APKWS II Update

Joint Armaments Conference

Sponsored by NDIA

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Distribution Statement A: Approved for Public Release; distribution is unlimited.

Advanced Precision Kill Weapon System II (APKWS II)

- **APKWS is a Semi-Active Laser (SAL) guidance kit added to current 2.75-inch rocket motors and warheads**
- **Low cost, low collateral damage and minimal integration**
- **Accurate: <1 meter CEP in Operational Assessment**
- **Status: Successful DT/OA**
  - **19/21 direct hits**
  - **1 miss due to multiple laser spots**
  - **1 miss due to degraded laser signal**
- **Increased Kills/Sortie: 14 - 38 per sortie**
- **Initial Operational Capability 3rd Qtr FY11**

Low Cost, High Precision, Low Collateral Damage for Irregular Warfare

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Aviation Operational Need

Unguided Rocket (1-6 km)
- Area Suppression
- Illumination
- Obscuration
- Marking

Guided Rocket (1.5-5+ km)
- Precision Engagement
- Soft Targets

Hellfire Missile (1-8 km)
- Anti-Armor

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APKWS II Weapons System Overview

LAUNCH PLATFORM

Program of Record

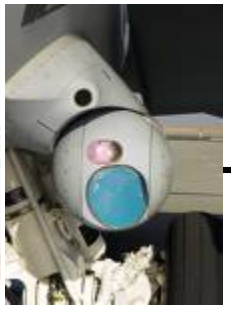
Joint Capabilities Tech Demo

Legacy Launchers
USN/USMC - LAU-61/LAU-68
USAF - LAU-131
USA - M260/M261

LASER SOURCE

NTS

GLD



FLIR

APKWS II

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APKWS Comparison

WGU-59/B APKWS II

Length	73.8 inches
Weight	32 lbs
Diameter	2.792 inches (max @ bourrelet)
Longitudinal CG	41.39 inches
Lateral CG	0.001 inches

Unguided 2.75-inch rocket

Length	55.3 inches
Weight	23 lbs
Diameter	2.792 inches (max @ bourrelet)
Longitudinal CG	29.92 inches
Lateral CG	0.001 inches

LAU-61C/A Launcher

PA92 SSC

Features	*Unguided 2.75-inch*	*APKWS II*
MK-66 Mod 4 RM	*X*	*X*
M151/MK152 WH	*X*	*X*
Point Detonating Fuze	*X*	*X*
LAU-61/LAU-68 Launcher	*X*	*X*
PA-92 Shipping & Storage Container	*X*	*X*
SAL Guidance Section		*X*

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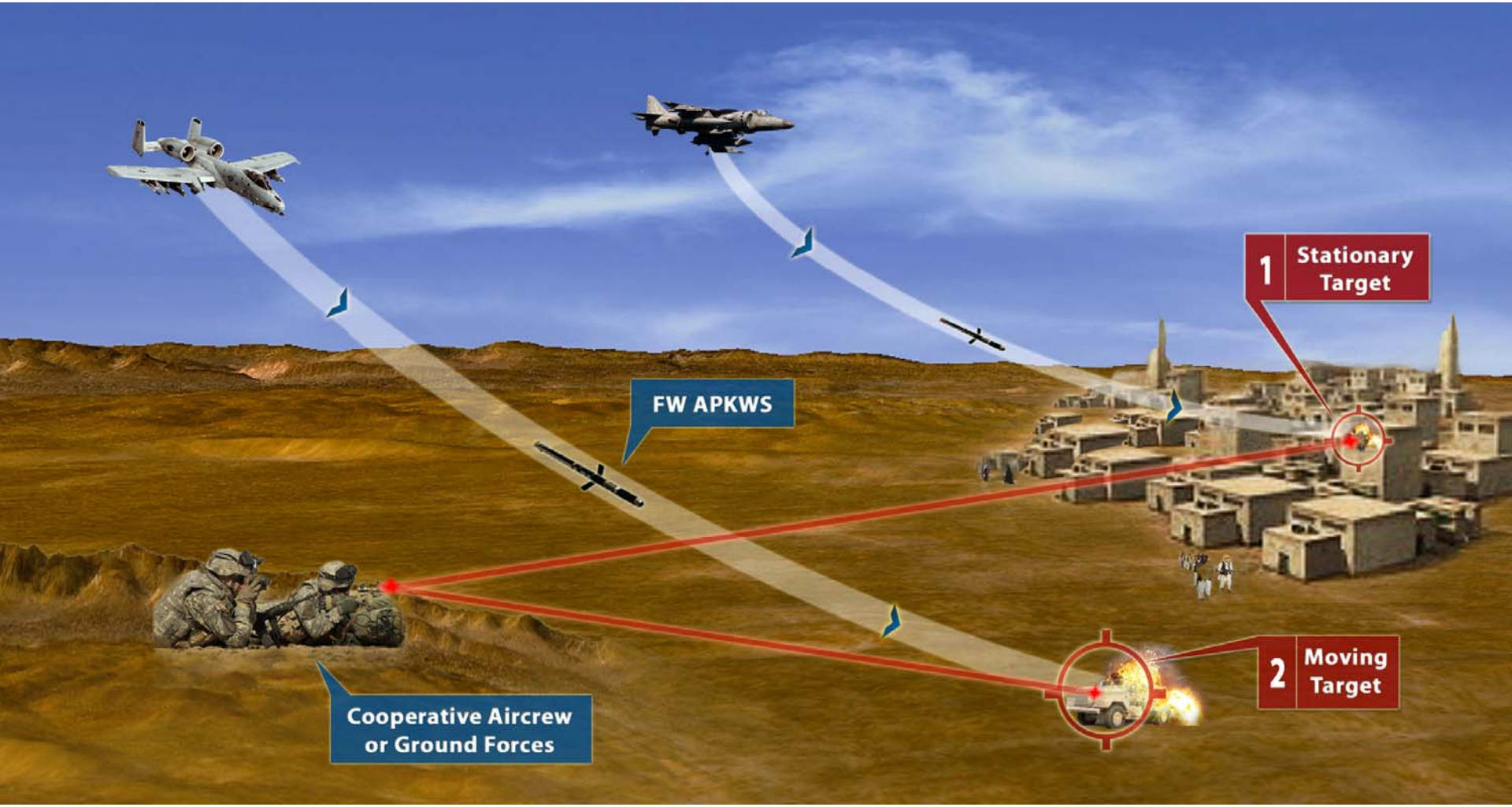
Concept of Operations



Key Performance Parameters

KPP	Demonstrated	Rotary Wing		Fixed Wing	
		Threshold	Objective	Threshold	Objective
Max Range	*5000 meters*	*5,000 meters*	*8,000 meters*	*11,000 meters*	*16,000 meters*
Min Range	*1500 meters*	*1500 meters*	*500 meters*	*2,000 meters*	*<2,000 meters*
Prob (H/S) within 2 meters of laser spot	*0.95*	*≥0.80*	*>0.99*	*≥0.80*	*>0.99*
System Reliability[1]	*0.86*	*≥0.86*	*≥0.99*	*≥0.86*	*≥0.99*

Note 1: System Reliability (0.86) is defined as the guided reliability (0.95) x warhead reliability (0.91) x motor reliability (0.99) given the presence of a firing impulse

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Test Results

Safe Separation (August 2009)

Developmental Test (November 2009–January 2010)

- 13 test shots
- 5 for 5 direct hits on 05 JAN 10

Operational Assessment (January 2010)

- 8 shots against operationally representative targets
- 7 of 8 used M151 HE 10 lb warheads

Average laser spot to impact point distance for all government test shots is

0.47 meters or 1.5 feet

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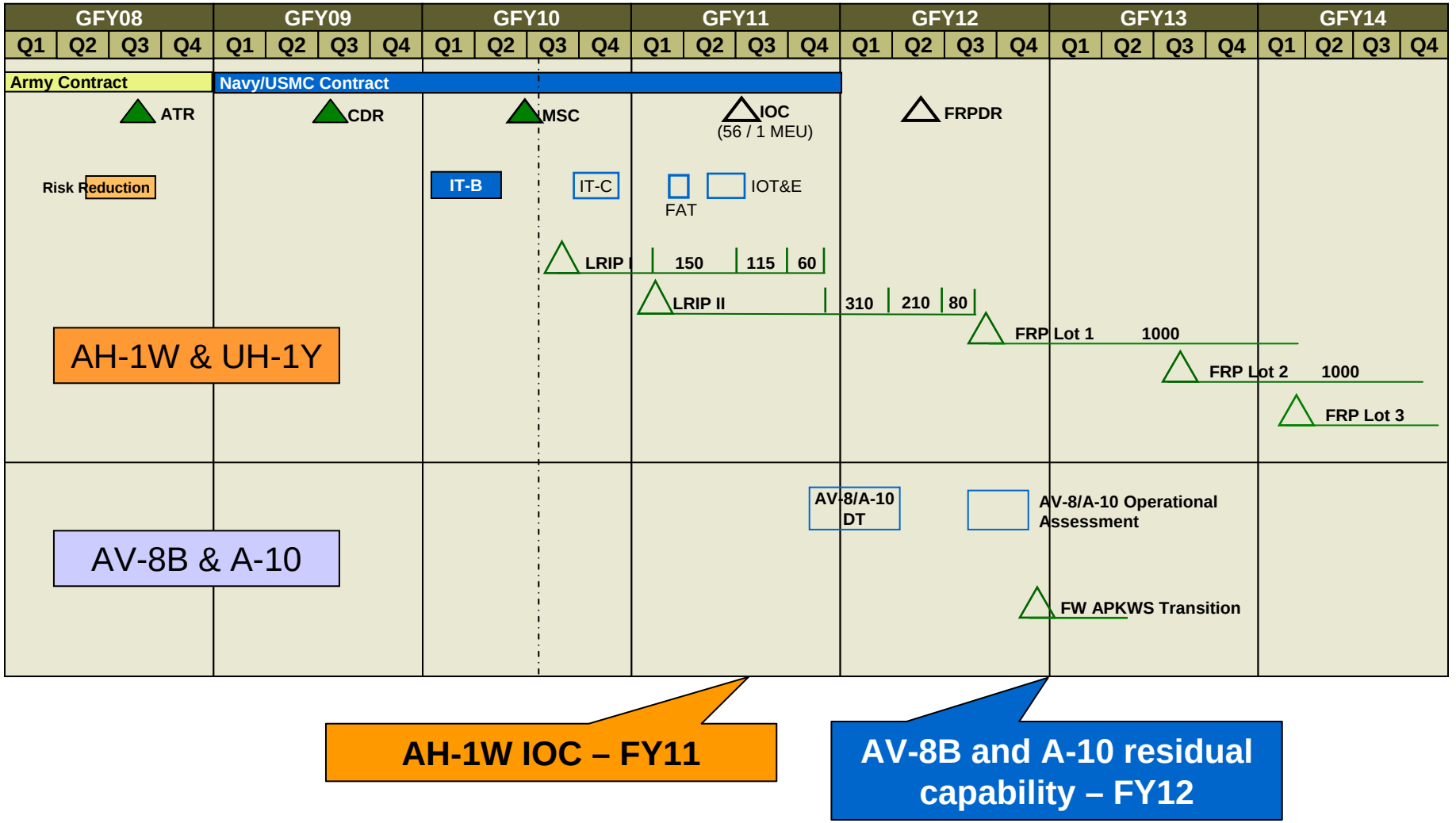
APKWS II Program of Record and FW JCTD Schedule



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