

Tampa Bay Times



WINNER OF 10 PULITZER PRIZES

New \$14 million building in Clearwater aims to chill water, save the county money

Tony Marrero, Times Staff Writer



CLEARWATER — When it first began to take shape, the box-shaped building that sprouted from a former parking lot on Chestnut Street looked like downtown Clearwater's latest convenience store. After workers installed three bay doors on the front, the 4,800-square-foot edifice could have passed for an auto repair shop or a small warehouse.

It's none of the above. Behind the bay doors are three chillers, each about the size of a Peterbilt tractor truck, that will soon be cooling water to about 40 degrees Fahrenheit. Four pumps will push the water through more than 2 miles of underground pipes to existing air conditioning units in eight county government buildings downtown, including the County Courthouse across the street.

The \$14 million chilled water plant, slated to be up and running by April, is expected to save the county about \$1 million in operating costs, mostly from lower power bills from Duke Energy, and at least \$3 million in what would have been spent to repair and replace air conditioning units, said Paul Sacco, the county's director of real estate management. The only equipment needed in the buildings are air handlers.

"We'll get the investment back in 12, 13 years, and if the life of the plant is 30 years, we'll be operating free and clear for the balance of those years," Sacco said.

But the plant also could make the county money.



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The City of Clearwater, the Church of Scientology and the managers of a nearby condo building have expressed interest in purchasing water for their own air conditioning systems, Sacco said. The proposed new Clearwater Aquarium also could be a big potential customer.

"It was important to us that the numbers make sense even without selling water to others," he said. "That would be a bonus."

Florida is home to about 30 cooling plants, including a few in Pinellas. But if officials are able to sell water from the new Clearwater plant, it would be a first for the county, said Robert Garcia, a senior vice president for Trane, the county's main contractor on the project. Trane has owned a plant in Ybor City that provides water to Hillsborough Community College and Ybor Square.

The size of the plant makes it more economical than running separate units in each building, Garcia said. "The bigger the equipment, the more efficient it gets," he said.

It also eats into Duke Energy's revenues and reduces the county's carbon footprint. The county will use 30 to 40 percent fewer kilowatts, and the utility is also required by the state to offer rebates to customers who install energy efficient equipment.

In addition to the three chillers, the plant features another kind of technology to produce cold water.

Sitting under the open sky behind 30-foot walls are 21 ice makers. These cylindrical, gleaming silver tanks, each about 8 feet tall and 8 feet in diameter, produce ice at night when electricity rates are lower. By morning, the tanks are frozen solid inside. The ice slowly melts throughout the day, and the frigid water is used to cool down the water running to the buildings. This allows the plant's chillers — and the massive cooling towers that keep them from overheating — to sit idle during Duke's more costly peak hours.

The plant will use between 50,000 and 60,000 gallons of well water each month, but that number won't stay that high, Sacco said. Eventually, when the county is ready to invest in more equipment, the plant will switch to a geothermal system that will pull water from separate wells to cool the towers and then pump it back into the ground. In this system, no water is lost to evaporation.

Garcia said he is confident development and redevelopment in the downtown area will spur a demand for the water, just as it did in Ybor City.

"A year has not gone by that we haven't had to add (capacity)," he said. "A lot of things could happen that are not on your radar screen."



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