



Metro Nashville
DISTRICT ENERGY SYSTEM

Semi-Annual DES Customer Meeting
Autumn 2009 (FY10)

Presented to
Metro DES Customers

October 15, 2009



Metro Nashville
DISTRICT ENERGY SYSTEM

Agenda

1. Welcome!
2. Comparison of Customer Annual Costs
3. Annual True-up FY09
4. Approved FY10 Budget
5. Natural Gas Trends
6. CEPS Scorecard
7. Capital Projects Review
8. New Convention Center and Hotel
9. Questions and Answers
10. Adjourn



Metro Nashville
DISTRICT ENERGY SYSTEM

1. Welcome!





2. Comparison of Customer Annual Costs

	Steam (\$ millions)			Chilled Water (\$ millions)		
	7/07 -6/08	7/08- 6/09	% Diff.	7/07 -6/08	7/08- 6/09	% Diff.
Private	\$2.289	\$2.294	<1%	\$3.890	\$3.711	-4.6%
State	\$2.866	\$2.971	3.7%	\$3.200	\$3.262	1.9%
Metro*	\$2.643	\$2.838	7.4%	\$3.053	\$3.113	2.0%
Aggregate	\$7.798	\$8.102	3.9%	\$10.143	\$10.087	<1%

*FY08 MFA = \$2,193,075; FY09 MFA = \$3,217,986
(post-True-up)



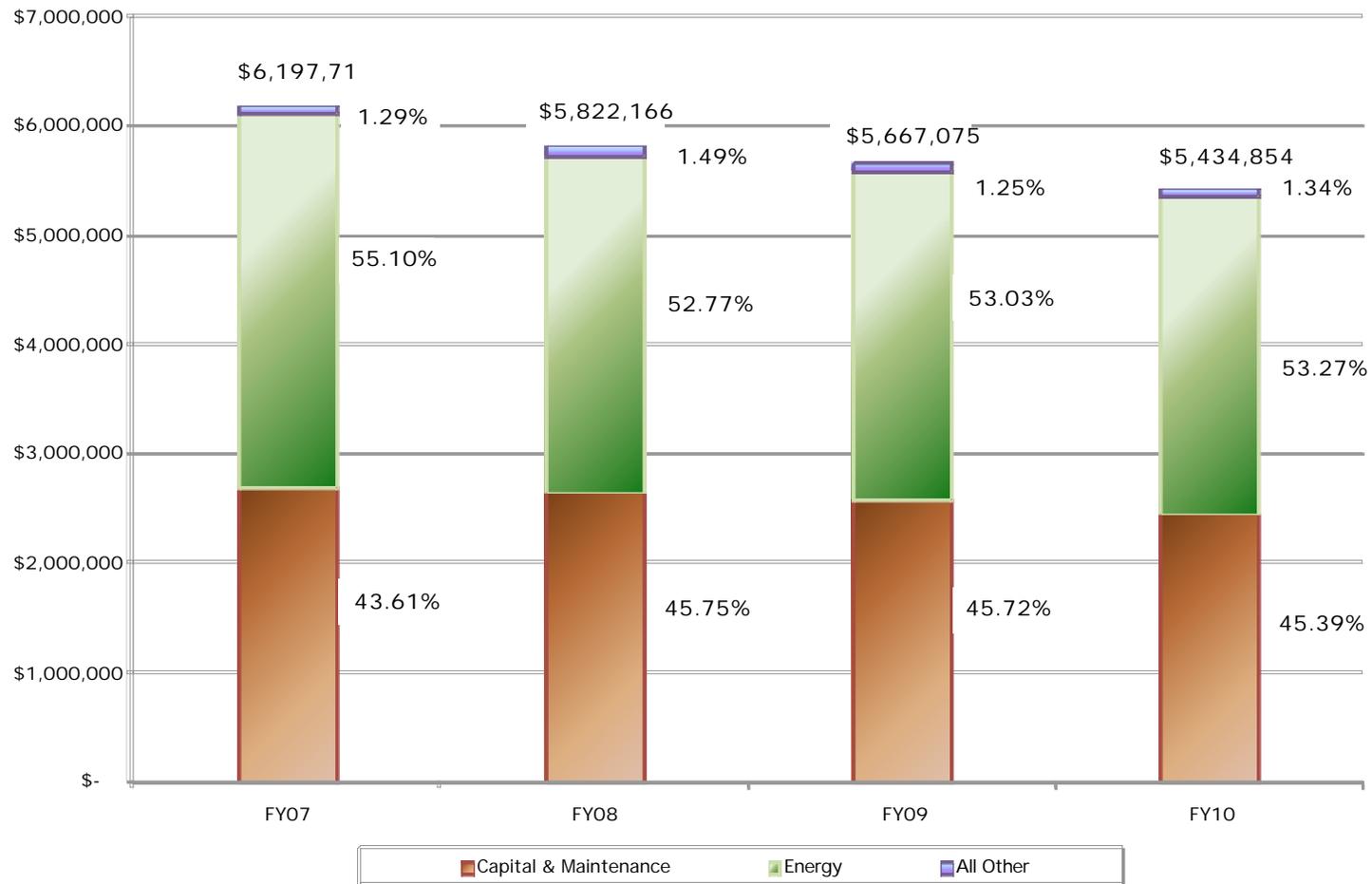
Graphics Legend:

- **Capital & Maintenance Costs Include:**
 - Contract Capacity Charge, FOC, EDS Improvement, Metro Incremental, EDS Maintenance
- **Energy Costs Include:**
 - Electricity, EDS Electricity, Water, Sewer, Natural Gas, Propane, TIFS
- **“All Other” Costs Include:**
 - Chemicals, Engineering, Insurance



Metro Nashville DISTRICT ENERGY SYSTEM

Private Customer DES Cost (CHW & S

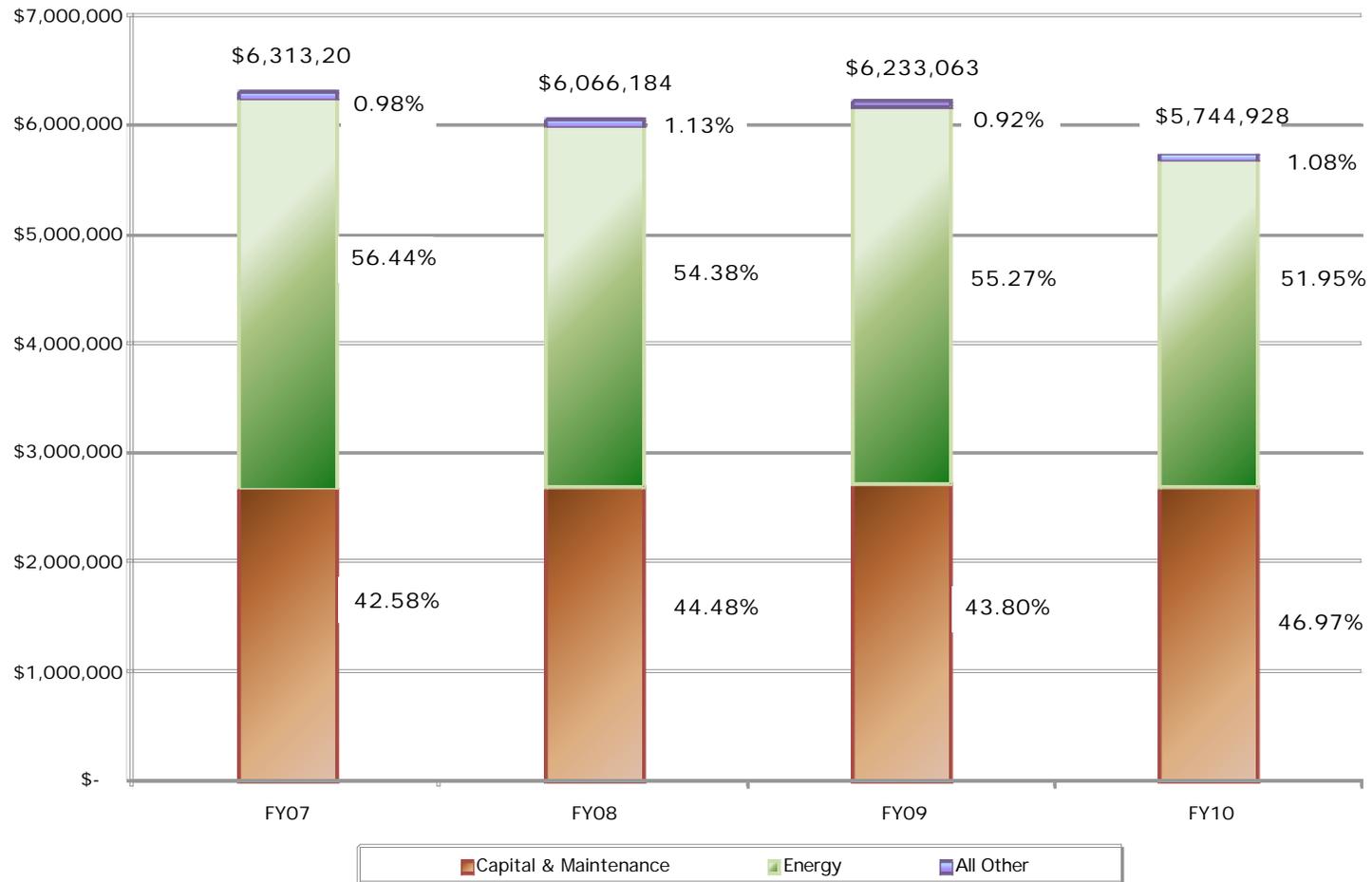




Metro Nashville

DISTRICT ENERGY SYSTEM

State Building Cust DES Cost (CHW & St

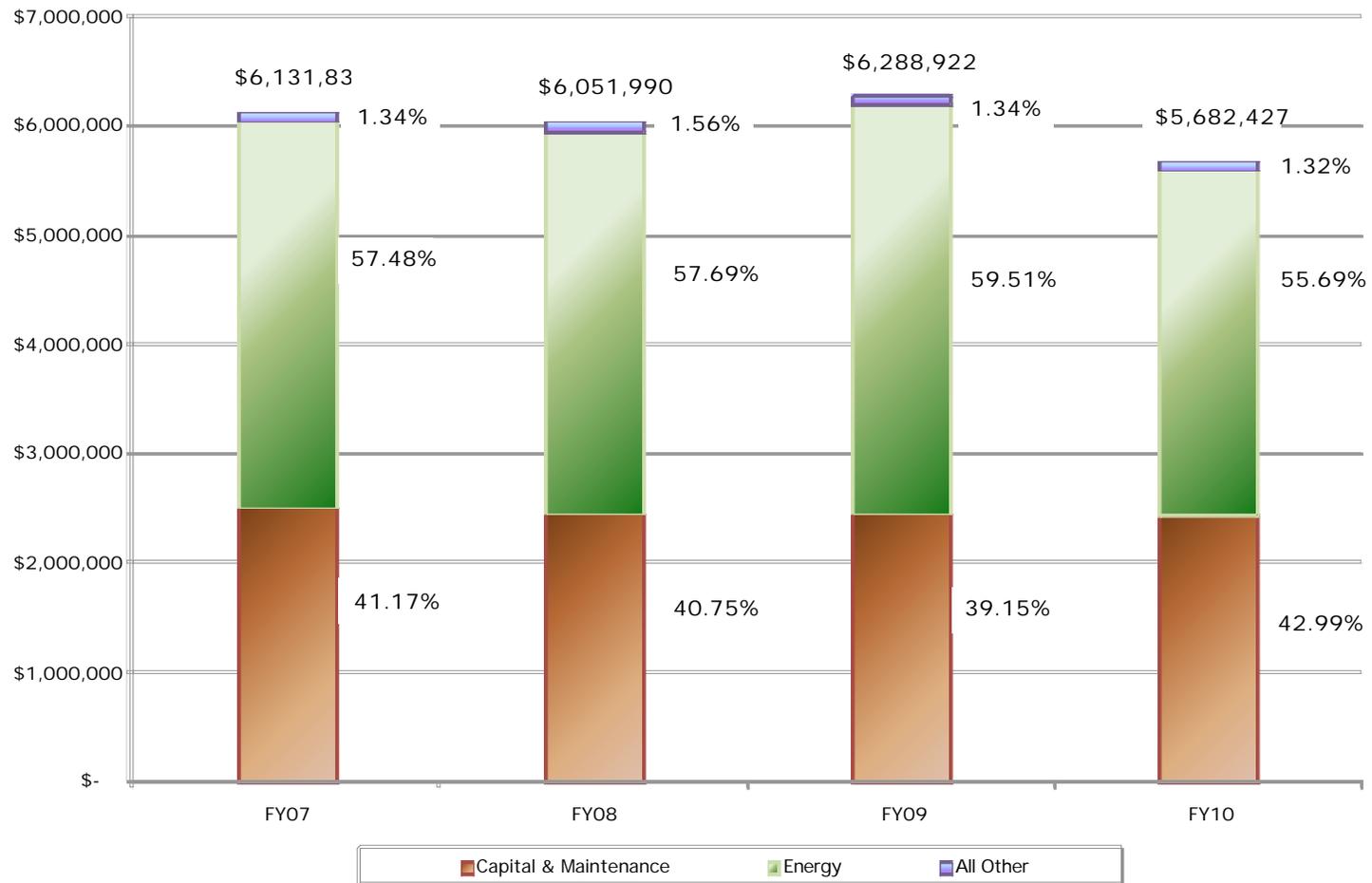




Metro Nashville

DISTRICT ENERGY SYSTEM

Metro Building Custo DES Cost (CHW & St

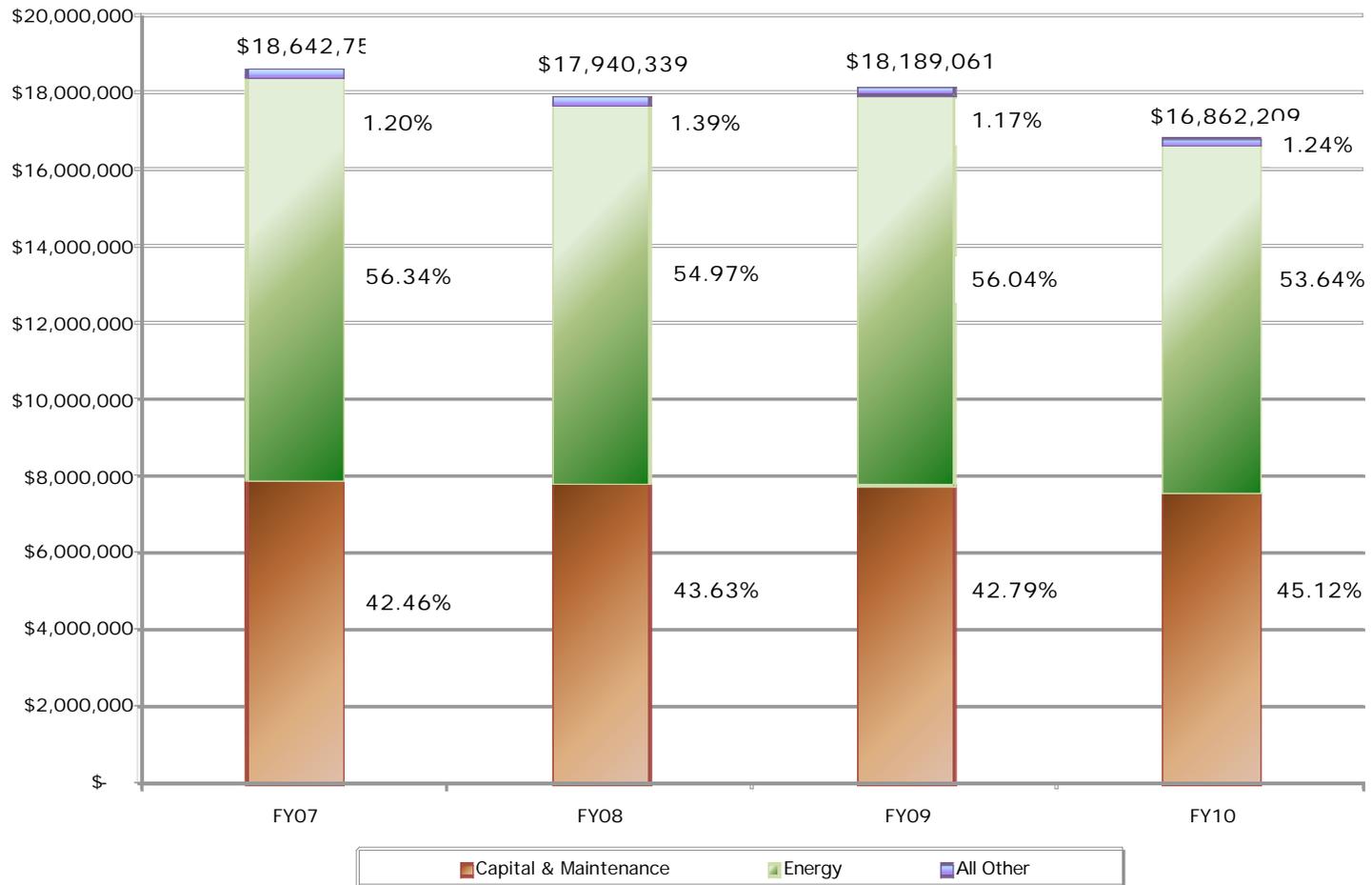




Metro Nashville

DISTRICT ENERGY SYSTEM

All DES Customers Total Cost (CHW & S)





Metro Nashville DISTRICT ENERGY SYSTEM

Customer Invoices – Chilled Water

Chilled Water Billing Details		Current Period		Prior Year		Steam Billing Details		Current Period		Prior Year	
Contract Chilled Water Capacity:	1,000 ton	1,000 ton	1,000 ton	Contract Steam Capacity:	12,500 pph	12,500 pph	Billed Steam Capacity:	13,200 pph	12,500 pph		
Billed Chilled Water Capacity:	1,000 ton	1,000 ton	1,000 ton	Beginning Meter Reading:	10,900,000 tonhr	75,400,320 lbs	Ending Meter Reading:	11,197,600 tonhr	75,891,360 lbs	Steam Use:	491,040 lbs
Beginning Meter Reading:	10,900,000 tonhr			Chilled Water Use:	297,600 tonhr	327,360 tonhr	Fiscal Year To Date Use:	2,380,800 tonhr	2,455,200 lbs		564,696 lbs
Ending Meter Reading:	11,197,600 tonhr										
Chilled Water Use:	297,600 tonhr										
Fiscal Year to Date Use:	2,380,800 tonhr										

CUSTOMER CHARGES FOR CHILLED WATER SERVICE										AMOUNT	
Capacity Charge										\$ 11,194.41	
	Contract Capacity Charge	1,000 tons	x	\$6.7121 per ton =	\$1,006.71						
	Fixed Operating Charge	1,000 tons	x	\$8.6374 per ton =	\$8,637.40						
	EDS Improvement Charge	1,000 tons	x	\$0.3782 per ton =	\$378.20						
	Metro Incremental Admn Charge	1,000 tons	x	\$1.1721 per ton =	\$1,172.10						
Pass Through Charges										\$ 2,188.62	
	Water and Sewer	297,600 tonhrs	x	\$0.0049 per tonhr =	\$1,458.24						
	Chemicals	297,600 tonhrs	x	\$0.0014 per tonhr =	\$416.64						
	Engineering	1,000 tons	x	\$0.0583 per ton =	\$58.30						
	Insurance	1,000 tons	x	\$0.0000 per ton =	\$0.00						
	EDS Electricity	1,000 tons	x	\$0.1379 per ton =	\$137.90						
	EDS Maintenance Cost Alloc.	1,000 tons	x	\$0.0000 per ton =	\$0.00						
	Thermal Inefficiency Fuel Surcharge	12.00 Contract Delta T	10.95	Actual Delta T =	\$117.54						
Energy Charges										\$ 20,117.76	
	Electric	297,600 tonhrs	x	\$0.0676 per tonhr =	\$20,117.76						
TOTAL CHILLED WATER CHARGES										\$ 33,500.79	



Metro Nashville DISTRICT ENERGY SYSTEM

Customer Invoices – Steam

CUSTOMER CHARGES FOR STEAM SERVICE						
Capacity Charge						\$ 11,635.80
	Contract Capacity Charge	13,200 pph	x	\$0.4464 per pph =	\$5,892.48	
	Fixed Operating Charge	13,200 pph	x	\$0.3689 per pph =	\$4,869.48	
	EDS Improvement Charge	13,200 pph	x	\$0.0161 per pph =	\$212.52	
	Metro Incremental Admn Charge	13,200 pph	x	\$0.0501 per pph =	\$661.32	
Pass Through Charges						\$ 1,434.05
	Water and Sewer	491,040 lbs	x	\$0.0021 per lb =	\$1,031.18	
	Chemicals	491,040 lbs	x	\$0.0006 per lb =	\$294.62	
	Engineering	13,200 pph	x	\$0.0024 per pph =	\$31.68	
	Insurance	13,200 pph	x	\$0.0000 per pph =	\$0.00	
	EDS Electricity	13,200 pph	x	\$0.0058 per pph =	\$76.56	
	EDS Maintenance Cost Alloc.	13,200 pph	x	\$0.0000 per pph =	\$0.00	
Energy Charges						\$ 9,231.55
	Electric	491,040 lbs	x	\$0.0006 per lb =	\$294.62	
	Natural Gas	491,040 lbs	x	\$0.0182 per lb =	\$8,936.93	
	Propane	491,040 lbs	x	\$0.0000 per lb =	\$0.00	
TOTAL STEAM CHARGES						\$ 22,301.40
					\$ -	
					\$ -	
					\$ -	
	SUBTOTAL				\$ 55,802.19	
TOTAL CHARGES for Billing Period						\$ 55,802.19
	Previous Balance - Includes Credit Balance from Annual True-Up				\$ (10,253.21)	
	Payments Received through	9/15/2009			\$ -	
CURRENT AMOUNT TO BE PAID						\$ 45,548.98

*** Payments received after the due date will be assessed a late charge of 1 1/2% per month on the amount past due. ***

- Please direct any billing inquiries to: Jimmy Hatcher at (615) 742-1883 ext 29 - For customer service, please contact Chuck Tucker at (615) 742-1883 ext 29



Customer Issues

- Escalators for FY10
- True-up FY09
- Energy Pricing FY10
- Customer Chilled Water Outage
Jan 23 – 24, 2010
- Disaster Plan
- Exclusivity Agreement



Metro Nashville DISTRICT ENERGY SYSTEM

3. Annual True-up FY09

Item	FY09 Budget	FY09 Post-True up	% Difference to Budget
FOC: Basic + C/O 6C	\$ 3,852,200	\$ 3,852,170	0.0%
FOC: 9th Chiller	\$ 36,100	\$ 36,095	0.0%
FOC: Change Order 6A	\$ 71,300	\$ 71,263	-0.1%
FOC: Change Order 6B	\$ 62,400	\$ 62,388	0.0%
Chemicals	\$ 156,500	\$ 150,209	-4.0%
Engineering	\$ 40,000	\$ 21,345	-46.6%
Insurance	\$ 42,400	\$ 29,722	-29.9%
Marketing: CEPS Sales Activity	\$ 27,000	\$ 5,006	-81.5%
Metro Marketing	\$ 52,900	\$ 7,698	-85.4%
Incentive Payments	\$ 30,100	\$ 9,878	-67.2%
Project Administration	\$ 24,200	\$ -	-100.0%
Metro Incremental Cost	\$ 568,000	\$ 374,174	-34.1%
Water/Sewer	\$ 681,600	\$ 402,901	-40.9%
Natural Gas/Propane	\$ 6,575,300	\$ 5,292,873	-19.5%
Electricity	\$ 4,437,300	\$ 4,312,285	-2.8%
EDS Repair & Improvement	\$ 171,400	\$ 137,575	-19.7%
EDS Surcharge	\$ 68,500	\$ -	-100.0%
Sub-total Operations	\$ 16,897,200	\$ 14,765,582	-12.62%
2002 Bonds	\$ 4,361,800	\$ 4,362,360	0.0%
2005 Bonds	\$ 631,600	\$ 1,433,498	127.0%
FY07 Projects	\$ 227,800	\$ 224,150	-1.6%
FY08 Projects	\$ 220,500	\$ -	n.a.
Debt Service Interest Revenue	\$ (72,300)	\$ (227,951)	n.a.
Oper. Reserve Funding Deposit	\$ 96,800	\$ 97,740	1.0%
Sub-total Debt Service	\$ 5,466,200	\$ 5,889,798	7.75%
Total Expenses	\$ 22,363,400	\$ 20,655,380	-7.64%
Customer Revenues	\$ 19,741,800	\$ 17,702,957	-10.33%
Project Admin. Revenue	\$ 24,200	\$ -	
True up Credits to Customers	\$ -	\$ (266,448)	
Total Metro Funding Amount	\$ 2,597,400	\$ 3,218,871	23.93%



Metro Nashville

DISTRICT ENERGY SYSTEM

4. Approved FY10 Budget

Item	FY09 Budget	FY09 Post-True up	FY10 Budget	Percent Change from FY09 Budget
FOC: Basic + C/O 6C	\$ 3,852,200	\$ 3,852,170	\$ 3,976,200	3.2%
FOC: 9th Chiller	\$ 36,100	\$ 36,095	\$ 37,200	3.0%
FOC: Change Order 6A	\$ 71,300	\$ 71,263	\$ 73,400	2.9%
FOC: Change Order 6B	\$ 62,400	\$ 62,388	\$ 64,300	3.0%
Chemicals	\$ 156,500	\$ 150,209	\$ 161,200	3.0%
Engineering	\$ 40,000	\$ 21,345	\$ 26,200	-34.5%
Insurance	\$ 42,400	\$ 29,722	\$ 43,700	3.1%
Marketing: CEPS Sales Activity	\$ 27,000	\$ 5,006	\$ 9,800	-63.7%
Metro Marketing	\$ 52,900	\$ 7,698	\$ 35,000	-33.8%
Incentive Payments	\$ 30,100	\$ 9,878	\$ -	-100.0%
Project Administration	\$ 24,200	\$ -	\$ 24,000	-0.8%
Metro Incremental Cost	\$ 568,000	\$ 374,174	\$ 526,400	-7.3%
Water/Sewer	\$ 681,600	\$ 402,901	\$ 689,600	1.2%
Natural Gas/Propane	\$ 6,575,300	\$ 5,292,873	\$ 4,692,900	-28.6%
Electricity	\$ 4,437,300	\$ 4,312,285	\$ 5,034,100	13.4%
EDS Repair & Improvement	\$ 171,400	\$ 137,575	\$ 176,500	3.0%
EDS Surcharge	\$ 68,500	\$ -	\$ 70,600	3.1%
Sub-total Operations	\$ 16,897,200	\$ 14,765,582	\$ 15,641,100	-7.4%
2002 Bonds	\$ 4,361,800	\$ 4,362,360	\$ 4,362,900	0.0%
2005 Bonds	\$ 631,600	\$ 1,433,498	\$ 627,600	-0.6%
FY07 Projects	\$ 227,800	\$ 224,150	\$ 227,800	0.0%
FY08 Projects	\$ 220,500	\$ -	\$ 220,500	0.0%
Debt Service Interest Revenue	\$ (72,300)	\$ (227,951)	\$ (123,700)	71.1%
Oper. Reserve Funding Deposit	\$ 96,800	\$ 97,740	\$ -	-100.0%
Sub-total Debt Service	\$ 5,466,200	\$ 5,889,798	\$ 5,315,100	-2.8%
Total Expenses	\$ 22,363,400	\$ 20,655,380	\$ 20,956,200	-6.3%
Customer Revenues	\$ 19,741,800	\$ 17,702,957	\$ 18,479,400	-6.4%
Project Admin. Revenue	\$ 24,200	\$ -	\$ 24,000	-0.8%
		\$ (266,448)		
Total Metro Funding Amount	\$ 2,597,400	\$ 3,218,871	\$ 2,452,800	-5.6%



5. Natural Gas Trends

Natural Gas Purchasing Review

Table 5: FY09 Gas Spending & Budget
Comparison

Figure 5: Actual and Projected Gas Costs



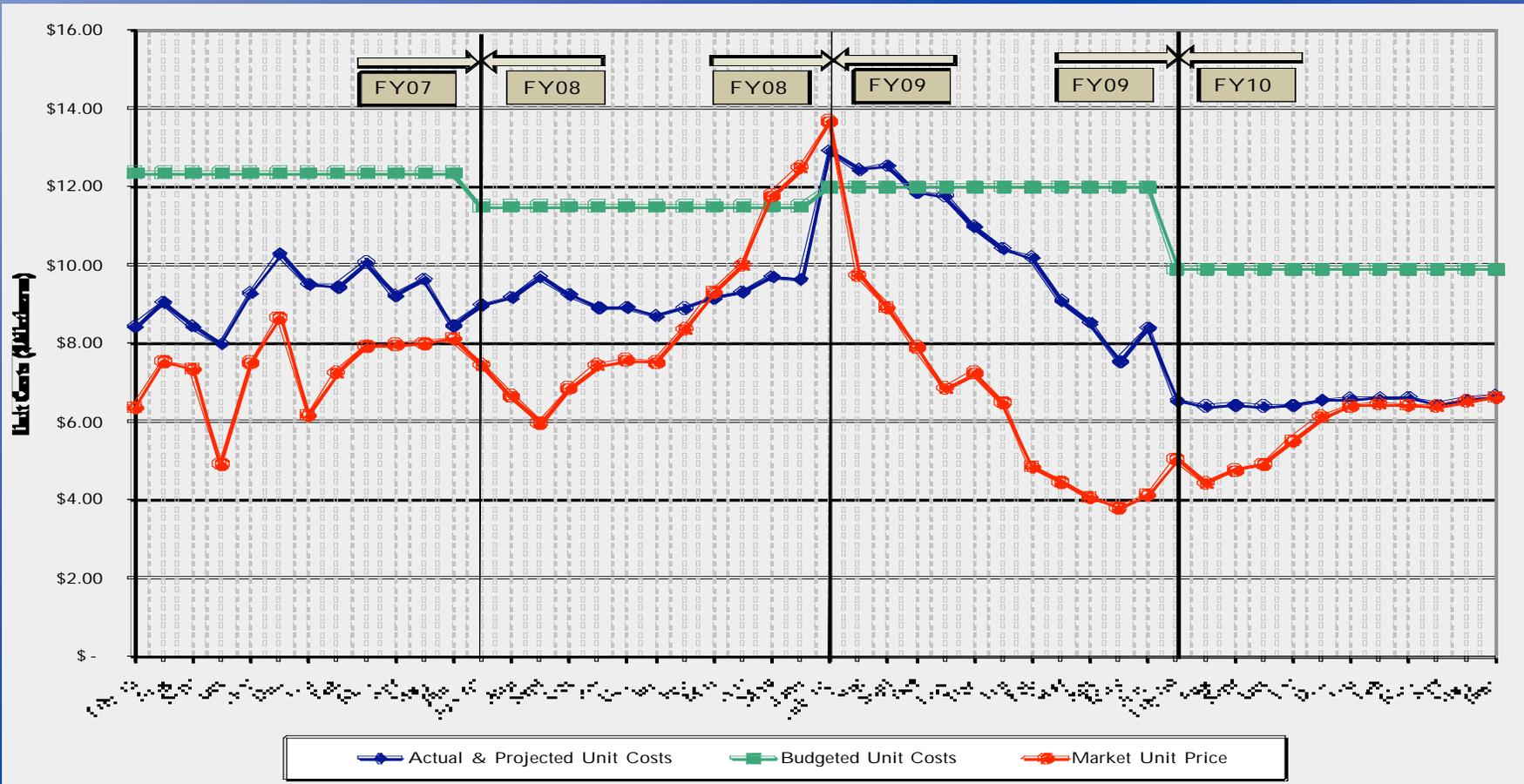
Table 5: FY09 Gas Spending & Budget Comparison

		Actual FY09 To date (June 30)	Budget FY09
Steam Sendout (Mlbs)		338,984	377,050
Fuel Use (Dth)	●	477,760	547,231
Plant Eff (Dth/Mlb)	●	1.409	1.451
Total Gas Cost	●	\$5,171,322	\$6,575,300
Unit Cost of Fuel (\$/Dth)	●	\$10.824	\$12.020



Metro Nashville DISTRICT ENERGY SYSTEM

Actual and Projected Gas Costs





6. CEPS Scorecard

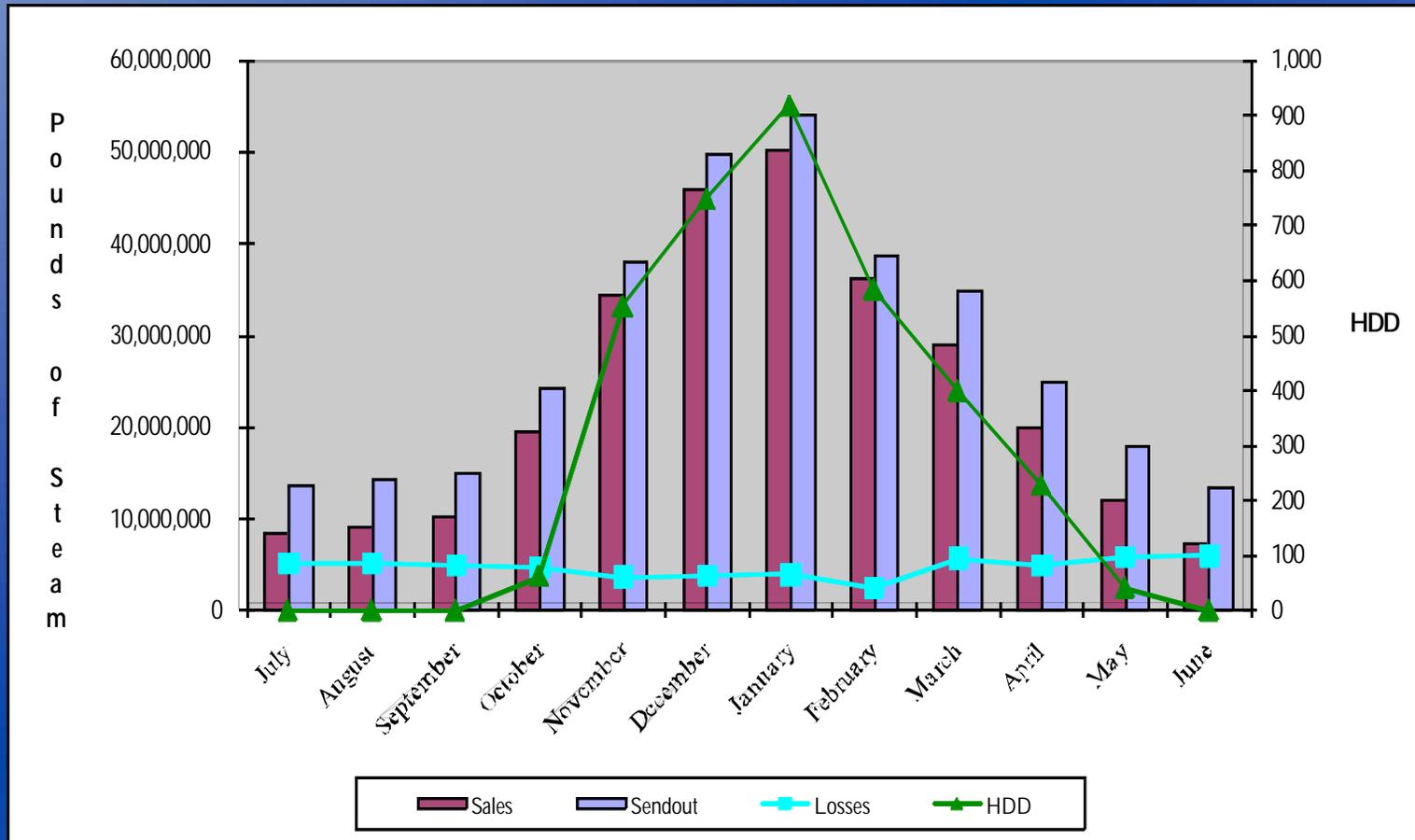
Contractor (CNDE) is in compliance with their contractual obligations for FY09.

-  Excellent Performance – No Improvement Necessary
-  Satisfactory Performance – Some Improvement Could Be Made
-  Poor Performance – Much Improvement Necessary



Metro Nashville DISTRICT ENERGY SYSTEM

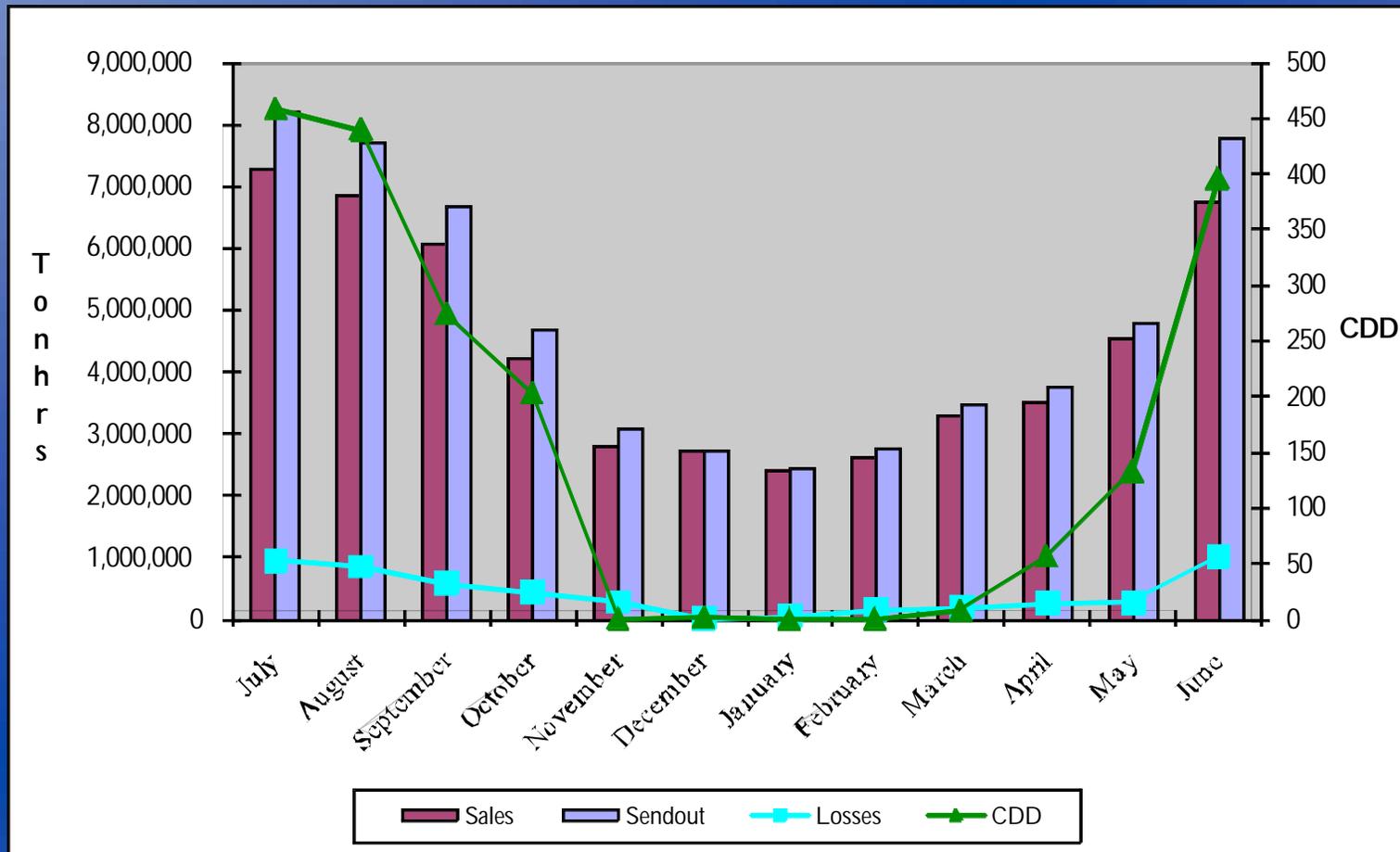
FY09 Operations: Steam





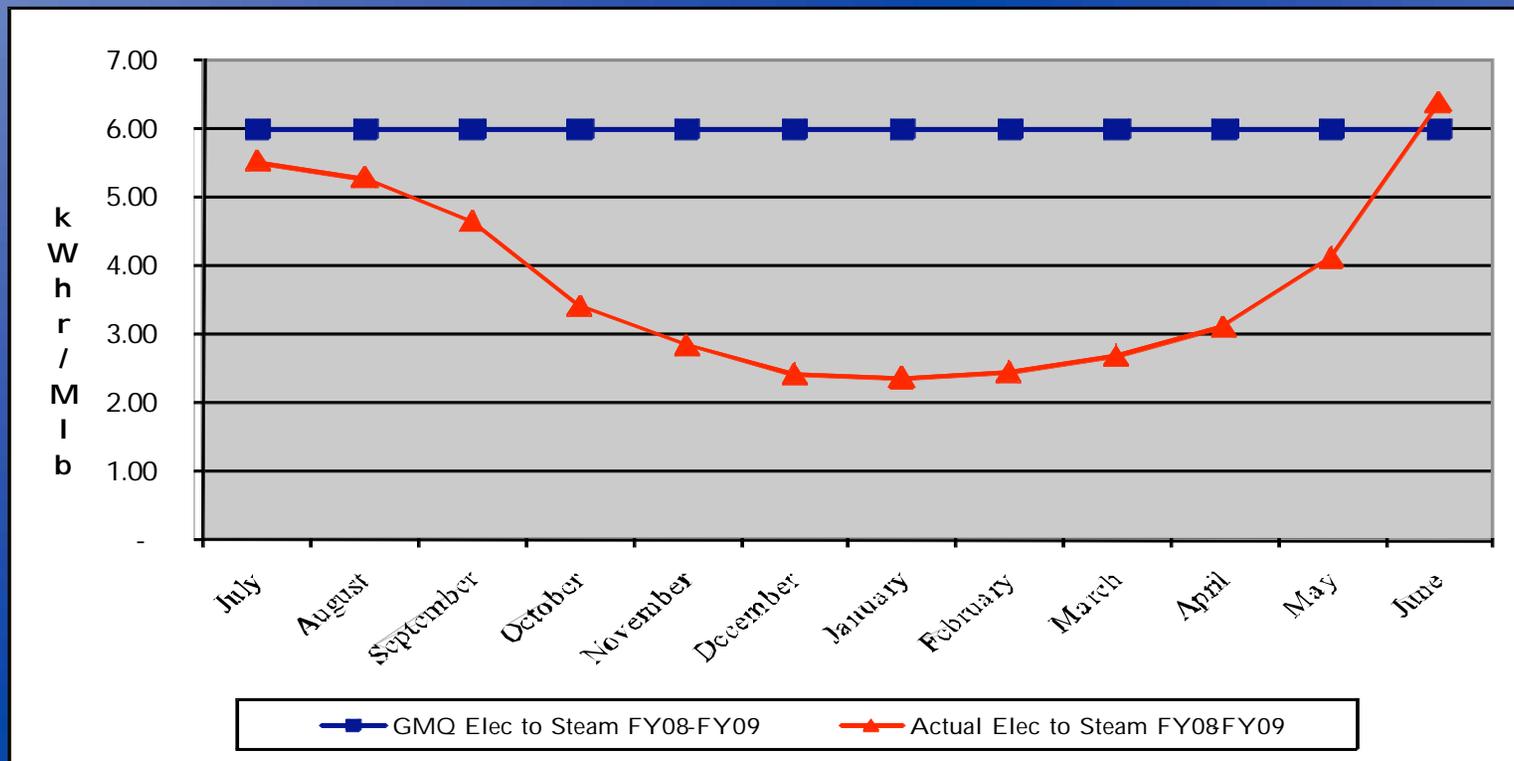
Metro Nashville DISTRICT ENERGY SYSTEM

FY09 Operations: Chilled Water



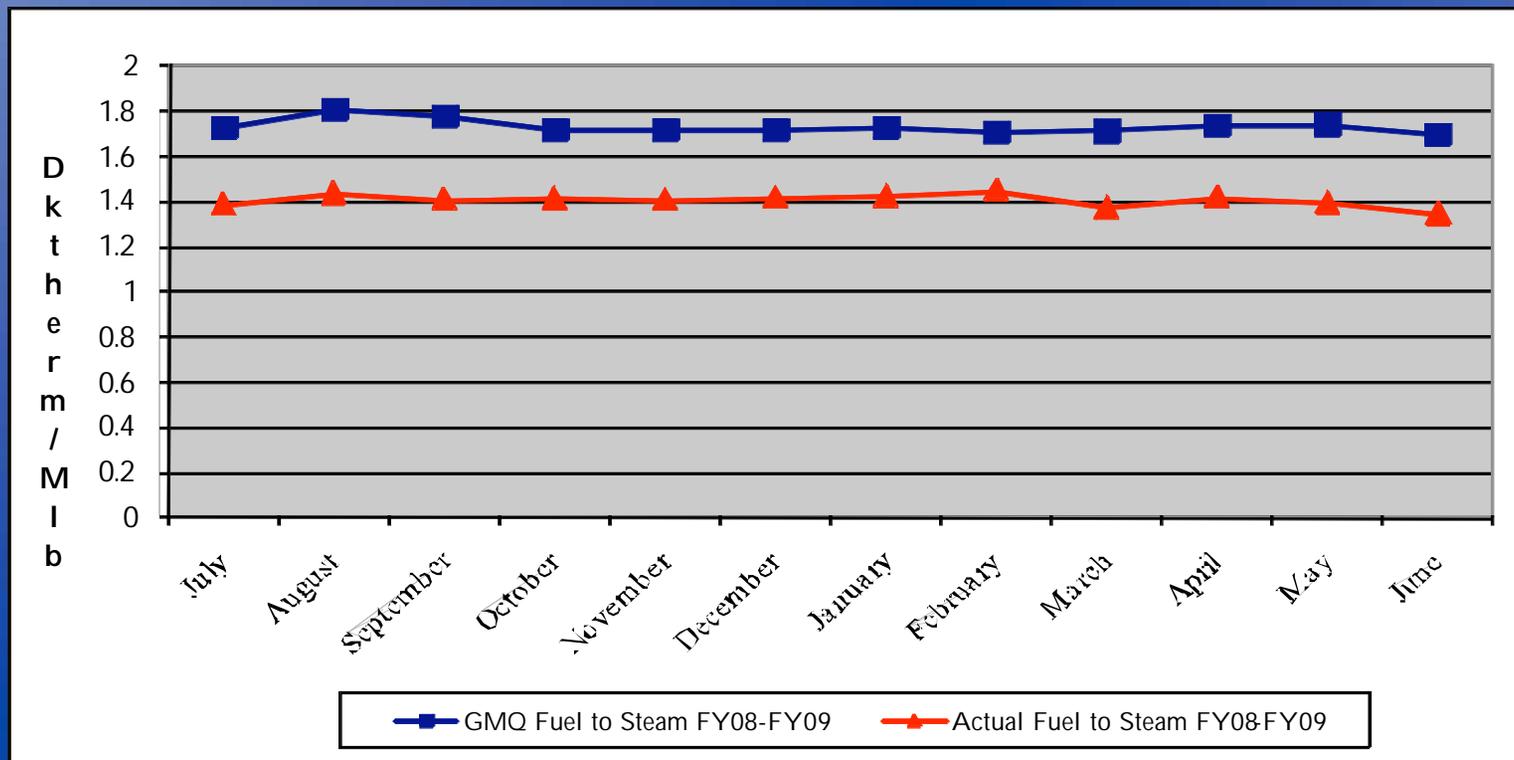


Performance Measurement FY09: Steam Electric Conversion ●



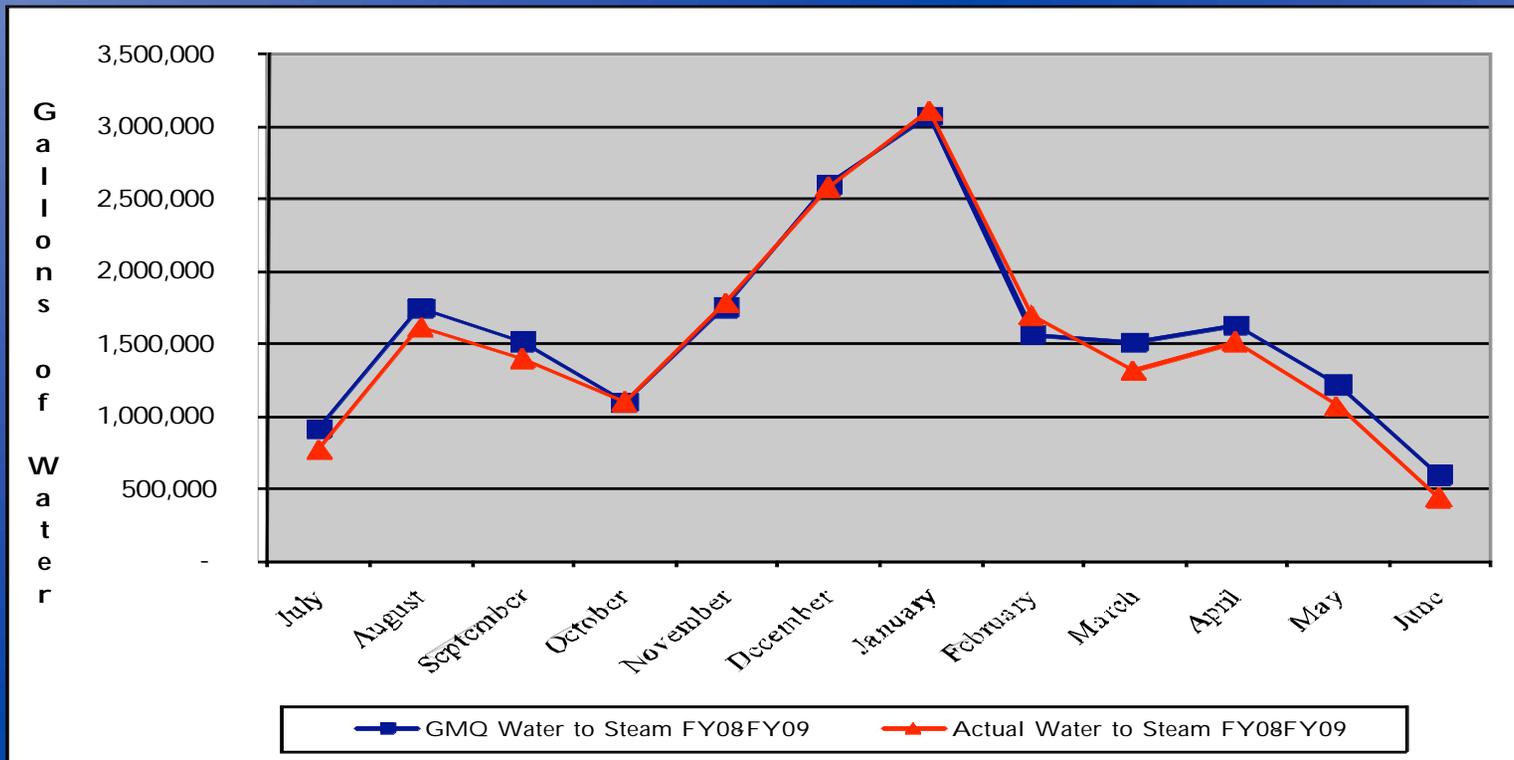


Performance Measurement FY09: Steam Plant Efficiency ●





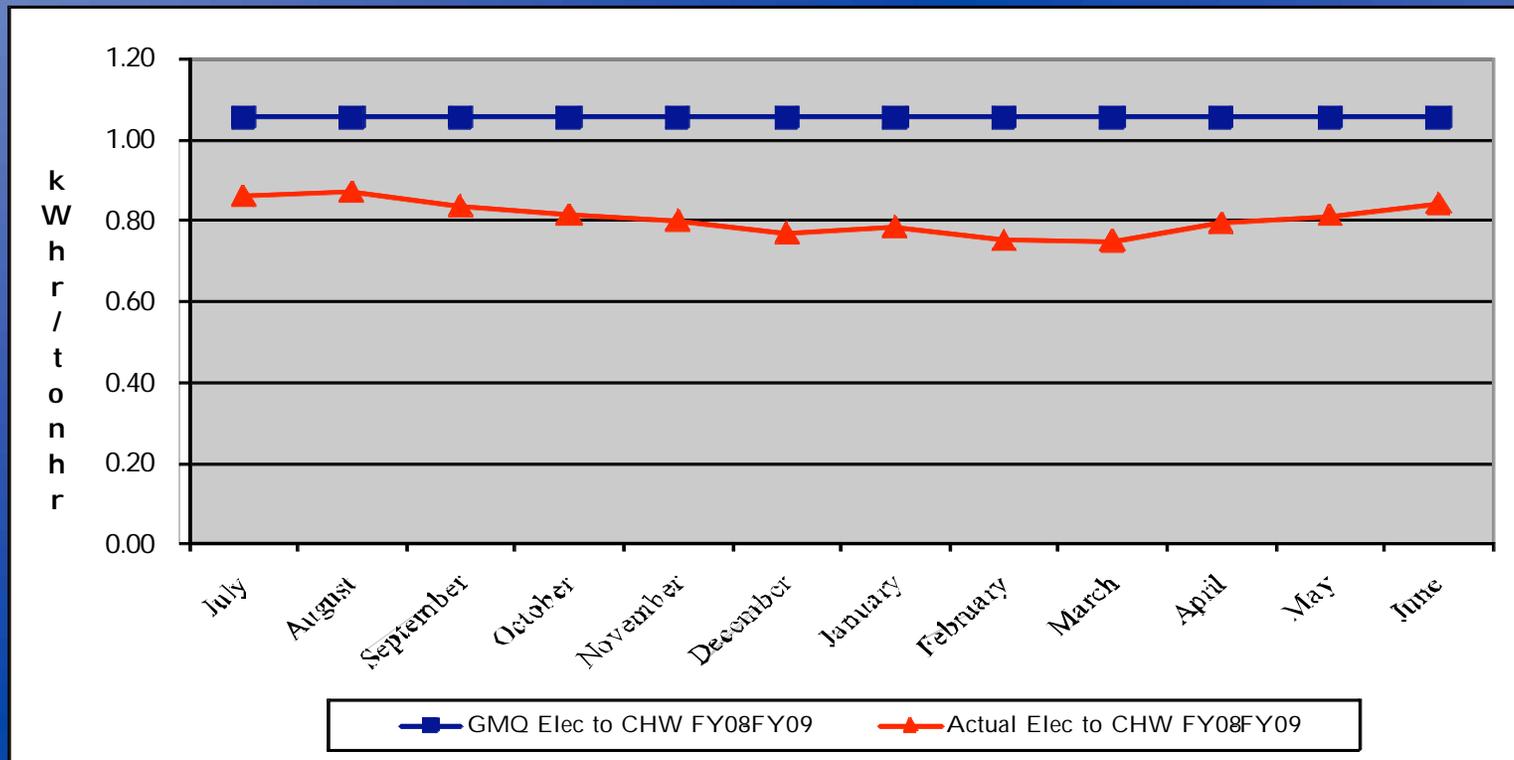
Performance Measurement FY09: Steam Water Conversion ●





Performance Measurement FY09: Chilled Water

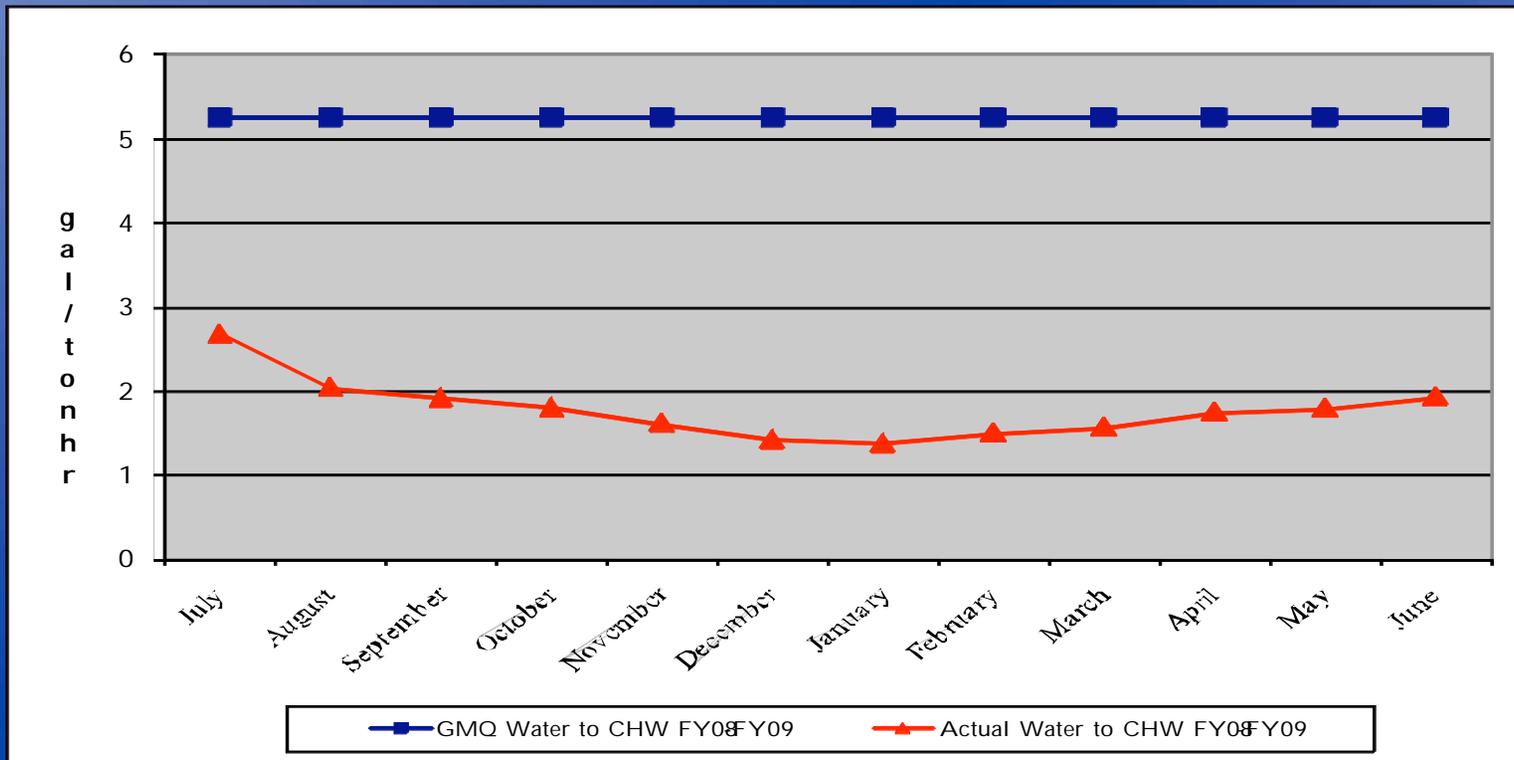
Electric Conversion ●





Metro Nashville DISTRICT ENERGY SYSTEM

Performance Measurement FY09: Chilled Water Water Conversion ●





Water Treatment

- Steam/Condensate
 - Corrosion ●
 - Iron ●
 - Hardness ●
 - Chlorine/Sulfite ●
- Condensing Water
 - Conductivity ●
 - Biologicals ●
- Chilled Water
 - Hardness ●
 - Corrosion ●
 - Biologicals ●



EGF Walkthrough

Quarterly Inspection Process

- Equipment Maintenance ●
- Operations ●
- Electrical ●
- Housekeeping ●
- Building Structure ●
- Building Exterior and Grounds ●



EDS Walkthrough

Quarterly Inspection Process

- Manhole/Tunnel Housekeeping ●
- Maintenance Items
 - Insulation Repair/Replacement ●
 - Water Infiltration ●
 - Corrosion of Structural Metal Components ●
- Safety Items ●



7. Capital Projects Review

Active Capital Projects

- DES 041/054: Symphony CND – closed
- DES 044: STM Repair & CND Replacement MH 5 to MH 9 – in closeout
- DES 046: Ryman CND – in closeout
- DES 050: MH Insulation – in construction/ongoing (DES 060 in FY 2010)
- DES 055: Rebuild of MH “C” – closed
- DES 056: STM Repair & CND Replacement to Citizen’s Plaza – in closeout
- DES 057: STM & CND Valve Replacement: Phase I & II – in closeout



FY 2010 Proposed Projects

- DES 048: Tunnel Lighting Replacement Phase III
- DES 059: CJC Steam & Condensate Line Replacement
- DES 061: Manhole & Tunnel Steel Corrosion Repair & Prevention
- DES 062: Wildhorse Stm & Cnd Line Replacement – currently bidding
- DES 063: Sump Pump Installation in MH A, B & M – in design
- DES 067: Tunnel Rock Repair – in design
- DES 068: St Mary's Condensate Tempering
- DES 069: Municipal Auditorium Condensate Tempering
- DES 070: MH 6 to 23 Condensate Line Replacement
- DES 071: Hermitage Hotel Service Modifications
- DES 072: Sheraton Hotel Steam and Condensate Replacement



Table 7: Capital Project Summary (06/30/09)

	Spent to End of FY08	FY09 Spending and Committed	Balance to Date (06/30/09)
2002A Bond	\$3,680,667	\$47,036	\$0
R&I Projects	\$626,555	\$137,575	\$458,936
2005B Bond	\$7,655,347	\$264,743	\$266,410
2007 Bond	\$2,620,771	\$0	\$237,729
2008 Bond	\$87,758	\$1,638,385	\$1,031,878
2010 Bond	\$0	\$0	\$2,410,000
Total	\$14,671,098	\$2,087,739	\$4,404,953



Metro Nashville
DISTRICT ENERGY SYSTEM

8. New Convention Center and Hotel





Music City Center & New Hotel

- Music City Center
 - 3,500 tons
 - 35,000 pph
- New Hotel
 - 1,500 tons
 - 18,000 pph
- Est \$1,500,000 (~55%) Reduction in MFA
- No Impact on Existing Customers
- New Load Approaches EGF Capacity Limit



Metro Nashville
DISTRICT ENERGY SYSTEM

9. Questions and Answers

10. Adjourn