

AMASS System Demonstrator (ASD) Industry Day Questions

1. Contract

- a. What is the structure for the contract?

A single contract covering the 3+ years, potentially with options.

- b. Is this a Future Naval Capability (FNC)?

No, AMASS is an Innovative Naval Prototype (INP).

- c. What is the \$38.8M cover?

The \$38.8M listed are the contractor costs only and do not include JHU/APL signal processing algorithms or at-sea test assets.

2. AMASS Phenomenology Demonstrator (APD)

- a. Will there be an opportunity to see the APD hardware?

At Industry Day, the answer was yes, specified dates for touring APD will be provided via email correspondence.

Due implementation of unforeseen travel restrictions due to COVID-19, there will not be any tour available of the APD. Specific questions about APD can be asked and will be answered to all proposers.

- b. Will APD drawings be available? When?

Yes, the APD drawings will be handed over as GFI at the start of the ASD project.

- c. Does the APD station keep?

No, the APD is a drifting system with no station keeping ability.

3. Deployment

- a. Will there be a Notice to Mariners?

Yes, when this system is deployed it will require a Notice to Mariners regarding its position.

- b. Is the deployment requested to be at speed or covert?

The deployment will be done by surface ships and does not need to be covert. The deployment should be efficient so that one ship can effectively lay out several units in a minimal amount of time.

- c. Will the AMASS unit be required to change depth?

The AMASS unit is envisioned to have a fixed depth set before deployment which falls within the depth requirements.

- d. What does recoverable system mean?

The goal of recoverable is to save the program money overall. The exact subsystems of the AMASS unit that will be recovered will be determined by a study done during the project.

4. Sonar Specific

- a. How much power is needed for the source?

- i. APD?

The APD uses a 15 kW Diesel generator to power the source

- ii. ASD

It is envisioned that the ASD will need a comparable generator to satisfy the source level requirements.

- b. Duty cycle requirements?

The level and duration of the pulse are specified in Slide 25 of the Industry Day Brief. The duty cycle is left as value to be solved within the trade space of buoy power generation and size of fuel tank to satisfy the M of N classification criterion at the range of interests

- c. What is the frequency of the system?

Refer to Slide 25 in the Industry Day brief

- d. Signal Excess, what parameters did it include?

Refer to the APD Overview brief.

- e. Does processing benefit from array shape knowledge (regarding tilt or other deformation)?

Yes, array shape knowledge will increase performance, with the caveat that the system losses shown on Slide 17 in the Industry Day brief are modeled results that have the element position **known**.

- f. Is the concept mono or multi static?

ASD will be a monostatic system

- g. What is the definition of effective barrier for this system?

90% probability of detection for a boat crossing the barrier

5. Buoy

- a. Are there other alternative to a single buoy?

If you have ideas, we will look at them.

- b. What will the shore station control (power on/off...)?

The shore station will be able to remotely power the system on/off, set the ping schedule, and set the station keeping posture

- c. What are the AT and IA requirements?

This system will abide by relevant AT and IA protocols

- d. Can energy harvesting be proposed?

Yes, but unlikely to generate enough energy needed to power the system.

- e. What are the Radio and COMMs requirements for the system?

The relevant Radio and form factor will be provided by the Government.

6. In buoy signal processing (IBSP)

- a. What is delivered (software or hardware)?

The Government team will deliver the IBSP algorithms. The contractor will integrate these algorithms onto hardware for buoy integration.

- b. How mature is the IBSP?

The IBSP is mature and tested.

- c. What will the output be to the shore station

A contact report will be reported to the shore station. Additional sonar data can be requested if a shore station operator requests it.

- d. Is there flexibility to change the array type and position and still have the IBSP provided?

Yes, the IBSP can be updated to incorporate updates to the array definitions.

- e. If there are significant deviations from APD of the array architecture and element type, what are the IBSP requirement of the contractor?

If the Government accepts the deviations, the Government team will adapt the IBSP accordingly to take into account the deviations.

7. Other

- a. Will the Government provide a list of vendors for specific parts?

No, the Government will not list prior vendors.

- b. What quantities of system are the cost objectives

An appendix to the DWA TLR discusses unit cost estimate for an LRIP of eight units. A war reserve quantity is not yet established but could be an order of magnitude larger.

- c. Classification requirements

Refer to the IUSS Classification Guide, SCG 05-042.4 dtd 31JUL18.