

Project Manager Combat Ammunition Systems (PM CAS)

XM1156 Precision Guidance Kit (PGK)

Program Overview

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Overview



- PGK is a low cost, fuze-sized module that is intended to replace a “NATO standard” fuze on existing stockpiled artillery ammunition
- PGK corrects the ballistic trajectory of spin stabilized ammunition resulting in a small terminal miss distance and thus improves projectile accuracy
- PGK provides *“First Round Effects”*
- PGK technology can be applied to literally millions of existing 155mm and 105mm projectiles

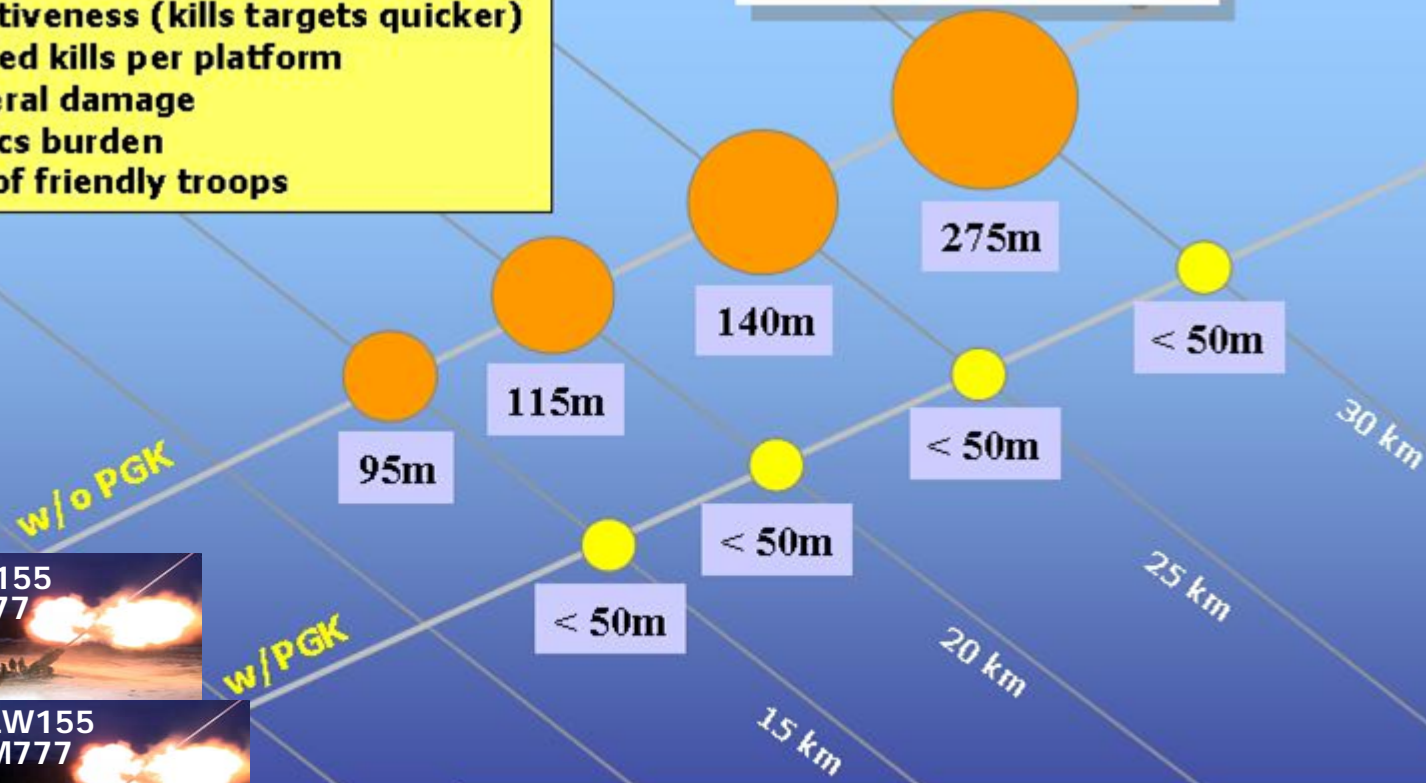


155mm Projectile Accuracy

Customer Needs

- Increased effectiveness (kills targets quicker)
- Increased stowed kills per platform
- Reduced collateral damage
- Reduced logistics burden
- Closer support of friendly troops

CEP vs. Range



Paladin M109A6

LW155 M777

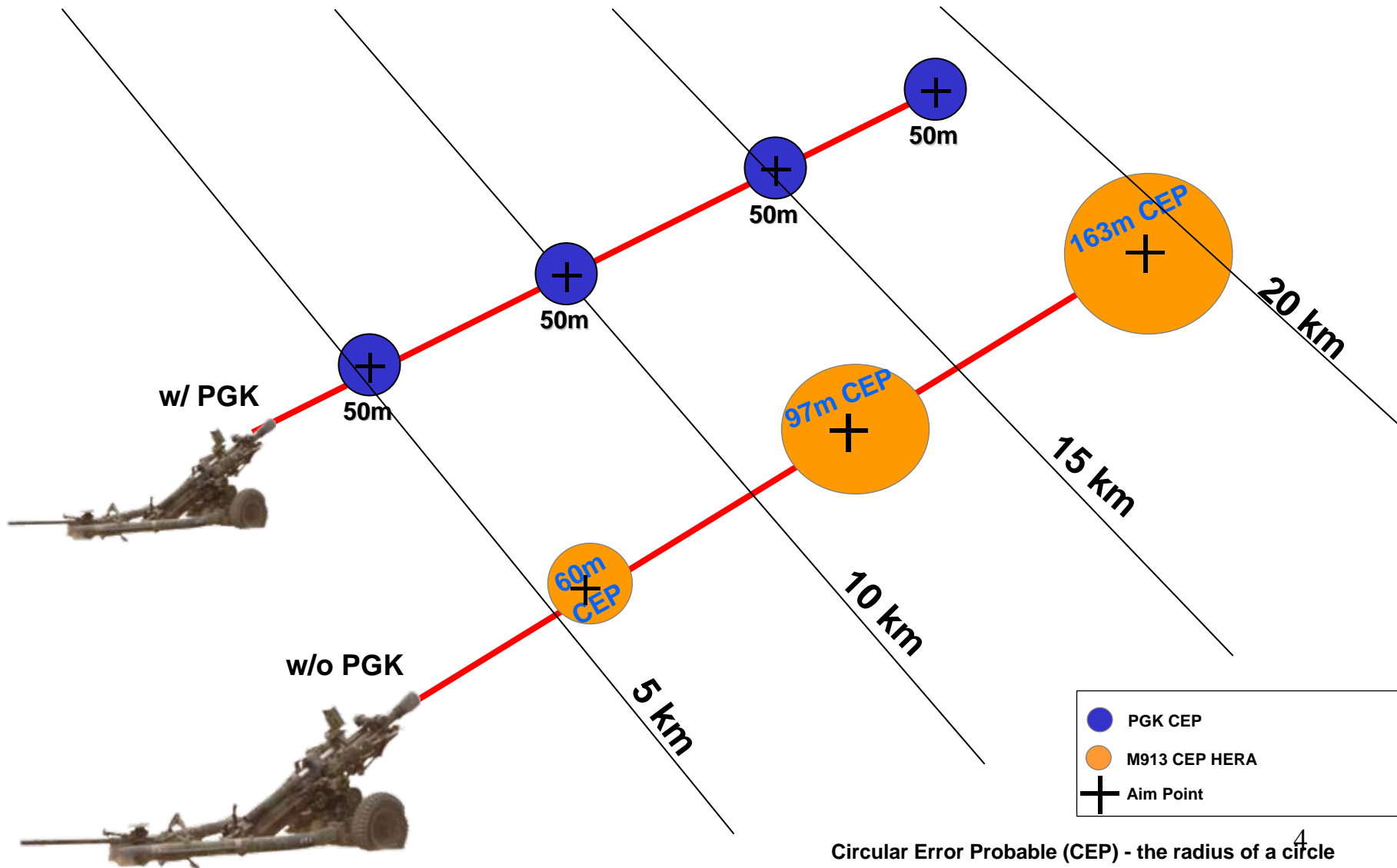
Paladin M109A6

LW155 M777

PGK Increment 1 Provides CEP Accuracy of < 50 Meters



105mm Projectile Accuracy

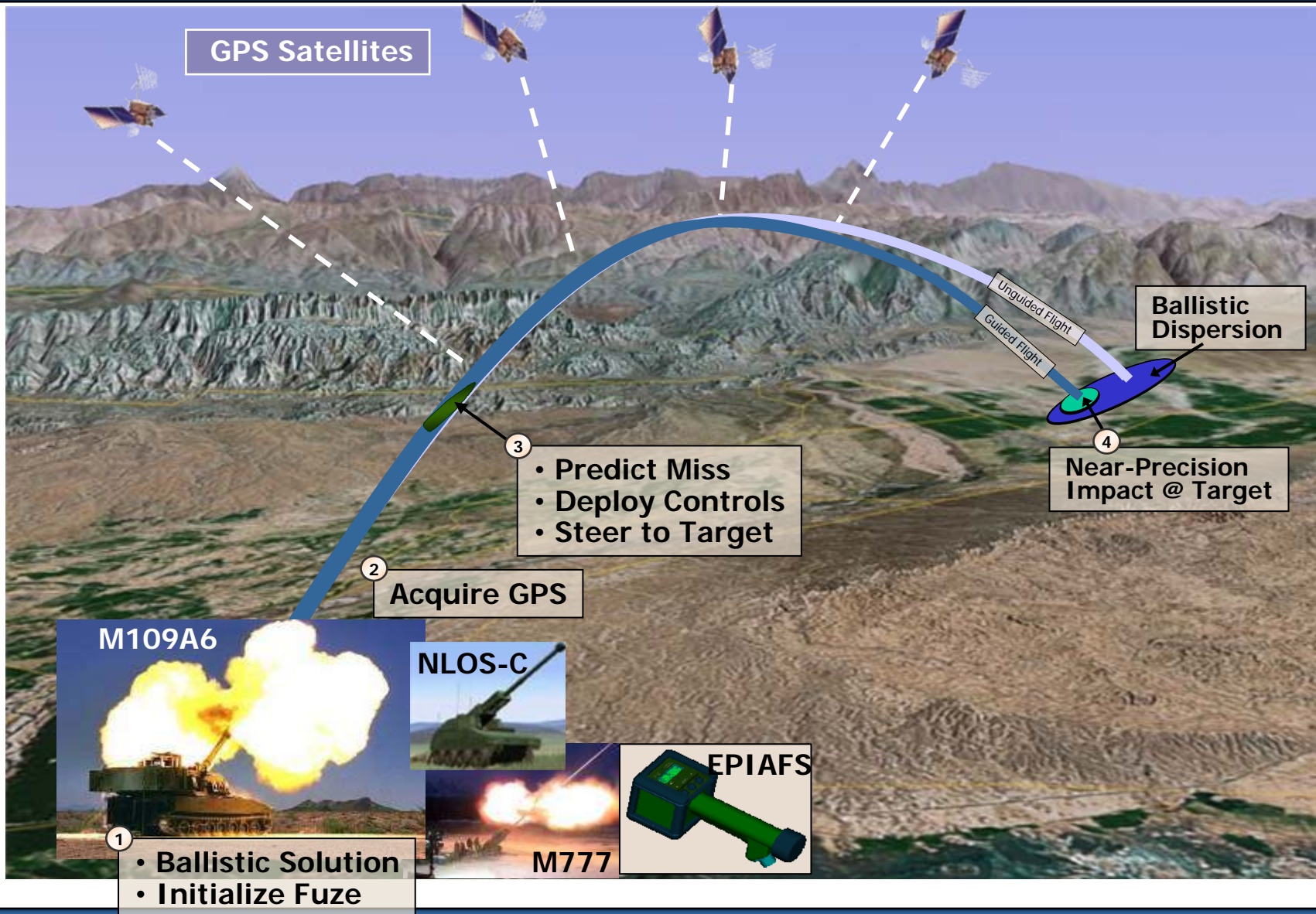


- PGK CEP
- M913 CEP HERA
- Aim Point

Circular Error Probable (CEP) - the radius of a circle within which 50% of the projectiles fired will impact.



Operational Overview

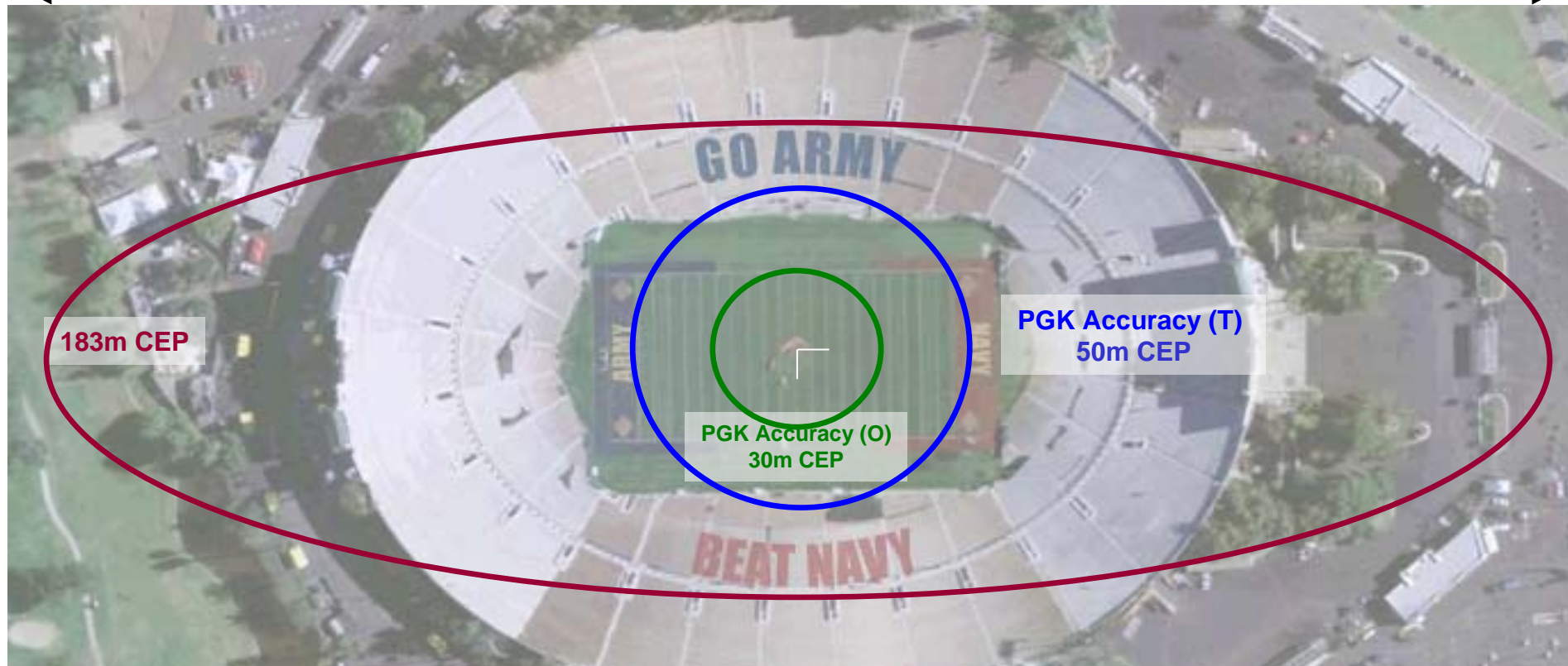




CEP Comparison - Guided vs. Unguided



462 Meters



183m CEP

PGK Accuracy (T)
50m CEP

PGK Accuracy (O)
30m CEP

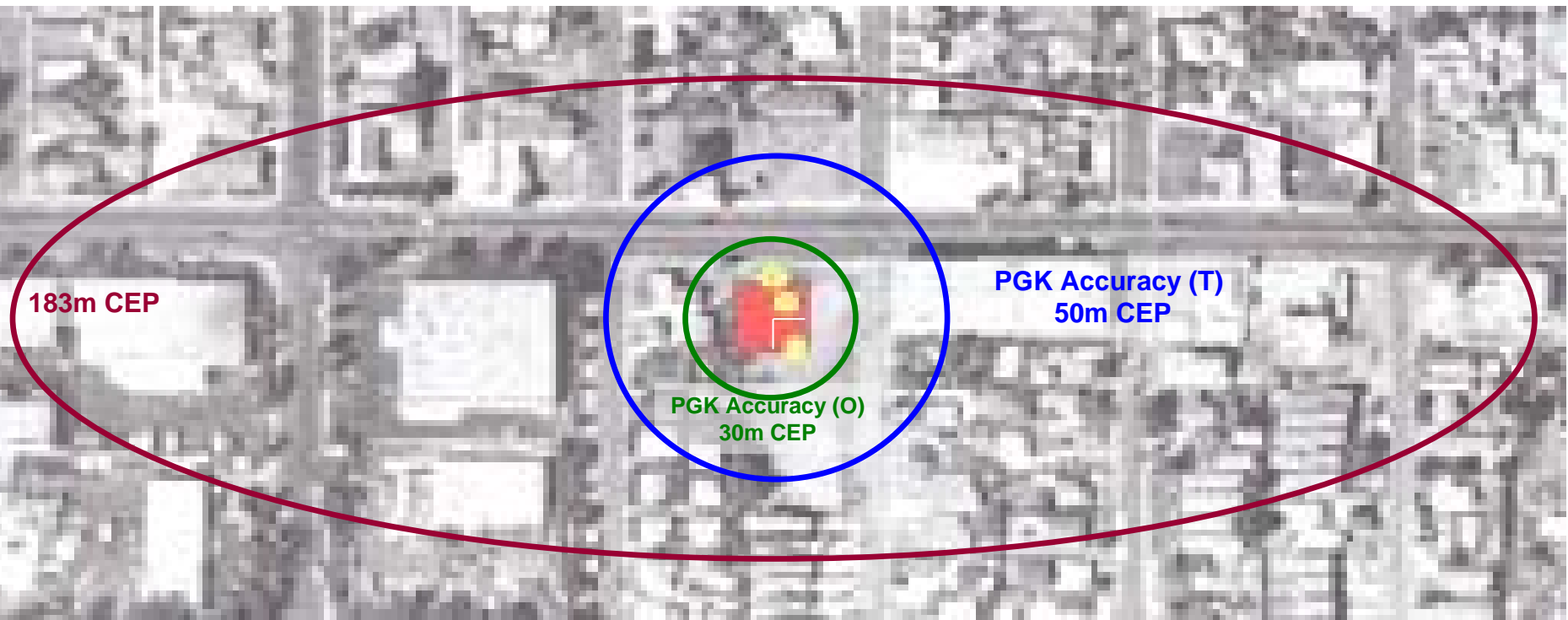
The Rose Bowl, Pasadena, CA



Guided vs. Unguided Collateral Damage Reduction



462 Meters



Typical City Block Depiction



Acquisition Strategy

- MS A approved on 20 December 2005
- Acquisition Strategy/Acquisition Plan approved by MDA
 - ✓ Awarded 2 TD contracts on 30 June 06
 - Conduct TD demonstration April 2007
 - Expect to Award option for Increment 1 SDD in May 2007 – (18 months)
 - Contains options for Increment 1 Production (3 years)
- Future development contracts for Increment 2 & 3 will be competitively awarded
- SDD contract award on schedule for May 2007



XM1156 PGK Performance Spec Summary



	TD	Increment 1 XM1156	Increment 2 TBD	Increment 3 TBD
Accuracy w/ ½ Hr MET	50m CEP	50m CEP	30m CEP	30m (T) 10m (O) CEP
Reliability		92%(T), 97%(O)	→	→
Platform/ Max Charge	Paladin 4 MACS	M777, Paladin / M119A1, M203A1, 5 MACS	→	NLOS C, M119 / M200
Compatibility		MIL-STD-333 Deep Intrusion	MIL-STD-333	→
Munition type	M549A1	M107, M549/A1, M795 155mm HE	All 155mm M483, M864, M898, M692, M731, M718, M741, M804, M110, M485, M825	All 105mm M915, M60A2, M84A1, M314A3, XM1064, M444, M548, M760, M1, M913, M927
Fuzing Function		Point Detonation , Proximity	Delay, GPS function	→
Setter		EPIAFS	→	→
GPS Signal	P(Y)	P(Y)	→	→
GPS Black Keys	SAASM	SAASM	→	→
Anti-Jam		Limited to SAASM	20dB BB, 40dB Tone	→
Operating Temp (F)		-25° F to +145° F (T) -50° F to +145° F(O)	→	→
Shelf Life		20 years		

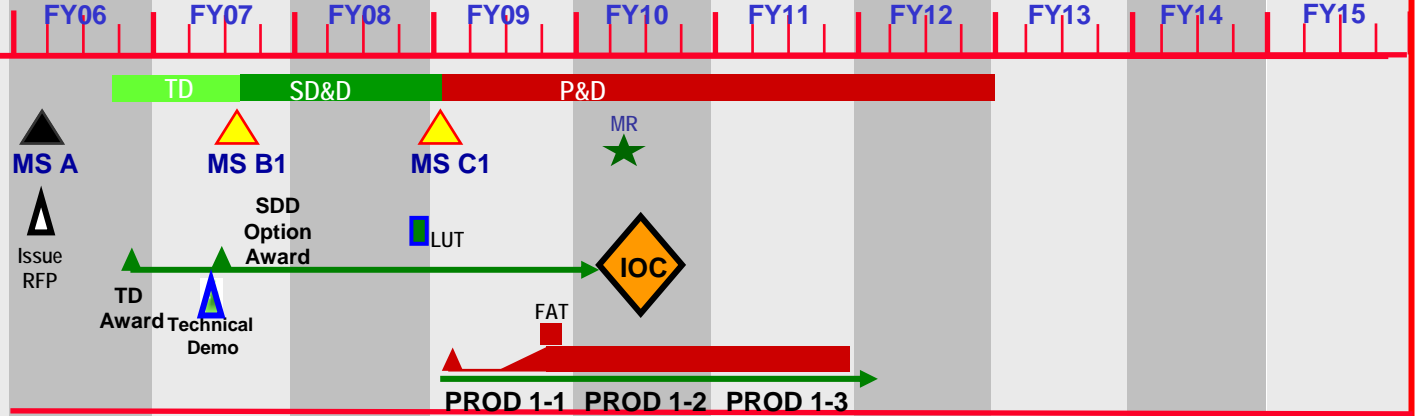


PGK Program Plan



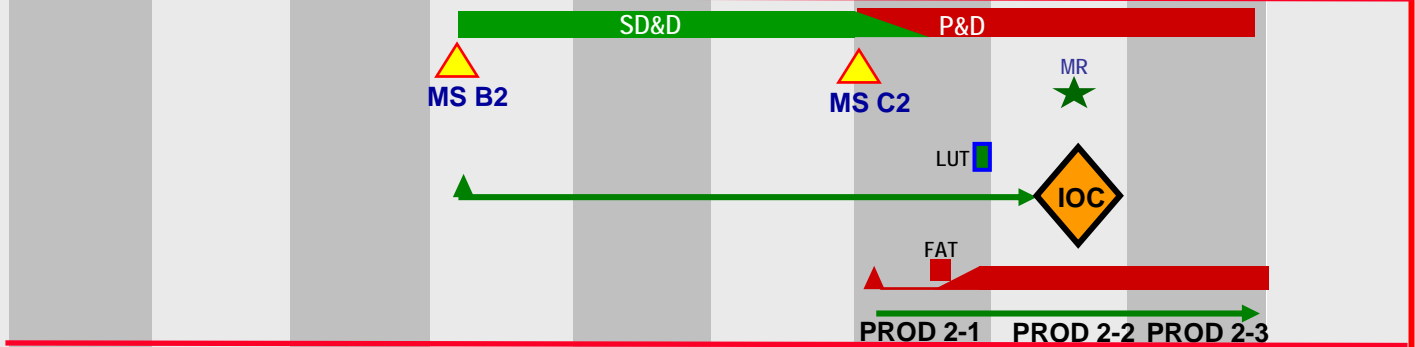
Increment 1

- <50m CEP,
- 155mm HE only
- If Phase 1 of TD is successful, IOC in FY10



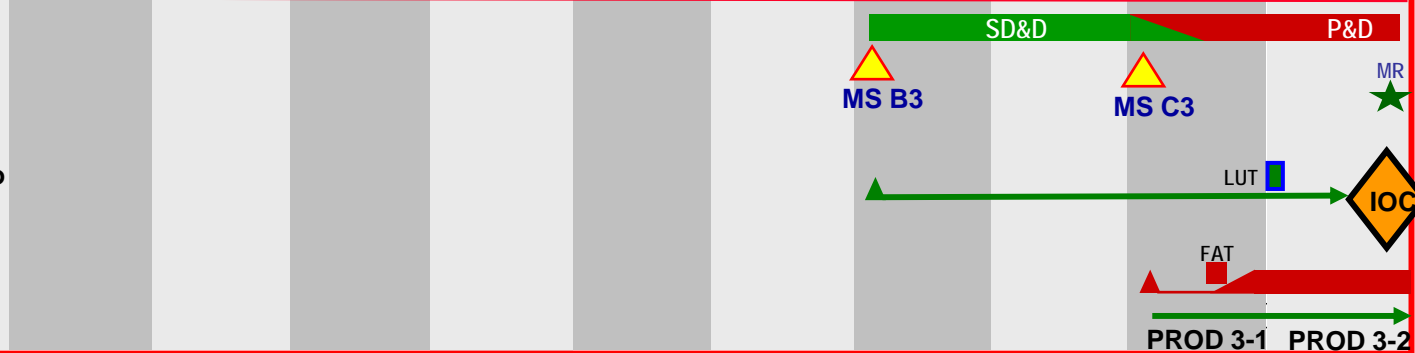
Increment 2

- <30m CEP,
- All 155mm projectiles



Increment 3

- <30m(T) to 10m(O) CEP
- All 105mm projectiles





Summary



- PGK successfully completed Milestone A on 20 December 2005
- Planned approach is an incremental development to address Army near term requirements
 - ✓ Increment 1: 50m CEP for 155mm HE
 - ✓ Increment 2: 30M CEP for all 155mm projectiles
 - ✓ Increment 3: 30m CEP Threshold, 10m CEP Objective for all 155mm and 105mm projectiles
- TD contracts awarded to ATK and BAE 30 June 2006
 - ✓ Conduct TD Demonstration Test in April 2007
 - ✓ Conduct 18 month Systems Development and Demonstration (SDD) option
 - ✓ Conduct three 12 month Production options
- PGK program is on track
 - ✓ TD Demonstration Test scheduled for late April 2007
 - ✓ SDD contract award on schedule for May 2007