

ARMY DEVELOPING NEW PRECISION MORTAR

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The Army has closed its initial solicitation phase for designs to create a next generation precision mortar that will allow Soldiers to put their rounds on target with extreme accuracy. The 120mm high explosive-guided mortar (HEGM) program is intended to replace the current precision-guided HE mortar — the accelerated precision mortar initiative (APMI).

The solicitation period sought feasible designs from the private sector to create a new “smart” mortar. While the HEGM round will incorporate state-of-the-art technology, the new round is intended to be a different design than APMI.

Precision Strike Capability

Precision mortars are necessary when Soldiers can't afford for the first mortar round to be off target, such as in an urban environment where civilians could get hurt or buildings destroyed.

“With a precision mortar capability you're able to quickly come in, establish, fire, and with one round you're able to get effects,” said LTC Anthony Gibbs of the Product Manager Guided Precision Munitions and Mortar Systems. “If counter-fire is a threat, a precision mortar gives you the ability to get first round effects and then reposition.”

APMI has proven especially useful for Soldiers stationed at remote outposts that aren't supported by other precision-guided assets like Excalibur, the Army's 155mm precision-guided artillery round.

Precision-guided mortars also reduce the logistical burden for troops, because Soldiers don't need to lug as many rounds to the fight. Instead of firing large quantities of HE rounds, troops can fire one precision-guided round and eliminate the target, so their resupply needs are reduced.

“Instead of Soldiers having to fire two or three rounds to get effects, we can achieve effects with one,” said MAJ Kenneth Fowler, HEGM assistant product manager. “This reduces required logistical support, which means less fatigue for Soldiers over time, and you can engage a wider array of targets.”

Improvements

Like its predecessor, HEGM will be an all-terrain, all-weather mortar capable of incapacitating personnel within or behind structural barriers or light-skinned vehicles, as well as troops in the open, while minimizing collateral damage. It will be compatible with all U.S. 120 mm mortar weapons and fire-control systems in infantry, armored, and Stryker brigade combat teams. However, the HEGM will be more accurate and maneuverable than APMI.

Many of HEGM's enhancements will come from the requirement that it contain a semi-active laser (SAL), an

independent targeting mode that employs laser designation, giving the mortar dual means to guide it to the intended target. It will provide the round with increased accuracy by directing it to its target via a laser beam. (APMI is GPS-guided.) Because the laser guides the round to the physical target instead of a GPS location, the mortar will have the potential to correct course in flight to hit a target that has moved.

“The increased maneuverability will allow Soldiers to engage targets that may have moved or repositioned since the time the call for fire occurred,” Gibbs said. “If the target has moved, you can still hit it if the laser has designated it.”

The SAL will also make HEGM more resistant to countermeasure threats in GPS-degraded environments.

(Audra Calloway works for the Picatinny Arsenal Public Affairs Office.)



Photo by SGT Matthew Moeller

Soldiers with the 2nd Battalion, 12th Infantry Regiment, 4th Brigade Combat Team, 4th Infantry Division, fire mortar rounds at insurgent fighting positions in Kunar Province, Afghanistan, on 15 August 2009.