

वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद्
Council of Scientific & Industrial Research
राष्ट्रीय वांतरिक्ष प्रयोगशालाएं
National Aerospace Laboratories



CSIR - NAL Estd. 1959
ISO 9001 : 2015
Certified Organization

INVITATION FOR BIDS/NIT

Tender No. NAL/PUR/ELK/469/19-Y

Dated: 16-Dec-19

CSIR- National Aerospace Laboratories (NAL), Bengaluru, India is one of the premier laboratories under Council of Scientific and Industrial Research (CSIR), an autonomous body under Department of Scientific and Industrial Research, Government of India, New Delhi. CSIR-NAL is a Science and Knowledge based Research, Development and Consulting Organization. It is internationally known for its excellence in Scientific Research in Aerospace Engineering.

The Director, CSIR-NAL invites online quotation for procurement of the following item(s) for day to day research work.

Sl.No.	Description of Items	Unit	Quantity
01	SITC of 10 HP VRF Air-conditioning system with outdoor & indoor units and other accessories. Please refer Annexure for detailed specification	No	01

Single / Double Bid	Single
Bid Security (EMD) (in INR)	Bid Security Declaration should be enclosed with quotation.
Performance Security	10% of the purchase order value

01. Tender Documents may be downloaded from Central Public Procurement Portal <https://www.etenders.gov.in>. Aspiring Bidders who have not enrolled/ registered in e- procurement should enroll/ register before participating through the website <https://www.etenders.gov.in>. The portal enrolment is free of cost. Bidders are advised to go through instructions provided at 'Instructions for online Bid Submission'.
02. Tenderers can access tender documents on the website (For searching in the NIC site <https://www.etenders.gov.in>, kindly go to Tender Search option, select tender type and select ' Council of Scientific and Industrial Research' in organization tab and select NAL-Bengaluru-CSIR in department type Thereafter, Click on "Search" button to view all CSIR-NAL, Bengaluru tenders). Select the appropriate tender and fill them with all relevant information and submit the completed tender document online on the website <https://www.etenders.gov.in> as per the schedule given in the next page.
03. Either the Indian Agent on behalf of the Foreign principal or the Foreign principal can bid directly in a tender but not both. However, the offer of the Indian Agent should also accompany the authorization letter from their principal. To maintain sanctity of tendering system, one Indian Agent cannot represent two different Foreign principals in one tender.
04. Unsolicited / conditional / unsigned tenders (Quotations) shall not be considered. Quotations received after the due date and time shall be summarily rejected.
05. The Bidder shall comply the terms and conditions of the tender, failing which, the offer shall be liable for rejection.
06. The Director, CSIR- National Aerospace Laboratories., Bengaluru reserves the right to accept any or all the tenders either in part or in full or to split the order without assigning any reasons there for.


Raman Kumar
(Section Officer S&P)

पी बी सं. 1779, एचएएल एयरपोर्ट रोड , कोडिहल्ली, बेंगलुरु - 560 017, भारत,
P B No 1779, HAL Airport Road, Kodihalli, Bengaluru - 560 017, INDIA
फोन / Phone : (का./ Off) : +91 - 80 - 2508 6040 - 45, फैक्स / FAX : +91-80-2526 9611



SCHEDULE CUM CRITICAL DATE SHEET

1	Name of Organization	CSIR-National Aerospace Laboratories, Bengaluru	
2	Tender Reference No	NAL/PUR/ELK/469/19-Y dated: 16-Dec-19	
3	Tender Type (Open/Limited/EOI/Auction/Single)	Open	
4	Type/Form of Contract (Work / Supply / Auction / Service / Buy / Empanelment / Sell)	Supply	
5	No of Covers (One/Two/Three/Four)	One	
6	Tender Category (Services/Good/Works)	Goods	
7	Allow Resubmission (Only in online mode within scheduled period)	Yes	
8	Allow Withdrawal (Only in online mode within scheduled period)	Yes	
9	Allow Offline Submission	No	
10	Work Item Title	SITC of 10 HP VRF Air-conditioning system with outdoor & indoor units and other accessories	
11	Work Description	SITC of 10 HP VRF Air-conditioning system with outdoor & indoor units and other accessories	
12	Delivery Schedule	60 days from the date of purchase order	
13	Product Category (Civil Works / Electrical Works / Fleet Management / Computer Systems)	R & D Equipment	
14	Is Multi Currency Allowed	Yes	
15	a) Tender Publishing Date -	17-Dec-19	1800 Hrs
	b) Document Download Start Date-	17-Dec-19	1800 Hrs
	c) Bid Submission Start Date-	17-Dec-19	1800Hrs
	d) Bid Submission End Date-	09-Jan-20	1000 Hrs
	e) Bid Opening Date-	10-Jan-20	1100 Hrs
16	Bid Validity Days	90 days	
17	Address for communication	Stores and Purchase Officer CSIR-National Aerospace Laboratories, HAL Airport Road, Kodihalli, Bengaluru - 560017	
18	Inviting Officer	Director, CSIR-NAL	
19	Contact No	25086040, 25086041	
20	E-mail Address	purchasek@nal.res.in	
21	Detailed specification of item	Refer Invitation for bids / NIT	
22	Tender Terms & Conditions & Instruction for online bid submission	The prospective bidders are requested to refer to the Standard Tender Document available on NAL Internet (www.nal.res.in) under the icon Tender-Purchase before formulating and submitting their bids	

CSIR-National Aerospace Laboratories

Electrical Section

Name of the work: SITC of 10 HP VRF system Air Conditioning system with associated equipment at ALD Seminar room and HOD room at System building Kodihalli, CSIR-National Aerospace Laboratories, Bengaluru – 560017.

Sl. No	Description	Unit	Qty	Rate in	Amount in
Part A					
1	<u>VRF Outdoor Units :</u>				
	Variable Refrigerant Volume (VRF) air cooled Outdoor units suitable for cooling and heating, having all hermetically sealed inverter type Scroll Compressor(s), minimum two compressors modules, microprocessor based Controller, top discharge type condensing unit(s), with R 410 A Refrigerant, vibration isolators, with suitable foundation etc. complete as required. The unit shall deliver the rated capacity at AHRI Conditions and work even at 50°C ambient temperature without tripping. The unit shall be suitable to work on 400V +/- 10%, 3 Phase, 50Hz AC power supply make BLUE STAR / DIAKIN / TOSHIBA / LG / PANASONIC / MITSUBISHI .				
a	10 HP with minimum 2 or more compressors	No	1		
2	<u>INDOOR UNITS:</u>				
2.1	<u>4 WAY COMPACT CASSETTE UNIT</u> x				
	4-way flow VRV/VRF Compact Cassette Type Indoor ceiling mounted unit equipped with synthetic washable media pre-filter, fan section with low noise fan/dynamically balanced blower, multispeed motor, coil section with DX Copper coil, electronic expansion valve, outer cabinet, drain pump, grill, necessary supports, vibration isolation, cord less remote control etc., suitable for operation on single phase 230 V ± 10%, 50Hz AC supply, complete, as required. The unit shall have automatic force shut down provision in case of fire on receiving signal from BMS System. The cooling capacity of indoor unit will be at air inlet conditions of 27 Degree C DB and 19 Degree C WB temperature.				
a	1.5 Tr	Nos	6		
Sub-total - A					
Part B					
1	<u>VRF Outdoor Units :</u>				
	Installation , Testing and Commissioning of Super Modular Multi type TOP DISCHARGE VRF outdoor units equipped with highly efficient DC twin rotary / Inverter Scroll compressors with all inverter type compressor (s), special acryl precoated body, with maximum COP, of capacities and quantities as mentioned below.				
a	10 HP with minimum 2 or more compressors	No	1		
2	<u>INDOOR UNITS:</u>				
2.1	<u>4 WAY COMPACT CASSETTE UNIT</u> x				
	Installation , Testing and commissioning of 4 way compact cassette type indoor units complete with panels, turbo fan, cooling coil with suitable rows, electronic expansion valves, air filter, in-built drain pump & insulated drain pan all as per standard				

Sl. No	Description	Unit	Qty	Rate in `	Amount in `
a	1.5 Tr	Nos	6		
3	Supply & installation of Refrigerant copper piping insulated with the specified thickness of closed cell elastomeric nitrile rubber insulation in a tubular form and joints sealed with black cotton tape All refrigerant piping between indoor & outdoor units duly insulated and covered with Al. foil as per specifications. All piping inside the room shall be properly supported with hanger and exposed piping shall be properly supported in cable tray. All piping shall be pressure tested for 1.5 times the working pressure.				
a)	28.6 mm dia with 19 mm thick insulation	RMT	20		
b)	19.1 mm dia with 13 mm thick insulation	RMT	10		
c)	15.9 mm dia with 13 mm thick insulation	RMT	50		
d)	12.7 mm dia with 13 mm thick insulation	RMT	35		
e)	9.5 mm dia with 13 mm thick insulation	RMT	40		
f)	6.4 mm dia with 13 mm thick insulation	RMT	35		
4	Supply & installation of suitable Refnet joints for each indoor unit connectivity	Nos	5		
5	Supply & installation of control cables between indoor and outdoor unit laid in PVC conduct and clamped as per OEM recommendations	RMT	50		
6	Supply & installation of CPVC drain piping with 6 mm thick nitrile rubber insulation				
6.1	32 mm dia	RMT	50		
6.2	25 mm dia	RMT	40		
7	Shifting and positioning of all IDU & ODU	Lot	1		
8	Installation Charges for all the Units including Pr. Testing, Vacuuming and Commissioning with Refrigerant Gas & Necessary angle frames for the outdoor units.	Lot	1		
9	Cable Trays 300 mm wide.	RM	15		
10	Core cutting of size : 100/150mm Dia x 225mm Length in brick masanory	Nos	3		
				Sub-total - B	
Abstract					
				Sub-total - A	
				GST	
				Sub-total - B	
				GST	
				Grand total (A+B) with Tax	

Outdoor on Terrace

ODU
10 HP
VRV

12.0000

23.4000

30.0000





29.2000

ALD HOD's room

ALD Conference room
room no 304




Beam

INDEX

ITEM	DESCRIPTION
	1.5 TR cassette type ceiling mounted Inverter type Indoor unit
	Refrigerant pipes of various sizes
	Drain pipes
	2x2 LED light fitting



All dimensions are in Ft.
Scale: Not to scale

Drawing No: NAL/ELK/DRG/		Date: 22.11.2019	
Rev:04	Name	Signature	
Proposed plan of VRF Air-conditioning at CNSU	Drawn by :		
	Checked by:		
	Approved by:		
		NATIONAL AEROSPACE LABORATORIES BANGALORE-560 017	

Tender No.: NAL/PUR/ELK/469/19-Y

BID-SECURING DECLARATION FORM

Date: _____

Bid No. _____

To (insert complete name and address of the purchaser)

I/We. The undersigned, declare that:

I/We understand that, according to your conditions, bids must be supported by a Bid Securing Declaration.

I/We accept that I/We may be disqualified from bidding for any contract with you for a period of one year from the date of notification if I am /We are in a breach of any obligation under the bid conditions, because I/We

(a)	have withdrawn/modified/amended, impairs or derogates from the tender, my/our Bid during the period of bid validity specified in the form of Bid; or
(b)	having been notified of the acceptance of our Bid by the purchaser during the period of bid validity (i) fail or reuse to execute the contract, if required, or (ii) fail or refuse to furnish the Performance Security, in accordance with the Instructions to Bidders.

I/We understand this Bid Securing Declaration shall cease to be valid if I am/we are not the successful Bidder, upon the earlier of (i) the receipt of your notification of the name of the successful Bidder; or (ii) thirty days after the expiration of the validity of my/our Bid.

Signed: (insert signature of person whose name and capacity are shown)
in the capacity of (insert legal capacity of person signing the Bid Securing Declaration).

Name: (insert complete name of person signing the Bid Securing Declaration)

Duly authorized to sign the bid for an on behalf of: (insert complete name of Bidder)

Dated on _____ day of _____ (insert date of signing)

Corporate Seal (where appropriate)

Note:

1. In case of a Joint Venture, the Bid Securing Declaration must be in the name of all partners to the Joint Venture that submits the bid.
2. Bid Security declaration must be signed in by the Proprietor/CEO/MD or equivalent level of Officer of the company.