

VERTEX THERMAL SYSTEMS INC.

1000 Energy Park Drive, Houston, TX 77032 | Lic: TACLA-99201C

DATA CENTER MECHANICAL ENGINEERING & CONSTRUCTION PROPOSAL

Date: September 20, 2026

Project: 2 MW Enterprise Data Center Cooling Infrastructure

Prepared For: Apex Data Systems LLC

1. EXECUTIVE SUMMARY & COOLING LOAD CAPACITY:

- Total Designed Heat Rejection: 2,000 kW IT Load (Approx. 570 Tons of Refrigeration).
- System Architecture: Central chilled water plant utilizing (3) 300-Ton variable-speed centrifugal water-cooled chillers arranged in an N+1 redundancy configuration.
- Cooling Towers: (3) induced-draft open cooling towers mounted on structural steel dunnage with VFD-driven fan motors.

2. AIR DISTRIBUTION & CRAH UNITS:

- (12) Chilled Water Computer Room Air Handler (CRAH) units with EC motor fan arrays, each rated at 25,000 CFM.
- Static pressure control integrated with underfloor plenum pressure sensors.
- Hot/Cold aisle containment duct collars included for rigid overhead return air plenums.

3. CONTROLS, PIPING & HYDRAULICS:

- Primary-secondary pumping arrangement with VFD pumps (3 duty, 1 standby).
- Piping: Welded Schedule 40 carbon steel for main headers with Victaulic couplings for mechanical room connections; fully insulated with 2-inch closed-cell elastomeric insulation.
- Building Management System (BMS): Full BACnet IP integration with factory-commissioned PLC controllers.

4. PRICING & INVESTMENT SUMMARY:

- Total Turnkey Package (Equipment, Piping, Ductwork, Electrical Connections & Commissioning): \$1,450,000
- Timeline: 24 weeks from approved submittals to mechanical completion.
- Warranty: 1-year parts and labor; 5-year compressor warranty.