INVIATION 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.

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Description of Items</th>
<th>Unit</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>SITC of 10 HP VRF Air-conditioning system with outdoor &amp; indoor units and other accessories. Please refer Annexure for detailed specification</td>
<td>No</td>
<td>01</td>
</tr>
</tbody>
</table>

- 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](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](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](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](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)

Pee 80, 1779, Edamul Eswaramoorti Road, Kodihalli, Bengaluru - 560 017, India
P B No 1779, HAL Airport Road, Kodihalli, Bengaluru - 560 017, INDIA
Phone / Fax: (Off) : 91-80-2508 6040-45, 91-80-2526 9611

http://www.nal.res.in purchasek@nal.res.in
**SCHEDULE CUM CRITICAL DATE SHEET**

<table>
<thead>
<tr>
<th></th>
<th>Name of Organization</th>
<th>CSIR-National Aerospace Laboratories, Bengaluru</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Tender Reference No</td>
<td>NAL/PUR/ELK/469/19-Y dated: 16-Dec-19</td>
</tr>
<tr>
<td>3</td>
<td>Tender Type (Open/Limited/EOI/Auction/Single)</td>
<td>Open</td>
</tr>
<tr>
<td>4</td>
<td>Type/Form of Contract (Work / Supply / Auction / Service / Buy / Empanelment / Sell)</td>
<td>Supply</td>
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<tr>
<td>5</td>
<td>No of Covers (One/Two/Three/Four)</td>
<td>One</td>
</tr>
<tr>
<td>6</td>
<td>Tender Category (Services/Good/Works)</td>
<td>Goods</td>
</tr>
<tr>
<td>7</td>
<td>Allow Resubmission (Only in online mode within scheduled period)</td>
<td>Yes</td>
</tr>
<tr>
<td>8</td>
<td>Allow Withdrawal (Only in online mode within scheduled period)</td>
<td>Yes</td>
</tr>
<tr>
<td>9</td>
<td>Allow Offline Submission</td>
<td>No</td>
</tr>
<tr>
<td>10</td>
<td>Work Item Title</td>
<td>SITC of 10 HP VRF Air-conditioning system with outdoor &amp; indoor units and other accessories</td>
</tr>
<tr>
<td>11</td>
<td>Work Description</td>
<td>SITC of 10 HP VRF Air-conditioning system with outdoor &amp; indoor units and other accessories</td>
</tr>
<tr>
<td>12</td>
<td>Delivery Schedule</td>
<td>60 days from the date of purchase order</td>
</tr>
<tr>
<td>13</td>
<td>Product Category (Civil Works / Electrical Works / Fleet Management / Computer Systems)</td>
<td>R &amp; D Equipment</td>
</tr>
<tr>
<td>14</td>
<td>Is Multi Currency Allowed</td>
<td>Yes</td>
</tr>
<tr>
<td>15</td>
<td>Tender Publishing Date -</td>
<td>17-Dec-19</td>
</tr>
<tr>
<td>16</td>
<td>Bid Validity Days</td>
<td>90 days</td>
</tr>
<tr>
<td>17</td>
<td>Address for communication</td>
<td>Stores and Purchase Officer, CSIR-National Aerospace Laboratories, HAL Airport Road, Bengaluru - 560017</td>
</tr>
<tr>
<td>18</td>
<td>Inviting Officer</td>
<td>Director, CSIR-NAL</td>
</tr>
<tr>
<td>19</td>
<td>Contact No</td>
<td>25086040, 25086041</td>
</tr>
<tr>
<td>20</td>
<td>E-mail Address</td>
<td><a href="mailto:purchasek@nal.res.in">purchasek@nal.res.in</a></td>
</tr>
<tr>
<td>21</td>
<td>Detailed specification of item</td>
<td>Refer Invitation for bids / NIT</td>
</tr>
<tr>
<td>22</td>
<td>Tender Terms &amp; Conditions &amp; Instruction for online bid submission</td>
<td>The prospective bidders are requested to refer to the Standard Tender Document available on NAL Internet (<a href="http://www.nal.res.in">www.nal.res.in</a>) under the icon Tender-Purchase before formulating and submitting their bids</td>
</tr>
<tr>
<td>Sl. No</td>
<td>Description</td>
<td>Unit</td>
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<tr>
<td></td>
<td><strong>Part A</strong></td>
<td></td>
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<tr>
<td>1</td>
<td><strong>VRF Outdoor Units:</strong></td>
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<tr>
<td></td>
<td>Variable Refrigerant Volume (VRF) air cooled Outdoor units suitable for</td>
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<td></td>
<td>cooling and heating, having all hermetically sealed inverter type Scroll</td>
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<td></td>
<td>Compressor(s), minimum two compressors modules, microprocessor based</td>
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<td></td>
<td>Controller, top discharge type condensing unit(s), with R 410 A Refrigerant,</td>
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<td></td>
<td>vibration isolators, with suitable foundation etc. complete as required.</td>
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<td></td>
<td>The unit shall deliver the rated capacity at AHRI Conditions and work even</td>
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<td></td>
<td>at 50°C ambient temperature without tripping. The unit shall be suitable to</td>
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<td></td>
<td>work on 400V +/- 10%, 3 Phase, 50Hz AC power supply make BLUE STAR /</td>
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<td></td>
<td>DIAKIN / TOSHIBA / LG / PANASONIC / MITSUBISHI.</td>
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<tr>
<td>a</td>
<td>10 HP with minimum 2 or more compressors</td>
<td></td>
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<tr>
<td>2</td>
<td><strong>INDOOR UNITS:</strong></td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td><strong>4 WAY COMPACT CASSETTE UNIT</strong></td>
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<tr>
<td></td>
<td>4-way flow VRV/VRF Compact Cassette Type Indoor ceiling mounted unit</td>
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<td></td>
<td>equipped with synthetic washable media pre-filter, fan section with low</td>
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<td></td>
<td>noise fan/dynamically balanced blower, multispeed motor, coil section with</td>
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<td></td>
<td>DX Copper coil, electronic expansion valve, outer cabinet, drain pump,</td>
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<td></td>
<td>grill, necessary supports, vibration isolation, cord less remote control</td>
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<td></td>
<td>etc., suitable for operation on single phase 230 V ± 10%, 50Hz AC supply,</td>
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<td></td>
<td>complete, as required. The unit shall have automatic force shut down</td>
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<td></td>
<td>provision in case of fire on receiving signal from BMS System. The cooling</td>
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<td></td>
<td>capacity of indoor unit will be at air inlet conditions of 27 Degree C DB</td>
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<td></td>
<td>and 19 Degree C WB temperature.</td>
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<td>1.5 Tr</td>
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<td></td>
<td><strong>Sub-total - A</strong></td>
<td></td>
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<tr>
<td></td>
<td><strong>Part B</strong></td>
<td></td>
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<tr>
<td>1</td>
<td><strong>VRF Outdoor Units:</strong></td>
<td></td>
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<tr>
<td></td>
<td>Installation, Testing and Commissioning of Super Modular Multi type TOP</td>
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<td></td>
<td>DISCHARGE VRF outdoor units equipped with highly efficient DC twin rotary /</td>
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<td></td>
<td>Inverter Scroll compressors with all inverter type compressor(s), special</td>
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<tr>
<td></td>
<td>acryl precoated body, with maximum COP, of capacities and quantities as</td>
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<td></td>
<td>mentioned below.</td>
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<tr>
<td>a</td>
<td>10 HP with minimum 2 or more compressors</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td><strong>INDOOR UNITS:</strong></td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td><strong>4 WAY COMPACT CASSETTE UNIT</strong></td>
<td></td>
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<tr>
<td></td>
<td>Installation, Testing and commissioning of 4 way compact cassette type</td>
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<tr>
<td></td>
<td>indoor units complete with panels, turbo fan, cooling coil with suitable</td>
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<td></td>
<td>rows, electronic expansion valves, air filter, in-built drain pump &amp;</td>
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<tr>
<td></td>
<td>insulated drain pan all as per standard</td>
<td></td>
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<tr>
<td>Sl. No</td>
<td>Description</td>
<td>Unit</td>
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<tr>
<td>-------</td>
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<td>------</td>
</tr>
<tr>
<td>a</td>
<td>1.5 Tr</td>
<td>Nos</td>
</tr>
<tr>
<td>3</td>
<td>Supply &amp; 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 &amp; 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.</td>
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<tr>
<td>a)</td>
<td>28.6 mm dia with 19 mm thick insulation</td>
<td>RMT</td>
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<tr>
<td>b)</td>
<td>19.1 mm dia with 13 mm thick insulation</td>
<td>RMT</td>
</tr>
<tr>
<td>c)</td>
<td>15.9 mm dia with 13 mm thick insulation</td>
<td>RMT</td>
</tr>
<tr>
<td>d)</td>
<td>12.7 mm dia with 13 mm thick insulation</td>
<td>RMT</td>
</tr>
<tr>
<td>e)</td>
<td>9.5 mm dia with 13 mm thick insulation</td>
<td>RMT</td>
</tr>
<tr>
<td>f)</td>
<td>6.4 mm dia with 13 mm thick insulation</td>
<td>RMT</td>
</tr>
<tr>
<td>4</td>
<td>Supply &amp; installation of suitable Refnet joints for each indoor unit connectivty</td>
<td>Nos</td>
</tr>
<tr>
<td>5</td>
<td>Supply &amp; installation of control cables between indoor and outdoor unit laid in PVC conduct and clamped as per OEM recommendations</td>
<td>RMT</td>
</tr>
<tr>
<td>6</td>
<td>Supply &amp; installation of CPVC drain piping with 6 mm thick nitrile rubber insulation</td>
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<tr>
<td>6.1</td>
<td>32 mm dia</td>
<td>RMT</td>
</tr>
<tr>
<td>6.2</td>
<td>25 mm dia</td>
<td>RMT</td>
</tr>
<tr>
<td>7</td>
<td>Shifting and positioning of all IDU &amp; ODU</td>
<td>Lot</td>
</tr>
<tr>
<td>8</td>
<td>Installation Charges for all the Units including Pr. Testing, Vacuuming and Commissioning with Refrigerant Gas &amp; Necessary angle frames for the outdoor units.</td>
<td>Lot</td>
</tr>
<tr>
<td>9</td>
<td>Cable Trays 300 mm wide.</td>
<td>RM</td>
</tr>
<tr>
<td>10</td>
<td>Core cutting of size : 100/150mm Dia x 225mm Length in brick masanany</td>
<td>Nos</td>
</tr>
</tbody>
</table>

Sub-total - B

<table>
<thead>
<tr>
<th>Abstract</th>
<th>Sub-total – A</th>
</tr>
</thead>
<tbody>
<tr>
<td>GST</td>
<td>Sub-total – B</td>
</tr>
</tbody>
</table>

| GST      | Grand total (A+B) with Tax |
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

<table>
<thead>
<tr>
<th>(a)</th>
<th>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</th>
</tr>
</thead>
<tbody>
<tr>
<td>(b)</td>
<td>having been notified of the acceptance of our Bid by the purchaser during the period of bid validity</td>
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<tr>
<td></td>
<td>(i) fail or refuse to execute the contract, if required, or</td>
</tr>
<tr>
<td></td>
<td>(ii) fail or refuse to furnish the Performance Security, in accordance with the Instructions to Bidders.</td>
</tr>
</tbody>
</table>

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.