



Metro Nashville
DISTRICT ENERGY SYSTEM

The Nashville District Energy System: An Overview

*Presented at the 97th IDEA Annual Conference
Nashville, TN*

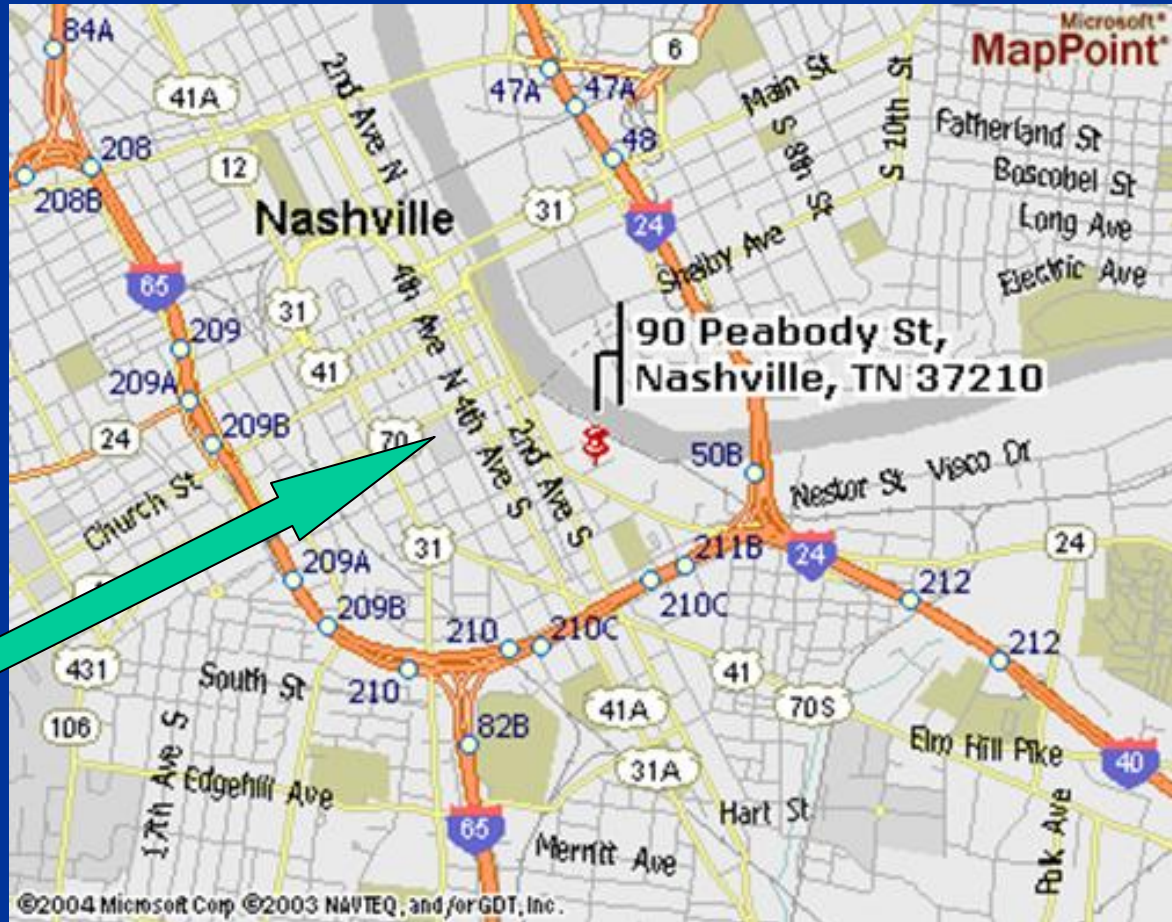
Harvey Gershman,
Metro DES Project Administrator
And
President
Gershman, Brickner & Bratton, Inc.
June 12, 2006



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Location

Metro Nashville
District Energy
System
90 Peabody Street
Nashville, TN 37210



IDEA
2006



- 40 buildings served
 - 14 State
 - 10 Municipal
 - 16 Private
- 26,000 linear feet of piping
- Services offered
 - Steam
 - Chilled water



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Transition

THERMAL
NASHVILLE THERMAL TRANSFER CORPORATION



1974 - 2003



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2003 - present





Nashville Thermal Status in 2002

- Metro Department of Health held hearings about Thermal WTE emission violations
- Thermal Board Actions
 - Close WTE by October 1, 2002
 - CEPS hired to manage natural gas only operations after that
- Temporary boilers added to be ready to operate by May 1, 2002
- FY 2003 customer rates increased no greater than 3%
- Assure “Seamless” Transition to new DES



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Thermal's
Waste Tipping Hall
Catches on Fire
May 23, 2002



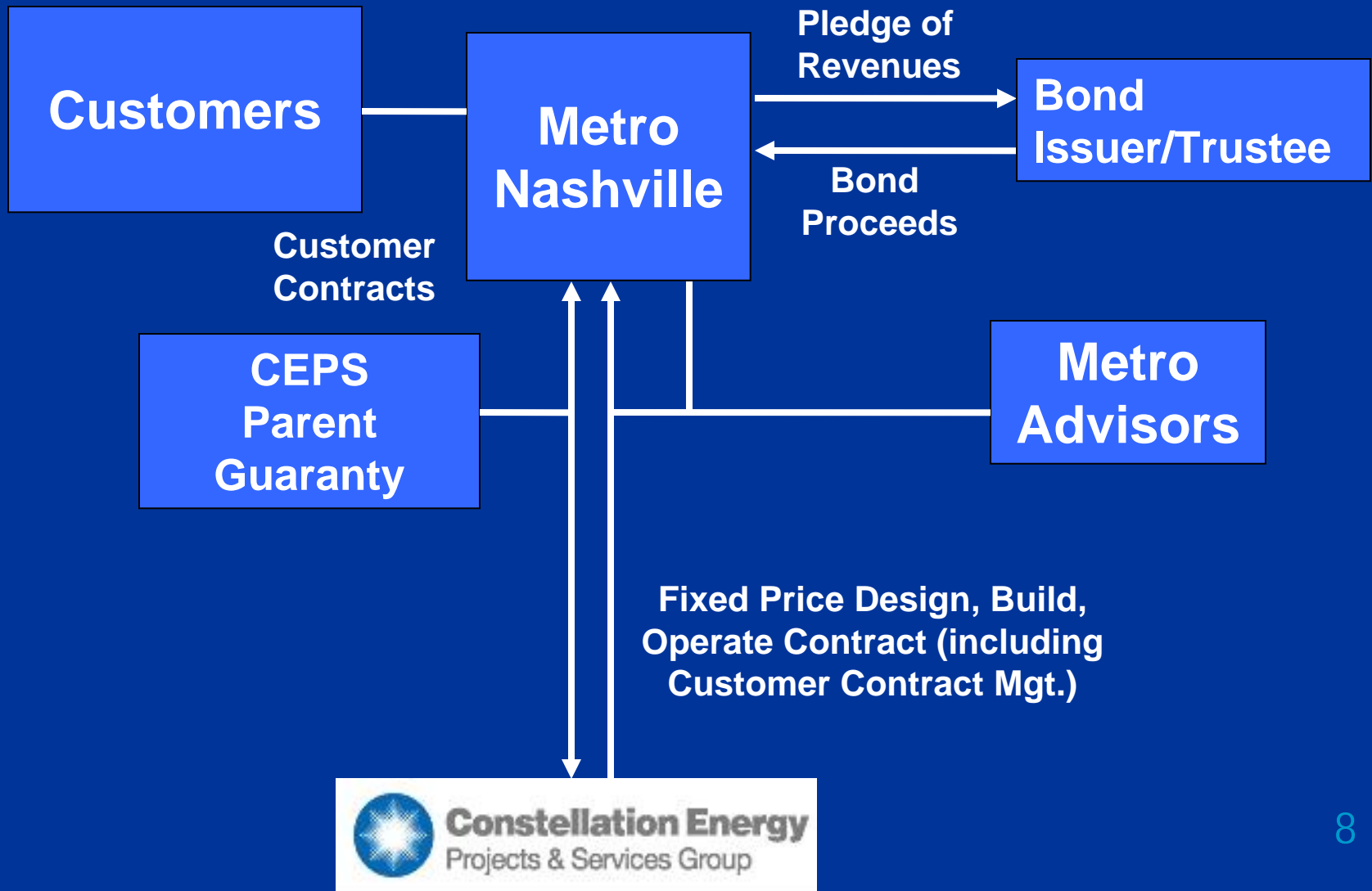


- Thermal management and employees
- Customers continuance
- Site B acquisition
- Seamless transition
- Metro's support to implement
- Contractor-Partner -- CEPS



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... A Public – Private Partnership



Constellation Energy
Projects & Services Group



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Retaining Existing Customers

Customers comprised of three equal customer groups:
Metro, State of Tennessee and Private





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Energy Generation Facility

N + 1 Redundancy
CEPS - 24 Staff



9 chillers; 23,400 ton capacity



4 Boilers; 260,000 pph capacity



- \$66.7 Million 2002 A Bonds
 - New energy generating facility
 - Distribution system improvements
 - Decoupling 2 customers
 - Replacement and new division valves
- \$8.7 Million 2005B Bonds
 - New metering packages
 - New customer connections
- \$2.6 Million 2006 - proposed
 - Distribution system improvements
 - Condensate line replacements

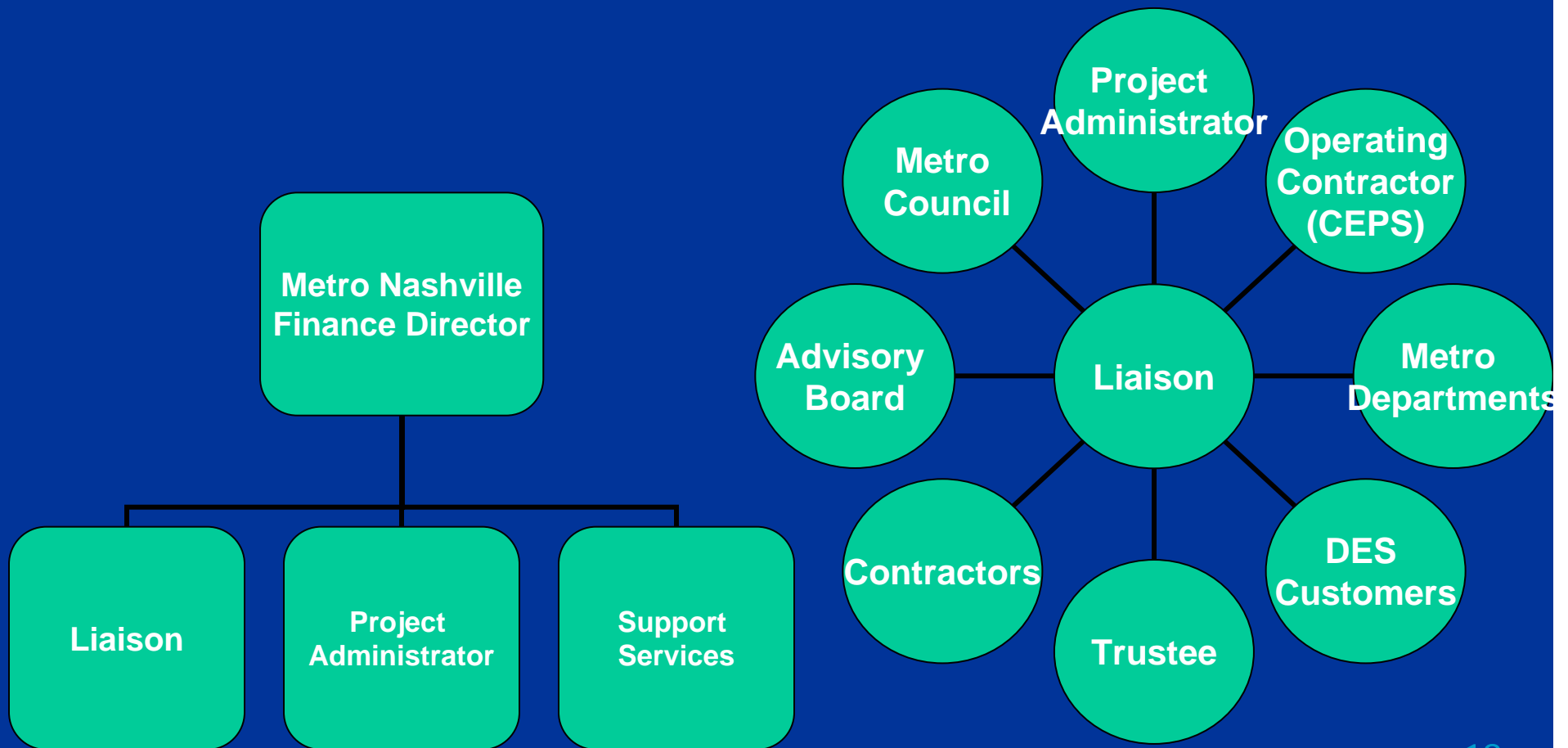


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New Public Information

- New Logo
- www.nashville.gov/des
- Brochures for attracting new customers
- Newsletters for stakeholders







		2004	2005	2006 (3 mos.)
Steam:	Sales (mlb.)	315,713	290,175	131,885
	Revenues	\$5.73mm	\$7.31mm	\$2.58mm
Chilled Water:	Sales (ton-hr)	49,610,000	49,098,000	7,631,000
	Revenues	\$8.15mm	\$8.65mm	\$2.05mm



- Reliability: 99.99%
- Steam:
 - 1.45 mmBtu/mlb sendout
 - 17% condensate return
- Chilled Water
 - 0.76 kwhr/ton-hr sendout
 - 1.91 gal/ton-hr sendout make-up water
- Losses
 - Steam = 9.9%
 - Chilled Water = 16.4%



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New DES Operates and Looks Great!





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Expanding System with New Customers

Hume Fogg School



Schermerhorn
Symphony Center





- Metro Council approved Service Agreement for New Customers
- Terms generally similar to those of private customers
- Pricing negotiated at 10 percent less than self-heating and cooling costs; net present value analysis
- Term ends in 2034, when 2002A Bonds terminate
- So far, five (5) additional (new) customers since DES
- Now negotiating with four (4) properties under development



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Great for Nashville!

- ✓ *Supports economic development*
- ✓ *Beautifies Downtown*
- ✓ *Improves the environment*

