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

Date: September 2, 2016

Bid No. 17-06

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:

2:00 p.m. CDT

OCTOBER 3, 2016

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

Buyer: Heather Kihyet

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.

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<th>ITEM</th>
<th>QUANTITY</th>
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<td>DESCRIPTION</td>
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<td>RFB for Thin Film Deposition System</td>
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PROPOSAL MUST BE RETURNED TO THE UNIVERSITY IN A SEALED ENVELOPE. RFP NUMBER AND DATE OF BID OPENING MUST BE SHOWN ON THE OUTSIDE OF THE ENVELOPE.

We quote you as above-F.O.B. The University of Southern Mississippi. Shipment can be made in N/A days from receipt of order. DATE TERMS

Return quotation to Procurement Services at above address.

Signature Required
GENERAL TERMS, CONDITIONS, AND INSTRUCTIONS TO BIDDERS

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 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 envelope.

4.) In order for your bid to be considered, it must be received 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. on the bid opening date, it will not be considered.

If you are delivering your bid, 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.) The bid file number and the date & time of bid opening is to be shown in the lower-left corner of all bid packages; envelopes, express mailing labels, boxes, etc.

6.) Bids and modifications or corrections thereof received after the closing time specified will not be considered. No bid shall be altered or amended after the specified time for opening bids.

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 60 days to accept.

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.) 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.

11.) 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.

12.) 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 re-scheduled to give bidders ample time to answer the addendum.

13.) Alternate bids unless specifically requested will not be considered.

14.) Bid openings will be conducted open to the public; however, they are held 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.

15.) Prices quoted shall be firm for the term of the contract or for the stated time of acceptance.

16.) 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.

17.) 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.

18.) Questions or problems arising from bid procedures or subsequent order and delivery procedures should be directed to:

   Jo Berry  
   The University of Southern Mississippi  
   118 College Drive #5003  
   Hattiesburg, MS 39406-0001  
   Phone: (601) 266-4131

19.) 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.

20.) 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 or Proposal 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. Any protest or question concerning the specifications or bidding procedures must be received in the Purchasing office not less than 72 hours prior to the time and date set for bid opening.

21.) 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.

22.) 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.

23.) Trade names, brand names, and/or manufacturer’s information used in these specifications are for the purpose of establishing quality. Unless specifically stated otherwise, 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.

24.) A copy of the manufacturer’s standard guarantee shall accompany and become a part of this bid.

25.) 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.

26.) Unless otherwise specified in the specifications, all invoices are to be billed to:

   The University of Southern Mississippi
   Accounts Payable
   118 College Drive #5104
   Hattiesburg, MS 39406-0001

27.) Unless otherwise specified, all equipment bids shall be of current production and of the latest design and construction.

28.) Where all, or part(s), of the bid is requested on a unit price basis, both the unit prices and the extensions 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.

AA/EOE/ADA1
General Specifications

The University is requesting a Thin Film Deposition System to meet the following specifications:

Equipment

- The system must be fully integrated within an inert atmosphere glove box system. Minimal parts must be in the actual glove box to allow for all maintenance and cleaning to be conducted from atmosphere.
- There must be a separate glove box containing a well-mounted spin coater attached by means of a chamber to allow transfer of samples between boxes.
- Chamber must be a box chamber with large doors, one to the GB and one to atmosphere, to allow for easy access for cleaning, maintenance and overall use.
- Chamber must be constructed of 6061 Al to promote lower deposition temperatures.
- The evaporator must contain 2 thermal, 2 furnace, a multi-pocket electron beam, and RF and DC sputtering sources.
- All sources must have some form of isolation to prevent contamination when depositing with other sources.
- The source to substrate distance should be a minimum of 15 inches for the thermal and e-beam sources.
- Source placement must be optimized for the given substrate size and the proposed chamber with evidence provided of this optimization with an exception that the e-beam will be optimized for increased lift-off capabilities.
- The system should be controlled by a computer and allow for: auto sequence and manual mode control, various user account program security authorizations, as well as the ability to data log all parameters of the process including voltage and current readings from power supplies.
- Software should come with a desktop application that can be installed on personal computers to allow creation, editing, and refinement of recipes without needing to be in front of the system or in the lab.
- The software must allow recipe creation, storage and editing of not only the sources, but also of all pressure/vacuum related components, stage related components, and any other options/accessories incorporated into the deposition tool. This should allow for a single process to pump down, stabilize sources/pre-condition sources, conduct the deposition, control all shutters during deposition, move into post condition of source or idle stages, allow for cool down or annealing of sample, then vent the system up to atmosphere ready for sample retrieval.
- The software must allow sequential and co-deposition films to be deposited with fully automated recipe control as well as auto tuned PID control of all sources.
- Base pressure should reach $< 9 \times 10^{-8}$ torr and be able to pump down to $< 2 \times 10^{-6}$ torr in less than 30 mins from room atmosphere. Data must be provided to support this claim.
- The thermal and furnace sources must be capable of computer-controlled codeposition within a 100:1 ratio, having the host rate around 2A/s and the dopant around 0.02A/s. The sources must also stay within +/- 2%, for the 2A/s source, and +/-20%, for the 0.02A/s source, for >95% of the deposition run. Data must be provided to support these claims.
- The uniformity requirements for the sources are:
  - Sputter Sources: +/-3.5% on a 150 mm wafer, 200 nm film of Al with a 5 mm edge exclusion
  - Resistive Sources: +/-3.5% on a 150 mm wafer, 200 nm film of Al with a 5 mm edge exclusion
  - Overall repeatability between samples should not vary more than +/-5% from run to run
• The glovebox system must be able to accommodate a probe station specified by USM, the manufacturer is responsible for integration of this system.
• The furnace sources must be computer controlled via temperature and deposition rate with the ability to auto optimize their control loop parameters at different ranges to improve stability time and reduce over/under shooting of both the temperature and the deposition rate.
• The electron beam source must have 6 pockets with a 7cc capacity. The power supply used must be a solid state power supply to greatly reduce the occurrence of arcing.
• Vendor should supply a list of references with Glove Box Integrated deposition systems that can be contacted. All references must have used the system in questions for at least 2 years to provide an honest assessment on the overall operation of the system and the support given by the vendor.

**Installation/Training**
Vendor must complete installation which includes complete set-up of the system. Final machine location, electrical, and other connections will be made by the vendor. Vendor must agree to minimum two day training on basic system setup and operation. Lifetime telephone and online support must be included.

**Warranty**
Bidder shall submit copy of written warranty. The University is requesting a minimum 2 year warranty period following installation, including parts and labor. The warranty must include the following stipulation:

- Any defects will be repaired or replaced at no cost including shipping to and from the customer’s site

**Freight**
The University is requesting delivery to University of Southern Mississippi Polymer Science Building.