

**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.) In order 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.

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

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

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

- 5.) 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.
- 6.) 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 60 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.
- 7.) Contracts and purchases will be made or entered into with the lowest, responsible bidder meeting specifications.
- 8.) 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.
- 9.) 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.
- 10.) 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.
- 11.) 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.
- 12.) Alternate bids, unless specifically requested or allowed, will not be considered.
- 13.) Bid openings will be conducted open to the public. However, they will serve only to open the bids. No discussion will be entered into 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.
- 14.) Prices quoted shall be firm for the term of the contract or for the stated time of

acceptance.

- 15.) 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.
- 16.) 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.
- 17.) 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

- 18.) All items must equal or exceed the specifications listed. The absence of detail specifications or the omission of detail 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.
- 19.) 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.
- 20.) 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 five (5) days prior to the time and date set for the bid opening, unless otherwise noted in the bid or proposal specifications.
- 21.) The minimum specifications are used to set a standard and in no case are used with the intention to discriminate 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.
- 22.) 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.

- 23.) A copy of the manufacturer's standard guarantee/warranty shall accompany and become a part of this bid.
- 24.) 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.
- 25.) All invoices, unless noted otherwise, are to be billed to:
- The University of Southern Mississippi
Accounts Payable
118 College Drive #5104
Hattiesburg, MS 39406-0001
- 26.) All equipment bid shall be of current production and of the latest design and construction.
- 27.) 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.
- 28.) 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.
- 29.) 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.

With regard to 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/ADAI

The University of Southern Mississippi

Bid #21-32

Specifications for an Imaging and Bathymetry System

1. Background

The University of Southern Mississippi requires an upgrade to the imaging and bathymetry acquisition hardware for the *Mola Mola* Autonomous Underwater Vehicle (AUV). *Mola Mola* is a 2000-meter depth-rated SeaBED-class AUV used for seafloor mapping surveys.

In its current configuration, *Mola Mola* surveys at a nominal altitude of 3 m and typical survey speed of only 0.2 m/s. An industrial color camera and fore-and-aft LED arrays are used to acquire a seafloor image every 3 s, with a coverage of roughly 1.6 m (along) by 2.5 m (across) and a pixel resolution of roughly 1.5 mm. In order to ensure full photo coverage, survey lines are run with spacing as little as 1.7 m. Bathymetry information used in vehicle navigation correction and photomosaic generation is collected using a small multibeam echosounder, with soundings typically gridded to a resolution of 7 cm.

2. Purpose

USM desires to modernize the imaging and bathymetry system for the *Mola Mola* AUV. The current assemblage of sensors, lights, and in-house processing software has served as a successful proof-of-concept for producing photographic maps of the seafloor. In order to dramatically improve the data quality, these components will be replaced with an integrated imaging/bathymetry system utilizing a projected laser line and camera(s) to derive bathymetry with resolution on the order of that of the color imagery.

3. General performance Specifications

At the nominal survey altitude and speed (3 m and 0.2 m/s, respectively) the imaging/bathymetry system must exceed the resolution of the original system. Additionally, the hardware should be capable of exceeding the original survey parameters, able to operate at altitudes up to 5 m and speeds up to 1.0 m/s.

4. Requirements

The imaging/bathymetry system must meet the requirements listed below:

- a. External components must be rated to at least 2000 meters.
- b. Must acquire color imagery at a resolution greater than 2 mm at an altitude of 3 meters above bottom and a speed of 0.2 m/s.
- c. Must provide bathymetric resolution greater than 2 mm across-track at an altitude of 3 meters above bottom and a speed of 0.2 m/s. Along-track measurements must be

acquired at least every 7 mm, accepting that a larger gap may be present during photo acquisition every 2-3 seconds as needed for adequate photo coverage.

- d. Photo coverage at 3 m altitude must be at least 2.5 m in the across-track direction and 1.5 m along-track.
- e. An interface must be provided for control of mission parameters prior to vehicle launch, access of data post-recovery, and adjustment of parameters during the survey. Low-level control may be provided via C++ libraries, and/or high-level control may be provided by messaging over serial, Ethernet, etc. Pre-dive and post-dive operations can be performed by the operator accessing hardware through a remote interface or manufacturer supplied software, but mid-survey settings changes must be possible from the Ubuntu Linux vehicle control computer.

5. Additional specifications

The following specifications are desired and deviations should be addressed:

- a. Imaging/bathymetry components will be installed in the lower hull of the vehicle and must fit with existing maneuvering, power, and navigation components. Components will be repositioned as part of this install, but the overall dimension of the lower hull is 1.5 m in length and 0.3 m in diameter. Spacing of individual modules of the imaging/bathymetry system should fall within these dimensions.
- b. Currently DC/DC converters provide 5V, 12V, and 24V to low power devices. A 250W, 24V, DC/DC converter is in place from the original lighting system and pre/post survey usage (drop weight mechanisms operating below 20W). These existing buses should be sufficient to power the imaging/bathymetry system.
- c. The imaging system should feature symmetrical fore and aft lighting for imaging consistency while running tracklines in alternating directions.
- d. The basic imaging/bathymetry system should be functional with a single camera, with the possibility of later expanding to a dedicated photo imaging camera and a dedicated laser bathymetry camera.

6. Desired Options

Additionally, options should be provided to incorporate the following specifications, if not already integral to the proposed system:

- a. The system should internally log all bathymetry and imagery data, or provide an option to add a datalogger, or should provide a full description for a datalogger small enough to be installed within an already occupied 8" diameter housing.
- b. The imaging/bathymetry system should connect to the main electronics housing via no more than two bulkhead connectors, or an option should be offered to consolidate cabling by adding a junction box to the lower hull section.

- c. Processing software should be included, or a processing software option should be provided, to perform the following functions:
- georeferencing of point-cloud data
 - manual and/or automatic removal of anomalous points
 - color and illumination corrections for photographs
 - optional - merging/overlay of the photo and bathymetric datasets to compose properly registered 2D georeferenced mosaics and 3D visualization surfaces

7. Warranty

Bidder shall submit a copy of the written warranty. The University is requesting a minimum three (3) year warranty period, including parts, travel and labor. Longer warranty periods are preferred.

8. Training

The vendor should include in the response as a separate line item training and/or training materials on the operation, software, maintenance, and troubleshooting. Training (if available) can be in person or virtual.

9. Copies

At least one (1) signed original copy of the bid response **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.

10. Payment

The currency used for payment of costs will be in United States dollars. State law requires that the University receive an **original invoice** from the Vendor and that payment of the invoice is processed **within 45 days of receipt** (Miss Code 31-7-305). The invoice should be on the Vendor's letterhead and/or include an original Vendor representative signature.

11. USM Terms and Conditions

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-contractservices/usm-terms-and-conditions>.

12. Delivery

Quote the lead time required for delivery of the quoted equipment to 1029 Balch Boulevard Stennis Space Center, MS 39529. Quoted prices should be F.O.B. Destination Freight Allowed.

- The University of Southern Mississippi reserves the right to reject any and all bids.
- The University of Southern Mississippi reserves the right to accept or reject optional line items included in the bid response.