

Precision Guidance Kit (PGK)

Executive Summary

- DOT&E approved the Precision Guidance Kit (PGK) Milestone C Test and Evaluation Master Plan in August 2009.
- Throughout FY09, the program conducted a series of contractor tests on PGK Increment 1 focusing on PGK's reliability, mission processing, and accuracy.
- In October, the program updated the PGK Acquisition Program Baseline allowing more time prior to Milestone C to correct deficiencies identified during contractor testing. The program's Government Developmental Testing was rescheduled to 2QFY10 through 4QFY10. Milestone C will follow successful completion of developmental testing in 4QFY10.
- Should the program discover additional deficiencies in developmental testing, the program schedule may again be challenged.

System

- The PGK is a fuze that attaches to 155 mm artillery projectiles to improve the ballistic accuracy of the current stockpile of Field Artillery projectiles.
- The Army plans to develop PGK in three increments:
 - Increment 1: 155 mm High Explosive projectiles
 - Increment 2: 105 mm High Explosive projectiles
 - Increment 3: All 105 mm and 155 mm High Explosive and cargo projectiles
- All increments use GPS data to correct the projectiles range and azimuth when attacking targets. Increment 1 provides an accuracy of 50 meters or less from the desired aim point. The planned accuracy for Increments 2 and 3 is 30 meters or less.
- The PGK will operate with existing and developmental artillery systems that have digital fire control systems and inductive fuze setters such as the M777A2 Light Weight Towed Howitzer, and the M109A6 Paladin Self-Propelled Howitzer.



Mission

Field Artillery units will use PGK to provide near-precision (50 meters) indirect fire support to combat maneuver units in all weather and terrain. Artillery units will use PGK to achieve comparable effects of conventionally fuzed projectiles using fewer rounds and reducing collateral damage.

Prime Contractor

- Alliant-Techsystems Advanced Weapons Division, Plymouth, Minnesota

Activity

- In FY09, the program conducted a series of contractor tests on PGK Increment 1. The testing evaluated PGK's reliability, mission processing, and accuracy against the requirements identified in the Capability Production Document.
- In March 2009, as part of a Government Confidence Demonstration (GCD) for the Advanced Field Artillery Tactical Data System, PGK demonstrated interoperability with existing artillery fire control and delivery systems.
- The GCD demonstrated PGK missions could be successfully processed from an observer to an M109A6 Paladin and

M777A2 Howitzer. An M109A6 Howitzer crew was able to properly handle PGK-equipped projectiles and process PGK missions.

- DOT&E approved the PGK Test and Evaluation Master Plan in August 2009. The program's Milestone C is in 2QFY10.
- The program plans to conduct an IOT&E in January 2011 at Yuma Proving Ground, Arizona. The IOT&E will examine a unit's ability to employ PGK under realistic operational conditions.

ARMY PROGRAMS

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Assessment

- The program is conducting several failure reviews as a result of recent testing. Most observed failures are GPS related.
- Rebaselining of the program provides time to address system deficiencies and achieve reliability growth prior to Milestone C. Should the program discover additional

deficiencies in the remaining developmental test firings, finding sufficient time to analyze the failures, identify, implement, and demonstrate fixes prior to Milestone C will challenge the program.

Recommendations

- Status of Previous Recommendations. This is the first annual report for this program.
- FY09 Recommendation.
 1. The Army should consider closely monitoring developmental testing and identifying, implementing, and demonstrating corrective actions for system deficiencies prior to Milestone C.