### WHO

**SYSCOM:** MARCOR  
**Sponsoring Program:** PM Engineer Systems  
**Transition Target:** PM Combat Support Systems (CSS), Family of Water Purification Systems  
**TPOC:** sbir.admin@usmc.mil

**Other transition opportunities:**  
- NAVSEA  
- NAVAIR  
- Special Operations (JSOC)  
- Army  
- Air Force  
- Disaster Relief (FEMA)

**Notes:**  
- Image of Low Power Water Purifier and typical estuarine operating environment.  
- Triton Systems is a Global Business Venture company that successfully launches innovative products and solutions in emerging markets worldwide. We invest in new technologies through in-house incubation and external partnerships – creating thriving businesses from novel ideas.

### WHEN

**Contract Number:** M67854-17-C-6540  
**Ending on:** March 4, 2019

<table>
<thead>
<tr>
<th>Milestone</th>
<th>Risk Level</th>
<th>Measure of Success</th>
<th>Ending TRL</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gen 1 Prototype Demonstration (End of Phase II Base)</td>
<td>Med</td>
<td>Purification of challenge water to meet TB MED 577.</td>
<td>TRL-5</td>
<td>2nd QTR FY19</td>
</tr>
<tr>
<td>Gen 2 Prototype Demonstration (End of Phase II Option)</td>
<td>Med</td>
<td>Successful water purification while meeting weight and size requirements</td>
<td>TRL-6</td>
<td>1st QTR FY20</td>
</tr>
<tr>
<td>Gen 3 Prototype Demonstration (During Field Test)</td>
<td>Med</td>
<td>Successful water purification field test in an operational environment</td>
<td>TRL-7</td>
<td>4th QTR FY20</td>
</tr>
</tbody>
</table>

### WHAT

**Operational Need and Improvement:**  
- USMC Warfighters operate in austere environments where local water must be purified before drinking.  
- Resupply of water is difficult and expensive via air-drop or convoy.  
- Freshwater purification systems cannot purify brackish water.  
- Current small-scale seawater purifiers do not produce enough water.  
- A brackish water purifier is needed to support USMC Warfighters.

**Specifications Required:**  
- Meet purification standards in TB MED 577.  
- Support Squad-level need to purify 6-10 gallons of water in 1 hour.  
- Weight < 10 lbs.  
- Purify brackish water with salt content up to 5000 ppm.  
- “Marine-powered”.

**Technology Developed:**  
- Marine-powered reverse osmosis system that meets TB MED 577 water quality.  
- Low-power input enabled by energy recovery pump.  
- Anti-fouling coating increases filter permeability for increased water production.  
- Provides drinkable water for 30 days from brackish source.

**Warfighter Value:**  
- Enables purification of saline surface water.  
- Reduces amount of water carried on mission.  
- Improves field self-sufficiency of USMC Warfighter.  
- Reduces or eliminates logistics and cost of water resupply.  
- Enables missions not otherwise possible due to resupply constraints.

### HOW

**Projected Business Model:**  
- Triton Systems will manufacture Low Power Water Purifier for Marine Corps.  
- Plan direct manufacture at low-rate with transition to contract manufacturing.  
- Will apply for patent protection on any resulting IP.

**Company Objectives:**  
- Triton may elect to license or sell the technology to a third party as the business opportunity develops.  
- We will seek other military and non-military applications for this technology.

**Potential Commercial Applications:**  
- Potential non-military uses for disaster relief in coastal regions where ground and surface water sources are contaminated with seawater.  
- Anti-fouling coating can be used to improve the performance of sea water RO systems.  
- Improved hand-operated survival system for life rafts and downed air crews.

### Contact

- Chuck Hannon, Director, Specialty Products  
  channon@tritonsys.com  
  (978)856-4146