

# TECOCHILL®

- Natural gas engine-driven chillers
- 600 refrigeration tons
- 350,000 sq. ft. courthouse
- Philadelphia, Pennsylvania



---

**TECOCHILL® chillers custom fit into a tight space and budget, yet deliver weighty savings and high efficiency.**

---

More than 2,000 people visit Philadelphia's First Judicial District Family Courthouse on a busy day. Inside the historic building, juveniles, families, and lawyers anxiously await momentous decisions. In warm weather, courtrooms used to heat up quickly because of spiraling apprehensions unrelieved by a decrepit cooling system.

Philadelphia's Department of Public Property had budgeted to replace two aging electric chillers with in-kind machinery when additional funds suddenly became available through the Philadelphia Municipal Energy Office. Combined with a rebate from Philadelphia Gas Works, natural gas engine-driven chillers became an affordable and highly desirable alternative.

Terence Falvey, president of Falvey Energy Engineering P.C., and consulting engineer for the project, says, "Knowledge of the utility rate structures is often key to knowing which chiller to install. Ratchet, in this case, was the key." According to Falvey, the Family Courthouse saved as much by switching electric rates as it did in putting in gas chillers. With engine-driven chillers using what Falvey calls "the great bubble" of natural gas available in the summer, the courthouse could switch to the high tension (HT) electric rate, a lower rate with higher ratchet charges. Falvey maintains that "for every kilowatt saved during the cooling season, the Courthouse saves \$25."

A cost analysis by TECOCHILL®





**TECOGEN Inc.**

**45 First Avenue  
Waltham, MA 02451  
781.466.6400**

**[www.tecogen.com](http://www.tecogen.com)**

proved equally compelling. Annual operating costs for a new electric chiller, based on past consumption, would have totaled \$94,868. In contrast, projected operating costs for TECOCHILL's dual-engine/compressor chillers totaled \$32,957. Payback is calculated within 3 years, with maintenance costs included.

TECOCHILL's small footprint further swayed the City to choose two CH-300s. The Courthouse machine room is "a tight space that requires a chiller with an engine on top," says City Engineer Stephen Shepper. The CH-300s could be disassembled, lifted through a window and carried down a narrow corridor. Flanged connections simplified reassembly of the units, which have

operated successfully since April 1997. Electric demand levels have dropped as Falvey predicted.

Located beneath a heavily-used courtroom, the TECOCHILL® gas engine-driven chillers quietly cool all 10 rooms in the building. Each chiller includes two engines and compressors. "They hover at about 2,000 rpm," explains Shepper. "As the load increases, there's a smooth transition until the load is balanced out."

Apprehensions among those attending the Courthouse likely remain high, but the TECOCHILL® gas engine-driven chillers keep courtrooms cool and quiet so judges can deliberate important cases undisturbed by air conditioning concerns.

