



441 G St. N.W.  
Washington, DC 20548

July 25, 2013

Congressional Committees

## Missile Defense: Precision Tracking Space System Evaluation of Alternatives

The Missile Defense Agency's Precision Tracking Space System (PTSS) is intended to be a satellite system equipped with infrared sensors that track ballistic missiles through their emitted heat. The planned satellite system includes a constellation of nine satellites in orbit at the same time around the earth's equator. In April 2013, the Department of Defense (DOD) officially proposed canceling the PTSS program because of concerns with the program's high-risk acquisition strategy and long-term affordability.

The National Defense Authorization Act for Fiscal Year 2013 (NDAA), signed into law on January 2, 2013, mandated, among other things, that DOD's Director of Cost Assessment and Program Evaluation (CAPE) conduct an evaluation of PTSS alternatives and report it to the congressional defense committees no later than April 30, 2013.<sup>1</sup> The act also limited the use of funds made available for fiscal year 2013 for PTSS until (1) DOD submitted to the congressional defense committees a formal plan for the evaluation of PTSS alternatives—called a terms of reference—that had been approved by the Missile Defense Executive Board in coordination with the Defense Space Council,<sup>2</sup> and (2) CAPE completed the evaluation of alternatives.

Additionally, the act mandated that GAO assess the PTSS terms of reference and evaluation of alternatives, and then both brief and report our assessment to the defense committees.<sup>3</sup> To meet the requirements of the mandate, we assessed the extent to which (1) the terms of reference submitted by DOD addressed an evaluation of alternatives, and (2) the PTSS report submitted by DOD included an evaluation of alternatives. We offered to brief the defense committees in early June 2013, and we are now issuing this final report.

To conduct this work, we reviewed both the terms of reference and the PTSS report to determine whether they provided for and assessed alternative systems and concepts, as well as to determine whether internal agency coordination occurred consistent with the restrictions and requirements for the PTSS program in the Fiscal Year 2013 NDAA. We also interviewed DOD officials from CAPE; Office of the Under Secretary of Defense for Acquisition, Technology and Logistics; Missile Defense Agency; U.S. Strategic Command; and Joint Staff.

We conducted this performance audit from May 2013 through July 2013 in accordance with generally accepted government auditing standards. Those standards require that we plan and

<sup>1</sup>Pub. L. No. 112-239, § 224.

<sup>2</sup>Both the Missile Defense Executive Board and Defense Space Council are senior-level DOD advisory groups for, respectively, missile defense and space matters.

<sup>3</sup>Specifically, the act mandated GAO to brief the defense committees on the terms of reference and their conformance with best practices for analyses of alternatives as well as GAO's views of the evaluation itself. Final reports were to be completed as soon as practicable after the briefing. As DOD did not address an evaluation of alternatives in the terms of reference, we did not assess their conformance with best practices.

# Report Documentation Page

Form Approved  
OMB No. 0704-0188

Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. REPORT DATE <b>25 JUL 2013</b>		2. REPORT TYPE		3. DATES COVERED <b>00-00-2013 to 00-00-2013</b>	
4. TITLE AND SUBTITLE <b>Missile Defense: Precision Tracking Space System Evaluation of Alternatives</b>				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) <b>U.S. Government Accountability Office, 441 G Street NW, Washington, DC, 20548</b>				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT <b>Approved for public release; distribution unlimited</b>					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT <b>unclassified</b>	b. ABSTRACT <b>unclassified</b>	c. THIS PAGE <b>unclassified</b>			

perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our objectives.

## Results

On May 13, 2013, DOD submitted to the congressional defense committees a terms of reference and a report on a 2012 CAPE review of the PTSS program instead of an evaluation of PTSS alternatives. Upon reviewing these items, we determined they did not provide for or include an evaluation of PTSS alternatives as required by the Fiscal Year 2013 NDAA. In addition, the terms of reference were approved by the Missile Defense Executive Board but not in coordination with the Defense Space Council. DOD officials told us the department determined that reporting the significant PTSS program risks identified in the 2012 program review was the most appropriate response to address the study requirements outlined in the NDAA.

According to senior DOD officials, the Secretary of Defense decided to propose canceling the PTSS program in November 2012—prior to the January 2013 NDAA requirement for CAPE to assess PTSS alternatives. The decision to propose canceling the PTSS program was based on a CAPE review, initiated in 2011, of the acquisition, technical, and operational risks of the PTSS program. Specifically, this review assessed the PTSS cost, schedule, technical design, and acquisition strategy to identify whether risks could challenge the program's ability to acquire, field, and sustain the system within planned cost and schedule constraints. The review was completed in the fall of 2012 and determined that the PTSS program had significant technical, programmatic, and affordability risks. Accordingly, a team of senior DOD officials recommended a series of options to DOD leadership and, according to senior DOD officials, the Secretary of Defense decided to propose canceling the program. In April 2013, the decision to propose canceling the program was made official in the Fiscal Year 2014 President's Budget Submission.

CAPE officials told us that although the report to Congress did not include an alternatives assessment, they determined based on initial analysis in the fall of 2012 that other systems could potentially satisfy many of the PTSS performance objectives. According to CAPE officials, the analysis was not completed before the decision was made to propose canceling PTSS.

Looking forward, DOD officials from multiple organizations told us that there are several efforts under way to review missile defense sensor options. Specifically, the Missile Defense Executive Board recently tasked CAPE and the Missile Defense Agency to develop an approach for upgrading and fielding existing sensor technologies. Furthermore, the U.S. Strategic Command and the Missile Defense Agency are conducting a separate study that addresses missile defense sensor needs. Similarly, the Missile Defense Agency continues to assess the benefits of space systems and related technologies. DOD expects to complete some of these efforts later this year in order to inform internal DOD fiscal year 2015 budgetary decisions. We did not assess these efforts because they are under way.

We provided a draft of this report to DOD for review and comment. DOD did not provide written comments to include in this report. However, in an e-mail received July 23, 2013, the DOD Inspector General Congressional Liaison stated that the department had no comments on the report.

We are sending this report to the appropriate congressional committees. We are also sending this report to the Secretary of Defense and the Under Secretary of Defense for Acquisition, Technology, and Logistics. This report will also be available at no charge on our website at <http://www.gao.gov>. Should you or your staff have questions concerning this report, please contact me at (202) 512-4841 or at [chaplainc@gao.gov](mailto:chaplainc@gao.gov).

Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report were David Best, Assistant Director, Maricela Cherveney, Tana Davis, Danielle Greene, Brian Tittle, and Alyssa Weir.

A handwritten signature in black ink, appearing to read 'Cristina Chaplain', with a stylized, cursive script.

Cristina Chaplain, Director  
Acquisition and Sourcing Management

*List of Committees*

The Honorable Carl Levin  
Chairman  
The Honorable James Inhofe  
Ranking Member  
Committee on Armed Services  
United States Senate

The Honorable Dick Durbin  
Chairman  
The Honorable Thad Cochran  
Ranking Member  
Subcommittee on Defense  
Committee on Appropriations  
United States Senate

The Honorable Howard P. "Buck" McKeon  
Chairman  
The Honorable Adam Smith  
Ranking Member  
Committee on Armed Services  
House of Representatives

The Honorable C.W. "Bill" Young  
Chairman  
The Honorable Pete Visclosky  
Ranking Member  
Subcommittee on Defense  
Committee on Appropriations  
House of Representatives

---

---

This is a work of the U.S. government and is not subject to copyright protection in the United States. The published product may be reproduced and distributed in its entirety without further permission from GAO. However, because this work may contain copyrighted images or other material, permission from the copyright holder may be necessary if you wish to reproduce this material separately.

---

## GAO's Mission

The Government Accountability Office, the audit, evaluation, and investigative arm of Congress, exists to support Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal government for the American people. GAO examines the use of public funds; evaluates federal programs and policies; and provides analyses, recommendations, and other assistance to help Congress make informed oversight, policy, and funding decisions. GAO's commitment to good government is reflected in its core values of accountability, integrity, and reliability.

---

## Obtaining Copies of GAO Reports and Testimony

The fastest and easiest way to obtain copies of GAO documents at no cost is through GAO's website ([www.gao.gov](http://www.gao.gov)). Each weekday afternoon, GAO posts on its website newly released reports, testimony, and correspondence. To have GAO e-mail you a list of newly posted products, go to [www.gao.gov](http://www.gao.gov) and select "E-mail Updates."

---

## Order by Phone

The price of each GAO publication reflects GAO's actual cost of production and distribution and depends on the number of pages in the publication and whether the publication is printed in color or black and white. Pricing and ordering information is posted on GAO's website, <http://www.gao.gov/ordering.htm>.

Place orders by calling (202) 512-6000, toll free (866) 801-7077, or TDD (202) 512-2537.

Orders may be paid for using American Express, Discover Card, MasterCard, Visa, check, or money order. Call for additional information.

---

## Connect with GAO

Connect with GAO on [Facebook](#), [Flickr](#), [Twitter](#), and [YouTube](#). Subscribe to our [RSS Feeds](#) or [E-mail Updates](#). Listen to our [Podcasts](#). Visit GAO on the web at [www.gao.gov](http://www.gao.gov).

---

## To Report Fraud, Waste, and Abuse in Federal Programs

Contact:

Website: [www.gao.gov/fraudnet/fraudnet.htm](http://www.gao.gov/fraudnet/fraudnet.htm)

E-mail: [fraudnet@gao.gov](mailto:fraudnet@gao.gov)

Automated answering system: (800) 424-5454 or (202) 512-7470

---

## Congressional Relations

Katherine Siggerud, Managing Director, [siggerudk@gao.gov](mailto:siggerudk@gao.gov), (202) 512-4400, U.S. Government Accountability Office, 441 G Street NW, Room 7125, Washington, DC 20548

---

## Public Affairs

Chuck Young, Managing Director, [youngc1@gao.gov](mailto:youngc1@gao.gov), (202) 512-4800 U.S. Government Accountability Office, 441 G Street NW, Room 7149 Washington, DC 20548

