

SHOWCASE PROJECT: ASCENSION: DELL CHILDREN'S MEDICAL CENTER OF CENTRAL TEXAS

SOLUTION OVERVIEW

Dell Children's Medical Center of Central Texas is a member of the Seton Healthcare Family. It is the only dedicated freestanding pediatric facility in the region and the only Level I Pediatric Trauma Center in a 46-county area. The facility first opened to the public in 2007, and an addition in 2013 added a third bed tower to the hospital complex.

The combined heating and power plant (CHP) for the hospital is owned and operated by Austin Energy on land leased from Seton Healthcare Family. Seton is a member of Ascension, the nation's largest Catholic and nonprofit health system. Contributions from corporations and community members were used to support the construction of both the original hospital and the addition.

Project design for the hospital began in 2003 with a goal of attaining LEED for New Construction certification. Energy efficiency was determined to be the primary focus of building design, though many other sustainable elements were also incorporated in design and construction. Through these efforts, the hospital achieved a LEED Platinum rating after completion. The 2013 addition achieved Platinum designation under the LEED for Healthcare rating system, the first hospital in the world to do so.

SECTOR TYPE

Commercial

LOCATION

Austin, Texas

PROJECT SIZE

590,000 Square Feet

FINANCIAL OVERVIEW

Project Cost \$300,000

SOLUTIONS

A dozen minor construction and energy efficiency projects were implemented prior to the 3rd Bed Tower Project, which was completed in the spring of 2013. These included improving the lighting systems and the accompanying occupancy sensors, and the construction of a 4.5 megawatt combined heat and power plant. Fueled by natural gas, the plant's waste heat produces steam for

air conditioning and dehumidification of the hospital.

The 72-bed expansion project completed in 2013 includes the following energy saving measures:

- Sophisticated, low-voltage lighting control system
- All LED lighting
- Siemens building automation system
- 50 kw solar PV system
- 300 MMbtu solar thermal system
- Outdoor air units with exhaust heat recovery wheel

The current year project is a multi-phase chilled water retrofit to improve both the chilled water and condenser water systems. Future projects will include replacing old and inefficient air handlers throughout the building.

OTHER BENEFITS

Dell Children's Medical Center was the first healthcare facility in the world to achieve LEED® Platinum certification under the New Construction and Major Renovation rating system. The subsequent addition of Third Bed Tower has also made the hospital the first in the world to achieve Platinum certification under the LEED for Healthcare rating system. Austin Energy awarded the 5-Star Green Building Rating distinction to the South Tower project for excellence in following sustainable building practices in design and construction.

Other recognition includes the Practice Greenhealth Partner Recognition Award.

The hospital is located on a brownfield site that has been revitalized by installing native and drought-tolerant plants, an organic vegetable garden, and a natural pond. Building materials included toxin-reduced products, recycled content products, and sustainably sourced materials. Ninety-five percent of project construction waste was diverted from landfills. Low-flow faucets and dual-flush toilets are expected to reduce fixture water use by 35%. The combined heat and power plant also provides chilled water to several surrounding buildings in a district cooling system.

*Even though the hospital added significant square footage, expected utility cost increases were minimal due to comprehensive energy conservation program.

Annual Energy Use

(Source EUI)

Baseline(2008)
523 kBtu/sq. ft.

Actual(2013)
392 kBtu/sq. ft.

Energy Savings

25%

Annual Energy Cost

Baseline(2008)
\$2,691,000

Expected Use with Bed
Tower Addition()
\$3,142,000

Actual(2013)
\$2,818,000

Cost Savings

\$324,000*



Dell Children's Medical Center of Central Texas



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