

	PURCHASE SPECIFICATION	REG2021-20200592	
Rudrapur	GROUP : REG	Rev no	00

SPECIFICATIONS FOR SUPPLY OF ANEMOMETER

- MATERIALS SHALL BE DELIVERED TO BHEL CFP RUDRAPUR, UTTARAKHAND.

Signature and seal of Bidder

Signature

	PURCHASE SPECIFICATION	REG2021-20200592	
Rudrapur	GROUP : REG	Rev no	00

1. INTRODUCTION:

This specification defines the scope of the Bidder for **supply of anemometer as per table in Sl. No. 2, Bidder's scope, with minimum 01 years of warranty.**

2. BIDDER'S SCOPE:

The Scope of bidder is as follows:

- Supply of Anemometer with calibration certificate valid for 01 minimum year from the date of PO.
- Freight & Transit insurance.
Delivery Condition : **Free On Road (FOR) destinations (BHEL Rudrapur, Uttarakhand).**
- Warranty for minimum 01 years after delivery of material at destination.

Sl. No	ITEM DESCRIPTION	Qty	UOM	MAKE
1.	Anemometer for wind speed with wind vane with minimum 05 meters communication cable	02	Nos	Reputed Makes Only

Note:

- Equipments shall be RS 485 compatible and compatible with most of the data loggers.***
- The technical particulars, recommended installation procedures and drawings of the equipments shall be submitted for approval to BHEL with Bid.
- Test Certificates and calibration certificates of as per relevant standards/IEC shall be submitted to BHEL alongwith material supply.

Signature and seal of Bidder

Signature

	PURCHASE SPECIFICATION	REG2021-20200592	
Rudrapur	GROUP : REG	Rev no	00

3. Supply Address:

Sl. No	ITEM DESCRIPTION	Qty	UOM	Delivery address
1.	Anemometer for wind speed with wind vane with minimum 05 meters communication cable	02	Nos	Bharat Heavy Electricals Limited, CFP Rudrapur, Uttarakhand

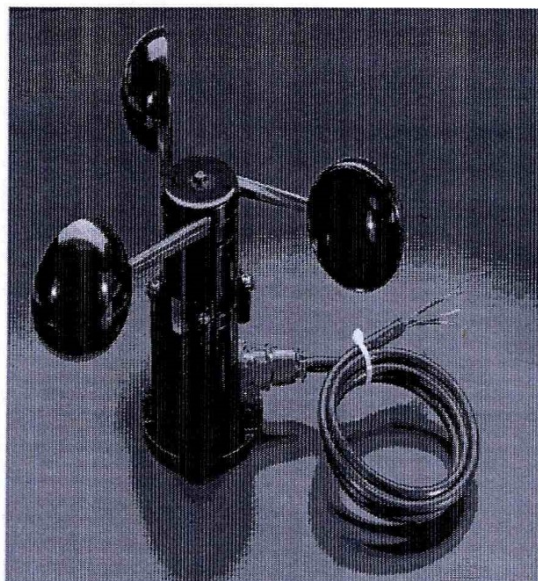
Signature and seal of Bidder

	PURCHASE SPECIFICATION	REG2021-20200592	
Rudrapur	GROUP : REG	Rev no	00

4. Technical Specification of Anemometer:

PRODUCT: METEOROLOGICAL SENSOR: ANEMOMETER

1. **Make:** Reputed make (Bidder to specify with offer/Bid)
2. **Wind speed Sensor:** 3 cup anemometer
3. **Sensing:** 3 Cup assembly mounted on friction free shaft and coupled to a chopper.
4. **Starting threshold:** Bidder to specify
5. **Range:** 0 to 75 meter/sec
6. **Distance constant:** Bidder to specify
7. **Accuracy:** Better than 0.5 m/s
8. **Tolerance range in all parameters-**
Less than 5% (Specially in operation)



(Indicative image of anemometer)

Principal of operation:

Anemometer is a fast respond low threshold opto electronic anemometer. When rotated by wind, a chopper on the anemometer shaft interrupts an infra red light source, generating pulses from a photo transistor. The single is amplified and fed through a line driver. The frequency is proportional to wind speed. The anemometer is provided with a 3 pin connector for easy replacement and comes with approx. 10 meter of shielded cable.

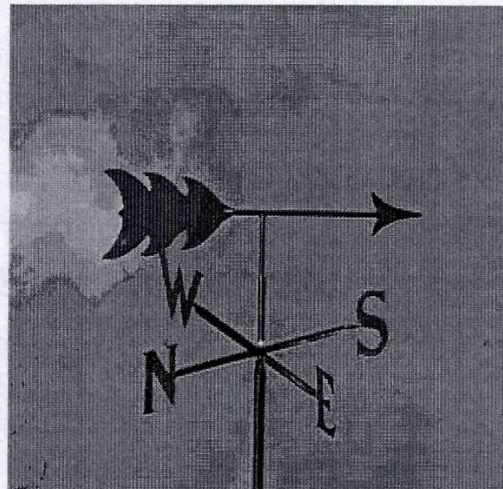
Signature

Signature and seal of Bidder

	PURCHASE SPECIFICATION	REG2021-20200592	
Rudrapur	GROUP : REG	Rev no	00

PRODUCT: METEOROLOGICAL SENSOR: WIND VANE

1. **Make:** Reputed make (Bidder to specify with offer/Bid)
2. **Wind direction sensor:** Wind Vane.
3. **Starting threshold:** Bidder to specify
4. **Range:** 0 to 357 degree or better(3 degree electrical gap in the potentiometer.
5. **Output:** Bidder to specify
6. **Operating temperature:** Bidder to specify
7. **Tolerance range in all parameters-**
Less than 5% (Specially in operation)



(Indicative image of wind vane)

Principal of operation:

Wind vane is a counter balanced, low threshold wind vane. A Linear, wire wound endless potentiometer is coupled to the vane by an SS shaft. As the vane turns, it rotates a stainless steel shaft which is coupled to the potentiometer. This potentiometer has excellent linearity, very low starting torque.

The north of the wind vane is marked on its body. This line is to be aligned with actual north with wind vane help of prismatic compass, at the time of installation. Sensor gives minimum resistance at north (i.e., 0 degree approximately 20 ohms). The resistance output linearly proportional to the position of the wind vane.

Signature and seal of Bidder

Signature

	PURCHASE SPECIFICATION	REG2021-20200592	
Rudrapur	GROUP : REG	Rev no	00

5. DRAWINGS & MANUALS:

Bidders shall provide technical data sheets and test reports for the equipment giving details of the specifications alongwith Bid for approval.

One set of Installation and Maintenance manuals are to be supplied at the time of dispatch.
One set shall be submitted in soft copy to BHEL Rudrapur.

Signature

Signature and seal of Bidder

	PURCHASE SPECIFICATION	REG2021-20200592	
Rudrapur	GROUP : REG	Rev no	00

6. Special Terms and conditions:

6.1 Delivery Schedule:

- (i) Vendor has to submit make, Data sheet(TDS) and drawing of equipments alongwith Bid.
- (ii) Material should be delivered at BHEL Rudrapur within **10 days** from PO date.

6.2 Payment terms:

- (i) **On Supply:** 100% of the payment shall be released after receipt of the materials at BHEL Rudrapur.

Note: Payment shall be released within 45 days from the date of submission of verified bill subject to acceptance of material.

Following documents will be required along with the invoice.

1. **Invoice copy 4 Nos**
2. **LR Copies of supplied materials**
3. **BHEL issued certificate.**

6.3 WARRANTY AND GUARANTEE:

The Bidder shall warrant that the goods supplied under this contract are new, unused, of the most recent or latest technology and incorporate all recent improvements in design and materials. The bidder shall provide warranty/guarantee covering the rectification of any defect in the material including spare parts OR replacement for a period of 01 years (minimum) from the date of receipt of material at BHEL. The successful bidder has to transfer all the Guarantee/ Warranty of the different components to BHEL. Undertaking from bidder and warranty certificate shall be provided alongwith the supplies.

Following requirements shall be ensured for the equipment supplied under the guarantee/warranty obligation:

- (i) Performance as per technical and other parameters mentioned in the specification and contract. Performance data furnished/ specified for the equipment should be actually obtainable when the equipment is installed and tested at site.
- (ii) Quality and strength of materials used in the manufacture of the equipment considering the applicable codes of practice and regulation.
- (iii) Adequate factors of safety for all parts of the equipment to withstand the mechanical and/ or electrical stresses developed therein under specific operating conditions.

Signature

Signature and seal of Bidder

	PURCHASE SPECIFICATION	REG2021-20200592	
Rudrapur	GROUP : REG	Rev no	00

Note: During the warranty period bidder has to provide Name, address, mobile number and email address of the service Centre to be contacted in case of failure or complaint.

Signature

Signature and seal of Bidder

	PURCHASE SPECIFICATION	REG2021-20200592	
Rudrapur	GROUP : REG	Rev no	00

7 GENERAL TERMS AND CONDITIONS:

- a. All the materials Dispatched to destination should have proper paper work like Dispatch certificate, Invoice. These documents shall be got duly verified & signed by BHEL representative/authorized representative of BHEL upon receipt at destination. This is required for processing of payment.



Signature and seal of Bidder