



National Security and  
International Affairs Division

B-271560-2

January 6, 1997

The Honorable William J. Perry  
The Secretary of Defense

Dear Mr. Secretary:

In July 1996, we issued a report on the Army's plans to commit funds for producing 40 Theater High Altitude Area Defense (THAAD) prototype interceptors, called User Operational Evaluation System (UOES) interceptors, to provide an early deployable capability.<sup>1</sup> That report noted our concern that funding for these interceptors will be committed well before testing provides certain assurances of the system's effectiveness. During our current review of the Army's planning for THAAD acquisition and testing, we identified information about UOES interceptor testing that raises additional concerns. The purpose of this letter is to indicate these concerns and request that the Department of Defense (DOD) provide us answers to the questions listed in this letter by February 6, 1997.

BACKGROUND

As of October 1996, the THAAD Project Office estimated the cost of UOES interceptors, including the cost of spares, support equipment, and contractor support, at about \$275 million. The Army plans to exercise a contract option for UOES interceptors after meeting one minimal criterion established by the Under Secretary of Defense for Acquisition and Technology rather than wait until after early developmental testing is completed and a limited user test provides some basis for assessing the UOES interceptor's operational effectiveness.<sup>2</sup> The Under Secretary's criterion is one successful intercept of a target while using the THAAD radar to guide the interceptor. Only three of the last six test flights were designed

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<sup>1</sup>BALLISTIC MISSILE DEFENSE: Issues Concerning Acquisition of THAAD Prototype System (GAO/NSIAD-96-136, July 9, 1996).

<sup>2</sup>DOD defines operational effectiveness as the overall degree of mission accomplishment of a system when used by representative personnel in the environment planned or expected for operational employment of the system considering organization, doctrine, tactics, survivability, vulnerability, and threat.

to intercept a target, and all three intercept attempts failed. Test flight 7, currently scheduled for late February 1997, will be the first intercept attempt using the THAAD radar.

During our current review of the Army's planning for THAAD acquisition and testing, we determined that the Army plans to begin using an indium antimonide (InSb) focal plane array in the interceptor's seeker component beginning with test flight 8 scheduled for June 1997.<sup>3</sup> The more complex seeker including an InSb focal plane array is needed because the current platinum silicide (PtSi) seeker is not sensitive enough to meet all program targeting requirements. The InSb represents a parallel seeker development effort which began in 1992. All subsequent interceptor production, including UOES interceptor production, is to include the InSb focal plane array seeker. All previous THAAD test flights used the PtSi seeker configuration. In addition, the PtSi seeker, not the InSb seeker, is planned for test flight 7— the UOES criterion test.

#### QUESTIONS

Our specific concerns focus on the use of one interceptor configuration in testing to be the basis for production of UOES interceptors of a different configuration and the extent of DOD acceptance of technical risk by using the more complex InSb focal plane array seeker. Thus, we request that DOD provide us answers to the following questions:

- (1) How does DOD justify basing a production decision for UOES interceptors on a test of a single intercept (if successful) with a PtSi seeker while planning to produce interceptors with the InSb seeker?
- (2) How and by whom has the InSb seeker's performance been validated?
- (3) What is the cost, schedule, and performance risk associated with the InSb seeker? Also, what is the current status of InSb seeker production and the most recent experience with the rejection rate during production of InSb and PtSi seekers?
- (4) Will production of UOES interceptors with InSb seekers continue if test flight 8 using an InSb seeker fails to hit its target? If this occurs and production continues, can the seekers be retrofitted to correct problems? If production stops, what is the cost of stopping and restarting the production line?

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<sup>3</sup>The THAAD focal plane array is a heat-sensitive device that performs thermal imaging for tracking, discrimination, and aim point selection of targets to achieve hit-to-kill engagements.

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We are sending copies of this letter to appropriate congressional committees and other interested parties. Your response to our questions will also be distributed to the same congressional committees. If you or your designee have any questions, please contact me at (202) 512-4841 or Lee Edwards, Assistant Director, at (205) 650-1411.

Sincerely yours,



Thomas J. Schulz  
Associate Director  
Defense Acquisitions Issues

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