014 (Public Law  
22 113-66) required the Secretary of Defense to con-  
23 duct an evaluation of options and alternatives for fu-  
24 ture sensor architectures for ballistic missile defense

1 in order to enhance the ballistic missile defense ca-  
2 pabilities of the United States.

3 (5) General John Hyten, Commander of the  
4 United States Strategic Command, has argued for  
5 the “deployment of a global space-based sensor sys-  
6 tem with discrimination capability” as a “critical  
7 component to improving the effectiveness of our de-  
8 ployed interceptors” and to provide “multiple re-  
9 sponse especially as potential adversaries embark on  
10 improving countermeasures against our [missile de-  
11 fense] systems.”.

12 (6) Admiral James Syring, the Director of the  
13 Missile Defense Agency, has stated, “From a missile  
14 defense perspective, we have to develop a future  
15 operational space layer. Given where the threat is  
16 going with hypersonics and more ICBMs and so  
17 forth this persistent tracking and discrimination ca-  
18 pability from space is a must.”.

19 (b) SENSE OF CONGRESS.—It is the sense of Con-  
20 gress that the Department of Defense shall develop a resil-  
21 ient space-based missile defense sensor layer to provide  
22 persistent, launch-to-intercept tracking, discrimination,  
23 and kill assessment of ballistic missile threats and provide  
24 this capability to the Armed Forces as soon as technically  
25 feasible.

1 (c) SPACE-BASED MISSILE DEFENSE SENSOR AR-  
2 CHITECTURE.—

3 (1) DEVELOPMENT.—The Director of the Mis-  
4 sile Defense Agency shall develop a highly reliable  
5 space-based missile defense sensor architecture for  
6 the ground-based midcourse defense system using  
7 sound acquisition practices.

8 (2) DEPLOYMENT.—The Director shall—

9 (A) conduct rigorous testing of the space-  
10 based missile defense sensor architecture devel-  
11 oped under paragraph (1) as soon as technically  
12 feasible; and

13 (B) produce and deploy a space-based mis-  
14 sile defense sensor architecture as soon as tech-  
15 nically feasible after the date on which the Di-  
16 rector successfully carries out subparagraph  
17 (A).

18 (d) CAPABILITIES AND CRITERIA.—The Director  
19 shall ensure that the space-based missile defense sensor  
20 architecture developed under subsection (c)(1) provides  
21 the following functions and capabilities:

22 (1) SENSOR FUNCTIONS.—At a minimum, mis-  
23 sile defense-related sensors shall include the fol-  
24 lowing:

25 (A) Detection.

- 1 (B) Tracking.
- 2 (C) Characterization.
- 3 (D) Classification.
- 4 (E) Discrimination.
- 5 (F) Debris mitigation.
- 6 (G) Kill assessment.

7 (2) SENSOR ARCHITECTURE CAPABILITIES.—At  
8 a minimum, maximization or improvement of sensor-  
9 related capabilities shall include the following:

- 10 (A) Handling of increasing raid sizes.
- 11 (B) Precision tracking of threat missiles.
- 12 (C) Providing fire-control-quality tracks of  
13 evolving threat missiles.
- 14 (D) Enabling launch-on-remote and en-  
15 gage-on-remote capabilities.
- 16 (E) Discriminating lethal objects (war-  
17 heads) from other objects.
- 18 (F) Effectively assessing the results of en-  
19 gagements.
- 20 (G) Enabling enhanced shot doctrine.
- 21 (H) Integrating with all elements of the  
22 current missile defense system, including the  
23 Terminal High Altitude Area Defense, Aegis  
24 Ballistic Missile Defense, Aegis Ashore, and Pa-  
25 triot Air and Missile Defense System.

1 (I) Such other capabilities as the Secretary  
2 of Defense determines appropriate.

3 (e) PROGRAM MANAGEMENT.—The management of  
4 the space-based missile defense sensor architecture devel-  
5 oped under subsection (c) shall report directly to the Dep-  
6 uty Director of the Missile Defense Agency.

7 (f) REPORT ON FUNDING PROFILE.—The Director  
8 shall include with the budget justification materials sub-  
9 mitted to Congress in support of the budget of the Depart-  
10 ment of Defense for fiscal year 2018 (as submitted with  
11 the budget of the President under section 1105(a) of title  
12 31, United States Code) a report on the funding profile  
13 necessary to carry out subsection (c).

14 **SEC. 7. AUTHORIZATION FOR MORE GROUND-BASED MID-**  
15 **COURSE DEFENSE TESTING.**

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

18 (1) General John Hyten, Commander of the  
19 United States Strategic Command, stated that  
20 North Korea is quickly advancing their missile and  
21 nuclear technology because their rapid testing ca-  
22 dence allows them to quickly apply lessons learned  
23 in testing to advance new capabilities.

24 (2) General Hyten characterized the current ir-  
25 regular testing environment in the United States as

1 “the wrong kind of testing environment” due to  
2 risk-aversion and fear of failure.

3 (3) Regular missile defense testing, including  
4 ground testing and non-intercept tests, not only im-  
5 proves the missile defense system, but also gives the  
6 members of the Armed Forces experience with and  
7 confidence in their tactics, techniques, and proce-  
8 dures.

9 (4) Since 2006 and adjusted for inflation, fund-  
10 ing for testing of the ground-based midcourse de-  
11 fense element has decreased 83.5 percent, from more  
12 than \$400,000,000 to \$65,800,000.

13 (5) Section 1689 of the National Defense Au-  
14 thorization Act for Fiscal Year 2017 (Public Law  
15 114–328) requires the Director of the Missile De-  
16 fense Agency to administer a flight test of the  
17 ground-based midcourse defense element of the bal-  
18 listic missile defense system at least once each fiscal  
19 year.

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

22 (1) at a minimum, the Missile Defense Agency  
23 should continue to flight test the ground-based mid-  
24 course defense element at least once each fiscal year;

1           (2) the Department of Defense should allocate  
2 increased funding to homeland missile defense test-  
3 ing to ensure that our defenses continue to evolve  
4 faster than the threats against which they are pos-  
5 tured to defend;

6           (3) in order to rapidly innovate, develop, and  
7 field new technologies, the Director of the Missile  
8 Defense Agency should continue to focus testing  
9 campaigns on delivering increased capabilities to the  
10 Armed Forces as quickly as possible; and

11           (4) the Director of the Missile Defense Agency  
12 should seek to establish a more prudent balance be-  
13 tween risk mitigation and the more rapid testing  
14 pace needed to quickly develop and deliver new capa-  
15 bilities to the Armed Forces.

16 (c) REPORT TO CONGRESS.—

17           (1) IN GENERAL.—Not later than 90 days after  
18 the date of the enactment of this Act, the Director  
19 of the Missile Defense Agency shall submit to the  
20 congressional defense committees (as defined in sec-  
21 tion 101(a) of title 10, United States Code) a re-  
22 vised missile defense testing campaign plan that ac-  
23 celerates the development and deployment of new  
24 missile defense technologies.

1           (2) CONTENTS.—The report required by para-  
2 graph (1) shall include the following:

3           (A) A detailed analysis of the acceleration  
4 of each of following programs:

5                   (i) Redesigned kill vehicle.

6                   (ii) Multi-object kill vehicle.

7                   (iii) Configuration-3 Booster.

8                   (iv) Lasers mounted on small un-  
9 manned aerial vehicles.

10                   (v) Space-based missile defense sensor  
11 architecture.

12                   (vi) Such additional technologies as  
13 the Director considers appropriate.

14           (B) A new deployment timeline for each of  
15 the programs in listed in subparagraph (A) or  
16 a detailed description of why the current  
17 timeline for deployment technologies under  
18 those programs is most suitable.

19           (C) An identification of any funding or pol-  
20 icy restrictions that would slow down the de-  
21 ployment of the technologies under the pro-  
22 grams listed in subparagraph (A).

23           (D) A risk assessment of the potential  
24 cost-overruns and deployment delays that may

1           be encountered in the expedited development  
2           process of the capabilities under paragraph (1).

3       (d) **REPORT ON FUNDING PROFILE.**—The Director  
4 shall include with the budget justification materials sub-  
5 mitted to Congress in support of the budget of the Depart-  
6 ment of Defense for fiscal year 2018 (as submitted with  
7 the budget of the President under section 1105(a) of title  
8 31, United States Code) a report on the funding profile  
9 necessary for the new testing campaign plan required by  
10 subsection (e)(1).

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