

Amendment 0004
Solicitation Number ONRBAA 11-025
“Large Displacement Unmanned Underwater Vehicle Innovative Naval Prototype Technology”
Date 14 SEP 2011

The purpose of Amendment 0004 is to amend the BAA and respond to questions submitted. The BAA response date is extended to allow contractors sufficient time to revise proposals if necessary.

BAA 11-025 is hereby amended as follows:

1. Section I, Paragraph 5 entitled, “Response Date” is revised to read as follows:

5. Response Date:

Full Proposals Due Date: **21 September 2011**, 2:00 PM Eastern Daylight Time

2. Questions and Answers are provided as follows:

Question 1: Autonomy Phase I – the second bullet on page 3 refers to fishing in general terms as does TABLE A1. Section 6.1.1 item 4 and TABLE A1 refer to “fishnet detection”. Is the intent to avoid nets as the threshold value and avoid all fishing as the objective value?

Answer 1: See Table A1 in Amendment 0003.

Question 2: It is stated that Matlab code is sufficient for the base program. Does this mean that no Hardware-in-the-Loop tests are expected? Therefore are the deliverable test plans for desktop tests?

Answer 2: See page 3 of the BAA. Also, the deliverables are stated sufficiently in the BAA.

Question 3: The autonomous challenges (BAA page 4), focusing on avoidance of obstacles, vessels and fishing nets. Can challenges like adaptation to the environment, mission planning/replanning, graceful degradation to extend mission and ensure ability to get home, responding to user requests in varying environments, and autonomous system architectures be addressed in response to the BAA?

Answer 3: Expectations are addressed adequately on page 4 of the BAA.

Question 4: Surface Obstacle Avoidance requires automated surface vessel detection and classification. What is meant by “classification” and how is it used? Criteria metrics (TABLES A1 and A3) do not include classification. Please clarify the requirement?

Answer 4: See the amendment below made to Section I, Paragraph 6.1.1, Subparagraph 2 entitled, “Surface Obstacle Avoidance”.

Question 5: Undersea Obstacle Avoidance requires automated detection of undersea stationary and moving obstacles. Criteria metrics (TABLES A1 and A3) include only stationary obstacle avoidance and net detection. The Industry Day presentation provides examples of “in water column obstacles” as “mammals and submerged debris”. Please clarify the requirement?

Answer 5: The BAA takes precedent over the Industry Day slides.

Question 6: Without knowing the capability and characteristics of the government furnished vehicle, automation may be more difficult. In other words, what's its speed, turning and diving characteristics, can it bottom, etc...? What information is available to address integration of sensors to support autonomy?

Answer 6: See Appendix B of BAA.

Question 7: Autonomy Phase I – can the contractor test the autonomy technology and algorithms on its own vehicle in lieu of the government-operated UUV provided as GFP for Phase I? Can the Phase I algorithms be tested on the contractor vehicle vice the LDUUV Test Bed?

Answer 7: Section I, Paragraph 6.1.2, second paragraph under subparagraph entitled “Autonomy Phase I”.

Question 8: TABLE A1 – defines stationary obstacles as all obstacles extending from the bottom into the water column (greater than 6” diameter). We assume that this refers to those obstacles that would be a threat to the vehicle on its planned path. If this is wrong, how far off the bottom do these obstacles extend, is there an arc in front of the UUV that they have to be detected, and at what range do they have to be detected?

Answer 8: Table A1 of the BAA provides sufficient information.

Question 9: For the Surface Vessel Avoidance criterion, the Phase II metric (TABLE A3) specifies “When on or near the surface”, but the Phase I metric does not include this condition. Does this condition also apply for Phase I Surface Vessel Avoidance?

Answer 9: The condition only applies to Phase II.

Question 10: TABLES A1 and A3 – Phase I criteria include “fishing net detection and avoidance”, but corresponding metric concerns detection and avoidance of “fishing activity”. Phase II criteria include a similar metric for “fishing activity”, corresponding to a criterion for “fishing activity detection and avoidance”. There is a separate Phase II criterion for “net detection”. The Industry Day presentation distinguishes “fishing nets” from “fishing activity”. Please clarify what constitutes fishing activity and the BAA requirement. Is there a nominal acoustic “signature” or operating pattern of fishing activity? Does this actually mean “trawling?”

Answer 10: See Tables A1 and A3 below.

Question 11: TABLE A1 – what is meant by depth: operate from 100’ to 400’? How close to the bottom does the vehicle have to operate? Is there a sea state limit to operate at these depths? The same questions apply to the 20’ to 800’ requirement in TABLE A2.

Answer 11: See the amendment below made to Section I, Table A1 entitled, “Autonomy Phase I Threshold (Minimum Requirement) Criteria” and Section I, Table A3 entitled, “Autonomy Phase II Criteria”.

Question 12: TABLE A1 – for route success, the mission profile has an impact on success. For instance, how many surface excursions are allowable during the 30 day mission? There are numerous references to a full mission profile in the BAA, yet a mission profile has not been provided, only partial data. Speeds,

time at speeds, power levels, number of surface excursions, number of operations in vicinity of other vessels, operator-vehicle interactions, etc... Recommend including a notional mission profile in the BAA.

Answer 12: See answer 8 above.

Question 13: The metric for the Surfacing Obstacle Avoidance criterion states “Detect objects greater than 3’ cross section above the vehicle within 20’ and avoid object”. Does this mean “within 20’ vertically above the vehicle”, or “above the vehicle within 20’ laterally”?

Answer 13: See the amendment below made to Section I, Table A3 entitled, “Autonomy Phase II Criteria”.

Question 14: The Industry Day presentation states the need to detect and avoid stationary above water obstacles (piers, sea walls, moorings, debris, ...). The BAA only requires detection and avoidance of surface vessels, and also of surface obstacles when the vehicle is surfacing. Is there a general requirement for detecting and avoiding “stationary above water obstacles”?

Answer 14: See answer 5 above.

Question 15: TABLEs A1 and A3 – is there a maximum sea state requirement for the surface vessel avoidance and the surfacing object avoidance requirements?

Answer 15: No, however the government prefers solutions that operate in the broadest variety of conditions.

Question 16: TABLEs A1 and A3 – There is a stated power limit for “autonomy hardware and software”. Does this include vehicle and payload sensors which may input into the autonomous decision algorithms? For instance, the vehicle will likely have an INS/DVL, which will be key sensors in meeting the positioning requirements stated. Will these be counted against the power consumption budget?

Answer 16: The equipment listed in Appendix B does not count toward the power consumption limit.

Question 17: TABLE A3 – for efficiency, what equipment is included in the power consumption budget? Are the vehicle and situational assessment sensors included in this equipment?

Answer 17: See answer 16 above.

Question 18: TABLEs A1 and A3 – for bottom stationary obstacle avoidance, what is the objective distance or elevation above the bottom for the obstacle?

Answer 18: Tables A1 and A3 of the BAA provide sufficient information.

Question 19: TABLE A3 – for efficiency, the objective power consumption is 75% lower than for the threshold; given the greater autonomy objective requirements and increased autonomy that may be impacted by available power, potentially constraining otherwise viable approaches, is it truly desired to simultaneously significantly reduce power while improving the vehicle’s autonomous capabilities? Please clarify.

Answer 19: Table A3 of the BAA provides sufficient information.

Question 20: TABLEs A1 and A3 – for the autonomy threshold and objective route success what are the limitations on the vehicle verification of its position using GPS? Is the vehicle allowed to obtain a GPS update between waypoints?

Answer 20: See answer 11 above.

Question 21: For Autonomy Technology, what is the expected level of maturity, or TRL, at the end of Phase I?

Answer 21: A TRL will not be provided, however page 4 of the BAA defines the technology maturity in general terms.

Question 22: Describe what is meant by “reducing the neutrally buoyant volume of the core system while maintaining the current capability.” Does this simply mean that this type of technology is looking for reduction in core system footprint/volume without impacting capability and buoyancy? Can this be proposed on an individual component level vice for all of the components?

Answer 22: See the amendment below made to Section I, Paragraph 6.2.1 entitled, “Background”.

Question 23: For the power reduction technologies, can this be proposed for an individual component, or subset of components or for all of the components?

Answer 23: Page 10 of the BAA provides sufficient information.

Question 24: The Endurance Phase I approach described at the bottom of page 9 and top of page 10 does not include technologies that reduce the neutrally buoyancy volume; should this be included? Is the reduction 33%?

Answer 24: See the amendment below made to Section I, Paragraph 6.2, Subparagraphs entitled, “Endurance Phase I” and “Endurance Phase II”.

Question 25: Can the contractor test the endurance technologies in its own vehicle in lieu of the government-operated UUV provided as GFP for Phase I?

Answer 25: See the amendment below made to Section I, Paragraph 6.2.2, Subparagraph entitled, “Endurance Phase I”.

Question 26: Please describe what “multiple task orders may be required to meet Phase II objectives” means (top of page 10). Does this apply to both autonomy and endurance technologies?

Answer 26: See the amendment below made to Section I, Paragraph 6.2, Subparagraph entitled, “Endurance Phase II”.

Question 27: It is unclear whether the Government-operated LDUUV prototype or the contractor’s own vehicle can be used in both or either Phase I or Phase II testing. Section 6.2.1 background states a Government-operated large UUV prototype will be provided, the bottom of page 10 states the government expects to provide the vehicle test bed, the top of page 11 states that a full-scale government-operated UUV prototype can be used, and the bottom of page 12 states that the contractor can propose to develop and build its own vehicle for evaluation purposes. Please clarify when it is allowable to use a contractor’s vehicle in lieu of the government-operate vehicle.

Answer 27: See answer 25 above.

Question 28: For Endurance Technology, what is the expected level of maturity, or TRL, at the end of Phase I?

Answer 28: A TRL will not be provided, however page 11 of the BAA defines the technology maturity in general terms.

Question 29: Section 6.2.2 Endurance Phase I (page 11) thresholds specifies technologies that can assure 90% reliability for core mission critical components for 30+ days, but it doesn't specify what the mission is or what the mission critical components are. Additionally, a confidence level for this reliability is not specified, nor does it indicate whether it's for mission success, vehicle survivability, or just the unspecified components. This also applies to the objective level (95%) for reliability as well (page 13).

Answer 29: The Endurance Phase I paragraph on page 11 of the BAA provides sufficient information.

Question 30: Page 12 indicates that a competition among Phase I contractors performing under Option 1 will be conducted to select Phase II performers. What type of competition will this be, what is the selection criteria and will it be funded under the Phase 1 Option? How is this competition to be conducted given that individual contractors are likely to address different components in their offerings making it difficult to compare performance improvements?

Answer 30: See the amendment below made to Section II entitled, "AWARD INFORMATION".

Question 31: APPENDIX B specifies a ballast system that has 400lbs of displacement in 1000 in³ and a pump that works to 1000 ft. Since the vehicle will not operate deeper than 800 ft as noted in TABLE A3 is 1000 ft correct in this appendix and what flow rate is required at the final depth. Additionally, since the volume specified is less than a cubic foot please verify that it's the correct number. Also, clarify if there are any restrictions on the variable ballast system and what can be used for variable ballast.

Answer 31: Appendix B of the BAA provides sufficient information.

Question 32: In regards to the response template, it appears that only text can be input in to the fields of the template. Is it preferred by ONR that we submit all non-text objects into the attachments? How is page count going to be assessed? We are formatting everything in Word and then importing it to the template but the formatting seems to be changing. I want to make sure we do not disqualify ourselves.

Answer 32: See the amendment below made to Section IV, Paragraph 2, Subparagraph (a).

Question 33: In regards to the proposal template, the following fields have limits to the amount of text that can be added. Please increase the field size or add properties that allow the font size of the text to shrink so that the required information can be added.

- Section I-General Information-Proposal Title field is too small.
- Page 5 Section II-#9-Government Furnished Property (GFP)-The Item and the Gov't POC name/phone/email information will not fit into the each column.

Also, do you have a user guide, FAQ's or other info that would be helpful in figuring out tricks to inserting pieces into the blocks, how to make sure the inserts get saved, and ways to expand the number of words/characters?

Answer 33: ONR realizes there are several limitations to the templates, and we are working on improving them for future efforts. Please see answer 32 above for more information.

Question 34: Is there an online submission method, or is the only submission method mailing a hard copy as detailed in section IV.2.

Answer 34: See the amendment in Amendment 0003 made to Section IV, Paragraph 5 entitled, “Address for Submission of Full Proposals”.

Question 35: The answer to question 16 in Amendment 0003 suggests that two full proposals should be submitted using the ONR Technical and Cost Proposal form, one covering the general IDIQ, and the other the technical and costing response to T0001.

Is it the case that the IDIQ proposal should provide inputs for the following parts of the form:

- Section I
- Section II
- Section III, subsections 4, 5, 6, 7, 8
- Section V

And, the T0001 proposal should provide inputs for:

- Section III: Technical Approach, subsections 1, 2, 3,
- Section IV: Cost Content

Or, is it the case that two fully complete proposal documents are to be submitted? If so, is there unique requirements for the Technical section of the IDIQ response?

Answer 35: A recommended, but not required approach is as follows:

IDIQ proposal: Section I, Section III (only subsections 4,5,6,7, and 8), and Section V.

Task Order 0001 proposal: Section II, Section III (only subsections 1, 2, and 3), and Section IV.

Question 36: I have not been able to download the LDUUV Endurance and Autonomy (11-025) Industry presentation files that have been re-posted to ONR's secure website. Please advise.

Answer 36: See the amendment below made to Section I, Paragraph 6 entitled, “Research Opportunity Description” and Appendix A entitled, “Hyperlinks”.

3. The BAA is hereby amended as follows:

a. Section I, Paragraph 6 entitled, “Research Opportunity Description” is revised to read as follows:

6. Research Opportunity Description:

The Large Displacement Unmanned Underwater Vehicles Innovative Naval Prototype technology BAA will develop the critical technologies needed to enable UUVs to operate and survive in the littorals for 70+ days. The LDUUV is a pier-launched and recovered UUV (without the need for ship-launch or recovery) with the capability to transit in the open ocean and conduct over-the-horizon missions in littoral waters. This system will enable the extension of Navy platform sensing capability over the horizon and extend its influence. The creation of this UUV is intended to act as a significant force multiplier for the US Navy and will help close Warfighter gaps in a cost-effective manner. Two technology areas have been identified as critical to achieving this goal. These areas are Autonomy and Endurance Technologies.

This BAA research opportunity is divided into two separate sections, one for each of these technology areas. Proposers may submit to one or more of the technology area announcements. A separate standalone proposal is required for each technology area, and a separate IDIQ contract will be awarded for each technology area. A follow-on BAA may be issued for integration of the core components developed under this BAA

This background is provided for informational purposes only. Greater breadth of mission profiles for current and future Naval Unmanned Undersea Vehicles require longer propulsion systems that extend the current capability of these vehicles from tens of hours to operability of the system for weeks to months¹.

Briefs that describe the Navy need, current state-of-the-art, and program goals from ONR Industry Day for this BAA, held on 10 March 2011, are available on the ONR web site at: https://secure.onr.navy.mil/events/docs/734_LDUUV%20INP%20Industry%20Day_posted%20version.pdf or on auvac.org at <http://auvac.org/community-information/community-news/view/937>.

Appendix A provides additional links of interest.

Information in this BAA regarding desired capabilities, metrics, and any other technical or contracting information supersedes any previously published information (including that briefed at the industry day described above).

b. Section I, Paragraph 6.1.1, Subparagraph 2 entitled, “Surface Obstacle Avoidance” is revised as follows:

- 1) Surface Obstacle Avoidance – Automated surface vessel detection and classification. **Classification shall identify target as military or commercial (threshold) with any additional information as objective.** Autonomous processing that determines location planning (including depth) and scheduling for communications using pre-determined risk factors and prioritized communications path choices.

c. Section I, Paragraph 6.1.2, second paragraph under subparagraph entitled “Autonomy Phase I” is revised to read as follows:

A full scale government-operated UUV prototype may be provided as Government Furnished Property for autonomy testing, **or the contractor may use its own UUV**, during the Phase I option.

¹ UUV Master Plan; www.navy.mil/navydata/technology/uuvmp.pdf

d. Section I, Table A1 entitled, “Autonomy Phase I Threshold (Minimum Requirement) Criteria” is revised to read as follows:

TABLE A1: Autonomy Phase I Threshold (Minimum Requirement) Criteria:

Threshold Criteria	Metric
Stationary obstacles avoidance	All obstacles extending from the bottom into water column (greater than 6 “ diameter) for a 30 day mission
Surface vessel avoidance	Detect 99.9% of all surface vessels over 30 gross tons within 2 nautical miles (nm). Avoid (500+ ft separation) detected moving vessel 100% of time. Density of vessels will be no greater than 1 contact per square nm
Surfacing object avoidance	Detect objects greater than 3’ cross section above the vehicle within 20’ and avoid object
Fishing activity detection and avoidance	Detect fishing activity within 1 nm with a probability of correct detection of 80% and a probability of false detection of 10%. Maneuver around the fishing activity
Operating time	30 day of operation without sailor physically maintain software or hardware
Depth	Operate from 0 to 400’ in depth
Bathymetry following	Provide control algorithms to control vehicle controller to maintain constant altitude of 100ft above bottom within + - 5 ft
Route success	Over a 30 day mission, reach 10 prescribed waypoints within 10 hours of the plan and 300 feet of the position with minimal number of GPS fixes
Efficiency	Autonomy hardware, software, and sensors shall not exceed more than 400W average power consumption

e. Section I, Table A3 entitled, “Autonomy Phase II Criteria” is revised to read as follows:

TABLE A3: Autonomy Phase II Criteria:

Criteria	Metric
Bottom stationary obstacles avoidance	All obstacles extending from the bottom into water column (greater than 6 “ diameter) for the 70+ day mission
Surface vessel avoidance	When on or near the surface, detect 99.9% of all surface vessels within 2 nmi. 90% Detection of all moving surface vessels within 3 nmi. Avoid (500+ ft separation) detected moving vessel 100% of time. Density of vessels will be no greater than 5 ships per square mile
Surface object avoidance	Detect objects greater than 3’ cross section

	above the vehicle within 20' horizontally and avoid object
Fishing activity detection and avoidance	Detect fishing activity within 5 nmi with a probability of correct detection $\geq 95\%$ and a probability of false detection $\leq 5\%$.
Operating time	70+ days of operation without sailor physically maintain software or hardware
Depth	Operate from 0 to 800' in depth
Bathymetry following	Provide control algorithms to control vehicle controller to maintain constant altitude of 100ft above bottom within + - 5 ft
Route success	Over a 70 day mission, reach 40 prescribed waypoints within 5 hours of the approved plan and 50m of each waypoint with a waypoint distance from 0 to 100s of miles and with minimal number of GPS fixes
Efficiency	Autonomy hardware, software, and sensors shall not exceed more than 100w average power consumption
Surfacing	Conduct surfacing maneuver (5 min max on surface) where multiple surface vessels are within 10 nmi but none are with 1 nmi.
Low power station keeping	Conduct station keeping maneuvers in up to 3 knot current that conserves power.
Net detection	Detection of fishing net location within 100 ft with a probability $\geq 80\%$. Maneuver around the fishing net.

f. Section I, Paragraph 6.2, Subparagraphs entitled, “Endurance Phase I” and “Endurance Phase II” are revised as follows:

- Endurance Phase I: Development of LDUUV endurance technologies for mission durations up to 30 days. The endurance increase is expected to be demonstrated in a land based test center starting around Month 14 of this phase. **Technologies should reduce core system power level by 33%, show reliability of 30+ days, and/or reduce neutrally buoyant volume by 33%.** The base period is 24 months, with an additional 6 month option for integration into a government test bed.
- Endurance Phase II: Development of LDUUV endurance technologies in a pier-launched mission expected to last no less than 70 days. The demonstration is expected to operate in open ocean transits and in littoral waters over two test periods; the first starting around Month 18 of the phase (assuming a 36-month project execution), and the second around Month 30. **Technologies should strive to reduce core system power by 75%, have system reliability of no less than 70 days, and/or reduce neutrally buoyant volume by 75%.**

g. Section I, Paragraph 6.2.1 entitled, “Background” is revised as follows:

6.2.1 Background

The Endurance Area will conduct laboratory and at-sea testing to demonstrate technology development throughout the program execution. Testing will be conducted using existing Test Ranges and facilities with autonomy testing conducted in accordance with a Navy-approved acceptance test plan for each set of equipment or sub-system. A test and evaluation plan will outline the details to include test schedules, test site requirements, testing criteria, portability and future maritime testing.

Time on a Government-Operated Large UUV prototype will be provided for at sea testing of the proposed effort. Specific details of the Prototype UUV and times will be provided after award of contracts. General description of the vehicle and its components are included in Appendix B. Proposals should include the time and dates needed to test on the Government UUV.

ONR seeks full technical proposals for the phased development of vehicle endurance technologies capable of the performance characteristics described for the following endurance challenges:

- 1) Reduction of neutrally buoyant volume
- 2) Reduction of power
- 3) Increased component/system reliability of 70+ days

The goal of number 1 above is to reduce the size of the component/subsystem in Appendix B while maintaining neutral buoyancy.

Proposals can describe a complete system concept or specialized endurance components that focus on one or more of the categories listed above. In any case, proposals must provide a detailed scope of work for the development of the core technologies, including a description of system development, system laboratory implementation, embedded implementation using hardware in the loop, and at-sea experimentation. The government currently expects to provide the vehicle test bed which successful proposing awardees can use to test and evaluate endurance technology, using an annual test cycle similar to the Navy's Advanced Processing Build (APB) process.

h. Section I, Paragraph 6.2.2, Subparagraph entitled, "Endurance Phase I" is revised to read as follows:

Endurance Phase I:

The contract Phase I period consists of a 24 month base period plus an additional six month option whereby the system is expected to meet or exceed the Thresholds listed below. The option period will be exercised, subject to funding, for those performers meeting the thresholds in the base period for the purpose of planning of integration in to a LDUUV Test Bed (Appendix B refers). If private funds have been used to develop technologies or concepts related to the proposed design, the U.S. Government desires, at a minimum, Government Purpose Rights in the technical data and computer software developed under the contract. Final demonstration for Phase I will be at a land based test center **or the contractor may use its own UUV**, but a full scale government-operated UUV prototype can be used for autonomy testing during the Phase I option.

i. Section II entitled, "AWARD INFORMATION" is revised to read as follows:

II. AWARD INFORMATION

The IDIQ minimum quantity will be **either \$25,000 or the initial increment under Task Order 0001, whichever is greater**. Subsequent Task Orders will be issued based on the success (exercise of the Phase I option) of the prior phase and will follow the criteria established in FAR 16.505. The IDIQ maximum quantity will be based on the total annual program estimate, which is approximately \$15M.

This is a multiple award solicitation. ONR anticipates that up to ten (10) IDIQ contracts and Task Order 0001 awards will result from this BAA. A total of approximately \$70M is anticipated to be available over the 6 year span (FY12-17). Although the amount of funds and period of performance for each proposal will vary depending on the technical approach to be pursued by the proposer, it is expected each proposal will be structured according to the Research Opportunity Description above.

This competitive process will be simplified in order to facilitate the order process and prevent undue administrative burden upon the Contractor and the Government. This section includes the procedures that will be used in issuing orders and the procedures and selection criteria that will be used to provide all awardees a fair opportunity to be considered for each order.

A cost-type task order consisting of the Phase I base period and option will be awarded concurrently with the initial contract award to those contractors submitting successful proposals. According to FAR 16.505, the Contracting Officer shall ensure that individual orders clearly describe all services to be performed or supplies to be delivered. The Contracting Officer shall ensure that orders are within the scope, period, and maximum value of the contract as stated in the Contract. In the case of funded proposals for the production and testing of prototypes, ONR may during the contract period add a contract line item or contract option for the provision of advanced component development or for the delivery of additional prototype units. However, such a contract addition shall be subject to the limitations contained in Section 819 of the National Defense Authorization Act for Fiscal Year 2010.

Although ONR expects a program phasing plan similar to that described in this Section, ONR reserves the right to make changes.

Phase I Base and Option

The Phase I effort (Task Order 0001) will be awarded based on the BAA award criteria (see section V below). It is expected that each Phase I (base plus option) contract will total no more than \$2.5M. For Phase I, each Offeror selected for a basic award will receive a Task Order 0001 contract including a Base and Option period. The Government anticipates award of the Phase I option (**subject to funding**) based on the Contractor's performance during the base period, including successfully meeting Phase I thresholds and metrics.

Phase II

Task Order 0002

Award of the Task Order 0002 (subject to funding) under Phase II will be based on the Government's evaluation of Phase I technical and cost proposals (deliverables under Autonomy Phase I and Endurance Phase I) from those contractors awarded the Phase I Option. The evaluation will be based on the BAA award criteria (see section V below).

Subsequent Task Orders

Subsequent Task Orders (e.g., T0 0003, 0004), if issued, will be accomplished through issuance of a Request for Quotes to those contractors awarded the Phase I Option. The RFQ will provide a statement of work and evaluation criteria,

Periods of Performance

TASK ORDER 1

	Phase I Base	Phase I Option
Autonomy	18 Months	6 Months
Endurance	24 Months	6 Months

TASK ORDER 2 (AND SUBSEQUENT TASK ORDERS)

	Phase II
Autonomy	12-36 Months
Endurance	12-36 Months

j. Section IV, Paragraph 2, Subparagraph (a) is revised to read as follows:

(a) Technical Content Section III.1 entitled “Technical Approach and Justification” in the *Technical and Cost Proposal Template* is limited to a total of 20 pages rather than the 15 pages specified in the Template, including supplementary attachments to further explain scientific approach. **For this ONRBAA 11-025, Section III may be provided as an attachment rather than as form fill in the template.**

k. Section IV, Paragraph 5 entitled, “Address for Submission of Full Proposals” is revised to read as follows:

5. Address for Submission of Full Proposals

All hard copies of full proposals (with CD-ROM) shall be mailed or hand delivered. If the proposal is going to be mailed, then the proposal shall be mailed to the technical point of contact listed in Section I.7. If the proposal is going to be hand delivered, then the proposal shall be hand delivered to Khia Ross, Procurement Tech, address: 875 North Randolph Street Arlington, VA 22203, phone number: **703-588-2439**.

l. Appendix A entitled, “Hyperlinks” is revised to read as follows:

APPENDIX A: Hyperlinks

ONR Industry Day Briefs	http://www.onr.navy.mil/en/Contracts-Grants/Funding-Opportunities/Special-Notices.aspx (Click on the expired tab at the top of the page to access briefs under the Industry Day notice the briefs) Or http://auvac.org/community-information/community-news/view/937
MIL-STD-882D	https://assist.daps.dla.mil/docimages/A/0000/0003/6027/000000198718_000000141972_DJLKNMXRWC.PDF?CFID=24160174&CFTOKEN=97572158&jsessionid=5c30dbe089c6fbefce5740556634e187b109

DI-SAFT 80101B	https://assist.daps.dla.mil/quicksearch/basic_profile.cfm?ident_number=209470
MIL-STD- 901D (Grade B)	http://www.assistdocs.com/search/document_details.cfm?ident_number=2640&StartRow=1&PaginatorPageNumber=1&doc%5Fid=MIL%2DS%2D901D&status%5Fall=ON&search%5Fmethod=BASIC
MIL-STD- 167-1	http://www.assistdocs.com/search/document_details.cfm?ident_number=35544&StartRow=1&PaginatorPageNumber=1&doc%5Fid=MIL%2DSTD%2D167%2D1&status%5Fall=ON&search%5Fmethod=BASIC
MIL-STD- 461 (RE101,RE10 2,RS101,RS1 03)	http://www.assistdocs.com/search/document_details.cfm?ident_number=35789&StartRow=1&PaginatorPageNumber=1&doc%5Fid=MIL%2DSTD%2D461&status%5Fall=ON&search%5Fmethod=BASIC
MIL-STD- 1366E	http://www.assistdocs.com/search/document_details.cfm?ident_number=35789&StartRow=1&PaginatorPageNumber=1&doc%5Fid=MIL%2DSTD%2D461&status%5Fall=ON&search%5Fmethod=BASIC