

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				1. CONTRACT ID CODE	PAGE OF PAGES 1 6
2. AMENDMENT/MODIFICATION NO. 0002		3. EFFECTIVE DATE 05/17/11	4. REQUISITION/PURCHASE REQ. NO.		5. PROJECT NO. (If applicable)
6. ISSUED BY CODE		N00173	7. ADMINISTERED BY (If other than Item 6) CODE		
CONTRACTING OFFICER NAVAL RESEARCH LABORATORY ATTN: CODE 3230.TA WASHINGTON, DC 20375-5326					
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)				(X)	9A. AMENDMENT OF SOLICITATION NO. N00173-11-R-TA07
					9B. DATED (SEE ITEM 11) 04/21/11
					10A. MODIFICATION OF CONTRACT/ORDER NO.
					10B. DATED (SEE ITEM 11)
CODE		FACILITY CODE			
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS					
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers <input checked="" type="checkbox"/> is extended, <input type="checkbox"/> is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment your desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.					
12. ACCOUNTING AND APPROPRIATION DATA (If required)					
13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.					
CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.				
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).				
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:				
	D. OTHER (Specify type of modification and authority)				
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.					
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)					
The purpose of this amendment is to answer questions from prospective offerors, revise Section M-3, add a paragraph to the specifications and to extend the period in which proposals will be accepted.					
Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.					
15A. NAME AND TITLE OF SIGNER (Type or print)			16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)		
15B. CONTRACTOR/OFFEROR			15C. DATE SIGNED		16B. UNITED STATES OF AMERICA
_____ (Signature of person authorized to sign)					_____ (Signature of Contracting Officer)
			16C. DATE SIGNED		

The purpose of this amendment is to answer questions from prospective offerors, revise Section M-3, add a paragraph to the specifications and to extend the period in which proposals will be accepted.

1. Questions and answers are as follows:

Question 1: What is the common mode rejection vs freq for analog inputs to the gov't recording system?

Answer 1: estimate 40 dB

Question 2: Is there a commercial part number for the analog input board on the recording system that the gov't can provide?

Answer 2: This is not a commercial part.

Question 3: Paragraph mentions 8kHz. Paragraph 4 mentions 15kHz. Paragraph 4 says continuation of flat response to 25kHz is desirable. Please clarify the required frequency response and passband flatness?

Answer 3: Paragraph 3 pertains to the requirement for hydrophone spacing, which must permit SAS operation to at least 8 kHz. Paragraph 4 pertains to the hydrophone sensitivity, which must operate within specs to at least 15 kHz, and preferably to 25 kHz.

Question 4: Pitch and heading do not provide sufficient information to locate array hydrophones in 3 dimensions relative to a point on the AUV. Please confirm that heading and pitch are all that the gov't needs.

Answer 4: The requirement is that the position of each hydrophone be known. Meeting this requirement is **expected** to include measuring **roll, pitch and heading**, but the offerer can propose other strategies for position identification. The reason for this **requirement is that the positions in space of each element must be known accurately at all times (relative to the center of the AUV towing it)**. If the array is reasonably inflexible, the location of all elements can be determined using just one sensor located at either end of the active portion. If the array is permitted to be more flexible, additional attitude sensors are needed to measure the degree of bending.

Question 5: Does the gov't envision the array to be one continuous diameter from the acoustic section up to the AUV end or does it envision a smaller diameter tow cable?

Answer 5: The diameter of the tow cable should not be larger than that of the array, and would preferably be significantly smaller. The tow cable must be reasonably flexible for deployment.

Question 6: Would an array diameter smaller than 5 cm be preferred?

Answer 6: Smaller than 5 cm would be preferred from a handling viewpoint, but there is little performance advantage to performance.

Question 7: What supply voltages are provided on the 2 MHDO 61 connectors? Please provide specifications for these supplies: min voltage, max voltage, current capability, noise characteristics (spectral levels across band), whether they are protected from overcurrent faults inside the AUV, and the turn on/off characteristics (controlled risetime, fast switching, etc.).

Answer 7: 12 pins on each connector are currently not used and are available for power.

Question 8: Paragraph 6 indicates a desire to know the position of each hydrophone "relative to the reference point on the AUV tow vehicle". However pitch and heading alone are insufficient to make this determination. Please clarify.

Answer 8: See answer 4.

Question 9: states that the array must be "nominally neutrally buoyant as required to maintain a horizontal orientation behind the AUV" Does this mean that the array only has to be LEVEL, or level *and at the same depth as the AUV*? The latter implies a neutrally buoyant tow cable which may not be possible with the number of conductors required.

Answer 9: The array should be nominally level. It need not be at the same depth of the AUV. It is recognized that the tow orientation will vary somewhat with depth and water temperature, so the requirement is just stated as "nominally neutrally buoyant". Hence the need for accurately reporting the location of each hydrophone.

Question 10: Is there a diameter spec for the tow cable?

Answer 10: The diameter of the tow cable should not be larger than that of the array, and would preferably be significantly smaller. The tow cable must be reasonably flexible for deployment.

Question 11: We would like to request clarification of the FAR Clause 52.219-6 included in the subject RFP. Does paragraph 2 (c) apply to this Solicitation? In

other words, must the Prime Small Business subcontract with only other small businesses?

Answer 11: Paragraph 2 (c) of FAR Clause 52.219-6 applies to this solicitation. Subcontractors must be small businesses.

Question 12: Is there a requirement to limit the upper frequency of the output signal to the AUV and if so what is this upper frequency?

Answer 12: As stated in the RFP, the highest acoustic frequency of interest is 25 kHz, and the bandwidth of the receiver section does not extend significantly beyond this.

Question 13: The document states that the roll, pitch and heading data must be passed to the AUV in a manner analogous to the acoustic hydrophone data but the details of the modulation scheme to be utilised are not provided. Is this available or can an appropriate scheme be developed and a suitable interface defined as long as it meets the stated frequency and amplitude requirements?

Answer 13: The requirement is that the position of each hydrophone be known, as stated in the RFP. The offerer will propose the strategy and algorithm for position identification. Meeting this requirement is expected to include measuring roll, pitch and heading (and perhaps depth), but other approaches are welcome. The offerer will also identify the approach used to communicate this information and extract it at the AUV. Software required for the AUV to demodulate or deconstruct the information passed can be accommodated.

Question 14: We have previously manufactured 53mm diameter towed and static line arrays. Would a 53mm array be considered acceptable to the Customer or would a 50mm solution be considered preferable?

Answer 14: The stated 5 cm preferred maximum diameter was only nominal, with 7 cm listed as a maximum. A 53 mm would be fully acceptable.

Question 15: We have been developing a 16mm diameter array specifically targeted at AUV applications. Would this lower drag solution be worth discussing with the Customer?

Answer 15: The offerer is welcome to propose a smaller diameter if they feel it would meet the requirements and otherwise be advantageous. In this application drag is not expected to be a significant factor for diameters less than 5 cm.

Question 16: To reduce the number of underwater connections and the possibility of generating vortices it may be beneficial to not have a tow cable.

Instead the array could be designed to be 7m longer and interface directly with the AUV. Would this be an acceptable solution to the Customer?

Answer 16: The acoustically-inactive section between the acoustic array and the AUV can be an integral part of the array and need not be separable from it.

Question 17: The mechanical and electrical requirements of the interface to the AUV are not clear. If an interface adaptor is required to form a 'Y' connection between the array and two 61 way connectors on the AUV (as is implied by the document) further details of this interface will be required to enable an effective solution to be developed.

Answer 17: The need for an adapter presumes an existing connector which needs adaptation. We have stated what the array must terminate to very specifically.

Question 18: Without knowledge of the algorithm used to determine hydrophone positions from pitch, roll and heading information it is difficult for us to specify the necessary accuracy of the associated sensors. Please could you provide details of the algorithm or an indication of the expected accuracy required in these measurements?

Answer 18: See answer 13.

Question 19: The addition of a depth sensor would seem to be appropriate in helping to achieve the positional requirement. Please specify whether such a sensor should be included and if so, its required accuracy performance?

Answer 19: See answer 13. A depth sensor is expected to be helpful in meeting this requirement.

2. The following FAR clause is included:

52.215-1 Instructions To Offerors- Competitive Acquisition
(JAN 2004) Alternate II (OCT 1997)

This clause allows for offerors to propose more than one proposal.

3. Section M-3, entitled "Award by Full Quantity" is revised as follows:

M-1 AWARD BY FULL QUANTITY

An offeror must propose on all items in this solicitation to be eligible for award. Award will be made to that **responsible** offeror that represents the best value to the government.

4. The specifications are revised to include the following sentence:

All conductors (shields included) must be isolated all the way from source to DAS connector.

5. The period in which proposals will be accepted is extended to 3 June 2011, 2:00 PM.