



New Gun, New Capabilities

Barbara Muldowney, Deputy Product Manager Individual Weapons, Program Executive Officer Soldier outlines the issues in the M4 Replacement Programme

Today's most successful small arm, the M4 Carbine is being replaced by the organisation that birthed it: the US Army. A fairly polarised and often politicised debate has risen in the US in recent years over small arms, encompassing issues such as reliability, accuracy, calibre, and lethality. Any new weapon will have to navigate these waters before its ends up in the hands of Soldiers and probably Marines.

The Request for Information of a potential replacement went out to industry in August. Barbara Muldowney Deputy Product Manager Individual Weapons, Program Executive Officer (PEO) Soldier, emphasises the



The Army's M4 Replacement programme is by far the biggest initiative of its type in the world © DoD

Service's desire to better understand exactly what could be made available before it begins the formal solicitation process.

"We just asked for information to find out what is available: who is out there and what they have to offer. Are they improving it with new technology or are they actually adding a new capability to the weapon? We received responses and had an industry day in November for those folks who submitted responses." She notes that response has been high, numbering in the double digits.

PEO Soldier met with the responders to better assess the technology levels and proposed improvements. The Army is keeping an open mind as to what is possible, with potential cross pollination between what is available and what is asked for, both validating and updating requirements. Muldowney explained, "That is going to play into the requirement document that the Infantry School is writing. If it's going to be a new technology that improves performance, then that will probably play into the actual requirements, either as a threshold or maybe even objective requirement."

HIGHER LEVELS

The Requirement Document was submitted to the Department of the Army and Joint Capabilities Integration Development System at the end of 2008. That will be reviewed at higher levels and if successful the green light for the next stage will be given, in the Spring. At that point, the PM 'Shop' will develop a performance specification as part of a formal document. Muldowney said, "We will probably release that in the Summer as a draft Request For Proposals (RFP) for industry to comment on. Then we will have another industry day to answer specific questions as they relate to the performance specifications, so there is no misunderstanding in what we want. After that, there is going to be a formal RFP, probably in September 2009. At that point we are going to be asking not only for paper proposals but also for hardware. We will then test and make a final selection at the end of second quarter FY2011.

NATO

Muldowney notes NATO's work on future standards for small arms, including its investigation of powered rail mounts. She commented, "We are not sure at this stage whether NATO's wider work is going to play in to this. If it proves from a technology stand point and the benefit is there then we definitely want to make sure that we can then retrofit, using a product improvement approach."

CALIBRES, CALIBRE

There is no 'rigidity' as to the ammunition type to be used by the weapon. At this stage everything is open. Muldowney explained, "What we are primarily going to be asking for is a performance down range. We are not going to prescribe 5.56mm or 7.62mm, or anything else. Instead we are identifying the type of targets we are testing against and the performance we are testing for after.

The evaluation package is going to include key attributes like cost and industrial capability. Producing the weapon quickly is self evidently an advantage but being unable to do so is not a bar to success. Muldowney, using the example of ammunition commented, "If you are for example hand loading, that means the government is going to have to help you develop it. We will determine if it is worth that pause to develop that round against an improvement in lethality."

ACR

Muldowney was involved, early in her career in the last initiative to revolutionise small arms, the Advanced Combat Rifle (ACR) programme which took place in the 1980s. Lessons learned from that work are still being acted upon today in other programmes. She noted, "From the ACR programme, we found out that the true leap ahead in lethality is the airburst technology."

Outside that capability, the replacement programme today is focussing on the omnipresent demand for improved reliability and greater modularity and performance in extreme temperatures.

Muldowney added, "There is also some potential in accuracy because of the way that barrels are made and finished so we are going to test that to prove it out. ■