

The Cambria County Courthouse

Mitsubishi VRF Provides Complete Cooling to Century-Plus Old Courthouse



PROJECT SUMMARY:

Location: Ebensburg, PA

Building Size: 69,970 ft²

Year Built: 1880

Building Usage: Municipal

Installation Date: 2016

Mechanical Engineer: CJL Engineering

Mechanical Contractor: Eber HVAC

Equipment Summary: Air Cooled Heat Pump VRF, Conventional Mitsubishi VRF Controls with Ethernet Capability

brick building features a domed rotunda, a mansard roof with dormers, and Second Empire architectural details reminiscent of a French countryside estate. Built in 1880, the building was added to the National Register of Historic Places on its centennial anniversary in 1980.

This ornate, baroque building has undergone several renovations during its hundred and thirty-year tenure. After outgrowing its original capacity, three additional wings were added in 1923, including the cavernous 'Courtroom 1'. With five hundred seats, Courtroom 1 is an unlikely contender for being one of nation's largest courtrooms.

BACKGROUND:

Located in Ebensburg, PA, the Cambria County Courthouse is a historic monument worthy of the seventy-mile drive from downtown Pittsburgh. The picturesque three-story

The building's sophomore renovation occurred in 1995. Though the building was modernized during this restoration, in an effort to maintain construction budget, the decision was made to forego the addition of air conditioning at that time.



CHALLENGE: INSTALL WHISPER QUIET AIR CONDITIONING TO HUNDRED-PLUS YEAR OLD COURTHOUSE WITH MINIMAL DISRUPTION TO CIVIC PROCEEDINGS.

Nearly 20 years later, Cambria County tasked CJL Engineering with at last adding much-needed air conditioning to the public space.

SOLUTION:

After evaluating several system choices, CJL Engineering selected Mitsubishi VRF as the basis of design. Many factors went in to the mechanical engineer's decision to utilize a Variable Refrigerant Flow System as opposed to a traditional ducted system.

First and foremost, the system needed to be quiet so as not to interrupt courtroom proceedings. This was extremely important to the justices, who wanted to enjoy the comfort of climate control without the accompanying acoustics.

Additionally, speed and ease of installation were also crucial. The system needed to be installed quickly, and with minimal disruption to the court's bustling proceedings.

The most important deciding factor, however, was the need to maintain the pristine architecture of the century-old building. Many of the internal walls are over 3 feet thick, which would have made installing a ducted system virtually impossible. Because VRF systems are the least invasive solutions on the



market, Mitsubishi VRF was found to be the perfect HVAC solution for the courthouse.

From bid time to start up, systems were carefully installed by Eber HVAC over a 6 month timeframe. Installation was non-invasive, meaning that much of the work could be performed while offices and courtrooms were still in use – there was no need to place large areas out of service while the VRF system was installed.

Another added benefit of this project was that the Mitsubishi VRF System was well suited to provide efficient heat to the entire building during the colder months. Courthouse Facilities staff quickly came to realize that their new, state-of-the-art HVAC system not only provided highly-efficient air conditioning, it could be used to supplement the building's existing heat gas boiler plant throughout the winter. The VRF system provides heat for many parts of the

EQUIPMENT LIST:

- (59) PKFY SERIES WALL MOUNTED INDOOR UNITS
- (22) PCFY SERIES CEILING MOUNTED INDOOR UNITS
- (15) PFFY SERIES FLOOR STANDING INDOOR UNITS
- (22) PLFY CEILING CASSETTE INDOOR UNITS
- (13) PEFY CEILING CASSETTE INDOOR UNITS
- (8) Y SERIES OUTDOOR UNITS



courthouse, and it also offers greater temperature control than the boiler system.

Eber HVAC did an outstanding job with project planning, project management, and execution. Because the courthouse was still in use during install, they needed to ensure that the installation was both clean and fast-paced. There were other challenges with this project, including the thickness of the walls and the historic nature of the building. Eber stepped up to the challenge, and the result is truly a VRF show-piece.

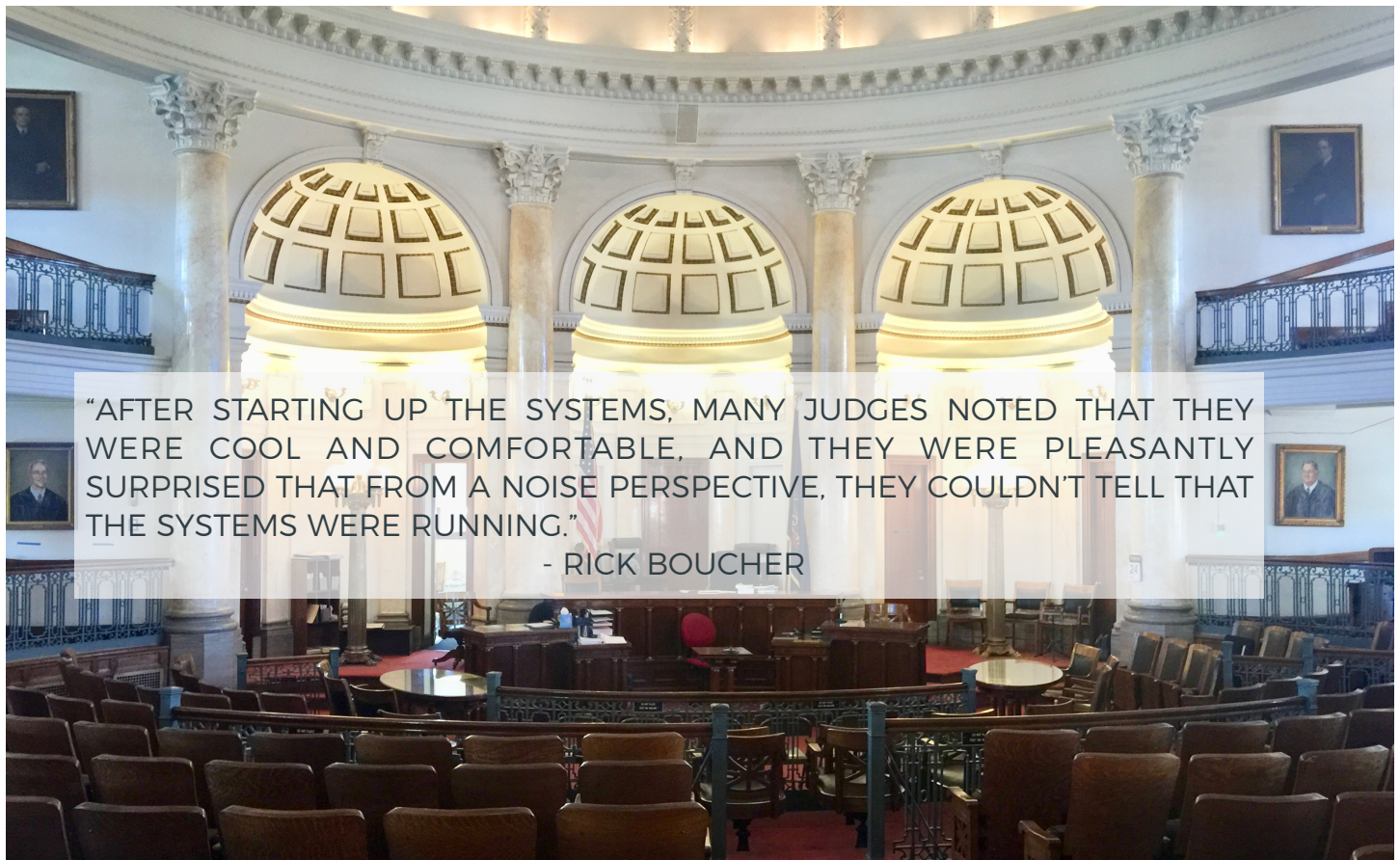
RESULT:

For the first time in its hundred-thirty-something year tenancy, courtroom proceedings are finally executed in year-round comfort! Suffice to say, the justices are ecstatic to finally have air conditioning installed after spending decades overseeing trials in the stifling summer heat.

CSIpgh Technical Advisor Rick Boucher was on-site to provide technical assistance from pre-construction through start-up. Ricks says, "In large chambers, many judges were extremely sensitive about noise while court was in session. After

starting up the systems, the justices noted that they were cool and comfortable, and they were pleasantly surprised that from a noise perspective, they couldn't tell that the system was running."

Once again Mitsubishi VRF has proven to be a viable comfort solution for historic renovations, allowing the modern convenience of air conditioning without sacrificing the historical integrity of the surrounding architecture.



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- RICK BOUCHER