E-5

Electrical

PROCUREMENT OF GOODS UNDER NATIONAL SHOPPING PROCEDURES

COEP/TEQIP-II/CoE-SRES/March2016/NS/22

For

Special Purpose Auto Transformer

Bid Price: Nil/-

PACKET NO :COEP/TEQIP-II/ CoE-SRES/ March2016 /NS /22

INVITATION FOR QUOTATIONS FOR SUPPLY OF

Special Purpose Auto Transformer

1. You are invited to submit your most competitive quotation for the following goods: -

Sr. No	Title /Name of the equipment /System	Brief description [Attach separate annexure if necessary for detailed specifications	Quantity
1	**Special Purpose Auto Transformer**	**Please refer to the Annexure A**	**05**

The schedule is as follows

Date of inviting the quotations	23/03/2016
Last date of submitting the sealed quotation to TEQIP office, COEP	04/04/2016 [upto 3:00 pm]
Opening of the quotations	04/04/2016 [4:00 pm]
Validity of quotation	Min 45 days
Delivery Period	**4 months from the acceptance of PO**

2. College of Engineering has received the grants for establishing Center of Excellence in Smart Renewable Energy System under MHRD's Technical Education Quality Improvement Program-Phase II. The said procurement is for this center. This project is World Bank sponsored project. This procurement is being carried out using the National Shopping Process, and will observe the guidelines of Shopping under TEQIP-II.

3. **Bid Price**

   a) The contract shall be for the full quantity as described above and in the annexure. Corrections, if any, shall be made by crossing out, initialing, dating and re-writing.

   b) All duties, taxes and other levies payable by the contractor under the contract shall be included in the total price. However, break- up of the basic price and taxes/duties shall be indicated clearly.

   c) The bidders will be evaluated on the basic price.

d) The rates quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.

e) The Prices should be quoted **in Indian Rupees** only.

4. Each bidder shall submit only one quotation.

5. **Validity ofQuotation**

Quotation shall remain valid for a period not less than 45 days after the deadline date specified for submission.

6. **Evaluation of Quotations**

The purchaser shall evaluate and compare the quotations determined to be substantially responsive i.e. which

(a) are properly signed ; and

(b) conform to the terms and conditions, and specifications.

The Quotations would be evaluated considering all items together in this packet.

7. **Award of contract**

The Purchaser shallaward the contract to the bidder whose quotation has been determined to be substantially responsive and who has offered the lowest evaluated quotation price.

7.1 Notwithstanding the above, the Purchaser reserves the right to accept or reject any quotations and to cancel the bidding process and reject all quotations at any time prior to the award of contract.

7.2 The bidder whose bid is accepted shall be notified of the award of contract by the Purchaser prior to expiration of the quotation validity period. The terms of the accepted offer shall be incorporated in the purchase order.

8. 80 % Payment shall be made immediately after delivery of the goods. Remaining 20 % payment will be made after successful commissioning and testing of the equipment/system.

9. Three years commercial warranty/ guarantee shall be applicable to the supplied goods.

10. You are requested to provide your offer in sealed envelope latest by **04th April 2016. Please indicate *"Quotation for* Special Purpose Auto Transformer *CoE-SRES/ March2016 /NS /*22*" at the right hand corner of the sealed envelope"***

11. The bidder has to supply the material within the prescribed date. A penalty as per norms will be imposed for delayed supply upto 6 weeks. Any further delay will automatically terminate the purchase order/ contract.

12. The supplier requires supplying the store exactly as per the specifications and will be responsible to replace the defective supplies at his risk and cost.

13 The Supplier should submit deviation statement if any. The quotations simply mentioning “asper your specification and cost” shall be rejected.

14. The supplier should arrange for free demo / working trial of equipment (if required) at the Institute / Manufacturers place as the case may be at suppliers cost. The Purchase Order would be placed subject to satisfactory demonstration of the equipment.

15. Commissioning / Installation is at suppliers cost unless otherwise specified.

16. Conditional quotation will not be accepted.

17. We look forward to receiving your quotations and thank you for your interest in this project.

Name: Prof. B. N. Chaudhari
Principal Investigator
Center of Excellence-Smart Renewable Energy System

Annexure A

Specification and Description

Specifications:
Special Purpose Auto Transformer

Rating: 1 kVA, 3phase, 415/230 Volt, Connection: YNyna0, 50Hz
Voltage Variations: +10% to -10% in 5% step on IV for IV variation
Phase Angle variations: 12.22 degree lagging to 9.8 degrees leading
Potentiometric tap changer with 4 circuits in steps of 2.5
Current density limited to 2 A/mm^2

Arrangement of windings should be as per following diagram:
It should have Out of phase winding (OW), Common winding (CW), in phase winding (IW) and high voltage winding (HV) arranged as below.

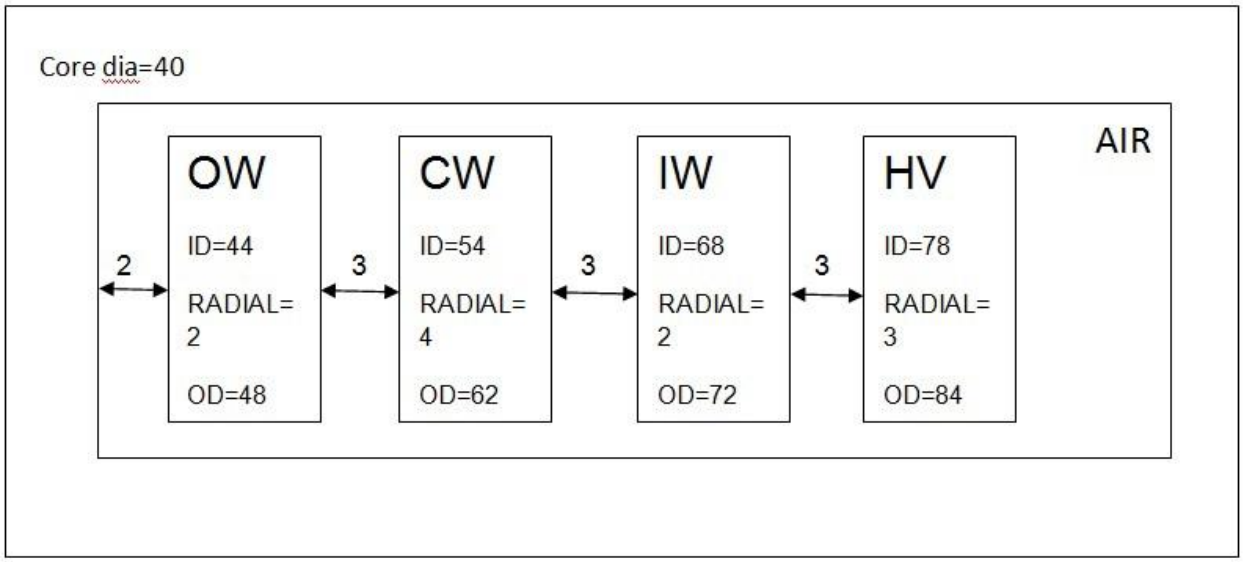

Figure 1 Winding Disposition of 1kVA Auto with Phase Shifter

The connections should be as indicated in table below:
Connection table for various combination of K_{IW} and K_{OW}

Diverter is at pos.1. for Leading			
K_{OW}	**K_{IW}**	**Connection**	
1	**0**	**R-IV to 4**	**1 to 9**
1	**0.25**	**R-IV to 4**	**1 to 8**
1	**0.5**	**R-IV to 4**	**1 to 7**
1	**0.75**	**R-IV to 4**	**1 to 6**
1	**1**	**R-IV to 4**	**1 to 5**
0.5	**0**	**R-IV to 3**	**1 to 9**
0.5	**0.25**	**R-IV to 3**	**1 to 8**
0.5	**0.5**	**R-IV to 3**	**1 to 7**

0.5	**0.75**	**R-IV to 3**	**1 to 6**
0.5	**1**	**R-IV to 3**	**1 to 5**
0	**0**	**R-IV to 2**	**1 to 9**
0	**0.25**	**R-IV to 2**	**1 to 8**
0	**0.5**	**R-IV to 2**	**1 to 7**
0	**0.75**	**R-IV to 2**	**1 to 6**
0	**1**	**R-IV to 2**	**1 to 5**

The connections should be as indicated in table below:

Diverter is at pos.1'. for Lagging			
K_{OW}	**K_{IW}**	**Connection**	
1	**0**	**R-IV to 2**	**1' to 9**
1	**0.25**	**R-IV to 2**	**1' to 8**
1	**0.5**	**R-IV to 2**	**1' to 7**
1	**0.75**	**R-IV to 2**	**1' to 6**
1	**1**	**R-IV to 2**	**1' to 5**
0.5	**0**	**R-IV to 3**	**1' to 9**
0.5	**0.25**	**R-IV to 3**	**1' to 8**
0.5	**0.5**	**R-IV to 3**	**1' to 7**
0.5	**0.75**	**R-IV to 3**	**1' to 6**
0.5	**1**	**R-IV to 3**	**1' to 5**
0	**0**	**R-IV to 4**	**1' to 9**
0	**0.25**	**R-IV to 4**	**1' to 8**
0	**0.5**	**R-IV to 4**	**1' to 7**
0	**0.75**	**R-IV to 4**	**1' to 6**
0	**1**	**R-IV to 4**	**1' to 5**

Tap changer should provide following connection flexibility:

			K_{IW}				
			0	**0.25**	**0.5**	**0.75**	**1**
K_{OW}	**Diverter is at pos.1. Leading**	**1**	100	105	110	115	120
			9.83°	9.36°	8.95°	8.57°	8.21°
		0.5	95	100	105	110	115

			5.21°	4.95°	4.71°	4.5°	4.31°
	Autotransformer mode	**0**	90	95	100	105	110
			0°	0°	0°	0°	0°
	Diverter is at pos.1'. Lagging	**0.5**	85	90	95	100	105
			5.82°	5.5°	5.21°	4.95°	4.71°
		1	80	85	90	95	100
			12.22°	11.51°	10.89°	10.33°	9.83°