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TENDER NOTICE

YADAVINDRA PUBLIC SCHOOL, PATIALA

EXPRESSION OF INTEREST – 450 To 480 TR VRF AIR-CONDITIONING PROJECT

Expressions of Interest (EOI) are invited from reputed and authorised VRF air-conditioning manufacturers for turnkey design, supply, installation, testing and commissioning of air-conditioning system for academic spaces at YPS Patiala. Interested firms must register by **31 Oct 2026**. Details regarding complex, spaces, measurements, scope of work and **timeline** are available at www.ypspatiala.in. Firms are required to follow timeline, visit the campus and present their technical specifications and proposal after prior intimation to: Headmaster: headmaster@ypspatiala.in Bursar : bursar@ypspatiala.in,

YADAVINDRA PUBLIC SCHOOL, PATIALA
EXPRESSION OF INTEREST / TECHNICAL SCOPE
TURNKEY VRF AIR-CONDITIONING PROJECT
Of 450 TR

For Comprehensive VRF Air-Conditioning & Associated Electrical Infrastructure

Yadavindra Public School, Patiala invites Expressions of Interest from reputed principal manufacturers / authorised principal organisations of VRF air-conditioning systems in India for undertaking a comprehensive study, design and technical proposal for the proposed HVAC modernisation of the School campus.

The School proposes to modernise air-conditioning facilities across various academic, administrative and other occupied areas through a technically integrated VRF-based air-conditioning system.

The indicative project covers multiple school buildings and approximately **450 TR of proposed installed VRF capacity.** The final design, capacity, configuration and BOQ are required to be developed by the participating firms after a detailed site inspection.

1. Objective of the EOI

The purpose of this EOI is to invite established VRF manufacturers/principal firms to:

1. Visit and inspect the School campus.
2. Study all buildings and areas proposed for air-conditioning.
3. Assess the existing electrical infrastructure and available power capacity.
4. Independently undertake the required cooling-load assessment.
5. Develop an appropriate VRF system design for the campus.
6. Prepare a detailed technical proposal.
7. Design the associated **high-side, low-side and electrical works**.
8. Assess the requirement for transformer capacity, LT distribution and associated electrical infrastructure.
9. Assess and propose suitable **DG/generator backup**, including synchronisation and load-management requirements.
10. Submit a comprehensive technical proposal.

The School intends to obtain proposals from the principal manufacturers so that the eventual technical specifications are based on **actual site conditions, engineering assessment and manufacturer responsibility.**

2. Project Scope

Yadavindra Public School, Patiala invites Expression of Interest from reputed and authorised VRF air-conditioning manufacturers, system integrators and turnkey installation partners for design, engineering, supply, installation, testing, commissioning and handing over of the VRF air-conditioning system and associated electrical, civil and ancillary works.

3. Site Information and Drawings

- The School complex and the academic, administrative and associated spaces listed below shall be surveyed by participating firms.
- A marked school layout showing the locations of the transformer(s), generator sets, electric panels and the school layout is included with the website upload package.

- The marked layout shall be read together with the site visit and the detailed BOQ for planning equipment locations, routing, cable runs, refrigerant piping and associated works.
- All dimensions and site conditions shall be verified at site before preparation of final shop drawings and execution.

4. Room, Hall and Other Air-Conditioned Space Schedule

Middle Wing

Floor / Level	Room / Hall / Space	Area (sq ft)
Ground Floor	Class VI	529.2
Ground Floor	classroom	541.8
Ground Floor	Classroom	541.8
Ground Floor	Classroom	541.8
Ground Floor	Class V	541.8
Ground Floor	Classroom	541.8
Ground Floor	Dance Room	1,220.38
First Floor	Art Room	800.88
First Floor	Class V	541.8
First Floor	Classroom	541.8
First Floor	Class VII	541.8
First Floor	Middle co	316.1
First Floor	Class VII	541.8
First Floor	Class VII	541.8
First Floor	Class VII	541.8

Senior Wing

Floor / Level	Room / Hall / Space	Area (sq ft)
Ground Floor	Classroom 1	562.83
Ground Floor	Classroom 2	562.83
Ground Floor	Classroom 3	562.83
Ground Floor	Classroom 4	562.83
Ground Floor	Classroom 5	562.83
Ground Floor	Classroom 6	562.83
Ground Floor	AV Room	1,200
First Floor	Classroom 1	562.83
First Floor	Classroom 2	562.83
First Floor	Classroom 3	562.83
First Floor	Classroom 4	562.83
First Floor	Classroom 5	562.83
First Floor	Classroom 6	562.83
First Floor	Sports Room	196
First Floor	Classroom 8 (Physics Lab)	860

Junior School

Floor / Level	Room / Hall / Space	Area (sq ft)
Ground Floor	1-E	469.3
Ground Floor	1-N	469.3
Ground Floor	1-O	469.3
Ground Floor	1-P	469.3
First Floor	II O	469.3
First Floor	II E	469.3

First Floor	II N	469.3
First Floor	II P	469.3
First Floor	IV E	563.04
First Floor	60 (Sports)	100
Second Floor	IV O	561
Second Floor	61 (Councilling)	100
Ground Floor part 2	Prep II N	456
Ground Floor part 2	Prep II O	456
Ground Floor part 2	Prep II E	456
Ground Floor part 2	Prep II P	456
First Floor Part 2	III O	500
First Floor Part 2	III N	500
First Floor Part 2	III P	500
First Floor Part 2	III E	500

Junior School Building 2

Floor / Level	Room / Hall / Space	Area (sq ft)
Ground Floor	Music Room	691.33
Ground Floor	Western Music	792.22
Ground Floor	IV N	702.21
Ground Floor	Staff Room	742.14
Ground Floor	Library	733.92
First Floor	Resource Room	1,505.56
First Floor	Computer Lab	675

Foundation School

Floor / Level	Room / Hall / Space	Area (sq ft)
Ground Floor	Zone 1	1,024
Ground Floor	Zone 2	1,024
Ground Floor	Zone 3	1,024
Ground Floor	Prep I N	417.72
Ground Floor	Prep I O	417.72
	Prep I E	417.72
	Staff Room	225
	Nursery E	417.72
	Nursery O	417.72
	Nursery N	417.72

Auditorium

Floor / Level	Room / Hall / Space	Area (sq ft)
Ground Floor	Art Room	1,700
Ground Floor	Hall No 1	4,300
Ground Floor	Hall No 2	2,400

Main Building

Floor / Level	Room / Hall / Space	Area (sq ft)
Ground Floor	Chemistry Lab	936
First Floor	Counselling Room	183.27
First Floor	Biology Lab	708.05
First Floor	XII Com	707.47
First Floor	XII A	707.47
First Floor	Staff Room	1,123.32

First Floor	Library Part A	1,214.07
First Floor	Library Part B	723.25
First Floor	Cyber Café	507.59
First Floor	XII Sc	520.08
First Floor	Languages Room	161.13
First Floor	XI Sc	425.04
First Floor	XI A	543.72
First Floor	XI C	543.72
First Floor	History Room	296.64
First Floor	Home Science	112.88
Ground Floor	Boarding House Dining	967.26
First Floor	First Floor Girl's Rest room	348
Ground Floor part 2	Computer Lab (AI Lab)	484.5
Grond Floor part 2	Media Room	595

5. Mandatory Site Visit

Each interested firm shall be required to undertake a **detailed physical site inspection** of the School campus before submitting its proposal.

During the visit, the firm shall:

- Inspect every proposed building/area.
- Verify room dimensions and usage.
- Examine existing ceiling conditions.
- Examine architectural and heritage considerations.
- Identify suitable locations for indoor units.
- Identify suitable locations for outdoor units.
- Examine terrace conditions and access.
- Study routes for refrigerant piping, drainage and control cabling.
- Examine existing HT/LT electrical infrastructure.
- Assess transformer and panel locations.
- Examine existing DG facilities.
- Identify requirements for new transformers, LT panels, cables, cable trays, earthing and protection.
- Identify civil works required for equipment installation.
- Examine access requirements for transportation, lifting and maintenance of equipment.
- Identify any constraints which could affect execution, operation or maintenance.

No firm shall be permitted to submit its final technical proposal without undertaking the site visit.

6. Design and Cooling-Load Assessment

The participating firm shall independently carry out or validate the complete cooling-load assessment.

The proposal shall clearly indicate, building-wise and room-wise:

- Room/area identification
- Area in sq. ft.
- Occupancy
- Usage
- Orientation, wherever relevant

- Solar/external heat considerations
- Lighting load
- Equipment load
- Design ambient conditions
- Indoor design temperature
- Calculated cooling load
- Selected indoor-unit capacity
- Number of indoor units
- Outdoor-unit/system allocation
- Diversity/coincidence factor adopted
- Connected capacity
- Design capacity
- Any proposed spare/redundancy

The aim is to have 25–26°C intended classroom operating temperature during peak summer.

Any departure from this or any other design assumption shall be clearly stated and justified by the participating firm.

7. Detailed VRF Technical Proposal

The firm shall submit a complete proposed system design, including:

A. Indoor Units

- Type
- Model
- Nominal capacity
- Airflow
- External static pressure, wherever applicable
- Dimensions
- Power consumption
- Noise level
- Control arrangement
- Fresh-air provisions, where required
- Drain arrangement

B. Outdoor Units

- Model and capacity
- Number of systems
- Number of outdoor units
- Refrigerant type
- Operating range
- Maximum connected indoor-unit ratio
- Diversity factor
- Compressor configuration
- Electrical input
- Starting/current characteristics
- Space and maintenance requirements

C. System Zoning

The proposal shall clearly show which indoor units are connected to each outdoor unit/system and how the various buildings are divided into independent VRF systems.

8. High-Side Works

The participating firm shall provide complete details of the proposed **high-side works**, including, as applicable:

- Refrigerant piping
- 4-way cassette
- Liquid and gas piping
- Pipe sizes
- Maximum pipe lengths
- Equivalent pipe lengths
- Vertical separation
- Branch joints/headers
- Refrigerant piping insulation
- Refrigerant charging requirements
- Refrigerant quantity
- Pressure testing
- Vacuuming
- Leak testing
- Refrigerant commissioning
- Pipe supports
- Expansion/thermal considerations
- Drainage arrangements
- Outdoor-unit support structures
- Access for servicing
- Protection of pipes and cables
- Architectural treatment of exposed services.

The firm shall submit detailed piping schematics and system-wise piping schedules.

9. Low-Side Works

The proposal shall include complete details of all **low-side works**, including, as applicable:

- Indoor-unit installation
- Ducting, where applicable
- Jet-nozzle diffusers, where applicable
- Grilles/diffusers
- Flexible connections
- Air distribution
- Condensate drain piping
- Insulation
- Ceiling modifications
- Access panels
- False-ceiling works
- Indoor-unit supports
- Acoustic treatment
- Fresh-air/interface requirements
- Control wiring
- Thermostats/controllers
- Centralised monitoring/control system.

- Refrigerant Piping and branch joints
- Core Cutting
- Unloading/Hoisting

The final configuration, however, shall be established by the participating firm following the site survey.

10. HT Electrical Works

- Item
- 11/0.433 kV Transformer
- HT Servo Stabilizer
- HT Panel
- GI earthing
- Copper earthing
- Copper earthing flat
- GI earthing strip
- Copper earthing strip
- 11 kV HT cable
- HT cable joint kits
- RCC Hume pipe
- HDPE DWC pipe
- DG installation

11. LT Electrical Works

- Item
- Main LT Panel
- LT cable
- Cable termination
- Block incoming MCCB
- AC distribution panels
- Floor distribution panels
- Feeder cable
- Feeder cable termination
- Indoor-unit power cable
- Cable termination
- Armoured cable
- Cable termination
- RCCB
- Cable tray
- UPVC trunking

12. DG / Generator Backup

A particularly important part of the proposal shall be the assessment and design of **generator backup for the VRF system**.

The firm shall submit:

- Connected electrical load
- Maximum demand
- Starting load
- Running load
- Diversity factor

- Recommended DG capacity
- Number of DG sets
- Synchronisation arrangement
- Automatic load management
- Staged starting of VRF systems
- Priority/non-priority loads
- Fuel consumption
- Acoustic requirements
- CPCB compliance
- Changeover arrangement
- DG-to-VRF electrical distribution
- Integration with existing campus electrical system.

The participating firms should independently establish the appropriate DG configuration on the basis of their final electrical-load calculations.

13. Civil and Ancillary Works

The proposal shall identify all civil/ancillary works required for complete execution, including:

- Transformer foundations/enclosures
- DG foundations/sheds
- Outdoor-unit foundations/stands
- Panel rooms
- Cable trenches
- Road cutting and reinstatement
- Cable manholes
- Core cutting
- Sleeves
- Ceiling openings
- Waterproofing of core cuttings
- Structural supports
- Terrace works
- Access arrangements
- Painting/architectural restoration.

The objective shall be that the proposal is **complete and executable**, with no significant unidentified works subsequently becoming variation items.

14. Heritage and Architectural Considerations
Yadavindra Public School Patiala is a heritage campus. The firm shall therefore specifically address:

- Visual impact of outdoor units
- Terrace installations
- Refrigerant piping
- Cable trays
- Drainage pipes
- Supports
- Equipment enclosures
- Façade treatment
- Protection of existing architectural features.

All exposed installations shall be designed with due regard to the architectural character of the campus.

15. Technical Schedule

Each participating principal firm shall submit a **complete proposal prepared after the site visit**, covering at minimum:

Section	Requirement
A	Cooling-load calculations
B	Indoor units
C	Outdoor units
D	Refrigerant piping
E	Drain piping
F	Ducting/diffusers
G	Controls/BMS
H	HT infrastructure
I	Transformers
J	LT panels
K	Power cabling
L	Cable trays
M	Earthing
N	DG sets
O	Synchronisation/load management
P	Civil works
Q	Testing & commissioning
R	Training
S	Warranty/AMC
T	Any other item required for a complete installation

The firm shall clearly identify **any item excluded from the technical schedule**.

16. Timeline/Duration

The complete EOI exercise shall be completed within **one month from the date of publication of this notice**.

Suggested schedule:

Day 1 : Publication of EOI
Days 1–7 : Registration/communication of interest
Days 8–15 : Site visits
Days 16-30 : Technical studies and preparation of proposals
By Day 31 : Submission of complete technical proposal.

17. Dismantling / Existing Electrical Works

- Dismantling of existing CT/PT unit and transportation, storage and stacking at the location directed by the School – 1 job.
- Dismantling of existing VCB/HT joint unit and transportation, storage and stacking at the location directed by the School – 1 job.
- Dismantling and re-routing of existing HT cables to the designated location – 1 job.

18. Technical Requirements

- Detailed site survey and verification of dimensions, routes, levels, electrical loads and equipment locations.
- Heat-load calculations, equipment selection, system zoning, refrigerant piping design, electrical load assessment and single-line diagrams.
- Compliance with applicable Indian standards, safety requirements and statutory requirements.
- Complete turnkey scope including materials, labour, lifting, supports, testing, commissioning, refrigerant charging, controls, documentation, training, warranties and making good of affected surfaces.
- Final quantities to be confirmed after site survey and approved shop drawings.

19. Eligibility

EOI may be submitted by:

- Principal manufacturers of VRF systems having an established presence in India; or
- Their officially authorised principal/channel partners, subject to submission of appropriate authorisation.

The firm should demonstrate:

- Established VRF manufacturing/technology credentials.
- Adequate presence and service infrastructure in India.
- Experience in large institutional/educational/commercial installations.
- Availability of trained technical personnel.
- After-sales service capability.
- Availability of spare parts.
- Experience in integrated VRF and electrical infrastructure projects.

20. Site Visit and EOI Contact

Interested firms may visit the School campus to inspect the work areas and existing infrastructure. The proposed date and time of visit may be intimated to:

Headmaster: headmaster@ypspatiala.in
Bursar: bursar@ypspatiala.in

21. Website Upload Package

- Marked School layout showing the locations of transformer(s), generator sets and the school layout.
- Room, hall and other air-conditioned space schedule contained in this document.

22. General Conditions

- Placement of outdoor units must be clearly marked.
- Visualization pictures of post installed outdoor units should be submitted.
- Clearly mention terms and conditions related to exclusive works.

23. Important Disclaimer

The School reserves the right to:

- Accept or reject any proposal.
- Seek clarifications.
- Modify the proposed scope.
- Invite shortlisted firms for technical discussions.
- Undertake a subsequent competitive tender.
- Not proceed with the project.

No participating firm shall have any claim for reimbursement of costs incurred in preparing its EOI proposal.