

# **DEENDAYAL PORT AUTHORITY**

ISO 9001: 2008: ISO 14001: 2004

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O/o. Chief Mechanical Engineer,  
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No. CME/Electrical/2791

Date: 03.07.2026

## **BUDGETARY ENQUIRY**

Subject: Budgetary Enquiry for ‘Supply, Installation, Testing and Commissioning of VRF / VRV Air Conditioning System at Staff Club, Gopalpuri Colony including Comprehensive Operation & Maintenance for a period of 5 (Five) years after 1 (One) year of Warranty period.’

### **1. Scope of Work:**

- 1.1 The scope of work is complete Supply, Installation, Testing & Commissioning VRF / VRV Air Conditioning System at Staff Club, Gopalpuri Colony, Gandhidham including Comprehensive Operation & Maintenance for a period of 5 (Five) years after 1 (One) year of Warranty period.
- 1.2 The scope of work is indicative only. The contractor has to ensure the completeness of the entire VRF / VRV Air Conditioning System in all respect to the satisfaction of the Engineer or his representative of DPA by following all the Amendments, Codes & Standards, Acts & Rules, Certifications, Safety requirements.
- 1.3 The VRF / VRV Air Conditioning System shall be of latest Technology, energy efficient, and easy to maintain and operate.
- 1.4 The VRF / VRV Air Conditioning System shall be fed through Isolation Transformer or Oil Cooled Servo Voltage Stabilizer for control the input voltage to the VRF / VRV AC System. The Voltage range shall be considered as 380-440V, 50 Hz.
- 1.5 DPA will provide source of Power Supply for operation of the VRF / VRV Air Conditioning System from the existing LT Power Distribution Panel installed at Electrical Substation. The scope of work covers supply & installation/laying of LT Power Cable, LT Power Panel, Earthing System etc. for upgradation of the existing power supply system to cater the electrical load of proposed VRF / VRV AC System at the Staff Club, Gopalpuri.
- 1.6 The contractor shall provide necessary training to Technical Staff posted at Gopalpuri Colony of DPA for operating the VRF/VRV AC System or as directed by Engineer or his representative.

- 1.7 The firm shall design the plant / equipment / services considering the climatic conditions prevailing including peak humidity level at the Staff Club, Gopalpuri, Gandhidham. The firm, at his own responsibility is encouraged to visit and examine the site of work and its surroundings and obtain all information that may be necessary for preparing the Offer for the work. The costs of visiting the site shall be at the firm's own expense.
- 1.8 **Time Schedule for Work:** Supply, Installation, Testing & Commissioning of the VRF / VRV Air Conditioning System shall be completed within a period of 180 days. COMC of the complete VRF/VRV AC system shall be for a period of 5 (Five) years after 1 (One) year of Warranty (Defect Liability) Period; During Warranty (Defect Liability) Period, Operation & preventive Maintenance shall be carried out by Contractor.
2. **Configuration & Requirement of VRF / VRV Air Conditioning System:**
- 2.1 The VRF / VRV Air Conditioning System at Staff Club, Gopalpuri, Gandhidham shall comprise of the following indicative configuration. The quantities are indicative only; the firm shall assess, verify, finalize and complete the system in all respects as per actual site requirement:
- 2.1.1 22 HP VRF/VRV Outdoor Units, top-discharge type: 3 Nos.
- 2.1.2 AHU kits for ductable indoor units: 4 Nos.
- 2.1.3 Wall-mounted indoor units with remotes: 0.8 TR (1 No.), 1.03 TR (1 No.), 1.57 TR (2 Nos.), 2.03 TR (4 Nos.) and 2.57 TR (2 Nos.).
- 2.1.4 8.5 TR Duct-type Indoor units with jet nozzles: 4 Nos.
- 2.1.5 Refrigerant branch / ref joints (VRF/VRV): 11 Nos.
- 2.2 The compressors and refrigerant tubing shall be of copper, and all electrical wiring shall be copper, FRLS type, with the ISI marks.
- 2.3 The system shall be equipped with automatic temperature controllers with remote operation from inside the Hall & Rooms. Monitoring and alarms, including status of Power Off / On, shall also be displayed inside the hall & rooms.
- 2.4 Copper pipes of the required sizes, conduits, water drains and other outlet units shall be installed outside the hall with precise core-cutting of the minimum required size. No civil damage shall be allowed inside the hall, and any damage to the walls, covering tiles or other DPA property during installation and commissioning shall be rectified by the contractor at their own cost.
- 2.5 Ducting of galvanized steel sheet (minimum 1.6 mm / 16 gauge) with proper insulation shall be fabricated as per site requirement for the suction and discharge air lines, complying with the following:
- 2.6 Fabricated rectangular flange GI ducting of prime-quality minimum 1.6 mm GI sheet, complete with necessary supports, expansion fasteners, scaffolding to hang the duct,

and proper sealant at joints to prevent any leakage of air / moisture, as required for satisfactory installation and commissioning of the AHUs.

- 2.7 Internal coating of the duct shall be thermally effective glass-flake coating of 800-micron thickness, providing an impermeable barrier against corrosive chemicals and moisture.
- 2.8 Closed-cell nitrile rubber foam insulation, fire-retardant class “O”, with factory-laminated minimum 60 micron aluminium foil on the outer side of the duct to protect the foam from tears, punctures and physical damage throughout its service life.
- 2.9 The entire Air Conditioning system shall present a neat and aesthetically pleasing appearance. All ducting, refrigerant and drain piping, cabling and outdoor units shall be routed, aligned, supported and finished in a clean and orderly manner. Exposed ducting and piping shall be properly boxed / covered / colour-finished to match the surroundings as directed by the Engineer or his representative, so that no untidy or unfinished surfaces are visible after completion of work.
- 2.10 All refrigerant piping between indoor and outdoor units with 13 / 19 mm nitrile-rubber insulation, PVC drain piping with nitrile-rubber insulation, and all control cables laid in PVC conduit and properly clamped, including MS table-top stands for the outdoor units, nitrogen flushing, leak testing, evacuation, charging / topping-up of environmentally-friendly refrigerant and commissioning of the system in all respects.
- 2.11 All necessary electrical switchgear & protection for the VRF / VRV Air Conditioning System shall be in the scope of work. The main LT Power Distribution Board/Panel for VRF / VRV Air Conditioning System shall be provided with changeover switch of suitable rating.
- 2.12 Required number of maintenance-free chemical earth stations shall be provided for the VRF / VRV Air Conditioning System with Copper-bonded electrodes, chemical back-fill compound and masonry chamber, complete as per IS 3043 and its latest amendments.
- 2.13 All civil work, if any, required to complete the work shall be in the scope of the contractor. Supply & installation of all required accessories shall be in the scope of the contractor. The contractor shall arrange spare parts, consumables and all types of tools, tackles and scaffolding at their own cost for installation, testing & commissioning.

List of Make for VRF / VRV Air Conditioning System: Blue Star/Tata Voltas/Daikin/Mitsubishi Electric/Carrier.

### **3. Technical Specification of Electrical Item**

#### **3.1 LT Power Panel:**

Outdoor type (with canopy), floor mounted LT panel primer coated with powder coated paint & provided with required gasket for dust/vermin proof with degree of protection IP54 suitable for 415Volt 3 phase, 50 Hz, 4 wire system fabricated out of CRCA sheet

upto 2 mm thick (1.6 mm for doors) duly compartmentalized for incomer, bus section, outgoing, cable alleys & CT, PT Ampere Metre, Volt Metre, selector switches, frequency Metre, phase indicating lamp, Energy Metre complete including busbar supports, detachable cable gland plates, 2 earthing terminals, internal wiring & MCBs, MCCBs etc. as required including Bus-bar strips, Voltage & Ampere Metre, selector switch as per IE Standard.

LT Switchgear to be provided in the LT Power Panel:

- 4-Pole Changeover Switch: 1 No.
- 400A microprocessor based MCCB (Incomer): 1 No.
- Outgoing Feeders:
  - 4-Pole, 200A MCCB (microprocessor based) for LT AC Board/Panel: 1 No.
  - 4-Pole, 63A MCCB: 3 No.
  - 4-Pole, 40A MCCB: 6 No.

Installation, Testing & Commissioning of LT Power Panel:

The LT Power Panel shall be installed on base frame made of Stainless Steel (Grade SS 304) angle of size 50mm×5mm with six legs of size 50mm×5mm×800mm each. The panel shall be erected on RCC foundation of suitable size having height of 500mm above ground level and 400mm below ground level. Before RCC, 100mm PCC shall be done. For cable entry & exit, suitable size & length of DWC/HDPE Pipe shall be kept in the foundation during its casting as directed. Bi-metallic lug shall be used for end termination of copper cable. The work includes termination of the incoming & outgoing Cables along with providing suitable size of glands (suitable for existing outgoing cables) and necessary earth linking connection.

**3.2 3.5 Core, 70 & 120 Sq.mm, 1.1kV grade armoured copper conductor XLPE cable:**

1.1 kV grade, 3.5 Core, 70/120 Sq.mm, copper conductor, cross-linked polyethylene insulated PVC sheathed cable, flat strip armoured cable conforming to IS 7098: Part 1: 1988 with latest amendment. The cable shall have marking/embossing at an interval of every 1.0 meter showing its progressive length. The type test report shall be submitted for the type tests conducted in accordance with IS 7098: Part 1 within last 5 years from the date of work order on similar type of cable in any NABL accredited test house or laboratory at the time of supply of cable at site.

**3.3 GI Chemical Earthing for LT Power Panel:**

Supply and erection of earthing electrode consisting strip-in-pipe technology as per IS 3043: 1987 made of corrosion free G.I. pipe with constant ohmic value surrounded by highly conductive compound with high charge dissipation suitable for effective and maintenance free earthing in earth pit of minimum bore diameter of 225 mm size, with minimum 3mm thickness, 3 metre length G.I. pipe having Outer pipe diameter of 80mm having 80-200 micron galvanizing, Inner G.I. strip of minimum 40×5 mm size,

connection terminal diameter of 14mm in soft/hard rock/marshy soil with 50 kg (two bag) back filling bentonite compound UL listed and confirm to relevant International/Indian standards around electrode upto ground level. This specification covers providing Earth Pit Chamber with cover of size 500 × 500 × 50 mm as directed.

#### **4. Comprehensive Operation & Maintenance:**

- 3.1 The contractor shall provide Comprehensive Operation & Maintenance of the complete VRF/VRV Air Conditioning system for 5 (Five) years after 1 (One) year Warranty (Defect Liability) Period. The Contractor shall arrange all the required manpower & materials including all parts, spares, consumables, refrigerant, tubing, pipes, cables, ducts, controllers etc. during Warranty (Defect Liability) Period, Comprehensive Operation & Maintenance.
- 3.2 The contractor shall deploy competent manpower for comprehensive operation and maintenance of the Air Conditioning System. For centralized telephonic communication, one dedicated mobile number with mobile handset should be provided.
- 3.3 The maintenance shall be carried out as per the schedule & checklist of the OEM of the system. The Warranty & Comprehensive Maintenance covers preventive & breakdown maintenance including required manpower, spares, critical spares, consumables (filters, refrigerants, cleaning chemicals, lubricants, etc.), tools, tackles and equipment, for the entire period of Warranty & Comprehensive Operation & Maintenance.
- 3.4 A logbook shall be maintained for keeping a record of parts taken out / returned for record purposes.
- 3.5 For any routine maintenance, the contractor shall intimate DPA well in advance. Without prior intimation, non-working of any unit shall be treated as non-operational and shall attract penalty as per the conditions.

#### **5. Performance Standards in terms of Availability of System:**

- 5.1 The firm shall maintain all Air Conditioning System in full working condition throughout the Warranty Period & Comprehensive Annual Maintenance Contract Period. The firm shall guarantee the available factor of 99% as a whole keeping the performance of the VRF/VRV Air conditioning system as per the Indian Standards and as acceptable to the Engineer or his representative.

#### **6. General Conditions:**

- 6.1 The bidder shall be an authorized channel partner of the offered make of VRF/VRV Air Conditioning system.
- 6.2 The bidder, at their own responsibility and cost, is encouraged to visit and examine the site of work and its surroundings and obtain all information necessary for preparing the offer.
- 6.3 The rates shall be quoted in both figures and words; in case of difference, the rate in words shall prevail.

- 6.4 The contractor shall affix seal along with signature on the budgetary offer.
- 6.5 The work shall be carried out as per the best standards of workmanship and to the entire satisfaction of the Engineer or his representative.
- 6.6 All materials shall be got approved from the Engineer or his representative before being put into use.
- 6.7 The contractor shall quote prices exclusive of GST; the prevailing GST rate shall be quoted separately and reimbursed after necessary compliance under the GST Act, 2017. All other duties, taxes and cesses, if any, shall be borne by the contractor. Income-tax and surcharge as applicable shall be deducted at source and only the net amount shall be paid.
- 6.8 For entry & exit of material and personnel, gate passes shall be arranged by the firm. After completion, the site shall be neatly cleaned by the contractor.
- 6.9 All rules and regulations governing DPA shall be applicable, and all work shall be carried out to the entire satisfaction of the Engineer-in-Charge.

7. **Submission of Budgetary Quotation:**

The Firms shall submit:

- Indicative budgetary price
- Bill of Quantity & Technical Specification for VRF/VRV Air Conditioning System
- Assumptions and exclusions
- **Submission Deadline (On or before): 15.07.2026**
- **Mode of Submission**
  - Email: [cme@deendayalport.gov.in](mailto:cme@deendayalport.gov.in)
  - OR, Hard copy to the Office of Chief Mechanical Engineer, DPA.

- **Contact for Clarification**

Office of Chief Mechanical Engineer, Deendayal Port Authority

Email: [cme@deendayalport.gov.in](mailto:cme@deendayalport.gov.in)

8. **Enclosures**

- Annexure-I: Price Format
- Drawing of Staff Club, Gopalpuri Colony.

**ANNEXURE-I****Price Format**

<b>Subject: Supply, Installation, Testing and Commissioning of VRF / VRV Air Conditioning System at Staff Club, Gopalpuri Colony including Comprehensive Operation &amp; Maintenance for a period of 5 (Five) years after 1 (One) year of Warranty period.</b>					
<b>Sr. No.</b>	<b>Description</b>	<b>Qty.</b>	<b>Unit</b>	<b>Rate</b>	<b>Amount</b>
<b>Part – A: DSITC of VRF / VRV Air Conditioning System</b>					
1	Design, Supply, Installation, Testing & Commissioning of the VRF/VRV Air Conditioning system as per Scope of Work & Technical Specification on Turnkey basis.	1	Complete Job		
2	Supply of LT Power Panel as per Technical Specification.	1	No.		
3	Installation, testing & commissioning of LT Power Panel as per Technical Specification.	1	No.		
4	Supply of 3.5 Core, 120 Sq.mm, 1.1kV grade armoured copper conductor XLPE cable from Electrical Substation to LT Power Panel.	100	m		
5	Laying of 3.5 Core, 120 Sq.mm, 1.1kV grade armoured copper conductor XLPE cable in existing trench of Electrical Substation for LT Power Panel.	25	m		
6	Laying of 3.5 Core, 120 Sq.mm, 1.1kV grade armoured copper conductor XLPE cable on wall/structure with GI saddle, base & screws at every 0.5 m distance for LT Power Panel.	70	m		
7	End Termination of 3.5 Core, 120 Sq.mm, 1.1kV grade armoured copper conductor XLPE cable laid from Electrical Substation to LT Power Panel.	2	No.		
8	Supply at site 3.5 Core, 70 Sq.mm, 1.1kV grade armoured copper conductor XLPE	80	m		

	cable for Air Conditioning System from LT Power Panel.				
9	Laying of 3.5 Core, 70 Sq.mm, 1.1kV grade armoured copper conductor XLPE cable on wall/structure with GI saddle, base & screws at every 0.5 m distance, for LT AC Panel from LT Power Panel.	25	m		
10	Drilling the Paver Surface without breaking the paver surface for laying of cable at minimum 1 m depth by making up to 100 mm bore diameter of holes at both ends complete in all respect. (Total three length of drill: 5m, 23m & 19m)	47	m		
11	Providing and laying 75 mm inner diameter ISI marked HDPE PE100 pipe conforming to IS 4984 to be erected at Paver Surface as directed for laying of cable.	47	m		
12	Laying of 3.5 Core, 70 Sq.mm, 1.1kV grade armoured copper conductor XLPE cable in existing pipe as directed.	47	m		
13	End Termination of 3.5 Core, 70 Sq.mm, 1.1kV grade armoured copper conductor XLPE cable laid from LT Power Panel to LT AC Panel.	2	No.		
14	GI Chemical Earthing System for LT Power Panel as per Technical Specification.	2	No.		
15	Supply and laying of 50×6 mm G.I. strip on wall/structure with saddling or buried in ground including end connection at earthing terminal for LT Power Panel as directed.	10	m		
16	Disconnection of existing LT Power Cables from existing LT Power Panel, Removing & Shifting of the Panel from Staff Club to Substation premise as directed.	Complete Job	Lump Sum		
<b>Total Amount of Part – A (₹) (Excl. of GST)</b>					
<b>Part – B: Comprehensive Operation &amp; Maintenance Contract after expiry of Warranty (Defect Liability) Period of One (1) Year</b>					
1	Comprehensive Operation during Warranty (Defect Liability) Period	12	Month		

2	Comprehensive O&M of First Year	12	Month		
3	Comprehensive O&M of Second Year	12	Month		
4	Comprehensive O&M of Third Year	12	Month		
5	Comprehensive O&M of Fourth Year	12	Month		
6	Comprehensive O&M of Fifth Year	12	Month		
<b>Total Amount of Part – B (Excluding of GST)</b>					
<b>Total Amount of Part – A &amp; B (₹) (Excl. of GST)</b>					
<p>(In words Rupees _____ only)</p> <p><b>NOTE:</b> The rates should be inclusive of all taxes, duties, fees, cess etc. and all incidental charges; but exclusive of GST).</p>					
<b>Seal &amp; Signature of Firm</b>			<p>Sd./-</p> <p><b>Chief Mechanical Engineer</b> <b>Deendayal Port Authority</b></p>		