



Pre-Selection Process for Variable Refrigerant Flow (VRF) Systems

The intent of this process is to competitively select a manufacturer of VRF equipment during the design phase of a project, so that the manufacturer can support and participate in the final HVAC design, and the bidding contractors can assemble appropriate teams to install, test and maintain the equipment per the manufacturer's requirements.

Conceptual Selection: During the Schematic phase, the project team identifies and selects a VRF System as the best choice for the needs of their project. Approved vendors available to supply the system are confirmed.

Design Parameters: Between Schematic Design and 50% CDs, the design engineer (EOR) will create a performance-based drawing set, identifying the heating, cooling and ventilation requirements for each space, as well as the basic control strategy and inherent energy efficiency approaches. The 50% documents will provide all details necessary for a vendor to assemble a components list capable of satisfying the conditioning needs of the project. Specifically, these documents shall include:

- Zoning Layout
- Tonnage and CFM by Zone
- Total Building Connected Load

It is APS' expectation on VRF systems that the condensing units (CUs/heat pumps) be sized to accommodate 100% of the connected building load (i.e., *without diversity*).

Competitive Offerings: Approximately 2-3 weeks prior to the 50% CD design review, the EOR will provide the above-described performance-based drawings to one or more approved VRF vendor(s) as agreed upon by the project team. The vendor(s) will make competitive proposal(s) for their brand of HVAC equipment that will completely satisfy the design criteria. Offers must include all VRF-specific equipment, i.e. CUs/heat pumps, branch/flow selectors, terminal units (fan coils/cassettes/etc.), internal controls and network controls gateway, as well as diagrams for the required piping, wiring, and system electrical loads. Offers shall *not* include energy recovery ventilators (ERVs), exhaust systems, split systems, kitchen hoods, or any other mechanical equipment apart from the VRF system. Likewise, offers shall exclude *non-mechanical* equipment such as electrical, plumbing, ductwork and full-building automated control systems.

Vendor Selection: Upon receipt of requested HVAC equipment offers, and prior to the 50% CD design review, the project team shall evaluate the proposals and select the system/vendor that provides the best overall value to the District for the given project. The evaluating team shall be comprised of at least one (1) representative each from APS Maintenance & Operations and APS Facilities Design & Construction, plus the Engineer of Record.

For consistency of systems and maintenance, the manufacturer selected for one phase on any particular campus is given priority as the preferred brand on all subsequent phases at that campus (subject to the vendor's good standing and price protection).*

Collaborative Final Design: After award announcement, the successful vendor will work hand-in-hand with the EOR to complete the details of design, including all piping, wiring and controls strategies. Any equipment changes necessitated by project design revisions must be itemized and individually approved by the project team. At 95% CDs, the completed design (including final VRF equipment list/vendor price) shall be submitted to the project team for comments and approval. The final design with the pre-selected VRF System shown *without substitution* shall be stamped and incorporated into the 100% CD Bid Set documents.

Contractor Proposal Requirements: General Contractors proposing on the project shall be required to use the pre-selected VRF system without substitution, and will be given a Proposal Allowance equal to the quoted vendor price. GCs will mark up equipment as normal. The Contractor is to understand that the Proposal Allowance accounts only for the VRF mechanical equipment, not installation or any other equipment/products. The vendor's exact itemized list of included components shall be provided to each GC proposer. The Contractor is also to understand that they may only purchase this equipment from the vendor after verifying that they have appropriately certified installer(s) and service technician(s) authorized by the manufacturer to work on the selected system.

*** Price Protection Considerations:** All job-specific VRF quotes submitted by approved vendor(s) under this Pre-Selection Process must comply with their respective Reference Pricing provided under RFP # 18-012MM-SM. APS reserves the right to negotiate the equipment package's price for fairness and equity at the time of the construction proposal.

NOTE: The ultimate construction schedule for a designed project is subject to funding limitations and other considerations. Projects sometimes go "on the shelf" for months or even years after the design is completed. This Price Protection strategy ensures that pricing for a pre-selected system is still as fair and competitive as originally proposed, whenever it does come "off the shelf," as well as for all subsequent phases on a given campus.