### **Construction Timeline**



**July 2002 August 2002 October 2002** November 11, 2002

First Quarter 2003

**Second Quarter 2003 Third Quarter 2003 Second Quarter 2004 July 2004** 



Demolition at New Site Begins **CES Mobilizes for Construction** DES Bonds Sell for \$66.7 Million Groundbreaking Ceremony Construction Officially Begins Retaining Walls Complete Begin Steel Erection Begin Installing Distribution System Interconnection Major Equipment Arrives (boilers, chillers, pumps) Finish Distribution System Interconnection Testing on New DES Facility Begins Target Date for DES Commercial Operations





All the buildings on the site have been

demolished and CES has made

tremendous progress.



**CES SUBCONTRACTORS** Everton Oglesby Askew Nashville Machine Company Travis Electric

Mechanical Constructor R.C. Mathews Construction Manager Smith Seckman Reid Design Engineer Electrical Contractor

90 Peabody Street Nashville, Tennessee 37217

PRSRT STD PAID NASHVILLE TN



A PUBLICATION OF METRO NASHVILLE DISTRICT ENERGY SYSTEM

**WINTER 2003** 

## **New DES Facility Part of Downtown Vision**

Bill Purcell Metro Nashville Mayor

When I took office as Mayor of Nashville, I believed that there

were tremendous opportunities for growth and development in the downtown area, and an important early step in realizing those opportunities was getting a handle on the Thermal Transfer Plant and our district energy system.

Metro has been in the district energy business for nearly 30 years, with Thermal serving as a vital part of our downtown infrastructure, and as an innovative heating and cooling alternative for downtown buildings. But over the past several years, its escalating costs and unreliability were signs that its customers and the city needed to move forward.

I am happy to report we are moving in the right direction with district energy.

On November 11, 2002, when we broke ground for the new District Energy System, we began the process of passing the torch from Thermal to a new, state-of-the-art facility that will become an anchor of the Gateway development project that is going to literally transform an entire section of Nashville all the way up Rolling Mill Hill.

These are exciting times for downtown Nashville. I believe that in a very few years, we will look back at this moment as the beginning of a dynamic period of growth and development that will transform this part of our city. I am proud of the important role that our district energy system will play in that development.



(Left to right) Richard Fletcher, Chase Cole and Mayor Purcell joined other community leaders to break ground on the site of the new DES facility on November 11.

## **Mayor Purcell Breaks Ground on New Energy Facility**

In November, Mayor Bill Purcell and other city leaders broke ground for Metro Nashville's new District Energy System facility.

Downtown Nashville is entering a very dynamic period, and the new DES facility will play an important role in contributing to downtown growth and development.

This first issue of the DES newsletter is meant to be a tool for providing news and up-to-date information about district energy in Nashville to Metro officials, Nashville Thermal Transfer Corporation (Thermal) customers and other members of the Nashville

community who have an interest in the new DES facility.

In this issue we profile our newest district energy customer, Hume-Fogg Academic High School, and we take a look at Baltimore, Maryland, where district energy has played a major role in downtown development.

Our goal is to keep you informed about the progress of construction on the new facility, as well as how things are operating at the old Thermal facility, and to make you aware of the opportunities that district energy makes possible for downtown Nashville.

#### It's a Fact:

The decision to stop burning garbage at Thermal will ultimately save Davidson County taxpayers more than \$184 million over the next 20 years, resulting from the lower cost of waste disposal and the lower cost of heating and cooling downtown buildings.

# The Baltimore District Steam System:

### **A Success Story**

Unlike Nashville, whose heating and cooling through district energy dates back to the early '70s, the downtown district of Baltimore, Md., was filled with many buildings that relied on

their own equipment for air conditioning less than a decade ago.



Centralized systems have been providing steam to heat Baltimore buildings for more than 100 years, but the idea of district chilled water service was new to the city, and Baltimore welcomed the cooling opportunity in the form of the Baltimore District Steam System, which began operations in 1996 as a partnership between Baltimore Gas and Electric, Poole and Kent Company, Constellation Energy Source and Comfort Link.

Since that time, the system has enjoyed steady growth in all areas. The number of new customers connected grew an astonishing 100 percent in 1999. Currently, the system boasts a 99.999 percent reliability rating, serving more than 25 buildings that occupy some 10 million square feet of downtown Baltimore.

"Although we built the facility right into the existing downtown business community, connecting customers to the system made way for economic development," said Stanley Gent, Comfort Link president, "because the very fact that building owners and managers don't have to purchase and maintain self-contained heating and cooling units reduced the overall building/reconstruction costs and created opportunity for further commercial development."

In a recent Comfort Link survey, 86 percent of customers polled gave the highest marks possible for overall satisfaction with the operation of and their relationship with the Baltimore District Steam System.

# History: **District Energy in Nashville**

In 1970, Nashville Mayor Beverly Briley began studying the feasibility of building a plant that would address the city's solid waste disposal needs and recapture energy to heat and cool buildings in the downtown area. A year later, the Nashville Thermal Transfer Corporation (Thermal), a not-for-profit organization, was established to build, own, and operate a \$16.5 million District Energy System (DES).



The Thermal plant began operations in February 1974, making Nashville the first city in the world to use solid waste as an energy source for both heating and cooling. The energy created by this waste-burning process was used to generate steam, which was then used to heat

downtown buildings, or to produce chilled water to cool the buildings.

Despite several costly expansions and upgrades to improve operations and to increase its capacity during its 30-year life span, the Thermal facility struggled to meet pollution restrictions and to remain economically viable.

So, in December 2001, Metro Council voted to close the Thermal plant by

2004, and Mayor Bill Purcell announced plans to modify energy production from a solid waste-fired system to a fossil fuel system by 2004.



Metro funded its new DES with \$66.7 million in project revenue bonds.

As part of the scheduled closing, the plant was to start fueling the facility with natural gas instead of trash by October 2002. This process was accelerated by a major fire in the facility on May 23, 2002, which immediately halted the burning of trash. The plant was back in operation only one working day after the fire and continued to operate as a natural gas-fired facility, producing steam and chilled water as before.

Constellation Energy Source (CES) of Baltimore, Md., has been contracted to build, operate, manage and maintain the new DES facility. CES is currently managing Thermal's operations and has already drastically improved the efficiency and reliability of the existing facility. Because of the hard work of CES and others involved, the DES project is on budget and on schedule to open in summer 2004.



Renderings of the new facility provided by Gresham, Smith and Partners.



The Metropolitan Government of Nashville and Davidson County (Metro) awarded Constellation Energy Source (CES) of Baltimore, Md., the contract to design, build, operate and maintain its new DES.

The staff of CES responsible for the design and operations of the new facility has been involved in the development of many other district energy plants, including those in Chicago, Boston, New Orleans and the Baltimore District Steam System.

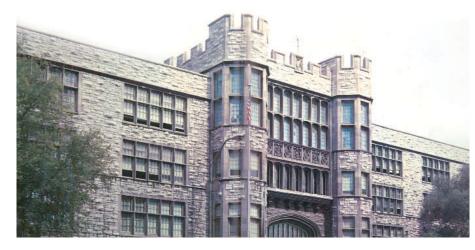
CES provides customized energy solutions nationwide exclusively to government and large commercial and industrial customers, offering clients an extensive array of products and services designed to increase energy efficiency, reliability and cost-effectiveness.

CES is a member of Baltimore-based Constellation Energy Group. In 2001, Constellation Energy Group's energy-related businesses, including a North American wholesale power marketing and merchant generation business, and the Baltimore Gas and Electric Company, helped it generate \$3.9 billion in revenues and \$14.1 billion in assets.

As a full-service energy consultant, CES has analyzed Nashville's current energy equipment and expenses, and has worked with Metro to develop and implement a plan guaranteed to save the city energy and money.

Following the development, permitting, and construction of the new energy generation facility, CES will operate and maintain the Metro Nashville District Energy System for 15 years, with options for three additional five-year extensions. The DES will remain under the ownership of Metro.





# Customer Profile: **Hume-Fogg Academic Magnet**

In 1974, Hume-Fogg High School was listed on the National Register of Historic Places, a fitting tribute to one of downtown Nashville's oldest and most majestic stone structures. But in the intervening years, the beautiful façade of Hume-Fogg has been blemished by air conditioning units jutting out from every classroom window.

Not only were the air conditioning units an eyesore, they also created noise in the classrooms, causing major distractions for teachers and students.

All that changed, however, late last year when Hume-Fogg became a district energy customer. Each room now has its own thermostat so teachers can regulate temperatures, and there will be air conditioning in the auditorium for the first time ever.

Theresa Rollins, a senior at the school, told *Tennessean* reporter Natalia Mielczarek she has noticed the difference and is excited about the new system.

"It's quiet now," she said. "Before, when the teacher was talking and the A/C came on, it was really noisy and you couldn't hear anything. So you had to turn it off, but then it got hot." Rollins is also enthusiastic about the DES' ability to distribute heat more evenly than the old system did in winters past.

Students and teachers have welcomed the upgrade and are enthusiastic about the efficient heat and quiet cooling that will enable them to perform throughout the day without interruption.

### **Notable News:**

Excerpts from The Tennessean editorial, November 18, 2002:

"The recent groundbreaking for the District Energy System, which replaces Thermal, is a reminder of how radically the area's appearance is about to change."

"More than 10 years have passed since the Metro Council passed the legislation that merged the old Metro General Hospital with what was then Meharry's Hubbard Hospital. Throughout that decade, Nashville has been thinking and dreaming about what it could do with that stretch of land -particularly if the Thermal plant was demolished. Ten years is long enough to dream: Let the planning begin."

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