Soldier Protection System (SPS)

Executive Summary
- The Soldier Protection System (SPS) consists of four subsystems: Vital Torso Protection (VTP); Torso and Extremity Protection (TEP); Integrated Head Protection System (IHPS); and Military Combat Eye Protection (MCEP). Each subsystem has its own acquisition strategy.
- The SPS TEP, VTP, IHPS, and MCEP met ballistic requirements.
- The Army began testing new, lighter-weight VTP designs in 3QFY19.

System
- The SPS is a suite of personal protection subsystems intended to, at a reduced weight, provide equal or increased levels of protection against small-arms and fragmenting threats compared to existing personal protection equipment. The SPS subsystems are designed to protect a soldier's head, eyes, and neck region; the vital torso and upper torso areas, as well as the extremities; and the pelvic region. Soldiers can configure the various components to provide different tiers of protection depending on the threat and the mission.
- The SPS consists of four subsystems:
  - VTP consists of front and rear hard armor torso plates (either the Enhanced Small Arms Protective Insert (ESAPI) or the X Threat Small Arms Protective Insert (XSAPI)) and the corresponding hard armor side plates (either Enhanced Side Ballistic Insert (ESBI) or the X Threat Side Ballistic Insert (XSBI)).
  - TEP consists of the soft armor Modular Scalable Vest (MSV) with provision for adding the Ballistic Combat Shirt (BCS) for extremity protection and the Blast Pelvic Protector (BPP) for pelvic and femoral artery protection.
  - IHPS consists of a helmet, with provision for adding a mandible and/or visor for mounted use.
  - MCEP is a selection of protective eyewear validated for use by Army personnel. The Army's Authorized Protective Eyewear List (APEL) includes all authorized protective eyewear.
- Soldiers currently receive SPS components through the Army Rapid Fielding Initiative (RFI). The Army plans to field the complete SPS to the Close Combat Force, which includes Infantry, Engineers, and Scouts with habitual attachments (i.e. combat medics, forward observers). The Army plans to subsequently field SPS to the broader Army as quantities are available.

Mission
Units will accomplish assigned missions with soldiers wearing the SPS that provides protection against injury from a variety of ballistic (small-arms and fragmenting) threats.

Major Contractors
- VTP Low-Rate Initial Production Vendors:
  - Engense Armor Systems – Camarillo, California (ESBI)
  - Florida Armor Group – Miami Lakes, Florida (ESBI)
  - Leading Technology Composites – Wichita, Kansas (ESAPI, ESBI)
  - TenCate Armor – Hebron, Ohio (ESAPI)
  - 3M/Ceradyne – Costa Mesa, California (ESAPI, XSAPI)
- TEP Full-Rate Production Vendors/Designs (Multiple vendors to stimulate competition and achieve best price through Fair Opportunity awards):
  - KDH Defense Systems Inc. – Eden, North Carolina (MSV, BPP)
  - Bethel Industries Inc. – Jersey City, New Jersey (MSV, BPP)
  - Point Blank (Protective Apparel & Uniform) – Pompano Beach, Florida (BCS)
  - Carter Enterprises Industries Inc. – Brooklyn, New York (BCS)
  - Eagle Industries Unlimited – Virginia Beach, Virginia (BCS)
- IHPS Vendor:
  - 3M/Ceradyne – Costa Mesa, California

Activity

- The development, testing, and production/fielding of the four SPS subsystems (TEP, VTP, IHPS, and MCEP) have been on different timelines. The Army made a Full-Rate Production decision for the TEP in September 2016 and the IHPS in October 2018. The Army completed VTP testing in February 2018. Each SPS subsystem is compatible with existing (legacy) personal protective equipment (for example, soldiers can use existing hard armor plates in the new MSV).
- The Army began testing new, lighter-weight VTP designs from multiple vendors in 3QFY19. Upon completion of testing, the Army intends to make a subsequent Full-Rate Production decision on these lighter-weight VTP designs.
- The Army is testing VTP ballistic performance in accordance with DOT&E-approved test plans.
- The Army plans to complete additional full-up system-level testing of the SPS (with all subsystems combined) against additional threats in 1QFY21.

Assessment

As testing is ongoing, analysis is not complete. DOT&E will report on VTP and SPS ballistic performance upon the completion of testing in 1QFY21.

Recommendations

None.