The Soldier

Product Manager
Soldier Clothing and Individual Equipment (PM SCIE)

Personal Flotation Device (PFD)
JAPBI Industry Day

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Program Description

• Current and Legacy Flotation Systems:
  - The B-7 is an Air Force life preserver system that is designed to be worn under the parachute harness with the inflatable portions under the jumper’s armpits.
  - The LPU 10/P is a Navy life preserver system worn under the parachute harness during flights over water or during airdrops.
  - The TFSS is a Navy life preserver system that is designed to be fastened to an individual’s waist belt.

• Issues:
  - Do not meet all the Army’s requirements for intended and/or unintended parachutist water entry, creating a capability gap
  - The B-7 and LPU-10 are no longer available and the TFSS does not meet current buoyancy requirements.
  - Army is not the Lifecycle Manager for the B-7, LPU-10, or TFSS legacy systems. This restricts the Army from inserting Engineering Change Proposals (ECPs) and/or Materiel Change Proposals (MCPs).
Program Description
Integration Supporting Unintentional Water Landings

• T11 Parachute system in full combat load configuration
  ▪ T11 main T11R Reserve, Advanced Tactical Parachute Harness, Plate Carrier with plates
  Improved Outer Tactical Vest (IOTV) with ballistic plates, weapons container, basic combat equipment, and shown with the legacy LPU-10P
Program Description
Integration Supporting Unintentional Water Landings

• RA-1 Parachute system in full combat load configuration
  ▪ RA1 in the Double Bag Static Line (DBSL) configuration, Improved Outer Tactical Vest (IOTV) with ballistic plates, weapons container, basic combat equipment, and shown with the legacy LPU-10P
## Key Performance Parameters (KPPs)

<table>
<thead>
<tr>
<th>KPP</th>
<th>Production Threshold (T)</th>
<th>Production Objective (O)</th>
<th>Rationale/Analytic Linkage</th>
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</thead>
<tbody>
<tr>
<td><strong>KPP 1</strong>&lt;br&gt;System Reliability</td>
<td>(U) The PFD must demonstrate a reliability of 0.9 at 90% confidence level. (T)</td>
<td>(U) The PFD must demonstrate a reliability of 0.99 at 90% confidence level. (O)</td>
<td>(U) Rationale: The system must demonstrate a reliability in confidence level that will allow the parachutist to remain afloat long enough to doff required equipment, self-recovery, assemble and/or await recovery.</td>
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<tr>
<td><strong>KPP 2</strong>&lt;br&gt;Supporting Weight/Time</td>
<td>(U) Supporting Weight/Time. Once inflated, the PFD must be capable of supporting the weight of a 98th percentile male, with body armor, in an orientation in which the head is completely above the water line and tilting to the rear for at least one hour (T)</td>
<td>(U) Once inflated, the PFD must be capable of supporting the weight of a 98th percentile male, with body armor and other standardized Soldier equipment that cannot be released from the parachute harness, in an orientation in which the head is completely above the water line and tilting to the rear for more than an hour (O).</td>
<td>(U) The PFD must allow the jumper to remain buoyant for at least one hour.</td>
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<tr>
<td><strong>KPP 3</strong>&lt;br&gt;Inflation</td>
<td>(U) The PFD shall fully inflate within six seconds after manual inflation. (T)</td>
<td>(U) The PFD shall fully inflate within three seconds after manual inflation. (O)</td>
<td>(U) The PFD must be able to inflate quickly for parachutist survivability where time in the water without buoyancy is critical to one’s survival and may have catastrophic consequences.</td>
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## Additional Requirements

<table>
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<tr>
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<td><strong>Compatibility</strong></td>
<td>(U) The PFD must be compatible with the Advanced Tactical Parachute System (ATPS) and RA-1 parachute harness when worn by a fully combat equipped jumper with body armor and Modular Airborne Weapons Case (MAWC). The PFD must be able to fit under the current harness and must not interfere with Jumpmaster Personnel Inspection (JMPI) (T=O)</td>
<td>(U) The PFD must be compatible with the Advanced Tactical Parachute System (ATPS) and RA-1 parachute harness when worn by a fully combat equipped jumper with body armor and Modular Airborne Weapons Case (MAWC). The PFD must be able to fit under the current harness and must not interfere with Jumpmaster Personnel Inspection (JMPI) (T=O)</td>
<td>(U) Rationale: The PFD must be compatible with legacy items for complete integration and not interfere with the normal functioning of these systems or the parachutist ability to perform emergency procedures.</td>
</tr>
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<td><strong>Inflation Method</strong></td>
<td>(U) The Soldier must be able to manually activate the PFD while in the parachute harness and wearing combat equipment. The system shall possess a manual backup inflation method (T=O)</td>
<td>(U) The Soldier must be able to manually activate the PFD while in the parachute harness and wearing combat equipment. The system shall possess a manual backup inflation method (T=O)</td>
<td>(U) In the event full inflation does not occur during the primary inflation process, Soldiers must be able to manually inflate the PFD while fully equipped.</td>
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<td><strong>Temperature</strong></td>
<td>(U) The PFD must be able to properly function during parachute operations that include rapid temperature changes from -50°F to 110°F (T).</td>
<td>(U) The PFD must be able to properly function during parachute operations that include rapid temperature changes from -60°F to 140°F (O)</td>
<td>(U) PFD must be able to function in temperatures in which Soldiers operate.</td>
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<td><strong>Altitude</strong></td>
<td>(U) The PFD must be able to properly function after exposure to the full operational altitude ranges of military personnel parachutists without adjustment or maintenance. This includes both low level mass tactical parachute and High Altitude Ram Air Parachute operations (High Altitude High Opening (HAHO) and High Altitude Low Opening (HALO)) from 25,000 feet above Mean Sea Level (MSL) to ground level.</td>
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<td><strong>Additional Requirements</strong></td>
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<td><strong>Storage</strong></td>
<td>(U) The PFD must be able to be stored in a fully operational configuration for a minimum of: 365 days (T).</td>
<td>(U) The PFD must be able to be stored in a fully operational configuration for a minimum of: 730 days (O).</td>
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<tr>
<td><strong>AP Size/Weight</strong></td>
<td>(U) The PFD must be smaller and lighter than the current legacy systems: B-7, LPU/10 and TFSS (T=O).</td>
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<td><strong>Shelf/Service Life</strong></td>
<td>(U) The shelf life of the PFD will be a minimum of 4.5 years and the service life will be a minimum of twelve years (T).</td>
<td>(U) Shelf/Service Life. The shelf life of the PFD will be a minimum of 4.5 years and the service life will be a minimum of sixteen years (O).</td>
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<tr>
<td><strong>Carrier Color</strong></td>
<td>(U) The color of the PFD carrier should be in earth tone colors not darker than Coyote 498 but not lighter than Tan 499. Selection of specific equipment color within this range will be at the discretion of PM SCIE (T=O)</td>
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<td><strong>Anthropometrics</strong></td>
<td>(U) The PFD shall accommodate the 2nd percentile female to the 98th percentile male based on the Policy for Implementation of Fit Attribute (T=O).</td>
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Program

• Request For Proposals will be released thru the Natick contracting office projected for 2QFY19

• Contractor will be asked to provide test results in support of their technical proposal
  ▪ Contractor supplied data will be evaluated as part of the technical proposal

• Requisitions will be issued to qualifying contractors for Design Validation (DV) test assets in 2QFY19

• DV will be conducted to verify system meets the basic design intent of a life support flotation device in 3QFY19
  ▪ DV will include the evaluation of bladder integrity to 10 psig, leak tests, activations, physical conformity

• Results from DV will be a factor in the source selection process with a “goal” to bring one solution to Developmental and Operational Testing projected for 2QFY20

• Government intents to procure the Technical Data Package in support of production and sustainment

• Procurement supporting fielding will begin 4FY20
### PFD Schedule

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<tr>
<th>FY</th>
<th>18</th>
<th>19</th>
<th>20</th>
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<td><strong>Program of Record</strong></td>
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**Materiel Solution Analysis/Technology Maturation & Risk Reduction**
- MDD
- MS-C TC-STD
- RFP
- Army KR
- DV Benchtop Testing supporting DT
- OT

**Engineering & Manufacturing Development**

**Production**

**Fielding**

**Sustainment**

### PFD Assumptions:
1. Refinement of Technical requirements 1QFY19
2. Release of Request for Proposal (RFP) 2QFY19
3. Design Validation (DV) Benchtop Testing 3QFY19
4. DT – OT 4QFY19 – 2QFY20
5. Army Production 4QFY20

### Legend
- Complete Knowledge Points (KP)
- Future Knowledge Points
- Decision Points
- Key Events