



Steam and Chilled Water Systems Fact Sheet

Meeting Customer Needs

When IU Health needs to keep thousands of patients warm on a frigid winter day, or when Lucas Oil Stadium needs to keep 67,000 Colts fans comfortable during a warm fall day, they depend on efficient steam and chilled water service from Citizens. The steam and chilled water systems were acquired from Indianapolis Power & Light in the year 2000.



Lucas Oil Stadium depends on efficient steam and chilled water service from Citizens.

Across the growing downtown Indianapolis area, more than 180 commercial, industrial and institutional customers depend on steam for heat and more than 60 customers utilize chilled water for cooling from Citizens. Other major customers of Citizens include Indiana State Government, IUPUI, the Indiana Convention Center and hotels throughout the downtown area. Citizens' steam utility district is now the second largest in the U.S. In addition to direct steam and chilled water service.

Steam and Chilled Water Benefits

- **Cost-effective** - Besides providing cost-effective energy for commercial buildings and industries, Citizens' steam and chilled water service eliminates capital investments for expensive boilers, chillers and other energy equipment.
- **Free up valuable space** - Without large energy equipment needs, customers have more space to devote to their particular business.
- **Focus on their mission** - Not having to manage and maintain energy systems permits customers to focus on their particular a, rather than providing their own energy services.
- **Reliability** - Citizens operates year-round and service interruptions are very rare.
- **Efficiency** - District cooling reduces peak electric power demand in the summer, helping customers avoid expensive peak demand charges typical with conventional cooling systems.
- **Environmentally friendly** - Not having their own energy facilities reduces the time and expense required to comply with increasingly sophisticated environmental regulations.
- **Positioned for Growth** - Citizens sound business and financial plan is allowing it to continually expand its systems to meet the growing energy needs of the city.



Citizens' Perry K Steam Plant utilizes clean-burning natural gas in its 8 boilers to generate 240°-600°F steam to heat buildings throughout the downtown area.

Continued on next page

Steam System

In 1893, Thomas Edison finished construction of the world's first motion picture studio in West Orange, New Jersey. That same year Indianapolis Power & Light's Kentucky Avenue Station (Perry K Steam Plant) in downtown Indianapolis began producing electricity from coal for the new electric lights recently pioneered by Thomas Edison. In 1905, the Perry K Plant began conversion to a steam production facility that would provide heat to large buildings and industries in the downtown area. Today Perry K utilizes clean-burning natural gas in its 7 boilers to generate 240°-600°F steam to heat buildings throughout the downtown area. Along with steam from Covanta Energy, a solid waste incinerator, Citizens' system is capable of delivering 1,765,000 pounds of steam per hour and 5.8 million dekatherms per year.

Utilizing the latest technology, a control center at Perry K sends steam to customers via 27 miles of distribution piping that operates at 400, 250 and 15 pounds per square inch

(psi). Safety and reliability is ensured through a steam system integrity management program that follows the ASME Power Piping Codes, which establishes international standards for safe operations. Through this system, Citizens personnel conduct a regular inspection and replacement program, annual infrared leak survey, regulation relief valve inspections, and a damage prevention program. Each year more than 600 manholes are inspected to maintain safe and efficient operations. Citizens also meets regularly with other utilities operating in the downtown area to assure the mutual safety of all systems.



Citizens owns and operates this chiller and steam plant at the Eskenazi Health facility.

Chilled Water System

Citizens' chilled water system began operations in 1991 as rapid growth in the downtown area made centralized cooling a more efficient and effective way to cool buildings than maintaining many separate onsite cooling units. The chilled water system provides 40° F water to approximately 100 buildings in the downtown area. On a peak summer day, the chilled water system can deliver 63,800 tons of cooling capacity across 14 miles of pipeline.

Chilled water is produced at seven facilities, the largest being Citizens' West Street and Illinois Street Plants. The West Street Plant is capable of producing 36,200 tons of cooling capacity with steam and electric driven chillers. The Illinois Street Plant is capable of producing 8,500 tons of cooling capacity with electric chillers and is expandable to 25,000 tons. Citizens also owns and operates a chiller and steam plant at the Eskenazi Health facility. In addition, the utility operates chiller plants at IUPUI and the Indiana Convention Center. Citizens acquired the former Wishard Hospital chiller plant in 2014 that is capable of producing 3,000 tons of cooling if needed on a peak day.



The JW Marriott Indianapolis is one of Citizens latest steam and chilled water customer additions.