



Broad Agency Announcement (BAA) N00014-17-S-BA009

Amendment 0001

The purpose of Amendment 0001 is to respond to questions submitted prior to 20 March 2017.

Q1: Are changes to the propulsor or hull being considered that may provide vehicle level efficiency improvements?

A1 (a): Changes to the propulsor are not being considered in this BAA.

A1 (b): Changes to the hull are allowed within the constraints specified in the classified addendum.

Q2: Do proposals for Technology Two: Al-AgO Electric Power system need to include the complete system (battery, electrolyte management system and associated balance of plant, and prime mover) or will ONR considers proposals for only specific component and/or subsystem development and demonstration?

A2: See classified addendum. The classified addendum contains the relevant technical information against which the proposals will be evaluated.

Q3: Table 2 – Electric Power System Concept Attributes does not reference note the motor shaft requirements or reference the classified addendum as in Table 1 for the Otto Fuel Engine attributes. Does the electric motor prime mover shaft need to meet the engine shaft requirement as defined in the classified addendum or are these requirements different or more open for the electric solution?

A3: See classified addendum. The classified addendum contains the relevant technical information against which the proposals will be evaluated.

Q4: On Page 5, Paragraph 2 the BAA indicates that the battery system and balance of plant components need to be at a TRL of 4 at the start of the program. However, on Page 5, Paragraph 5 the BAA indicates all emerging technologies should be at TRL 3 and above. Please clarify desired starting and ending TRL levels for each Phase and if this applies to just the battery system and balance of plant or to all components within a proposed Electric Power System concept.

A4: At the end of Phase I the system must be at a TRL 4. At the end of Phase II the system must be at a TRL 6.

Q5: Are the minimum and maximum operating voltages shown in Table 2 fixed or can one propose alternate levels if they can show benefit to the system optimization?

A5: See classified addendum. The classified addendum contains the relevant technical information against which the proposals will be evaluated.

Q6: Table 2 continued on Page 6 shows the Energy Section envelope requirements. Please clarify if this volume is only for the energy section (e.g. battery and electrolyte management system and its associated balance of plant) or if this also includes the space claim for the electric motor prime mover and inverter / control electronics. If this volume is only for the energy section please define volume space claim available for the prime mover.

A6: See classified addendum. The classified addendum the contains relevant technical information against which the proposals will be evaluated.

Q7: Can ONR define any other voltage and power level requirements for other vehicle subsystems and / or accessories that need to be powered by this Al-AgO electric power source (e.g. vehicle control, actuation, homing section, etc.)? Do the conversion and control of the power to these other components need to be included in the concept design and fit within the defined space claim and weight?

A7: See classified addendum. The classified addendum contains relevant technical information against which the proposals will be evaluated.

Q8: Page 5 indicates that “Cooling required for the motor shall be included in the Afterbody section.” Is sea water available to support motor and power electronics cooling? If so, at what flow, pressure and temperature?

A8: Yes, external ambient seawater is available for cooling. Proposers are responsible for a complete system including required cooling.

Q9: Would ONR consider a solution for electric drive which would be a hybrid of safe battery chemistries?

A9: No. The BAA specifies the technology areas for which the Government is soliciting proposals. Proposals for work not under the scope of this specific BAA may be submitted under ONR's long range BAA, located on the ONR website at www.onr.navy.mil.

Q10: Is foreign participation in the proposed effort acceptable? If so, to what, if any, extent?

A10: Please see Section III, paragraph F of the BAA.

Q11: Are there annual funding profile targets or limits for anticipated contract awards? Is there a funding limit or split between Phase 1 and Phase 2?

A11: Please see section II, Award Information, of the BAA.