The Detroit Thermal VOICE

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detroit thermal llc
A Thermal Ventures II, LP Company

Detroit Thermal, LLC is a Thermal Ventures II, LP Company

$22 million investment will ensure high-quality service for decades

Editor's note: This is the first in a two-part series about Detroit Thermal's three-year, $22 million capital improvement program, which is increasing the system's reliability to ensure safe, economical steam service for many decades to come. This article focuses on improvements to the steam distribution system. Watch for the next issue of The Detroit Thermal Voice *to read about upgrades in steam generation.*

About 80 feet below the traffic and activity of Detroit's central business district, the city is connected by another network that is vital to its economic life – but known only to a few.

Here, more than four miles of brick tunnels connect steam production facilities at the Detroit Thermal Beacon Plant to buildings throughout the downtown area. The tunnels, sections of which are 80 to 100 years old, are structurally sound and provide efficient avenues for transporting steam. However, years of high heat and humidity have taken their toll, and major repairs are needed to ensure the future efficiency of the distribution system.

"We are making major improvements throughout the tunnel system," said Chuck French, Detroit Thermal LLC president and general manager. "These improvements are making the steam distribution system more reliable, and that means we can get steam from our plants to our customers with less waste, less expense and increased safety."

One of the first projects in Detroit Thermal's three-year, $22 million capital improvement program involved replacing flanged equipment in the tunnels with welded equipment. "That one change helps eliminate steam leaks and prevents their recurrence," said Paul Razo, the company's distribution manager.

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Tom Barnes, distribution mechanic, removes a 16" valve before replacing it with a new 16" butterfly valve.

$22 million investment will ensure high-quality service for decades

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The tunnels also benefited from the installation of condensate lines. Now condensate formed inside steam lines and removed by steam traps is discharged into the new condensate return lines. The condensate lines keep water out of the tunnels, which decreases the humidity and protects the equipment.

"Before we installed the condensate lines, there was often two or three inches of water on the tunnel floor," Razo explained. "The constant heat and humidity corroded the valves, expansion joints, steam traps and pipe hangers and supports in the tunnels. The changes will help preserve equipment so there will be fewer repairs — and fewer shutdowns — in the future."

Another change, the installation of a new type of expansion joint that can be repaired or repacked without shutting down the line, also will reduce the instances in which steam service will have to be interrupted. "That will reduce inconvenience to customers," Razo said.

Other capital improvement projects in the distribution system include insulating pipes in manholes that were not insulated before and reinsulating others. "When we started, most of the pipes in the system's more than 500 manholes were not insulated," Razo said. "The insulation will cut down on radiant heat loss."

The insulation itself is of a new material that reduces surface temperature in some cases from about 260° to 130° F. "That also reduces heat loss, and it stops corrosion of valves and expansion joints," Razo said.

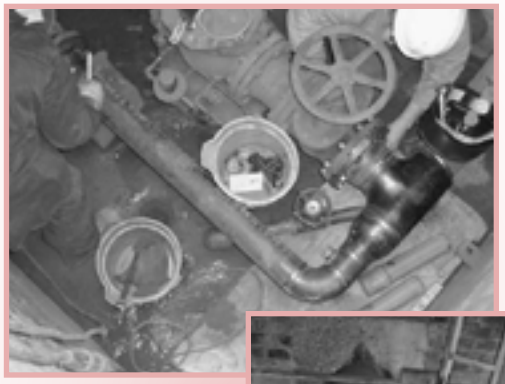
Many manholes are also being upgraded with new valves, expansion joints and steam traps, and all the pumps that draw water out of the tunnels have been replaced.

"The changes will help preserve equipment so there will be fewer repairs — and fewer shutdowns — in the future."

In addition, a new process that expedites excavation for buried leaks makes it less expensive and less time-consuming to find and repair leaks that occur between manholes. "We are using a brand-new technology that pulls out old leaky pipe, puts in new pipe and adds foam insulation with much less excavation," Razo said.

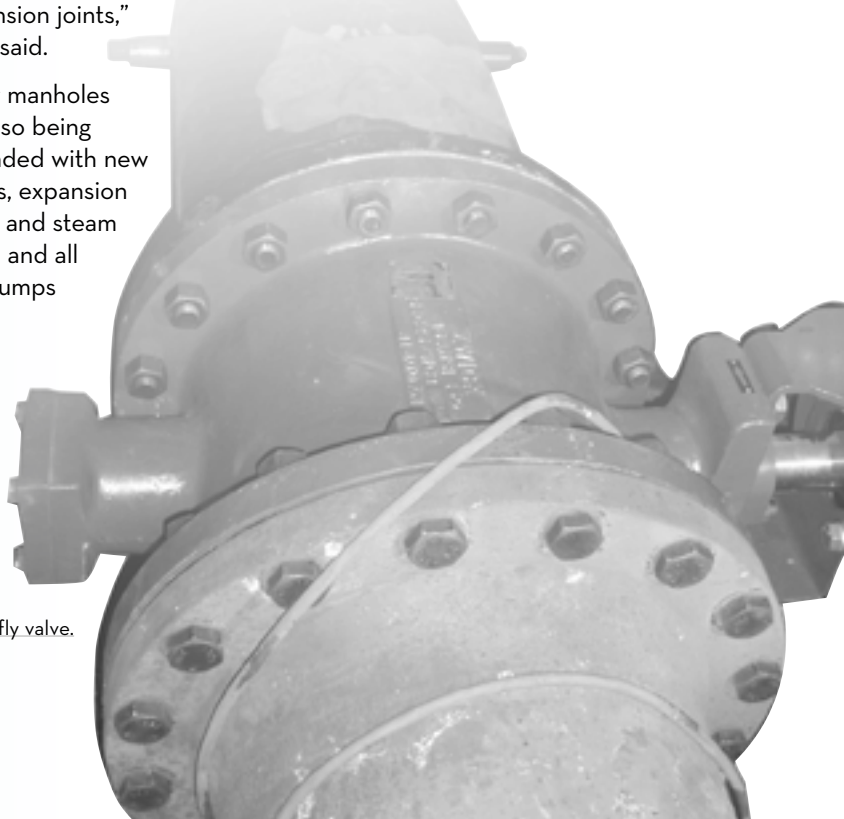
The capital improvement program is providing a major overhaul to the entire distribution system, but even when the program ends, improvements will continue, French said.

"We are committed to maintaining and upgrading the system, now and in the future," he said. "As we make the system more efficient by reducing heat loss and prolonging equipment life, our company benefits — and so do our customers." ■



A newly installed 4" service line (above), and a new 16" butterfly valve (right).

Recently repaired insulation for a 4" service line (above). A steam leak in a manhole before it was repaired (right).



A newly installed 16" butterfly valve.

Thermal officials warmly received by Chamber marketing group

The Detroit Regional Economic Partnership talks with companies nationwide and around the globe about the advantages of doing business in Detroit.

Partnership representatives know that energy is an important factor when a business chooses a site for relocation or expansion.

So it makes sense that the Partnership, the business development arm of the Detroit Regional Chamber, was pleased to meet recently with Mark Butta, vice president of business development for Thermal Ventures II, Detroit Thermal's parent company; Chuck French, Detroit Thermal president and general manager; and Phil Marsalese, Detroit Thermal's director of marketing.

"Their presentation gave us a better understanding of the steam system and how steam can be used to cut costs for business operations," said Mark Denson, director of North American marketing for the Partnership. "That helps make our region more competitive as we talk to businesses about locating new facilities in our area."

The Detroit Thermal representatives also welcomed the opportunity to talk to the Partnership about the role the company can play in the economic redevelopment of Detroit's central business district.

"We are very interested in the revitalization of the area, and we have an important contribution to make," French said.

Detroit Thermal helps promote urban economic development by providing economical, reliable steam for heating, cooling and processing. "It is important that business development groups

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It's time to think spring

Warm weather is here and for many customers it is time to turn off the steam. Facilities that do not use steam for hot water, absorption cooling or processes such as sterilization can take advantage of Detroit Thermal's seasonal shutdown-restart service.

Call the Detroit Thermal customer service line, (313) 496-1800, to arrange for a steam service representative to visit your facility, shut down the steam system and read the meter. A technician will return in the fall to turn on the steam and read the meter again. Customers who take advantage of the service are not charged for any steam that may have leaked through and registered on the meter during the shutdown period. Customers who turn the steam off themselves are responsible for all steam that registers on the meter.

The seasonal shutdown-restart service is $70, which includes both spring and fall visits. For more information or to schedule a visit, phone (313) 496-1800. ■

Thermal officials warmly received by Chamber marketing group

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are aware of Detroit Thermal as a competitive energy option and the advantages we can offer to potential new businesses," said Marsalese.

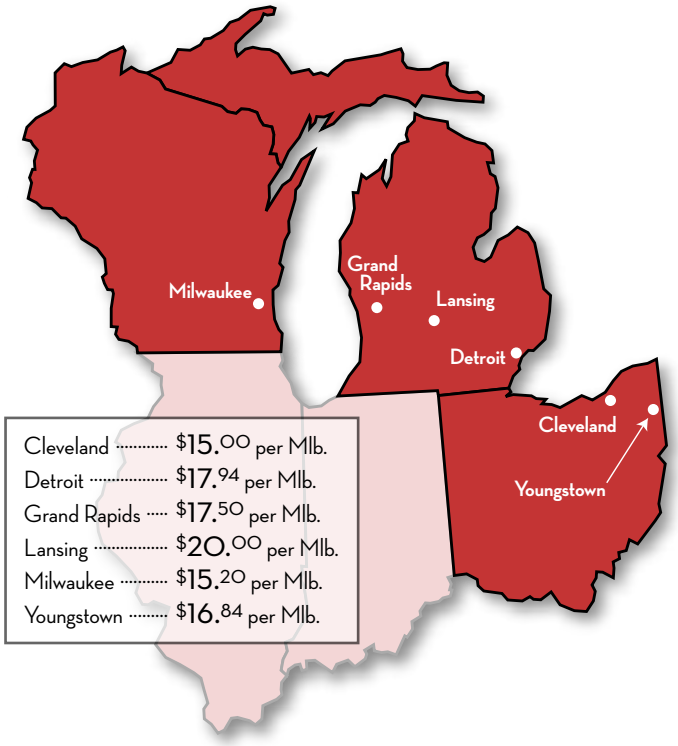
That important information is now being included on fact sheets the Partnership distributes all over the world, Denson said. "When companies look at new locations, energy is a consideration because it can be an important part of the cost of doing business," he said.

The Detroit Thermal steam system provides a number of cost-saving benefits to new and expanding businesses, including:

- Freeing space that would otherwise be occupied by boilers and other equipment.
- Eliminating the storage and handling of chemicals required for boiler and water treatment.
- Reducing operating and maintenance staff requirements.
- Eliminating up-front capital costs.

Denson said the Partnership was also pleased to learn about Detroit Thermal's multi-million dollar capital improvement program. "It's good to know we have a strong company committed to the future running our district heating system," he said. ■

The presentation to the Detroit Regional Economic Partnership included information on thermal energy rates in other Midwestern cities.



Gas prices expected to stay high

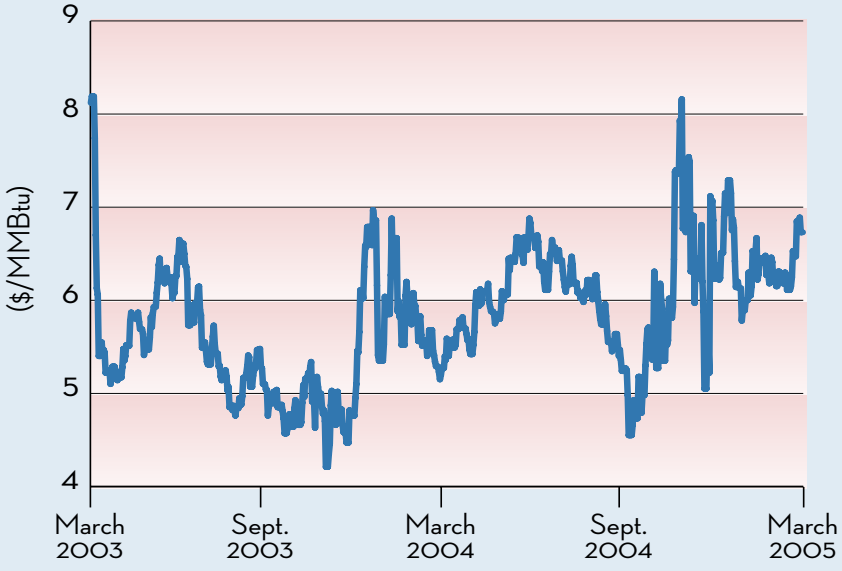
Volatility continues to be the hallmark of the natural gas market.

Prices rise and fall at dizzying rates and in sometimes unpredictable patterns. The rapid and often unexpected changes are a difficult burden for facilities that produce their own steam and must purchase gas at prevailing rates.

"Detroit Thermal and its customers also are affected by changing natural gas prices but we purchase some of our steam from the Greater Detroit Resource Recovery facility and that helps mitigate extreme rises in natural gas prices," said Mark Butta, vice president of business development for Thermal Ventures II, which owns Detroit Thermal LLC. "Detroit Thermal steam remains a good value for buildings in Detroit's central business district."

Long-term forecasts predict that natural gas prices will remain high even when the heating season ends. "Spring is the beginning of the storage injection season when natural gas is stored for the next heating season, and that will help keep demand high," Butta explained. "And, a lot of natural gas is used for power generation during the peak summer months. If temperatures this summer are higher than normal, that too will keep demand – and prices – up." ■

NATURAL GAS PRICES DELIVERED TO MICHCON CITY GATE



Steam trap maintenance improves system efficiency

Steam traps that work properly are vital to an efficient steam system. Yet many building owners and operators don't know where their traps are or whether they are in good working order.

"Generally, when steam traps are working properly, the steam heating system is working well and the heat is retained at the point where it is needed," explained Michael Sepesy, Detroit Thermal account executive. "When traps fail, much of the steam flows through the area and enters the condensate return system. Then the heat raises the temperature of the condensate, not the building."

When that happens, Sepesy said, it takes a lot more steam to maintain the temperature in the building – and that can be costly.

"In some cases, customers don't realize their steam traps have failed until they get high steam bills," he said. However, careful monitoring of steam traps, preventive maintenance and prompt repair or replacement of failing traps can help eliminate the expense of wasted steam.

Monitoring traps is first step

"Before you can monitor the traps, you have to know where they are," Sepesy said. If the building owner or operator is not sure where all the traps are, Sepesy suggests a steam trap survey performed by a reputable company.

"Have the company locate all the traps in the system and mark them for future reference," he said. "At the same time, the traps should be tested and the bad ones repaired or replaced."

Once the traps are found and working efficiently, regular preventive maintenance will help avoid costly repairs and excessive steam use. Sepesy recommends that strainers usually located upstream of the steam traps be checked and cleaned regularly. The strainers help prevent traps from getting clogged with pipe scale or chemical deposits. In some cases, treating the steam and return lines with chemicals available from a water treatment company will also hold deposits to a minimum.

Early signs of trap failure

Even with good maintenance, steam traps fail over time – their typical life expectancy is three to five years – and it is important to repair or replace a bad trap as quickly as possible. "If the steam blows through one trap, it can have a detrimental effect on other traps down the line," Sepesy explained. "It can also raise steam bills."

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AN EXPERIENCED HAND JOINS DETROIT THERMAL

Michael Sepesy joined Detroit Thermal as an account executive in November 2004 after nearly 15 years of experience in the heating, ventilation and air conditioning field. He started in the industry in 1990 selling boilers, boiler controls and all the mechanical equipment needed to support boiler operations.

Michael Sepesy brings 15 years of experience to Detroit Thermal.

"I have a lot of experience working with customers and developing preventive maintenance plans to help make their systems work more efficiently," Sepesy said. "That experience is helping me as I work closely with Detroit Thermal customers to help them get the most out of their systems."

Sepesy attended Owens Technical College in Perrysburg, Ohio, where he earned a certificate in low-pressure/high-pressure boiler operations." ■

Steam trap maintenance improves system efficiency

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To monitor for failed traps, check the temperature of the condensate regularly. The condensate at the receiver and pump should be between 160° and 180° F. If it is higher, not only is steam being wasted but other equipment such as motors, pump seals and bearings could be damaged.

"In a steam system that's operating well, the steam flows to various areas of the building efficiently, with a minimal loss of energy."

A pounding noise, called "water hammer," is another indication of a failed trap. Left unchecked, the pressure of the hammering can lead to problems such as damaged vents, regulators and piping.

Michael Sepesy inspects a 3/4" float and thermostatic steam trap.

"In a steam system that's operating well, the steam flows to various areas of the building efficiently, with a minimal loss of energy," Sepesy said. "Steam traps that are functioning well are an important part of the process. One way customers can make sure their systems run as efficiently and as inexpensively as possible is to check the traps regularly and keep them working properly." ■

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