AMERICA’S ARMY: THE STRENGTH OF THE NATION

UNITED STATES ARMY

Cannon Precision Fires

LTC Fischer
Five Requirements

1. Accurate Target Location and Size
   - Enhanced Q36 Radar

2. Accurate Firing Location
   - IPADS/GPS

3. Accurate Weapon and Munition Information
   - Shell/Fuze, Powder Temperature

4. Accurate Meteorological (MET) Information
   - Profiler Meteorological System

5. Accurate Computational Procedures
   - AFATDS
Indirect Fires Precision Portfolio

**SYSTEM**

- **APMI**: Personnel, point and protected positions
- **PGK**: Near precision for multiple munitions
- **Excalibur**: Vertical attack of personnel and structures
- **GMLRS**: Point & small area targets, trajectory/fuse options
- **ATACMS**: Point & small area targets at extended range

**TARGETS**

- **APMI**: 120mm .8X RE CEP <10m
- **PGK**: Near precision for multiple munitions
- **Excalibur**: Vertical attack of personnel and structures
- **GMLRS**: Point & small area targets, trajectory/fuse options
- **ATACMS**: Point & small area targets at extended range

**Additional Notes**

- **RE = Radius of Effects against personnel**
- **PGK Near precision for multiple munitions**
- **Excalibur Vertical attack of personnel and structures**
- **GMLRS Point & small area targets, trajectory/fuse options**
- **ATACMS Point & small area targets at extended range**
Housing density can vary widely over small distances between terrain elements.

Selecting munitions with increasing levels of precision may be most cost-effective.

“An organic precision indirect fire munition will allow commanders to engage targets in environments that ordinarily require putting Soldiers and non-combatants in harms way or cause unnecessary collateral damage.”
Balancing Precision Fires

The tactical commander will have many fires capabilities available in the future. These are divided into general area fires, efficient area fires (near precision) and precision fires. The targeting conditions necessary to utilize these capabilities will aid the commander to optimize these fires assets.

<table>
<thead>
<tr>
<th>Conventional - Non-Precision</th>
<th>Near-Precision</th>
<th>Precision</th>
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</thead>
<tbody>
<tr>
<td>155mm HE</td>
<td>155mm HE with PGK</td>
<td>Excalibur</td>
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<tr>
<td>260m CEP (max range)</td>
<td>&lt;50m CEP</td>
<td>10m CEP</td>
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**Match round to task**

- **Area coverage required**
- **Precision not required**
- **TLE** not restricted
- **CD** not an issue
- Ammunition resupply is not an issue

- **Efficient area fires required**
- **Near precision creates efficiency**
- **TLE between 30m and 120m**
- **CD** is a consideration
- Reduced resupply burden

- **Point target attack**
- **Precision required (<10m CEP)**
- **TLE ≤ 25m**
- **Minimize CD**
- Lowest resupply burden

* Target Location Error (TLE)
** Collateral Damage (CD)

Scaleable precision provides more effective and efficient fires
• Precision-guided munitions increase desired effects with more effective fires, while mitigating unnecessary collateral damage and reducing overall logistic footprint

• Artillery units must have the ability and capability to mass precision fires on a single target and attack multiple targets simultaneously throughout the battle space

• Key question from Precision Fires Portfolio Review: How much Precision is needed?