

Frequently Asked Questions to Solicitation Number HR001119S0035-09

SWEEP MODALITIES

Q: What constitutes a "sweep" payload?

A: Mine Sweeping payloads should be capable of producing some form of radiated energy sufficient to actuate influence based mining systems. As the FBO announcement states, these payloads should be built with some intent of miniaturization sufficient to fit into a design that will be released at a later date to performers.

Q: The solicitation asks for one or more triggering modalities: pressure, seismic, magnetic, acoustic. Are any of these modalities more important, or are they all of equal importance?

A: All sweep modalities listed in the announcement are important for development within this opportunity.

Q: The modalities listed were: pressure, seismic, magnetic, and acoustic. Would you be receptive to Electro-Optic (EO) modality as well? [Our] EO MCM UUV sensors include both active and passive EO sensors currently deployed on multiple MCM platforms.

Q: Will detection and identification technologies be considered?

Q: Would an AI program for differentiating mines from background objects be of interest?

Q: I am wondering if there is a list available of sensor specifications/required detectivity for the magnetic, pressure and acoustic sensors?

A: This data call is restricted to influence sweep payloads only. Sweep payloads may be considered a projection system for a specific modality which the developer selects. The sweep system should be single mode and presumed to be part of a cadre or swarm of variable mode sweep UUVs. These systems will be assessed for operational capacity from the surf zone out to deep ocean waters, but will not be required per contract to operate in all of those areas.

Q: For a multi-modality payload, are you interested in multisensor ATR / Fusion as part of this SBIR? Or, should the focus be primarily on the sensor(s) development?

A: This effort develops influence sweep systems "to allow one or more expendable UUVs to complete the influence sweep operations." There is no intended development of sensors, ATR, or fusion.

COST

Q: A "sufficiently low price point" is listed. What is the notional price point range?

Q: The solicitation asks for a payload at a "sufficiently low price point to allow one or more expendable UUVs to complete influence sweep operations." Can you provide an estimate as to what that price point would be?

A: The price point should be proposed consistent with the intention "to allow one or more expendable UUVs to complete the influence sweep operations." The emphasis is on the need to use expendable systems rather than costly systems that would otherwise be retrieved.

PAYLOAD SWAP

Q: what are the Size, Weight and Power (SWaP) constraints?

Q: Can you provide any information about the payload size, form factor, or weight restrictions?

Q: Do you have notional size, weight, power, and buoyancy requirement or range in mind for the payload?

Q: Will the payload need to power itself, or will it be able to use the vehicles power?

A: The payloads should be designed and confined to being wholly self contained, meaning power, ballast, and other considerations should be handled by the designer. While an official design metric or interface control document has not been established and will not be provided prior to successful Phase I exits with potential follow-on award, a general expectation of 1m long by 12 inch diameter may be presumed as a reasonable volume constraint.

PROGRAMMATIC

Q: For a potential proposal, would a focus on engineering (miniaturizing payloads & lowering costs) be sufficient as opposed to development of new sensors?

A: For Phase I, performers will be expected to produce a final bench test prototype design and final simulation results. This effort is focused on development of influence sweep effectors rather than development of sensors.

Q: There are two dates mentioned in the instructions and solicitation: 12/31/19 (instructions) and 9/12/19 (solicitation). Is the proposal due 9/12/19? Current interpretation is that 9/12 is the due date, just want to confirm.

A: The opportunity announced under Solicitation Number HR001119S0035-09 will open for proposals on August 13, 2019 and close on September 12, 2019.

Q: Can you confirm if our plan below would be considered responsive to this solicitation?

A: DARPA cannot provide specific guidance on your approach, however this FAQ document provides answers to many questions related to understanding the topic requirements.

CONCEPT OF OPERATIONS

Q: Which environments are most important for this topic? Craft Landing Zone – Very Shallow Water (0-40 ft), Shallow Water 40-200 ft, or Deep Water > 200 ft?

A: There is no specific environmental restriction for this effort. If a proposed solution works only for a specific depth band or has other operational limitations, that should be specified in the proposal.

Q: One reference talks a lot about “in-stride” clearance for amphibious landings. Is this the most important use case?

A: The intended use case is deployment of expendable UUVs that will carry an influence sweeping payload(s) to conduct mine clearance of a specified area. There is no requirement to have “in-stride” capabilities.

HOST UUVs

Q: Should we assume a swarm (30+ vehicles) of expendable UUVs as the platform?

A: No assumptions of asset numbers should be assumed. UUVs may carry a single influence sweep payload as determined by the proposer, though multiple individual influence payloads may be proposed. Multiple UUVs carrying a single mode payload may be used as a result of the solutions in this opportunity.

Q: Is remote operation tethered, untethered, or both must be considered?

Q: References mention the Ranger UUV (swimming) as well as Lemming UUV (crawling). Are the vehicles going to be swimming or crawling, or would the swarm consist of both swimming and crawling vehicles?

A: The specific modality of host vehicle transit is not specified. Proposers should assume that payloads will be carried on a UUV and only transmitting their influence sweep energy while underwater consistent with the allotted size, weight, and power constraints. The payloads will have no communications with the host UUV other than to activate their influence modality.

Q: Do we need to do any vehicle route planning and control, or is that outside of the scope of this effort?

A: Vehicle control and navigation is assigned expressly to the host vessel. This effort focuses only on emitting an influence sweep modality.

Q: Can proposers provide their own UUV systems?

A: This task is restricted to development of sweep payload components only for an as of yet unspecified standard SWaP constraint. There will not be an opportunity for proposers to provide their own UUV systems.

Q: Will a government UUV be provided for integration testing?

Q: Would a UUV or other similar underwater platform be made available for testing?

A: A government UUV will not be provided to the proposer for testing. Rather, after Phase II, prototype systems will be sent for evaluation to a TBD government facility for integration testing and evaluation with UUVs. A detailed interface specification to include any available Input/Output, power connections, hard points, etc. will be provided upon a successful Phase 1 exit to potential follow-on award.