# REQUEST FOR PROPOSALS (RFP)
# VRF SYSTEM DESIGN CONTRACTOR

25,000 sq ft Commercial Building – Embassy of Lithuania in Washington, DC

2622 16th St NW, Washington, DC 20009

RFP Issue Date: 2025 11 12

Questions Due: 2025 11 21

Proposals Due: 2025 11 26

Submission Email/Portal: administrator.us@mfa.lt

## 1) Project Overview & Objectives

Objective: Deliver a complete, code-compliant, energy-efficient VRF design package optimized for staged construction (phased occupancy and budget release).

Building: ~25,000 sq ft; Embassy, office spaces.

Outcome: Issued-for-Construction (IFC) design drawings, specifications, coordinated sequences, and commissioning basis that enable Phase 1/Phase 2/... installation without throw-away work.

## 2) Codes, Standards & References (Design Basis)

- ASHRAE 15 & 34 (refrigerant safety and classification), ASHRAE 62.1 (ventilation), ASHRAE 90.1 (energy).
- IMC, IBC, NFPA 70 (NEC), and all locally adopted DC codes and amendments.
- Manufacturer guidelines (Daikin/Mitsubishi/LG/Samsung or approved equals).
- Noise & vibration: ASHRAE Applications; meet NC/RC targets appropriate for spaces.
- Accessibility and maintenance clearances per code & manufacturer.

*Note: Designer must flag any code-driven refrigerant concentration limit (RCL) constraints and show compliance (leak detection, ventilation, pipe sizing, volume calculations).*

## 3) Scope of Work (Detailed)

### 3.1 Load Calculations & Zoning

- Space-by-space cooling/heating loads using accepted software.
- Thermal zoning strategy aligned with future phasing boundaries.
- Diversity factors, part-load performance assumptions, and simultaneous heating/cooling recovery evaluation.

### 3.2 System Concept & Equipment Selection

- Select VRF heat pump or heat recovery topology with rationale.
- Initial sizing + 10% growth planning for later phases (document where capacity is reserved).
- Outdoor unit placement (roof/pad), structural loads, clearances, service aisles, crane/lift plans concept.
- Indoor unit types by space function: cassette, concealed ducted, wall-mount; throw patterns and return paths.
- Ventilation integration: DOAS/ERV; OA duct routing and controls interlock with VRF fan coils.
- Condensate management: risers, traps, lifts, slope, heat-trace if needed, indirect to sanitary, cleanouts.
- Electrical/Power: MCA/MOP, breakers, feeders, panels; selective coordination notes (by EE).

- Acoustics: indoor/outdoor sound targets (NC/RC); isolation mounts, lined duct segments where needed.

### 3.3 Refrigerant Piping & Safety (Critical for Phasing)

- Risers and mains sized and routed with valved tees and isolation points per phase boundary.
- Branch selector box (HR systems) locations designed so each phase is hydraulically isolated.
- Refrigerant charge calculations per circuit; confirm RCL in smallest occupied volume; compliance measures.
- Leak detection design: sensor locations, alarm logic, fail-safe actions, makeup/relief ventilation linkage.
- Pressure test & vacuum segmentation plan matching phasing.

### 3.4 Controls & BMS Integration

- System architecture: VRF native controls + gateway to BMS (BACnet/IP or MS/TP – specify).
- Sequences of Operation (SoO): cooling/heating, heat recovery, OA lockout, setback/setup, demand-response.
- Occupancy, $CO_2$-based ventilation reset, supply air temp reset (if DOAS), defrost strategies.
- Leak event logic (alarm/ventilation/shutdown), condensate alarm, filter/coil maintenance alarms.
- Points list (by device) for trending & alarms (min. 30-day trend buffer for commissioning).
- Graphics expectations (floor plans, equipment dashboards) and naming conventions.

### 3.5 Phased Implementation Requirements (Design for Stages)

- Phasing Plan & Drawings: define Phase 1, 2, etc. areas, equipment, circuits, isolation valves, and temporary caps/terminations.
- Capacity Strategy: show initial installed capacity vs ultimate; identify equipment “day-1” and “future” with tags.
- Temporary Conditions: interim ventilation, electrical, or condensate strategies required between phases.
- No Rework Principle: later phases tie in at prepared interfaces (valved headers, home-runs, control trunks).
- Commissioning per Phase: each phase independently start-up/commissionable with final balancing updates.

### 3.6 BIM & Coordination

- Platform: AutoCAD, pdf.
- Clash Detection: Navisworks or equivalent; max clash tolerance 0.5 in (12 mm).
- Deliverables: Federated model (NWC/NWD + RVT), view templates, sheet set for drawings.
- Metadata: equipment tags, electrical loads, maintenance clearances, weights, access panels in ceilings.

### 3.7 Documentation & Deliverables

- Drawings (PDF + RVT + DWG): cover, symbols, general notes, phasing key plan; floor plans; risers; details; schedules; wiring; points list; ventilation/DOAS plans.
- Calculations & Reports: load calcs, refrigerant charge & RCL analysis, electrical load summary, energy performance summary, acoustics/vibration notes (as applicable).
- Specifications: CSI-format MEP sections for VRF, DOAS, piping, insulation, controls, TAB, testing.
- Phasing Booklet: narrative + diagrams describing installation sequence, isolation boundaries, and startup by phase.
- Commissioning Basis of Design (BoD) Addendum.

## 4) Quality, Safety & Maintainability

- Serviceability: 3-sided access; filters & coils accessible; valves reachable; roof safe access.
- Condensate reliability: air-breaks, cleanouts, leak pans; overflow protection with BMS alarm.
- Freeze & weather: heat-trace where exposed; roof snow/wind loads considered in placement.
- Labeling: pipe/valve/equipment labels, flow arrows, phase IDs; panel schedules coordinated.

## 5) Schedule (Baseline)

| Milestone | Content | Duration |
|---|---|---|
| NTP + Kickoff | OPR confirm, survey, model setup | 1 week |
| 30% Design (SD) | Concept layouts, zoning, preliminary phasing diagram | 2 weeks |
| 60% Design (DD) | Loads, selections, risers, controls concept, RCL calc draft | 3 weeks |
| 90% CDs | Full drawings/specs, BIM clash resolved, sequences, points list | 3 weeks |
| IFC | Finalized set & phasing booklet | 1 week |

*Staged IFI (Issued for Installation) packages are allowed per phase if requested by Client/GC.*

## 6) Tenderer Qualifications

- 5+ years VRF design; 3+ comparable commercial VRF projects with references.
- In-house PE (DC-licensed) or partnering PE with stamp authority.
- Revit-proficient MEP team; documented BMS integration experience on VRF.

## 7) Preliminary Cost Estimate

- The Contractor shall provide an estimated cost based on preliminary design information, including but not limited to:
  - Approximate building size
  - Number of HVAC zones
  - General system requirements
- A **unit cost estimate** (e.g., cost per ton of capacity or cost per zone) shall be included.
- The estimate shall identify all **major assumptions** used in its preparation, including but not limited to:
  - Assumed unit capacities
  - System type (ducted, ductless, or hybrid)
  - Typical installation conditions and considerations
- **Note:** This estimate is **preliminary and non-binding**, and is provided solely for **planning and budgeting purposes**. Final pricing will be determined upon completion of the detailed design and defined scope of work.

## 8) Permitting Requirements

- The Contractor shall **prepare all documentation necessary** to obtain the required permits for the VRF (Variable Refrigerant Flow) project in **Washington, D.C.**.

## 9. Cost Estimate for Excluded Work

- The Contractor shall provide a **separate estimated cost** for excluded work items as identified below. This estimate shall also be considered **preliminary and non-binding**, and is intended for **budgeting and planning purposes only**.
- **Excluded Work Items (-):**
  1. Roofing patching and repair
  2. Rooftop screenwall installation or modification
  3. Drywall and paint repair
  4. Installation of access panels or doors
  5. Repairs, refurbishing, or cleaning of existing equipment, ductwork, piping, or insulation (unless specifically identified in the contract documents)
  6. Fire alarm system work
  7. Any scope of work not explicitly listed in the project documents

## 10) Acknowledgement & Signature

By submitting a proposal, the Tenderer acknowledges receipt of this RFP and all addenda and agrees to the requirements herein.

Company: _____

Authorized Signatory: _____

Title: _____

Date: _____

## GENERAL PROVISIONS

1.1. The procurement is conducted through a public inquiry.

1.2. The procurement documents consist of:

- 1.2.1. The procurement announcement.
- 1.2.2. These competition conditions.
- 1.2.3. Possible clarifications (amendments) of documents and answers to suppliers' questions.
- 1.2.4. Other information.

1.3. Communication and exchange of information between the contracting authority and suppliers is carried out via email: administrator.us@mfa.lt.

1.4. Suppliers prepare their proposals at their own expense.

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**2. PROCUREMENT OBJECT**

2.1. The proposal must be submitted for the entire procurement object; it cannot be divided into parts.

2.2. A supplier wishing to participate must:

- 2.2.1. Meet the qualification requirements;
- 2.2.2. Upon request, provide documents proving compliance as specified in the competition conditions.

2.3. Proposal submission deadline, location, and registration:

- 2.3.1. The proposal must be submitted by the deadline indicated in the procurement announcement. Late proposals are not accepted or considered. The contracting authority is not responsible for postal or courier service disruptions causing late submissions.
- 2.3.2. The contracting authority may extend the proposal submission deadline. The new deadline will be announced on the website and by email to suppliers already registered for the procurement.

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**3. CLARIFICATION AND AMENDMENT OF COMPETITION CONDITIONS**

3.1. All information, clarifications, notifications, or other correspondence between the contracting authority and suppliers is conducted only by email (notifications are sent to suppliers registered for the procurement).

3.2. The competition conditions may be clarified or amended at the initiative of suppliers by emailing the contracting authority. Requests for clarification must be submitted no later than 3 working days before the proposal submission deadline. Suppliers are encouraged to ask

questions or request clarifications immediately after analyzing the conditions, as the proposal content cannot be changed after the submission deadline.

3.3. The contracting authority may clarify (amend) documents on its own initiative before the proposal submission deadline.

3.4. The contracting authority will not organize meetings with suppliers for clarifications or site visits but will allow suppliers to visit the site themselves after notifying by email (administrator.us@mfa.lt). Names, surnames, company names, and positions must be provided in advance by email. Representatives must have identification documents upon arrival.

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**8. PROCEDURE FOR REVIEWING PROPOSALS**

8.1. The initial review of supplier proposals will take place on the date specified in the procurement announcement.

8.2. Suppliers or their representatives cannot participate in the initial review, nor in commission meetings where proposals are examined, evaluated, and compared. Observers are not invited to commission meetings.

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**9. VERIFICATION OF SUPPLIER COMPLIANCE, EVALUATION, AND REJECTION REASONS**

9.1. The commission will review, compare, and evaluate proposals confidentially, without the participation of suppliers or their authorized representatives.

9.2. Grounds for rejection of proposals include:

- 9.2.1. The supplier meets the exclusion grounds specified in the competition conditions or has submitted inaccurate, incomplete, or false documents/data regarding the absence of exclusion grounds or failed to provide or clarify such documents/data upon request.
- 9.2.2. The supplier does not meet the qualification requirements (if such were set) or has submitted inaccurate, incomplete, or false documents/data regarding compliance with qualification requirements and/or quality/environmental management standards (if required) or failed to provide or clarify such documents/data upon request.
- 9.2.3. The proposal (including samples, if requested and provided) does not meet the requirements set in the procurement documents, or the supplier failed to clarify the proposal within the specified period without changing its essence.
- 9.2.4. The supplier submitted inaccurate, incomplete, or false documents or failed to provide/clarify required documents (such as authorization, joint activity agreement, proposal validity guarantee) within a reasonable period set by the commission.
- 9.2.5. The supplier did not correct arithmetic errors within the specified period.
- 9.2.6. The proposed price exceeds the funds allocated for the procurement.

9.3. The commission will rank proposals that meet the requirements (except when only one supplier remains after evaluation). Proposals are ranked in order of decreasing economic benefit (increasing price). If two or more proposals have the same value, the one submitted earlier is ranked higher. The submission time is when the full proposal is received.

9.4. After ranking (except when only one supplier remains), the commission does not require the potential winner to provide documents proving the absence of exclusion grounds, except in cases of reasonable doubt about reliability.

9.5. The contracting authority may terminate the procurement procedure at any time before the contract is signed if unforeseen circumstances arise (e.g., insufficient funding, the work is no longer needed, or other objective circumstances unknown at the start of procurement).