FAQs Topic N221-047 Over The Shore Messenger Line Delivery System

Shore-Side

1. What is the speed of the winch used by the shore-side team? – 150ft/min. System designs that incorporate a pilot line as the first stage will need to take this into account since the 30 minutes maximum time is the time to deliver the messenger line to the shore-side team.
2. What type of marker would be acceptable to indicate the delivery location? - The shore-side team is expected to be a small team of Expeditionary Marines. The objective is to prevent the shore-side team from having to have large amounts of specialized equipment to carry in order to mark the spot. Some small piece of passive equipment that can become standard kit for all members of the shore-side team to pack would be acceptable, but we would have to consider the trade-offs of having the shore-side team carry a large or specialized marker.
3. How far onto the beach can the messenger line be delivered? – The shore-side team will be set up with their winch just past the high water line on the beach. The preference is for the system to deliver the line to a designated location on the beach that does not require the shore-side personnel to enter the water. If required for system operation, the shore-side team can retrieve the line from the water as long as they don't have to go any farther than knee deep water.
4. What information is sent from shore to ship about the spot at which the line is to be placed? - At a minimum we can assume verbal communication over radio comms passing latitude, longitude, and altitude is conveyed from shore-side to ship for delivery location.

Shipboard

5. How much space is available on the ship? – For the sake of this project, assume that adequate deck space is available with unobstructed vertical space above. There is no set limit on size and weight of the system, however the system needs to be deployable by two or fewer people.
6. What kind of ship will this be launched from? – Typically this would be launched from an OSV (Off-shore Supply Vessel) or similar ship, however the system should be able to be used on a number of different supply vessels.
7. How far from the ship's deck to the waterline? – Typically the system will be launched from the ship's deck that is 5-10ft from the water's surface.
8. What kind of equipment is available to help launch the system? – Typically the ship will have at a minimum davits capable of lifting and launching small boats. Usually these ships will also have a crane and a ramp from the aft deck to the water for launching water craft.
9. Depth profile? – A minimum depth of 25-30ft is required for the ship keel.

Environmental

10. What weather conditions does the system needs to operate in (as opposed to environmental requirements for the pilot line)? – Because the system would fall under the category of deck equipment, it would need to withstand weather conditions as stated in MIL-STD-1399 Section 302a. For operation the system would not be expected to operate in icing conditions.

11. Is the system required to operate at night? - Presently the hose system isn't deployed or recovered at night. As a minimum requirement it is not necessary for the line delivery system to operate at night, however if the system design is capable of nighttime operation, that would be an added benefit worth mentioning.

12. Is the system required to operate in RF silence or in a GPS denied environment? - There are no lighting, noise, RF, thermal signature, or GPS limitations set for the purposes of this solicitation. Additional capabilities related to stealth operation are of interest and would add benefit to the system, but they are not a requirement.

Lines and Hoses

13. What is the size and weight of the fuel hose? – The size and weight of the hose is expected to vary depending on the needs of the operation, however we envision it to be similar to a commercially available 7" diameter lay-flat, float-float hose. The ability to tow in the hose may add benefit to the system, but it is not a requirement of this specification.

14. Can the messenger line be modified/changed/replaced in any way? - The messenger line needs to be a 6mm HMPE line per the topic write up. Typically messenger line connections are made by tying knots, however end connection hardware can be specified by the proposer. If the proposer chooses to use a pilot line with their system, the pilot line must meet the requirements specified in the topic write up.

15. Is the messenger line positively buoyant? – yes

System Design

16. Are "disposable" or "single use" systems acceptable? - Yes, so long as the system has a way to return to the ship. It would be acceptable to have the system towed back to the ship along with the hose at the end of the fueling operation.

17. Is there a preference for the fuel system? Electric vs. fuel oil vs. battery, etc.? - Electric is fine. We are reasonably comfortable with most battery technologies stored shipboard, so that is also acceptable. If it is a liquid fuel based solution, I think it is reasonable to limit it to maritime based fuels (diesel distillate) - JP5, F-76 as opposed to gasoline.

Testing

18. Does the system need to deliver three lines? What is driving the requirement for the system to operate three times in a row during testing? - The requirement for three consecutive operations with 10 minutes of system reset time between operations is based on the need for the system to be able to reset and relaunch quickly in the event that a first attempt at delivering the line fails in some way. During system testing, the system should be able to deliver the messenger line, reset, deliver the line again, reset, and deliver the line a third time to ensure that repeated operation can be done should a first delivery attempt fail during an actual fueling operation.

Manufacturing and Commercialization

19. How many systems would the Navy expect to need/order? – There is no definite number at this time, but initial planning numbers could be in the range of 10-20.
20. What is the target cost per system? – There is no target cost per system set at this time. Reasonableness of cost will depend on system features, reusability, etc.