



**THIS IS NOT
AN ORDER**

REQUEST FOR BIDS/PROPOSALS COVERSHEET
THE UNIVERSITY OF SOUTHERN MISSISSIPPI
Procurement and Contract Services
118 College Drive #5003, Hattiesburg, Mississippi 39406-0001

Date: September 24, 2024

Name: _____

BID No. 25-13

Company: _____

Address: _____

THE UNIVERSITY OF SOUTHERN MISSISSIPPI is considering the purchase of the following item(s). We ask that you submit your bid and retain one copy for your files. Right is reserved to accept or reject any part of your bid. Your quotation will be given consideration if received in Bond Hall, Room 214 on or before:

City/State/Zip: _____

2:00 p.m. CT

TERMS - Bidder should state terms of sale. Our terms are 2% ten days, net 45 days.

October 9, 2024

These terms will apply per Mississippi law.

AWARDING CONTRACT - Cash terms will not be used as a basis for awarding contracts; however, the University will accept cash discounts when earned.

Buyer: Amber Floyd

NOTE: If you cannot quote on the exact material shown, please indicate any exception giving brand name and complete specifications of any alternate. If additional space is required, use a separate sheet or letter of transmittal.

| ITEM | QUANTITY | DESCRIPTION | UNIT PRICE | TOTAL NET PRICE |
|------|----------|---|------------|-----------------|
| | | <p align="center">BID 25-13 Relocatable Maritime Domain Awareness Systems with Acoustic ML and AI Capabilities</p> <p align="center">RFx # 3160006928</p> <p>PROPOSAL MUST BE RETURNED TO THE UNIVERSITY IN ACCORDANCE WITH THE SPECIFICATIONS. RFP NUMBER AND DATE OF BID OPENING MUST BE SHOWN ON THE OUTSIDE OF THE ENVELOPE IF USING THAT METHOD.</p> | | |

We quote you as above - F.O.B. The University of Southern Mississippi.
Shipment can be made in _____ days from receipt of order. DATE _____
Return quotation to Procurement Services at above address.

Signature Required _____

**THE UNIVERSITY OF SOUTHERN MISSISSIPPI
PROCUREMENT SERVICES
118 COLLEGE DRIVE
#5003
HATTIESBURG, MS 39406-0001**

GENERAL TERMS, CONDITIONS AND INSTRUCTIONS FOR BIDS/PROPOSALS

- 1.) Failure to examine any drawings, specifications, and instructions will be at bidder's risk.
- 2.) Samples of items when called for must be furnished free of expense and if not destroyed in testing, will, upon request, be returned at the bidder's expense. Request for the return of samples must be made within ten (10) days following opening bids. Each individual sample must be labeled with bidder's name and manufacturer's brand name and number.
- 3.) Bids must be signed and sealed with bidder's name and address on the outside of the envelope, and the time and date of the bid opening and the bid file number shown in the lower-left corner of the packages; envelopes, express mailing labels, boxes, etc.
- 4.) At least one (1) signed original and one (1) signed copy of the bid **MUST** be provided. The University **requires** a portable electronic virus/malware free copy (thumb drive) of the bid response from the responding Vendor to be included in the bid response package. If an electronic copy is not included, the University reserves the right to request an electronic copy of the **exact** bid response prior to review of the bid.
- 5.) For your bid to be considered, it must be received, and time stamped in our office by 2:00 P.M. of the bid opening date. It is the responsibility of the vendor to ensure their bid is received within the appointed time. If your bid package is not received in Bond Hall, Room 214, by 2:00 P.M. of the bid opening date, it will not be considered.
 - a. If you are delivering your bid, you need to hand carry the bid package to: The University of Southern Mississippi
Procurement Services
Bond Hall, Room 214
Hattiesburg, Mississippi
 - b. If you are mailing your bid package via U.S. Postal Service, mail to: The University of Southern Mississippi
Procurement Services
118 College Drive #5003
Hattiesburg, MS 39406-0001
 - c. If you are express mailing your bid package via Federal Express or UPS, or any other delivery service which requires the use of a physical address, deliver to:

The University of Southern Mississippi
Receiving Department
2609 West 4th Street
Hattiesburg, MS 39401

- 6.) Bids or proposals shall not be modified, corrected, altered, or amended after the specified closing time and the opening of such bids, unless otherwise noted in the request for bids or proposals.
- 7.) The University of Southern Mississippi reserves the right to reject any and all bids, to waive any informality in bids, and unless otherwise specified by the bidders, to accept any items on the bid. If the bidder fails to state the time within which bids must be accepted, it is understood and agreed that The University of Southern Mississippi shall have 90 days to accept. The University of Southern Mississippi reserves the right to make an award to this bid on an all or none basis, or on a line-by-line basis, whichever serves the best interest of The University of Southern Mississippi.
- 8.) Contracts and purchases will be made or entered into with the lowest, responsible bidder meeting specifications.
- 9.) A written purchase order or contract award mailed or otherwise furnished to the successful bidder within the time of acceptance specified in the Invitation for Bid results in a binding contract without further action by either party. The contract shall not be assignable by the vendor in whole or in part without the written consent of The University of Southern Mississippi.
- 10.) Unless written exception is provided in the bid response, the winning Vendor agrees to be bound by the USM Terms and Conditions, which are incorporated herein, and may be found at <https://www.usm.edu/procurement-contract-services/usm-terms-and-conditions>.
- 11.) Respondents are required to comply with all applicable local, State and Federal laws, codes, ordinances, and regulations in the provision of the materials required.
- 12.) Respondents must comply with Personally Identifiable Information (PII) data protection regarding State, Federal, and University regulations and policies.
- 13.) Mandatory Legal Provisions
 - a. Any provisions disclaiming implied warranties shall be null and void. See Mississippi Code Annotated Sections 11-7-18 and 75-2-719(4). The Vendor shall not disclaim the implied warranties of merchantability and fitness for a particular purpose.
 - b. The Vendor shall have no limitation on liability for claims related to the following items:
 - i. Infringement issues;
 - ii. Bodily injury;
 - iii. Death;
 - iv. Physical damage to tangible personal and/or real property; and/or

- c. The intentional and willful misconduct or negligent acts of the Vendor and/or Vendor's employees or subcontractors.
 - d. All requirements that the University pay interest are deleted, except for those in conjunction with USM's standard payment terms of Net 45 days. Payments made beyond 45 days are subject to late fees and interest.
 - e. Should any of the terms and conditions in the purchase contract conflict with the laws of the State of Mississippi, the laws of the State of Mississippi shall supersede and govern. A revision of the terms and conditions will be required to ensure compliance with Mississippi state law.
 - f. The University shall not pay any attorney's fees, prejudgment interest or costs associated with any legal action to or for the Vendor, except that which are ordered by a court of competent jurisdiction.
- 14.) Bid files may be examined during normal working hours by bid participants. Non- participants will be prohibited from obtaining any information relative to the bid until the official award has been made.
- 15.) If purchase orders or contracts are canceled because of the awarded vendor's failure to perform or request for price increase, that vendor shall be removed from our bidders'list for a period of 24 months.
- 16.) No addendum will be issued within a period of two (2) working days prior to the time and date set for the bid opening. Should it become necessary to issue an addendum within the two-day period prior to the bid opening, the bid date will be reset giving bidders ample time to answer the addendum.
- 17.) Alternate bids, unless specifically requested or allowed, will not be considered.
- 18.) Bid openings will be conducted open to the public. However, they will serve only to open the bids. No discussion will be held with any vendor as to the quality or provisions of the specifications, and no award will be made either stated or implied at the bid opening. After the close of the bid opening meeting, the bids will be considered to be in the evaluation process and will not be available for review by bidders. Proposal openings are not required to be open to the public; however, the resulting award is open for public inspection.
- 19.) Prices quoted shall be firm for the term of the contract or for the stated time of acceptance.
- 20.) The bidder understands that The University of Southern Mississippi is an equal opportunity employer and, therefore, maintains a policy which prohibits unlawful discrimination based on race, color, creed, sex, age, national origin, physical handicap, disability, or any other such discrimination; and the bidder, by signing this bid, agrees during the term of agreement that the bidder will strictly adhere to this policy in its employment practices and provision of products or services.
- 21.) Bidders must upon request of The University of Southern Mississippi furnish satisfactory evidence of their ability to furnish products or services in accordance with the terms and conditions of these specifications. The University of Southern

Mississippi reserves the right to make the final determination as to the bidder's ability.

- 22.) Questions or problems arising from bid procedures should be directed to the Buyer listed on the solicitation at:

The University of Southern Mississippi
118 College Drive #5003
Hattiesburg, MS 39406-0001
Phone: (601) 266-4131
Bids@usm.edu

- 23.) All items must equal or exceed the specifications listed. The absence of detailed specifications or the omission of detailed description shall be recognized as meaning that only the best commercial practices are to prevail, and that only first quality materials and workmanship are to be used.
- 24.) It is the intent of the specifications to obtain a product that will adequately meet the needs of the user while promoting the greatest extent of competition that is practicable. It is the responsibility of the prospective bidder to review the entire Invitation to Bid packet and to notify The University of Southern Mississippi if the Specifications, Instructions, General, or Special Conditions are formulated in a manner which would unnecessarily restrict competition.
- 25.) It shall be incumbent upon the bidders to understand the specifications. Any requests for clarifications shall be in writing and shall be submitted to our Procurement Services office at least seven (7) business days prior to the time and date set for the bid opening, unless otherwise noted in the bid or proposal specifications.
- 26.) The minimum specifications are used to set a standard and in no case are used with the intention of discriminating against any manufacturer. Bidders should note the name and the manufacturer and model number of the product they propose to furnish and submit descriptive literature.
- 27.) Trade names, brand names, and/or manufacturer's information used in these specifications are for the purpose of establishing quality, unless otherwise noted. Bids on products of other qualified manufacturers are acceptable, provided they are demonstrated as equal to those specified in construction, design and suitability. Each bidder shall submit with his bid a complete brochure with pictures on each item and shall point out specifically any deviations from the specified items. Failure to do so may disqualify any bid. Please bid as specified or an approved equal.
- 28.) A copy of the manufacturer's standard guarantee/warranty shall accompany and become a part of this bid.
- 29.) There are no federal or state laws that prohibit bidders from submitting a bid lower than a price or bid given to the U.S. Government. Bidders may bid lower than U.S. Government contract price without any liability as The University of

Southern Mississippi is exempt from the provisions of the Robinson-Patman Act and other related laws. In addition, the U.S. Government has no provisions in any of its purchasing arrangements with bidders whereby a lower price to The University of Southern Mississippi must automatically be given to the U.S. Government.

- 30.) All invoices, unless noted otherwise, are to be billed to:

The University of Southern Mississippi
IT Invoices
118 College Drive #5181
Hattiesburg, MS 39406-0001
ITInvoices@usm.edu

- 31.) All equipment bids shall be of current production and of the latest design and construction.
- 32.) Where all, or part(s), of the bid is requested on a unit price basis, both the unit prices and the extension of the unit prices constitute a basis of determining the lowest responsible and responsive bidder. In cases of error in the extension of price, the unit price will govern.
- 33.) Should the University of Southern Mississippi close due to inclement weather conditions, or any other unforeseen events on the bid opening date, sealed bids will open the following business day at the same time and location.
- 34.) As an alternative to traditional sealed bids in envelopes, the University of Southern Mississippi is capable of receiving electronic bid responses. While this option is available, it is not required, and we ask that all potential respondents keep in mind that with any electronic system there could be delays or glitches with the submission process; therefore, the University highly encourages traditional sealed bids which are either mailed or submitted in person. Should a vendor choose to submit their response electronically, please follow the instructions below using the following website:
https://www.ms.gov/dfa/contract_bid_search/Home/Sell. On this site you will find helpful links to procurement opportunities, as well as a link to supplier registration. If not already registered in this system, potential bidders will first need to click on 'Supplier Registration' and follow the steps outlined (a one-time process). Once registered, they can return to the original website and click on 'Procurement Opportunities' where they can either search by keyword for the bid they desire to respond to or leave the search box blank and click 'Search' for a listing of all current bids and proposals for the various State of Mississippi offices.

Regarding construction bids, there is one additional step required during the bid submission process. Along with the bid response and other attachments, contractors will also need to attach their Certificate of Responsibility (COR), or a statement that the bid enclosed does not exceed Fifty Thousand Dollars (\$ 50,000.00). If their COR or such statement is not attached, the bid will be invalid and not considered.

AA/EOE/ADA



THE UNIVERSITY OF
SOUTHERN
MISSISSIPPI

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*Specifications For Relocatable Maritime Domain Awareness Systems with
Acoustic, ML and AI Capabilities*

The University of Southern Mississippi

Prepared by Steve Stanic and Landry Bernard

Sept 12/2024

Specifications For Relocatable Maritime Domain Awareness Systems with Acoustic, ML and AI Capabilities

I. Purpose

This RFP outlines the specifications for a series of five low power relocatable Maritime Domain Awareness (MDA) systems with Acoustic, ML and AI Capabilities needed to support a number of the University of Southern Mississippi's (USM) acoustic detection and classification (DCL) programs. These hydrophones shall be low power and be capable of using ML algorithms for AI detection, localization, and classification. (DCL). The Navy requires these advanced solutions for a rapidly deployable network of attritable, low-cost sensors for maritime situation awareness (MDA).

II. Background

Small Unmanned Surface Vessels (USVs) or Unmanned Underwater Vessels (UUVs) are too costly to be truly disposable. The Navy lacks the ability to deploy large numbers of distributed sensors together in a scalable manner. This gap requires the development of low-cost, autonomous sensors that can be easily deployed from a variety of platforms without expectation of recovery. These systems shall be capable of being deployed in forward or contested maritime regions as secure network of sensors to provide the U.S. fleet with situational awareness in a maritime conflict. These networks hydrophones must also be capable of easily being adding to platforms of opportunity, such as other unmanned systems operating periodically within a region to provide a high level of MDA.

III. General Relocatable MDA System Specifications.

1. System tradeoffs studies for power over data interfaces and design shall be conducted.
2. Processor selection, testing, and benchmarking shall be done by the contractor.
3. Firmware shall be optimized to provide DCL.
4. The hydrophone processing system shall be capable of accepting and running USM's ML and AI models for the detection of various potential mammals and vessels.
5. A dashboard for customization of alerting and analysis of the hydrophone data shall be provided.
6. An Application Programming Interface for sensor fusion and analytics using ML and AI shall be provided.
7. An interface surface box shall be provided for each system and shall and provide power and GPS data.
8. The interface box shall have a cellular modem connection.
9. An Application Programming Interface (API) shall be provided for sensor fusion and data analytics using ML and AI.
10. Data collection and ocean testing shall be conducted to demonstrate DCL performance.
11. A final design and performance report shall be provided.
12. USM shall require several performance reviews throughout the length of the program.
13. The delivery arrangements and transportation costs shall be the vendor's responsibility.

14. These hydrophone systems, software packages, and support equipment shall be delivered to USM’s Marine Research Center, 1030 30th Ave Gulfport, MS 39501

IV. Specific Specifications for Each of the Five Relocatable MDA Systems

The following minimum specifications shall ensure that each broadband hydrophone shall have the minimum specifications needed to support USM project objectives.

| Hydrophone Specifications | |
|----------------------------------|---|
| Maximum depth | At least 100m |
| Operating voltage | 12 volts DC |
| Power consumption | The power consumption shall be < 25mW |
| Bandwidth | At least 10 Hz to 70kHz |
| Maximum gain | 60dB |
| Sample rate | The max sampling rate shall be at least 200 kHz |
| Sample resolution | At least 24bits |
| Data Storage | At least 128 GB |
| Serial Communication rate | The communication rate shall be at least 10mbps |
| Cellular modem | Cellular modem for short range control shall at least 4G |
| GPS Interface | A GPS sensor shall provide the system time base for the hydrophone system |
| Ethernet | The Ethernet speed shall be at least 10/100 Mbit/sec |

V. Software

The vendor shall provide complete system, DCL software packages, and product documentation.

VI. Training

The vendor shall provide training on the operation, software, maintenance, troubleshooting, and integration of all hydrophones. This training shall take place at the USM facility located in Gulfport MS.

VII. Proof of Performance

The vendor shall provide a proven record of the development of broadband hydrophones and ML and DCL software operation on UUVs, USV, and buoys. The vendor needs to provide references where their systems in a similar configuration as specified above have operated successfully within the last 2 years. The above requested information will assist USM in determining the bidder’s capability of meeting these requirements.

VIII. Warranty Services

At a minimum, the Contractor shall provide software/hardware warranty support for one year from acceptance. Longer warranty periods are preferred. The Vendor shall agree to repair, adjust, and/or replace (as determined by the University to be in its best interest) any defective materials at the Vendor and/or manufacturers’ sole cost. The University will incur no costs for service or replacement of materials during the warranty period. The vendor will be the sole point of contact for warranty issues.

IX. Documentation

The Contractor shall provide Operations and Maintenance manuals to USM. Documentation provided shall include, but not be limited to the following:

- A. Theory of operation
- B. Operating procedures
- C. Troubleshooting and maintenance procedures
- D. IPB (Isometric Parts Breakout) drawings showing how all parts relate to one another.
- E. Documentation of the ML, AI, and DCL software packages.