MISSISSIPPI STATE UNIVERSITY

INVITATION FOR BIDS
OFFICE OF PROCUREMENT & CONTRACTS

1. INSTRUCTIONS FOR BIDDERS

a. Sealed bids will be received in the Office of Procurement & Contracts, Mississippi State University, for the purchase of the items listed herein.

b. All bids must be received in the Office of Procurement & Contracts on or before the bid opening time and date listed herein. Delivery of bids must be during normal working hours, 8:00 a.m. to 5:00 p.m. CST, except on weekends and holidays when no delivery is possible.

c. Bidders shall submit their bids either electronically or in a sealed envelope.
   i. Sealed bids should include the bid number on the face of the envelope as well as the bidders' name and address. Bids should be mailed to: 245 Barr Avenue, 610 McArthur Hall, Mississippi State, MS 39762.
   ii. At this time we only accept non-ITS bids electronically. For electronic submission of bids, go to: https://www.ms.gov/dfa/contract_bid_search and use the RFX number on the next page as your reference number.

d. All questions regarding this bid should be directed to the Office of Procurement & Contracts at 662-325-2550.

2. TERMS AND CONDITIONS

a. All bids should be bid "FOB Destination"

b. Bidders must comply with all rules, regulations, and statutes relating to purchasing in the State of Mississippi, in addition to the requirements on this form. General Bid Terms and Conditions can be found here: https://www.procurement.msstate.edu/procurement/bids/Bid_General_Terms_May_2019_V2.pdf

c. Any contract resulting from this Invitation for Bid shall be in substantial compliance with Mississippi State University's Standard Contract Addendum: https://www.procurement.msstate.edu/contracts/standardaddendum.pdf

Bid Number/RFX Number: 22-21/RFX#3160004839
Opening Date: February 16, 2022 @2:00 p.m.
Description: Substation Voltage Regulators (Material Only)

Vendor Name: _____

Vendor Address: _____

Telephone Number: _____

Days the Offer is Firm: _____

Authorized Signature: _____

Name: _____

Title: _____

See following pages for specifications and bid pricing form.

Specifications & Materialman's Proposal
For
Substation Voltage Regulators
(Material Only)

January 20, 2022

Prepared for:

Mississippi State University
610 McArthur Hall
Mississippi State, Mississippi 39762

Prepared by:

Atwell & Gent, P.A.
309 University Drive
Starkville, Mississippi 39759

JEFFREY ATWELL
REGISTERED PROFESSIONAL
ENGINEER
14774
STATE OF MISSISSIPPI

01/20/2022

Job No.: 601E3076

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INSTRUCTION TO BIDDERS

SUBSTATION VOLTAGE REGULATORS (MATERIAL ONLY)
MISSISSIPPI STATE UNIVERSITY
MISSISSIPPI STATE, MISSISSIPPI

Bids that are sent by mail shall be clearly marked "Bid Enclosed" or "Bid Envelope Enclosed" as appropriate. The sealed envelope containing the bid shall have the following information shown on the envelope:

BID ENCLOSED

ITEM:	SUBSTATION VOLTAGE REGULATORS (MATERIAL ONLY)
OWNER:	MISSISSIPPI STATE UNIVERSITY MISSISSIPPI STATE, MISSISSIPPI
BIDDER:	BIDDER'S ADDRESS
BID DUE:	REFER TO ADVERTISEMENT FOR BIDS

Bids that are sent by parcel delivery service or hand-delivered should be addressed to:

Mr. Don Buffum, Director
Office of Procurements & Contracts
Mississippi State University
Barr Avenue, 610 McArthur Hall
Mississippi State, Mississippi 39762

Bids that are sent by mail should be addressed to:

Mr. Don Buffum, Director
Office of Procurements & Contracts
Mississippi State University
P.O. Box 5307
Mississippi State, Mississippi 39762

The Engineer for this project is:

Atwell & Gent, P.A.
P.O. Box 2558
Starkville, Mississippi 39760-2558
Telephone (662) 324-5658

The Engineer will represent the Owner in all matters pertaining to this project, including but not limited to, answering technical questions of prospective bidders and recommendations of lowest and best bid, acceptance of shop drawings and similar documents, and approval of invoices prior to payment by the Owner.

Submit all questions about the specifications to the Engineer, in writing. Replies will be issued to all prospective Bidders of Record. Neither the Engineer nor the Owner will be responsible for oral clarifications.

Bidders shall complete all blank spaces on the Materialman's Proposal Form for each item of equipment being bid in accordance with these specifications and terms and conditions. Bidder should insert the unit price in the blank under the Unit Price heading and multiply this unit price by the number shown in the Number Required heading and enter the product of this multiplication in the blank under the heading Total Price for each bid item on the Materialman's Proposal Form. The bidder shall sum the Total Bid Price for each Bid Item and enter this sum in the Total Bid Price.

Bidder shall insert the delivery time in weeks after receipt of an order for each item of equipment bid in the blank provided on the Materialman's Proposal Form. Bidder shall also indicate equipment being bid by the manufacturer's name and catalog number in the blanks provided on the Proposal Form. Bidder shall indicate warranty term to be provided in the blanks on the Proposal Form. Finally, Bidder shall indicate the rated mechanical life (e.g. total number of open-close operations) of the substation voltage regulator in the blanks on the Proposal Form.

Bidder shall complete the Materialman's Proposal Form bound in these Specifications and shall submit two copies to the OWNER at the time that the bids are due. Bidders taking exceptions to any part of the specifications, conditions, or payment terms specified herein shall show such exception on the Materialman's Proposal Form in the space provided. If exceptions are not shown on the Proposal Form, Bidder must supply equipment specified herein under the terms and conditions specified herein. Proposal forms shall remain bound in the Specifications. Proposals that are modified, excepted, or in any way changed from the proposal that the OWNER is requesting in this request for proposals may be rejected by the OWNER.

It is intent of the OWNER to award the bid for these SUBSTATION VOLTAGE REGULATORS to the Bidder with lowest and best responsive bid for Bid Item #1. Unusually long delivery times may be cause for rejection of Bidder's bid.

PROPOSAL FORM

SUBSTATION VOLTAGE REGULATORS (MATERIAL ONLY)
MISSISSIPPI STATE UNIVERSITY
MISSISSIPPI STATE, MISSISSIPPI

To: Mr. Don Buffum, Director
Office of Procurements & Contracts
Mississippi State University
Barr Avenue, 610 McArthur Hall
Mississippi State, Mississippi 39762

The undersigned (hereinafter called the MATERIALMAN) acknowledges by his signature that he has received and examined the documents entitled "Specifications and Materialman's Proposal for **SUBSTATION VOLTAGE REGULATORS (MATERIAL ONLY)**" for Mississippi State University (hereinafter called the OWNER), dated January 20, 2022, and has included the provisions of the Specifications in his Proposal. The MATERIALMAN further acknowledges that he has received the following addenda:

Addendum No. _____ Dated _____

The Materialman hereby proposes to sell and deliver to OWNER, upon the terms and conditions herein stated, the equipment specified in the attached specification for the following sums:

Bid Item	Description	Unit Price	No. Req'd	Unit	Total Price
1	Substation Voltage Regulator	_____	6	EA	_____

A. The total prices set forth above shall be firm if accepted by the OWNER within forty-five (45) days and shall include delivery to OWNER, ready for OWNER's use.

B. The prices set forth herein do not include any sums which are or which may be payable by the MATERIALMAN on account of taxes imposed by any taxing authority upon the sale, purchase, or use of the equipment. If any such tax is applicable to the sale, purchase, or use of the equipment, the amount thereof shall be added to the purchase price and paid by the OWNER.

C. The items included in each of the above bid prices are as follows:

BID ITEM NO. 1

MANUFACTURER: _____

CATALOG NO.: _____

D. The warranty (in years) for each of the above bid items shall be as follows:

BID ITEM NO. 1: _____

E. The rated mechanical life (e.g. total number of open-close operations) for each of the above bid items shall be as follows:

BID ITEM NO. 1: _____

F. The times of delivery shall be as follows:

BID ITEM NO. 1: _____

G. Title of the equipment shall pass to the Owner upon:

1. Delivery to location specified.
2. Satisfactory inspection for in-transit damage.
3. Acceptance by the Owner.

H. The MATERIALMAN shall include engineering data with his proposal as specified and as required to evaluate bid.

I. Bidder hereby certifies that he is:

( ) Manufacturer

( ) Manufacturer's Authorized Mississippi Representative

J. Exceptions: _____

_____

_____

_____

_____

_____

_____

_____

_____

K. It is understood by the undersigned that the OWNER retains the privilege of accepting or rejecting all or any part of this proposal and to waive any informalities or technicalities therein. Counter-proposals or qualified bids shall be subject to rejection at the discretion of the OWNER.

It is also understood by the undersigned that the OWNER reserves the right to conduct investigations to evaluate the proposals received and to award the bid for this equipment to the lowest Bidder, who in the OWNER's evaluation will provide the equipment which will be in the best interest of the OWNER.

MATERIALMAN:

BY: _____

TITLE: _____

COMPANY: _____

ADDRESS: _____

_____

TELEPHONE NO.: _____

EMAIL: _____

DATE SIGNED: _____

SPECIFICATION FOR SUBSTATION VOLTAGE REGULATORS

1.1 ACCEPTABLE MANUFACTURERS

A. Voltage Regulators:

1. Manufacturers: Howard Industries; Siemens; Cooper Power Systems; General Electric.
2. Substitutions: Refer to paragraph 1.2 below.
3. Requirements: Voltage regulators shall be manufactured and assembled in the U.S.A.

1.2 SUBSTITUTIONS

A. Wherever products are identified in bidding documents by reference to manufacturer's name, brand name or catalog number, such reference is made to establish a standard or required function, appearance and quality and is not intended to restrict competitive bidding.

B. Bidder may request MSU's approval of the product which differs from requirements provided.

C. Proof of merit of proposed substitution is upon bidder. MSU's decision to approve or not approve proposed substitution will be final.

D. Any proposed substitution must be received by MSU not less than five (5) business days prior to bid opening.

E. If MSU approves a proposed substitution, approval will be set forth in Addenda issued before the bid submission deadline. Failure to issue such Addenda constitutes notice of rejection.

1.3 APPROVAL SUBMITTAL

A. Only voltage regulators that have been approved by MSU shall be accepted.

B. Shop Drawings: Indicate bill of materials, outline dimensions, electrical characteristics and connection requirements, schematic and connection diagrams, connection and support points, weight, specified ratings and materials of all equipment, including bushings, connectors and other apparatus that would affect the installation of the voltage regulator.

C. Product Data: Submit electrical characteristics and connection requirements, standard model design tests, and options.

D. Test Reports: Indicate procedures and results for specified factory and field-testing and inspection.

E. The MATERIALMAN shall acknowledge in writing to the Engineer that the Owner's Purchase Order or acceptance has been received. The acknowledgement shall include the date that the Purchase Order or acceptance is received and the date that equipment delivery is expected.

F. As soon as practicable after receipt of Owner's Purchase Order or acceptance of MATERIALMAN's Proposal, submit to the ENGINEER at least two (2) bound copies of shop

drawings or the specified equipment. Each submittal shall be clearly marked with the project name, dated, and accompanied by a letter of transmittal listing all items included in the submittal. After the ENGINEER has reviewed the shop drawings, satisfactory shop drawings will be accepted and dated, three sets will be retained by the ENGINEER, and the remaining sets will be returned to the MATERIALMAN. If the shop drawings are not accepted, one set will be retained by the ENGINEER and the remaining sets will be returned to the MATERIALMAN, with indications of the required corrections and changes made on one of the sets. Make such corrections and changes as indicated. Resubmit shop drawings as specified above, until acceptance has been obtained. No corrections or changes indicated on shop drawings shall be considered as an extra work order.

G. Acceptance of shop drawings by the ENGINEER will be general only, and such acceptance will not relieve the MATERIALMAN of responsibility for accuracy of such shop drawings, proper fitting, coordination, construction of work, and furnishing materials required by the Specifications but not indicated on shop drawings. The MATERIALMAN shall submit in writing any requests for modifications to the Specifications. Shop drawings submitted to the ENGINEER do not constitute "in writing" unless it is brought to the attention of the ENGINEER that specific changes are being suggested. Acceptance of shop drawings shall not be construed as approving departures from the Specifications.

1.4 SHIPPING SUBMITTAL

A. Project Record Documents: Include copy of manufacturer's certified shop drawings, product data and test results.

B. Operation and Maintenance Instructions: Submit operating instructions for voltage regulators. Include maintenance instructions for voltage regulator removal, replacement, testing and adjustment, and lubrication.

C. Send one (1) bound and indexed copy of Project Record Documents and Operation & Maintenance Instructions shipped with the voltage regulator.

D. Send two (2) sets of bound and indexed copies of Project Record Documents and Operation & Maintenance Instructions in hard copy (paper) format to MSU prior to shipment.

E. Send one (1) set of complete indexed Project Record Documents and Operation & Maintenance Instructions in electronic format (email or flash drive) to MSU prior to shipment. All drawings shall be in AutoCAD DXF or DWG format.

1.5 WARRANTY

A. Manufacturer shall provide warranty information at the time of bid opening. Proposer shall provide a minimum warranty of two (2) years on the complete voltage regulator.

SECTION 2 PRODUCTS

2.1 GENERAL REQUIREMENTS

A. Voltage regulators shall be single phase, outdoor, free standing type, each furnished complete with electronic control and galvanized steel mounting frame designed for mounting on an outdoor concrete pad foundation.

B. Voltage regulators shall be complete from the incoming bushing studs to the outgoing bushing studs including bushing connectors.

C. Voltage regulators will be exposed to the following conditions:

1. Maximum Ambient Temperature: 40 degrees C.
2. Minimum Ambient Temperature: -10 degrees C.
3. Maximum Wind Velocity: 90 MPH.
4. Seismic Zone: ANSI Zone 2.

D. Voltage regulators will be installed on an effectively grounded neutral system.

2.2 RATINGS AND ELECTRICAL CHARCTERISTICS

A. Voltage Rating: 7,620 Volts

B. Phase: Single Phase with Three Phase Operation.

C. Frequency: 60 Hz

D. Cooling Class: OA.

E. KVA Rating:

1. 333 KVA @ 55°C Rise.
2. The regulator coil shall include thermally upgraded insulation to permit operation of the regulator up to 65°C rise without loss of life to the insulating system. At 65°C rise, the regulator shall provide 12% extra current capacity over the base current rating.

F. BIL: 95 KV.

G. Voltage Regulation: Regulator shall include feature which will permit additional current carrying capabilities at reduced regulation as shown below.

Regulation (Percent)	Current (Percent of 55°C rating)
+/- 10.0	100
+/- 8.75	110
+/- 7.5	120
+/- 6.25	135
+/- 5.0	160

H. Taps: Regulator shall be provided with taps for operation at 7970, 7620, 7200, and 6930 volts.

I. Oil: Regulator shall be furnished with new ANSI Type II mineral oil per ASTM D-3487. The oil shall contain less than 1 part per million PCB at time of manufacture. Statement to this effect shall be placed on regulator nameplate.

2.3 CONSTRUCTION

A. Regulator shall be designed such that it can be partially or completely untanked for inspection and maintenance without disconnecting any internal electrical or mechanical connections. After the unit is untanked, it shall be possible to operate the regulator mechanism and to test the control panel from an external 120 VAC source without any reconnections between the control and the regulator.

B. The tap-changing mechanism shall be electric motor gear-driven, quick-break type, and shall be completely oil-immersed.

C. Regulator shall be of a sealed-tank construction to permit operation at 65°C rise without increasing the oxidation rate of the oil. A pressure-relief device shall be supplied which vents at approximately 4 psig.

D. The external parts of the tank and control enclosure shall be painted ANSI #70 gray. The inside of the tank and bottom of the cover shall also be primed and/or painted.

E. The BIL rating of the bushings shall be compatible with the BIL of the regulator. The bushing designations (S, L, and SL) shall be permanently marked on the regulator cover adjacent to the bushings.

F. Regulator shall be supplied complete with tin plated copper NEMA 4 hole lugs mounted on each bushing stud.

G. Regulator shall be provided with an external metal oxide varistor (MOV) bypass arrester connected across the series winding.

H. An external oil sight gauge shall be provided which indicates oil level at critical oil level or 25°C ambient temperature.

I. An external position indicator shall indicate the tap changer position. The position indicator shall be mounted above the oil level and shall be slanted downward at a 45 degree angle for ease of reading from ground level.

J. Regulator shall have a 1" drain valve with sampling device and a 1" upper filter press connection.

K. Easy access (removable cover, handhole, external box, etc.) shall be provided to terminals used for reconnection of regulators for lower voltage operation.

L. Regulator shall be provided with a base suitable for securing to a pad foundation or elevating structure.

M. Regulator shall be provided with two ground pads located near the base of the regulator and located diagonally opposite from each other.

N. Regulator shall be equipped with wildlife protection for high voltage bushing terminals and lightning arresters.

O. Regulator shall be provided with non-ferrous nameplate.

2.4 REGULATOR CONTROL

A. Furnish SEL-2431 (Part No. 24310111X1213XX220XX) voltage regulator control with the following accessories:

1. A spring-loaded three-position manual RAISE-OFF-LOWER toggle switch, which shall only be active when the control switch is in the MANUAL position.
2. Provisions for EI-232 front panel communications.
3. Provisions for 200um multimode fiber optic communications.
4. SEL-2431 configurable labels kit, Part No. 9260034.

2.5 ACCESSORIES

A. Each regulator shall be provided with a galvanized steel elevating structure to raise the regulator to a height such that the clearance of the live parts of the bushings will be a minimum of 9'-0" above grade.

2.6 TESTING

A. Voltage regulators shall be manufactured and tested as per standard requirements of ANSI C57.15.