

case study

New Headquarters Building Consolidation

In July 2005, Guild Hardy Architects PA (GHA) began operating solely out of a new headquarters building in the Biloxi Commerce Park, consolidating two smaller facilities from Gulfport and downtown Biloxi. A full-service architecture and interior design firm founded in 1953, GHA is the largest architectural firm in south Mississippi with more than 40 employees including five partners, eight licensed architects, three interior designers and one civil engineer.

Mississippi's Second Building Proposed for LEED™ Certification

“When we started designing our own headquarters several years ago, we knew that it was imperative for this building to exemplify sustainable, green-friendly design and to be a showcase for LEED (Leadership in Energy and Environmental Design),” said GHA partner and LEED accredited professional Mark Lishen, AIA. “We are an active member of the United States Green Building Council and we have an obligation to put our best foot forward to demonstrate we care about the environment in which we live and build.”

GHA Meets Mitsubishi Electric HVAC

David Hardy, AIA, vice-president of GHA, had been introduced to Alex Weddington, vice-president, General

Supply & Machine Co., Inc. (GS&M), Meridian, Miss. through another project for the Jackson County (Miss.) School District. Hardy was impressed with the split-ductless systems from Mitsubishi Electric Cooling and Heating Solutions, Suwanee, Ga., which were installed in 282 Jackson County classrooms. Hardy invited Weddington to get involved with the HVAC specs for his new building headquarters.

Mitsubishi Electric: Smart Solutions for GHA Energy Needs

“It was rewarding to work on HVAC specifications with architects interested in LEED certification and dedicated to cutting-edge technology for energy efficiency and environmentally friendly design,” Weddington said. “GHA’s staff was immediately drawn to the Mitsubishi Electric split-ductless cooling and heating systems. These systems include the inviting design of the indoor units, which fit elegantly and quietly into the spacious, soaring indoor working spaces of the new headquarters building.”

Because the new offices were designed with a lot of exposed ductwork, Weddington also recommended that GHA invest in Variable Refrigerant Flow (VRF) zoning systems from Mitsubishi Electric, run by the industry’s most sophisticated and energy efficient INVERTER technology. “VRF



Project Name

**Guild Hardy Architects,
PA**

Project Location

Biloxi, Miss.

Completion Date

June 2005

The Team

Owner

**Guild Hardy Architects,
PA**

HVAC Contractor

**Southland Heating &
Air Conditioning, Inc.,
Long Beach, Miss.**

HVAC Distributor

**General Supply &
Machine Co., Inc.,
Meridian, Miss.**

case study

zoning takes advantage of INVERTER technology by varying the speed of the compressor in the outdoor unit to meet the changing load requirements in each of the indoor zones, thus minimizing energy needs,” Weddington said.

Quest for LEED: Why GHA Chose Mitsubishi Electric

Lishen said Mitsubishi Electric’s innovative design played a vital role in helping GHA meet the strict certification requirements demanded by the U.S. Green Building Council’s LEED Rating System 2.1. He summarized the following:

■ In the **Energy and Atmosphere category**, the VRF zoning helped meet three prerequisites: *Commissioning* allows for easy testing,

setting and adjusting of the entire system; *Minimum Energy Performance* maximizes energy performance by the use of variable frequency drives (VFDs) in the compressor and outdoor fans, plus the ability to simultaneously cool and heat; *CFC Reduction in HVACR Equipment*—R-22 refrigerant is an HCFC (hydro-chlorofluorocarbon) and is not considered a CFC (chlorofluorocarbon).

■ In the **Energy and Atmosphere category**, Mitsubishi Electric’s VRF system helped GHA apply for critical LEED credits: *Optimize Energy Performance* (worth 2–10 points), which reduces energy costs by use of an INVERTER drive on the compressor, a VFD on the outdoor fans, variable refrigerant flow through the indoor

units, and simultaneous cooling and heating with the VRF zoning system.

■ In the **Indoor Environmental Quality** category, Mitsubishi Electric helped GHA apply for critical LEED credits like **Minimum IAQ Performance** with *Increased Ventilation Effectiveness* (worth one point), and *Indoor Chemical & Pollutant Source Control* (worth one point) since the indoor units are zoned so they do not cross-contaminate zoned air.

Showcase for HVAC Excellence

Mitsubishi Electric Diamond Dealer Darrell Suber, president, Southland Heating and Air Conditioning, Inc., Long Beach, Miss., had installed dozens of Mitsubishi Electric split-ductless units at the staging base for all troops headed



A showcase for HVAC excellence, LEED Certification and sustainable, green-friendly design, this is the new headquarters building of south Mississippi’s largest architectural firm, Guild Hardy Architects PA, Biloxi, Miss.



to Iraq, U.S. Army's Camp Shelby, Hattiesburg, Miss. Weddington liked his work and asked Suber to bid on the GHA headquarters project.

A 25-year HVAC veteran, Suber said this installation is an excellent application to showcase Mitsubishi Electric HVAC's expertise, industry leadership and versatility of products. "GHA specs many LEED-type projects, and this headquarters will sell a lot of exceptional HVAC designs. This is outstanding equipment and technology," Suber said. "Mitsubishi Electric's VRF zoning system is without question the best commercial system on the market today! Easy to install, simple to operate, everything digital—this is where the industry should be going."

Suber was impressed with the variety of applications Weddington specified for the GHA headquarters building. "Simultaneous cooling and heating for the different office zones, ceiling-concealed ducted units, four-way ceiling-recessed cassettes, split-ductless wall-mounted units—this equipment

and these systems all add up to superior interior design and effective energy usage."

Mitsubishi Electric Training: Best In Class

To prepare for the GHA installation Suber enrolled in the Mitsubishi Electric VRF zoning training class at Mitsubishi's Atlanta Training Center. "This is a first-class operation and one of the best HVAC training schools I have ever attended," Suber said.

Energy Savings and Management = Reduced Energy Bills

"Mitsubishi Electric was very helpful in assisting us in the start-up phase and programming of the energy management software built into the G-50A centralized controller," Hardy said. "We easily are able to manage the programming of all units from a PC in my office. The result has been effective use of energy resulting in reduced energy bills."

Hardy says that besides the ease of installation, VRF zoning and split-ductless systems offer other distinct benefits as well. He cites the reliability and ultra quietness of both indoor and outdoor units (outdoor units can be mounted directly under office windows without any distraction); the moisture-removing dry mode results in much improved Indoor Air Quality (IAQ) and room comfort levels (needed 11 months out of the year in coastal areas); the amazingly effective reverse heat pump cycle which warms the rooms on the few cold days of the year; and the huge energy savings realized within the first 12 months of operation. "We have been so impressed with the performance and ease of operation of these systems that we look forward to specifying them on many of our future projects," Hardy said.



Mitsubishi Electric Equipment Installed

- (1) PUHY-100TMU Y-Series Outdoor Unit
- (3) PURY R2-Series Outdoor Unit
- (7) PKFY Wall-mounted Air Handler
- (2) PLFY 4-way Ceiling-recessed Cassette Air Handler
- (9) PDFY Ceiling-concealed Ducted Air Handler
- (3) CMB Branch Circuit Controller
- (1) CMY-Y107-F Header
- (1) G-50A Central Controller Unit and Power Supply with PC Monitoring (SW-MON) and PC-Scheduling (SW-SCH)
- (18) PAC-YT51CRA Simple MA Remote Controller
- (1) CMS-MNF-B Maintenance Tool

Mitsubishi Electric Equipment Installed

- (5) MSH24WN Wall-mounted Air Handler
- (1) MSZ12UN Wall-mounted Air Handler
- (5) MUH24WN Outdoor Unit
- (1) MUZ12UN Outdoor Unit