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Global strike concept raises hopes and fears

The US military has launched a 14-year project to develop a new conventional weapon that can defeat a heavily-defended major target, such as a weapons of mass destruction site, without warning and within hours or potentially even minutes of receiving an initial command.

Dubbed the Prompt Global Strike (PGS) concept, the initiative will open new opportunities for ballistic or hypersonic vehicle technologies, but is already a source of concern for critics who fear that the USA's launch of such a weapon could be misinterpreted by non-targeted nations as a nuclear strike.

For an initial capability, the US Navy has volunteered to convert the Lockheed Martin Trident II D-5 submarine-launched nuclear missile to a conventional warhead. That approach is intended to satisfy the immediate desire of US Strategic Command for a near-term PGS strike option, but the Trident's ballistic trajectory is unlikely to meet long-term accuracy requirements.

Air Force Space Command (AFSPC) has been charged with analysing a more suitable technical approach and late last month issued a request for information seeking the input of industry. Three feasible options are expected to emerge from the request, says Maj Gen Mark Shackelford, the command's director of requirements.

At the low-end would be a next-generation intercontinental ballistic missile (ICBM), while the most ambitious approach would involve the hypersonic Common Aero Vehicle and Small Launch Vehicle under development by the US Defense Advanced Research Projects Agency's (DARPA) Falcon programme.

Between these extremes, says Shackelford, is an approach that combines an ICBM with a new conventional warhead that has some ability to shape its own trajectory on re-entry, greatly improving the accuracy of a ballistic vehicle.

Industry responses are due on 14 March, with the AFSPC hoping to launch a two-year analysis of alternatives in early 2006. In the first year, this will focus on a weapon that can respond to an attack order with no prior warning, with the next phase to be dedicated to exploring a solution for an attack scenario that is preceded by unambiguous warning of a hostile threat, says Shackelford.

Since its creation a few years ago, DARPA's Falcon programme has carried the banner for a PGS capability. However, the Common Aero Vehicle concept, which is based on the development of a still-untested hypersonic glide vehicle, is not the presumed favourite candidate.

Shackelford says the results from the Falcon demonstration programme, which involves a three-year series of flight tests on three increasingly capable versions of a hypersonic test vehicle, will be used to compete with the other candidates identified under the analysis of alternatives.

"Think of the DARPA Falcon programme as a technology demonstration of a small launch capability as well as to potentially carry a Common Aero Vehicle," says Shackelford.

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