Citizens Thermal Update

A Division of Citizens Gas & Coke Utility

July, 2003 Volume 1, Issue 2

Providing Comfort to Thousands

Citizens reliably serves Indianapolis Convention Center & RCA Dome

One day they may be hosting 1,000 people for a sit-down dinner and the next it's 50,000 lively Colts football fans. While the logistics of such events are always complicated, the staff at the Indiana Convention Center & RCA Dome never has to worry about the comfort level in the 1.9 million-square-foot facility, thanks to Citizens Thermal Energy.

Whether it's the dog days of August or the frigid nights of January, the Convention Center and RCA Dome staff knows Citizens Thermal Energy will keep its guests comfortable. "If you are in a meeting with a thousand people and it's too hot or too cold, that's all you can think about. If we can't provide a comfortably warm or cool environment, then it doesn't matter if the facility is clean and the food is good," said Barney Levengood, Executive Director of the Indiana Convention Center & RCA Dome.

Not having to worry about heating and cooling service helps the facility's staff focus on its primary mission. "Like any small business, we have to sell it, market it and do everything from legal issues, and accounting to personnel and delivering products and services. We are at the center of a $1.6 billion entertainment industry in Central Indiana. The challenge is to deliver top quality service and have our customers come back," Levengood explained.

For the Convention Center and RCA Dome, reliability, cost and freedom from maintenance have been the top three benefits of choosing Citizens Thermal. "Could the heating and cooling service be cheaper? Sure, and cost is always important. But what's more important is the ability to deliver comfort. This is show business. If it's a nationally-televised football game on a hot Sunday afternoon in August and the cooling system goes down, it would not only make the facility look bad, but also the city of Indianapolis. Consistent, reliable service is a very big deal to us and it has been there with Citizens Thermal," Levengood said.

Levengood added that they have periodically evaluated providing their own heating and cooling, but the answer always comes up Citizens Thermal. "Citizens Thermal has provided reliable, economical and environmentally sound heating and cooling options for all of Downtown Indianapolis for many years. Each time we've looked at building our own heating plant we've found that it wouldn't be cost-efficient based on the capital expenditure, operations costs and the land necessary for the facility," he said.

The top-notch service provided by Citizens Thermal is not only based on technology, but also on people. "We have an outstanding relationship with Bill Tracy (Vice President of Market Development) and the whole staff at Citizens Thermal. Our good relationship helps us work through issues such as when we decided to bring back our own chillers as a backup system," he explained.

Barney Levengood, Executive Director of the Indiana Convention Center & RCA Dome.

Looking to the future, the Convention Center and RCA Dome staff knows program and facility growth will be their biggest challenge. They also know Citizens Thermal will be ready to adapt and improve service to meet the facility's changing needs.

Indiana Convention Center & RCA Dome At A Glance:

- 1.9 million square feet
- 600-800 events per year
- 48 meeting rooms offering nearly 68,000 square feet
- 4 ballrooms with 72,000 square feet
- 7 exhibit halls with 400,000 square feet
- RCA Dome seats nearly 58,000 and is home to the Indianapolis Colts
- A Centerpiece of Downtown Indy - linked to seven fine hotels and multi-level Circle Center Mall

Steam and Chilled Water Distribution Map

The map below is a general outline of the steam and chilled water distribution systems of Citizens Thermal Energy. The blue lines represent about 13miles of chilled water mains, and the red lines represent about 34 miles of steam mains. The dashed lines represent new mains that are currently in the planning stages.

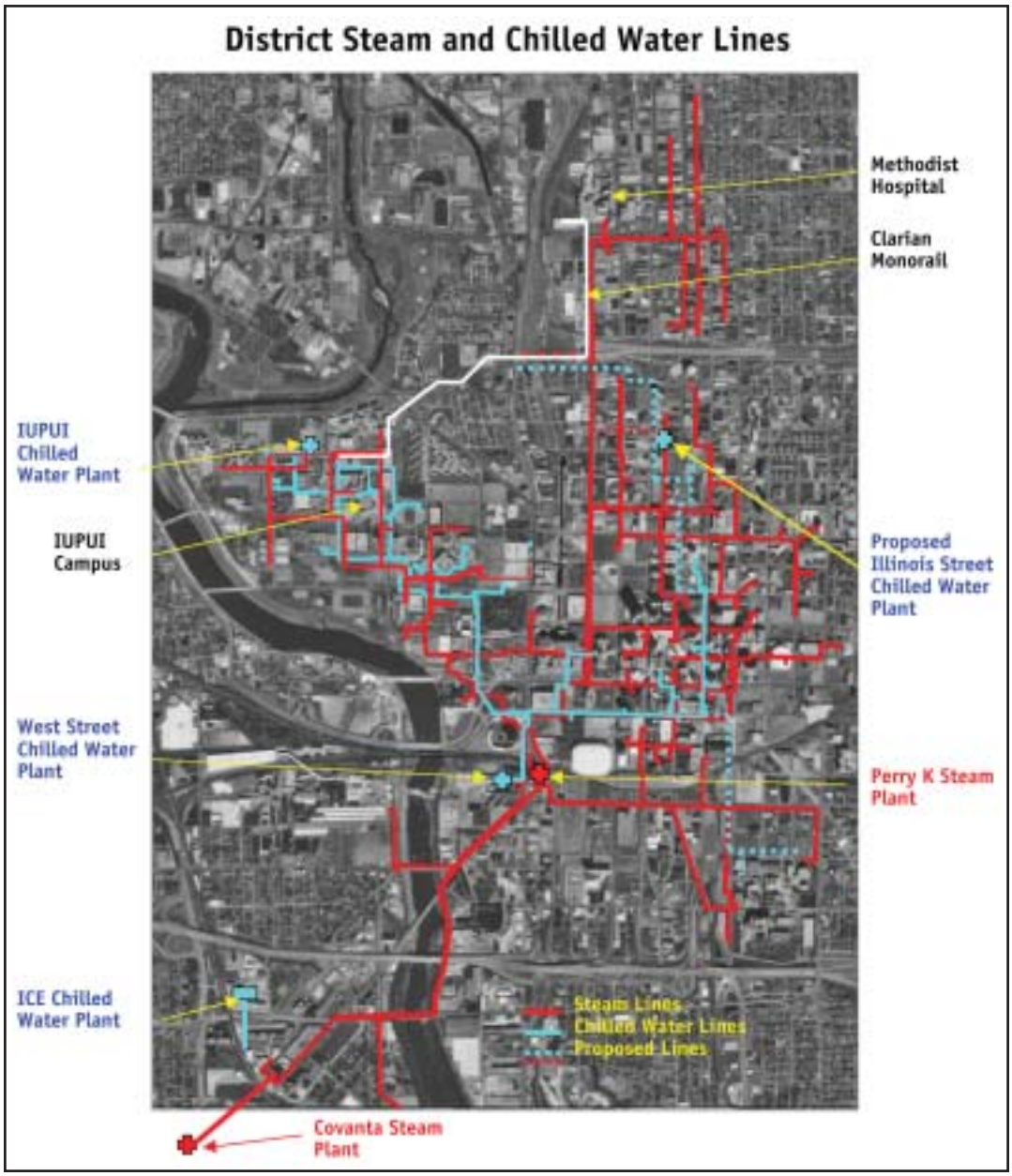
In general the steam system extends from the Eli Lilly Technology Center Campus in the south to 22nd Street at the north end of the system. The western boundaries included the GM Manufacturing facility on Oliver Avenue and the Veterans Hospital on the IUPUI campus. The eastern boundary is essentially East Street.

The chilled water system is currently much smaller involving primarily the downtown business district and the IUPUI campus. We are currently planning new chilled water lines that will extend northward to the Indianapolis Marion County Central Public Library and the Life Sciences development area at the north end of the Downtown Canal.

The district steam system of Citizens Thermal Energy is the second largest in the United States in terms of steam sales. It is second only to the steam system of Consolidated Edison in New York City. The Perry K Steam Plant, in the center of the system, was originally built in 1893 to produce steam and electricity for the growing downtown Indianapolis business center. One hundred and ten years later, the plant is still producing energy for the heart of the city. This facility has the potential to produce approximately 2,000,000 pounds of steam an hour at a pressure of 250 pounds per square inch (psig) and a temperature of 600ºF. The steam system also purchases steam produced at the Indianapolis Resource Recovery Facility. This modern facility uses municipal trash as the fuel source for the steam generating boilers. Approximately 40% of the steam sold to the district energy customers annually is produced at the Resource Recovery Facility.

The West Street Chilled Water Plant produces the bulk of the chilled water for the downtown system. The plant was originally built in 1990 and is also one the largest district chilled water plants in the United States. The plant can produce up to 32,000 tons of 40ºF chilled water to air-condition and dehumidify the downtown buildings. The customers return the chilled water back to the chilled water plant at approximately 52ºF, where the water is again chilled to 40ºF and returned to the system. At peak loads the plant is producing 60,000 gallons per minute of chilled water, and pumping it through the 48" diameter pipes leaving the plant.

If you would be interested in more information on the systems, please feel free to contact Jeff Harrison at (317) 927-4791 or Lane Dunagin at (317) 927-4347



Filters, Filter Maintenance, and Indoor Air Quality

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Before we discuss the different types of filters and which one is the best for you, I want to stress the importance of keeping your filters clean. Airflow is very important to the efficiency of your system. Whether it is your A.C. system or your Heating system, both systems need the proper amount of designed airflow throughout the system. Dirty filters restrict the airflow that results in higher energy and repair costs to you.

With the advent of SARS and all the talk about biological and chemical terrorism, filtering media and refining the air we breathe has become a necessity for healthy living. It is a fact the certain dwellings cause people to become or remain ill. When an indoor air quality program is instituted in these environments, people begin to recover from illnesses that seemed insurmountable. The air we breathe inside of buildings can be toxic to our health and needs to be addressed before our health is affected in a negative way. You will find indoor air quality solutions on this page that will help you with the sick building syndrome. Take it seriously now and breathe easier later.

The Supply Vent Myth

There are many different types of filters. The most common type is the fiberglass disposable filter that you buy at most hardware or retail stores. Other types of filters include the metal or plastic fiber type filters that are washable. These filters save you money because they are washable but they are not as efficient at filtering the air as the disposable kind. By far, the most efficient filters are the Electronic Air Cleaners. There are other high efficiency air cleaning media's that you can have installed by a contractor that will help keep your home's air as clean and dust free as most electronic air cleaners. The filtering media are less expensive than the electronic air cleaners but have a higher maintenance cost associated with them because they also have disposable filter media inside them. There are many different things in the air that we are totally unaware of. Among them are:

- Pollen
- Dust Mites
- Lint
- Smoke
- Mildew
- Cooking Odors
- Mold
- Formaldehyde
- Fungi
- Bathroom Odors
- Virus's
- Chemical Smells
- Spores
- Tobacco Odors
- Dirt
- Many Other Volatile Organic Compounds
- Pet Odors
- Dander
- Dust

Removing these things is the job of your filter. The standard filters you can buy at the hardware store, the fiberglass stranded filters, are the cheapest and most ineffective filters for removing these particles and odors. The cheap filter will remove less than 10 percent of these particles and none of the odors from the air that you breathe. Many people are surprised to learn the contents of the air they are breathing from the list above. The question they most often ask themselves is what can I do to filter these things from the air my family and I are breathing? The answer to that question is easy but based on what you want to spend and the level of cleanliness you want. As stated above the best is the Electronic Air Cleaner. An addition to the Electronic Air Cleaner, and one that will ensure the eradication of bacteria, mold, fungi, and mildew, is the ultra violet light installed in the return duct near the EAC (Electronic Air Cleaner). When these two devices, the electronic air cleaner and the ultraviolet air cleaner, are combined with the standard type of filter, you can be assured that you have the best indoor air quality available in your home. Additionally, if you had the electronic air cleaner and the ultraviolet air cleaner installed in your home, changing the regular filters will come on a less frequent basis. That is triple protection for your family's health through increased indoor air quality.

The Electronic Air Cleaner (EACs)

Electronic Air Cleaners (EACs) can be expensive compared to the regular filtering media's but from personal experience they are well worth the cost. Customers with allergies and respiratory conditions have reported better breathing conditions when their units were working properly. These units are capable of filtering particles that are less than one micron in size. An EAC is a high tech way of improving the indoor air quality of your home. When the air passes through the first part of the unit the particles in the air are given an electrical charge using thin ionizing wires located in the cells. Downstream from the wires are collector plates with an opposite charge. The particles (now polarized) are attracted to the collector plates that have an opposite polarized charge. For this reason, electronic air cleaners need to have the cells removed and cleaned usually on a semi-annual basis. Mild soap and water should be used along with extreme care so the ionizing wires or collector plates are not damaged. If the plates or ionizing wires are damaged during cleaning, the cells should be replaced before restoring power to the unit or the power pack can be damaged. The power pack is an expensive and integral part of the electronic air cleaner. If you have a maintenance agreement the service should include cleaning and caring for this unit if you have one installed in your home. Since these units are expensive they should have professional attention paid to them from time to time. While the cells are not super-fragile, damage can occur if the proper precautions are not taken during the cleaning of these cells.

Ultraviolet Air Cleaners

Many of us know that Ultraviolet rays are harmful to our skin if we are over exposed to the sun's rays. This is the reason most of us use sun block in the summer. Why are UV rays

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so harmful to us and most biological organisms? UV rays penetrate the cells and break down the molecular bonds in the cells. This can cause mutation of the cells and change their biological make-up. This process can be used to our advantage to improve the indoor air quality of our living spaces. UV lights can be installed in your ductwork so that it may wash the air from harmful bio-organisms that live in the air and ductwork of your home. When the air containing these microorganisms pass through the UV light in the duct work, the light penetrates the organism and breaks down its molecular bonds. This causes cellular and genetic damage that renders these microscopic critters harmless. It also robs them of their ability to reproduce. Many of the items listed above can be eradicated from your system if you have one of these lights installed in your ductwork. There is an additional benefit to having UV light protection installed in your ducts. A few years back I was reading an engineering trade journal concerning HVAC. In this article a contractor installed UV lights in the ducts of a very large building. In addition to the people occupying the building reporting less illness, the power bill for the building was reduced because the UV light eradicated mold, mildew, and other organisms that tend to grow. These things grow on the coils and reduce and restrict airflow. This causes the motors to work harder to push and pull the air where it is supposed to go. The UV light eliminated these restrictions allowing the motors to use less power to move the air. The secondary benefit to this is reduced maintenance costs because the motors are not working so hard all the time and therefore do not have to be replaced or repaired as often. A UV light installed in your ductwork can benefit more than your health; it can benefit your checkbook also.

The Citizens Thermal Energy customer luncheon will be held at the Omni Severin Hotel on the following dates:

Tuesday, August 12, 2003, and Wednesday, August 13, 2003, from 11:15 a.m. to 1:30 p.m. Please choose the date you would like to attend and RSVP for the luncheon and tour of the steam plant by August 8, 2003 to Tiffany Reed or Sharon Connell, by phone at 317-261-8794, or by pre-paid postcard attached to your invitation. The discussion topic for this year's educational luncheon is "Steam System Maintenance & Fuel Costs."

Employee Spotlight

The most important function of the Perry K Steam Plant at 366 Kentucky Avenue is to provide its downtown neighbors with steam service. That makes Terry McGlothlin, or T'Mac to his co-workers, a very valuable asset to the Thermal Division. Terry is a Crew Leader on the Distribution Team, and he and the crew are responsible for repairing and maintaining the underground steam distribution system that serves all of downtown Indianapolis. Because of the high level of responsibility entrusted to him and his crewmembers, safety is key when working on the steam lines. Customers may contact the Citizens Thermal Customer Service Line at 261-8794.

Steam and Chilled Water Service Telephone Numbers

Dave Toombs,
Thermal General Manager,
317-927-4356 (office)
317-727-1342 (cell)
Jamie Dillard,
Assistant General Manager
317-927-4360 (office)
Sharon Connell,
Customer Service & Billing Representative
317-261-8794

Toll Free Number - Customer Service & Billing
877-313-2467
Jeff Hansen, Manager
Customer Services and Distribution
317-693-8704 (office)
317-695-2019 (cell)
Bob Purdue,
Plant Manager (Steam Operations)
317-693-8701 (office)
317-695-0512 (cell)
Bob Taber, Foreman,
Customer Service & Metering
317-693-8883 (office)
317-695-7924 (cell)
Jim Teso, Facilities Manager (Chilled Water Operations)
317-236-6702 (office)
317-695-0145 (cell)

Other telephone numbers:
Marketing - Steam and Chilled Water

Bill Tracy, Vice President, Market Development
317-927-4534 (office)
Jeff Harrison, Director, Market Development
317-927-4791 (office)
Lane Dunagin,
Industrial Sales Consultant
317-927-4347 (office)
317-694-2776 (cell)

Steam and Chilled Water Service Emergency Contacts
In the event of a steam or chilled water emergency, Citizens Thermal Energy can be reached at the following numbers:

Steam Plant Operations Emergency 24-Hour Number (Steam Operations Control Room)
317-261-8804
Shift Supervisor's Office
317-261-8819
Ron Pinkins, Operations Supervisor
317-261-8807 (office)
317-431-4414 (cell)
Chilled Water Plant Operations Emergency 24-Hour Number (Chilled Water Control Room)
317-236-6700