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# ***Precision Fires Rocket and Missile Systems***

***Presentation to  
Precision Strike Association  
Annual Review***

***Fort Walton Beach, FL  
11 March 2009***



*Recipients of the 2008  
William J. Perry Award*

*COL David J. Rice  
Project Manager  
Precision Fires Rocket and Missile Systems  
Phone (256) 876-1196 (DSN 746)  
Email: david.rice@msl.army.mil*

*Any Warfighter - Anywhere - All The Time*



# PFRMS Systems at War



- All systems are supporting the Global War on Terrorism
- Currently supporting Operation Iraqi Freedom and Operation Enduring Freedom
- Performance is above Army Standards
- Launchers returning in excellent condition requiring only routine and minimal maintenance



**M270A1**  
98% Readiness Rate



**HIMARS**  
99% Readiness Rate

**GMLRS Unitary**  
1,124 Rockets Fired  
As of 5 Mar 09  
98% Reliability



**ATACMS**  
543 Missiles Fired  
As of 10 Dec 09  
98% Reliability



*Any Warfighter, Anywhere, All The Time*



# GMLRS-Unitary Rocket Usage in Theater



**1,124 Total Rockets Fired As Of 5 Mar 2009**

*Who Shoots GMLRS-U:*

US Army	648	57.65%
USMC	27	2.4%
UK	449	39.95%
M270A1		51%
M142		12%
M270B1		37%

**US Army Missions**

*Who Requests GMLRS-U:*

Army	421	65%
USMC	121	19%
Other	106	16%

*How GMLRS-U is employed:*

Troops in Contact	183	28%
Pre-Planned	465	72%

*Environments employed:*

Urban/COIN	619	96%
Other (TD/Test)	29	4%

**Operationally Effective: 98.3%**

Capability Gap: Persistent, responsive, all-weather, rapidly-deployable, long-range, surface-to-surface, precision-strike capability.

### Description

- GPS-Augmented Inertial Guidance
- 200lb-Class HE IM-Compliant Warhead
- Multi-Fuze Selection (Point Detonating, Delay, Proximity)
- 15-70km Range



### Current Targets

- Precisely Located/Mensurated Point targets
- Congested/Complex Urban Targets
- Targets in Areas Where Collateral Damage is of Concern

### Effectiveness/Reliability

- BDA Shows High Level of Effectiveness
- Rare Reports of Minor Collateral Damage
- Reliability of US Army Missions: 98.68%



# ATACMS QRU Usage In Theater



**543 Total Missiles Fired as of 10 Dec 2008**

## OIF/OEF MISSIONS

### Who uses ATACMS?

Army	145	28%
Marines	77	15%
USAF	290	57%
Joint Operations		

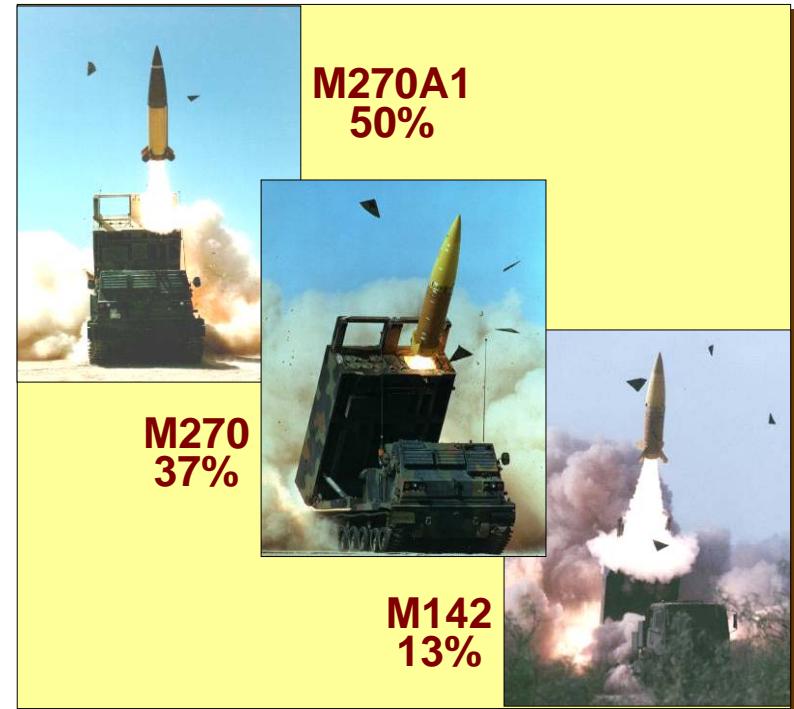
### How ATACMS is Employed:

Time-Sensitive Targets	205	40%
Pre-Planned	307	60%

### Employment Environments:

Initial OIF Conflict	460	90%
COIN	52*	10%

\*QRU & T2K Unitary



### Mission Process

- Target located by Multiple Sensors
- Target refined using Precision Strike Suite - Special Operation Forces or Mensuration via Rainstorm / Raindrop, etc.
- Passed to AFATDS for tactical fire control
- Launcher receives and executes mission



# Launcher Theater Accomplishments



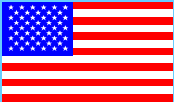

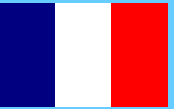


- All FAL variants (M270, M270A1, M270B1 and M142) have supported GWOT operations
- Launchers variants currently support both OIF and OEF operations
  - 13 Army M142s support OIF / OEF
  - 4 UK M270B1s support OEF
  - 16 Army M270A1s support OIF
  - 6 USMC M142s support OIF
- Launchers deployed in Theatre continue to perform above Army Standards
  - Operational readiness exceeds 97%
  - Reliability is over 350 hours between System Abort Failures
  - No maintenance issues
- M142 and M270A1 launchers returning from both Theaters are in excellent condition requiring minimal Reset

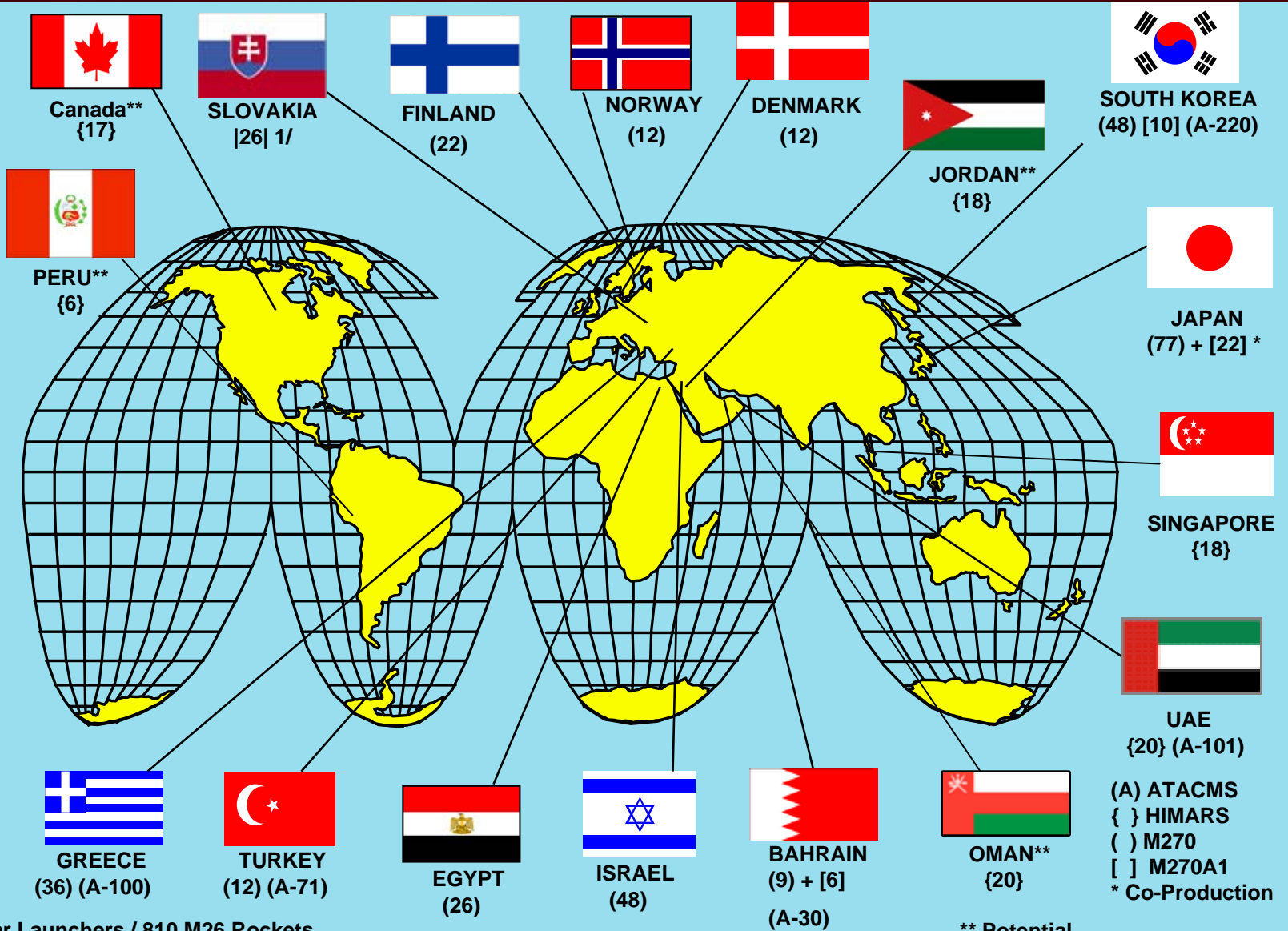




# MLRS Worldwide Third Party Sales

## MOU PARTNERS

-  US
-  UK
-  FRANCE
-  GERMANY
-  ITALY





# ***The Future for Cluster Munitions***



**Requirement:** Suppress, neutralize, destroy various armored or soft, mobile or fixed, active or passive, precisely or imprecisely located, high-payoff area and point targets

## **Cluster Munitions Policy Memo** (19 Jun 08)

- After 2018, cluster munitions must not produce >1% UXO; limit will not be waived
- No differentiation between types of UXO (hazardous or non-hazardous duds)
- All cluster munition stocks that exceed operational planning requirements will be removed from the inventory as soon as possible, but not later than Jun '09

## **Self Destruct Fuze (SDF) Development and Performance**

- Previous UXO Requirement: <2% 20-60km; <4% <20km and >60km  
**Does not Comply with the new DOD Policy**
- GMLRS DPICM w/pSDF demonstrated "hazardous" dud rate of only 0.15%, overall UXO 3.7%:  
**Does not comply with the new DOD Policy**

**In 2019, the Army will no longer have the ability to efficiently engage inaccurately located and area targets!**

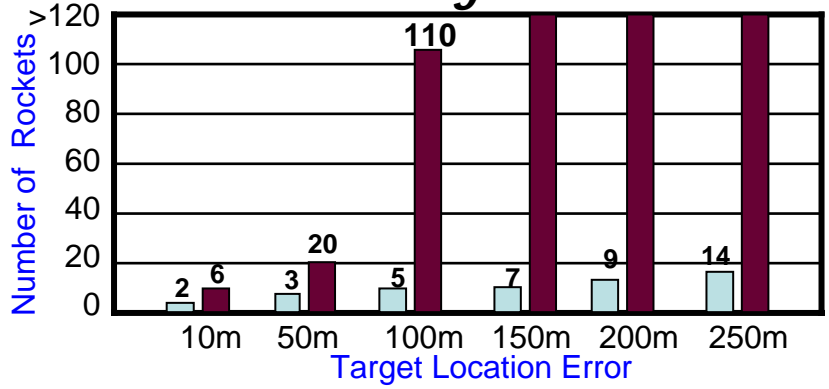


# GMLRS DPICM ORD Target Engagements

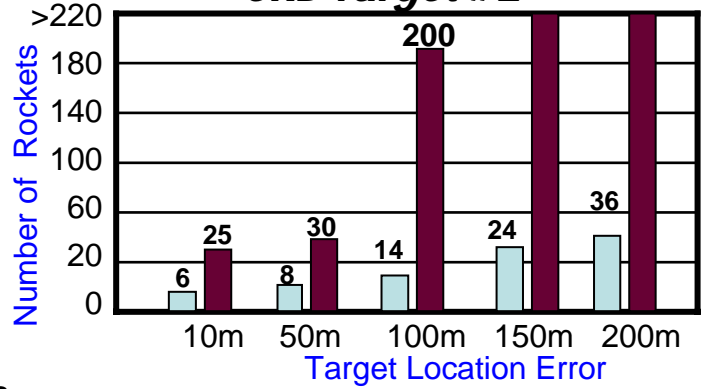


- GMLRS DPICM in Full Rate Production, yet no longer deemed politically suitable
- Unacceptable rate of unexploded ordnance
- Long range radar accuracy is not adequate for efficient GMLRS unitary target engagements beyond cannon artillery ranges

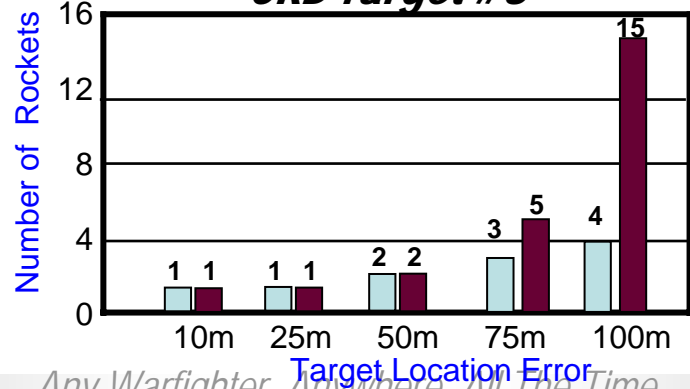
### ORD Target #1



### ORD Target #2



### ORD Target #3



DPICM  
Unitary





# Inventory and Operational Risks



## Serviceable Rocket Inventory 2008-2019

2008		2019	
Munition	Available munitions	Range	Available munitions
M26 (DPICM)	360,192	32.5km	0
M26A2 (DPICM)	3,924	45.0km	0
M30 (DPICM)	1,914	70.0km	0
<b>M31A1 (Unitary)</b>	<b>204</b>	<b>70.0km</b>	<b>33,006</b>

**ZERO**

## Operational Risks

- GMLRS AWP production schedule may not provide sufficient numbers by 2019 to support COCOM operational plans
- AMSAA/ARL approved models for AWP technologies



# *Program Overview*



- Program composition
    - ACAT 1C with two variants
      - DPICM in Full Rate Production (FRP)
      - Unitary Completing LRIP headed to FRP Decision
    - Variants share documentation
      - APB
      - Common Funding (RDTE and Procurement) Lines
- 

## Second Order Effects

- Impact to APB
- Item C of Nunn-McCurdy ADM (April 2007)
- Future of DPICM Production
- Elimination of DPICM, impact on the USMC and FMS Customers



# ***AWP Performance Parameters***



- Meets DPICM ORD requirements in servicing targets
- Produce no residual cluster munition UXO
- Achieve required warhead IM rating
- Compatible with the M270A1 and HIMARS Launchers

# GMLRS System Description

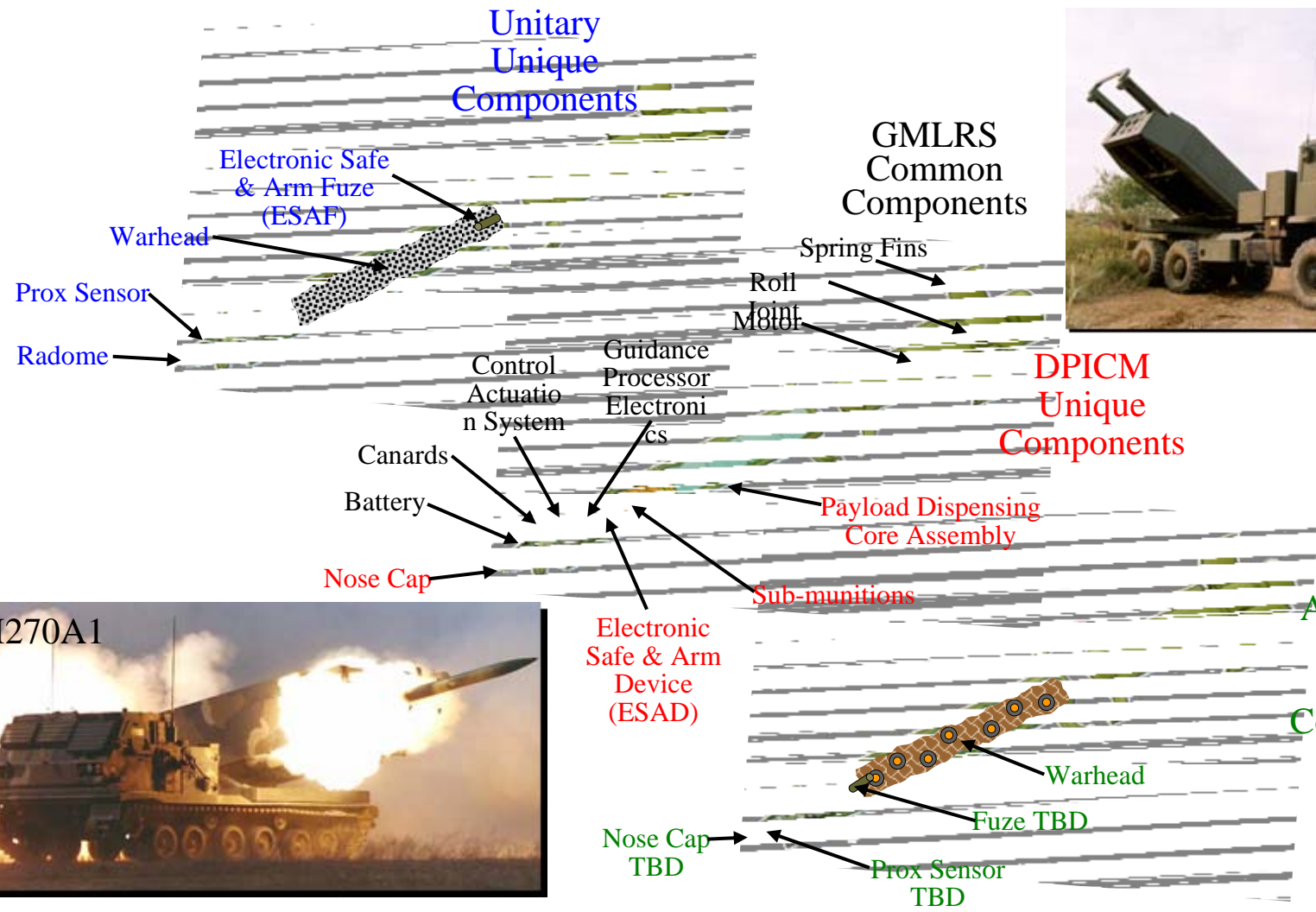
Unitary  
Unique  
Components

GMLRS  
Common  
Components



DPICM  
Unique  
Components

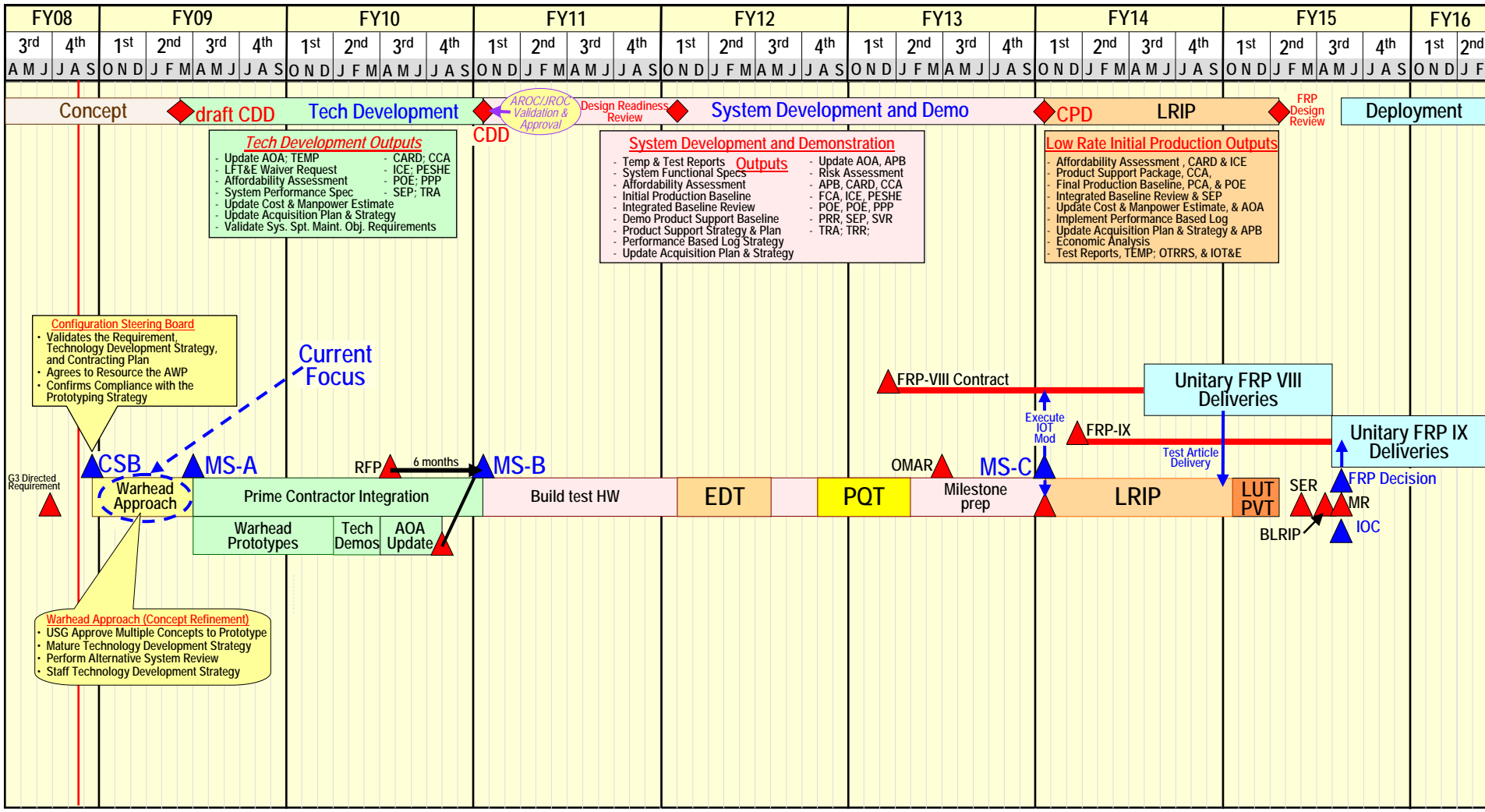
Alternative  
Warhead  
Unique  
Components



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# AWP Schedule Overview



Any Warfighter, Anywhere, All The Time

UNCLASSIFIED



# *Review of Eliminating DPICM*



- Current pSDF (nor DPICM) is not compliant with DoD cluster munition policy
- Must demilitarize all non-compliant DPICMs after 2018; cost TBD
- UAE DPICM Procurement in FRP 4
- USMC Unexercised DPICM Option in FRP 4

***Recommend Build Unitary in Lieu of DPICM FY09-FY13***



# *Questions?*