



**Metro Nashville**  
**DISTRICT ENERGY SYSTEM**

*Advisory Board Quarterly Meeting*  
*Fourth Quarter FY10*

*Presented to*  
*District Energy Advisory Board*

*August 19, 2010*



## *Agenda*

1. Call to Order
2. Review & Approval of Previous Meeting Minutes
3. Review of DES Contractor Performance
4. Natural Gas Purchasing Status
5. Financial Reports – 4<sup>th</sup> Qtr FY10
6. FY11 Budget Status Report
7. Capital Projects Review & Status Report Update
8. Music City Convention Center Expansion Update
9. Damage Report from May 1-2, 2010 Flood
10. Other Board Member Items
11. Adjourn



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**DISTRICT ENERGY SYSTEM**




*1. Call to Order*

*2. Review and Approval of Previous  
Meeting Minutes*



### *3. Review of DES Contractor Performance*

Contractor (CNDE) is in compliance with their contractual obligations for FY10.

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



*Summary Table 3: Customer Cost Comparison for the Previous 12 Months*

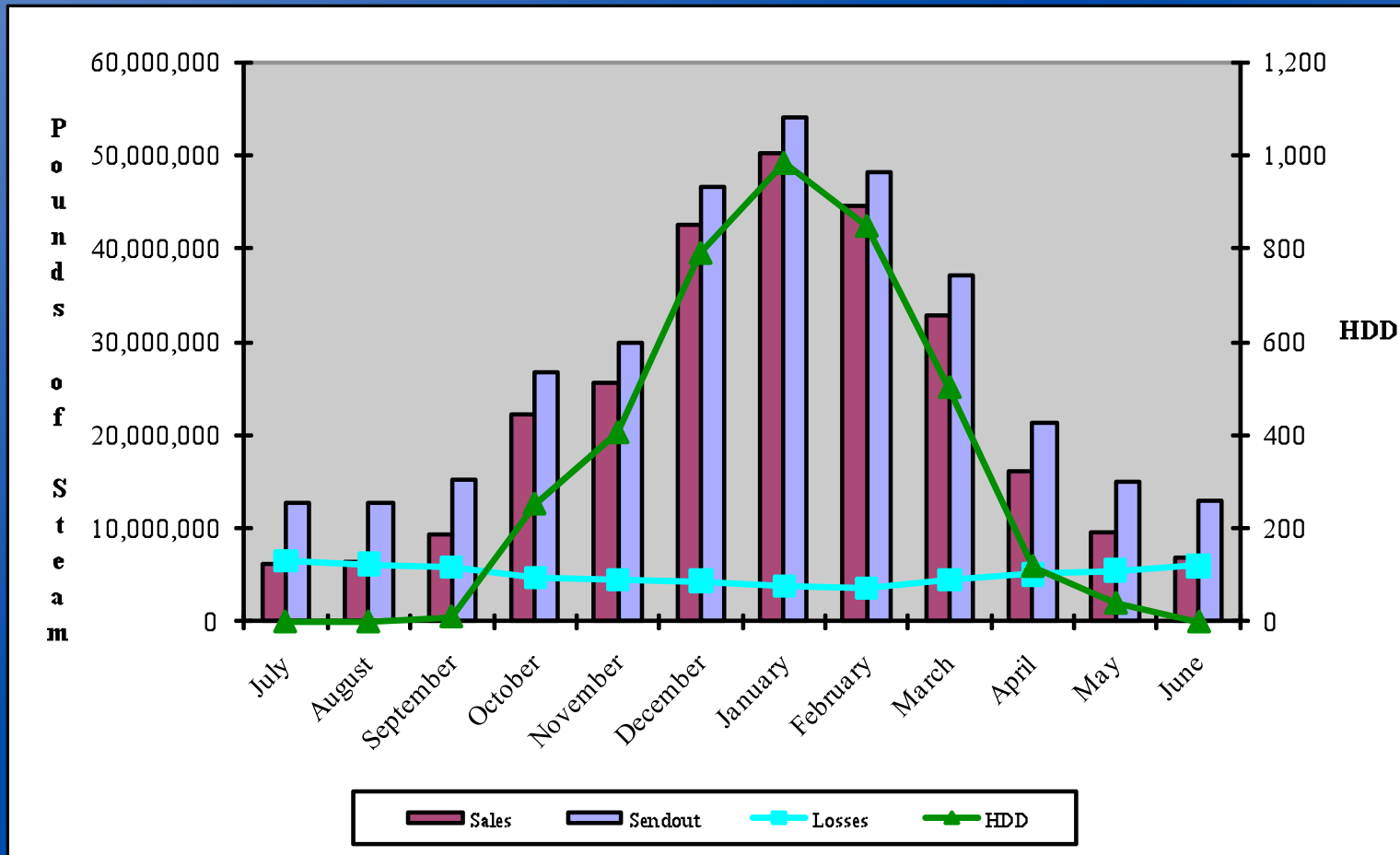
	Steam (\$ millions)			Chilled Water (\$ millions)		
	07/08 – 06/09	07/09-06 /10	% Diff.	07/08 – 06/09	07/09-06 /10	% Diff.
Private	\$2.294	\$1.677	-26.9%	\$3.711	\$3.511	-5.4%
State	\$2.971	\$2.271	-23.6%	\$3.262	\$3.257	-0.2%
Metro	\$2.838	\$1.959	-31.0%	\$3.113	\$2.986	-4.1%
Aggregate	\$8.102	\$5.907	-27.1%	\$10.087	\$9.754	-3.3%

\*FY08 MFA = \$2,193,075; FY09 MFA = \$3,217,986 post-True-up; MFA not included in values shown



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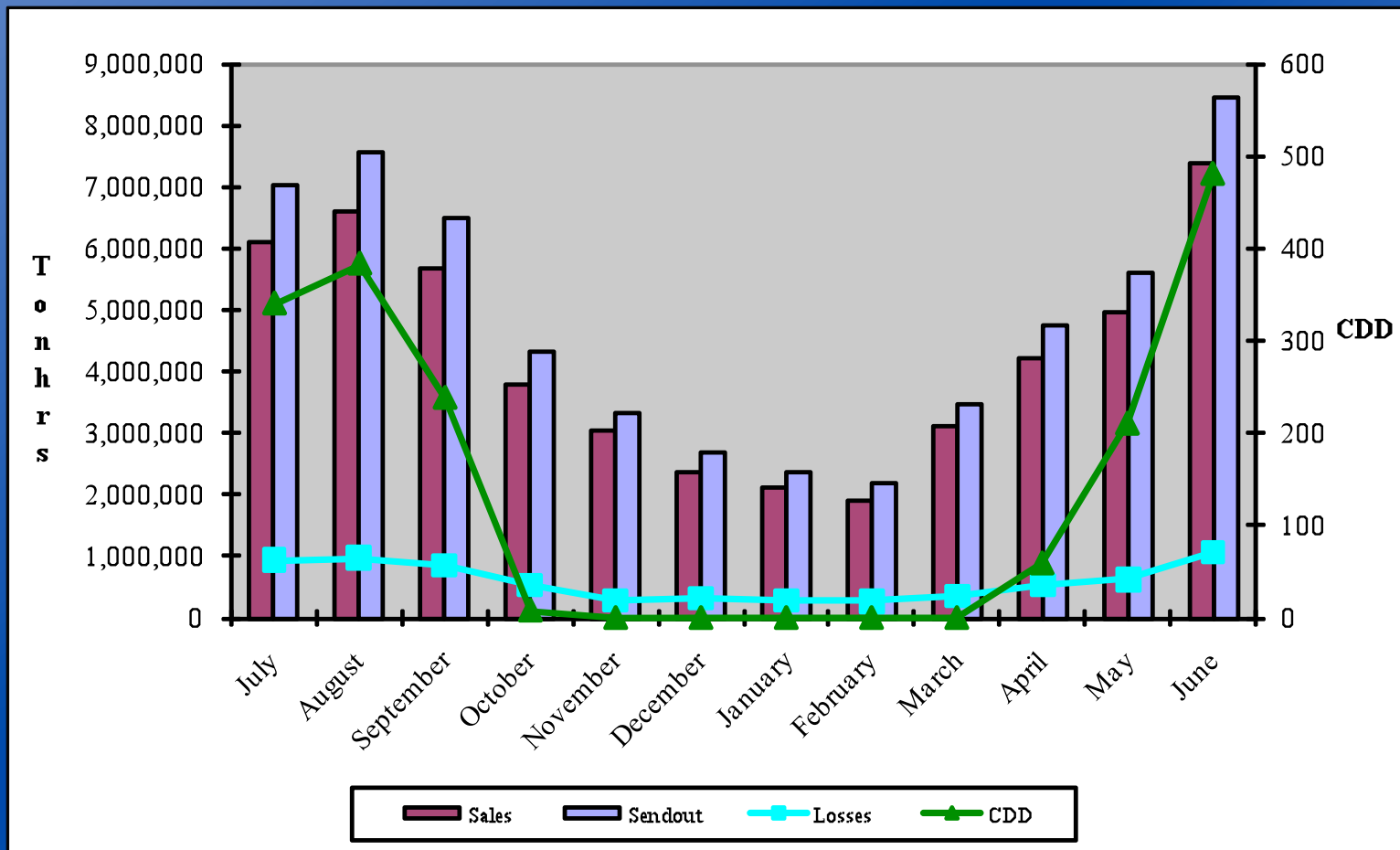
## FY10 Operations: Steam





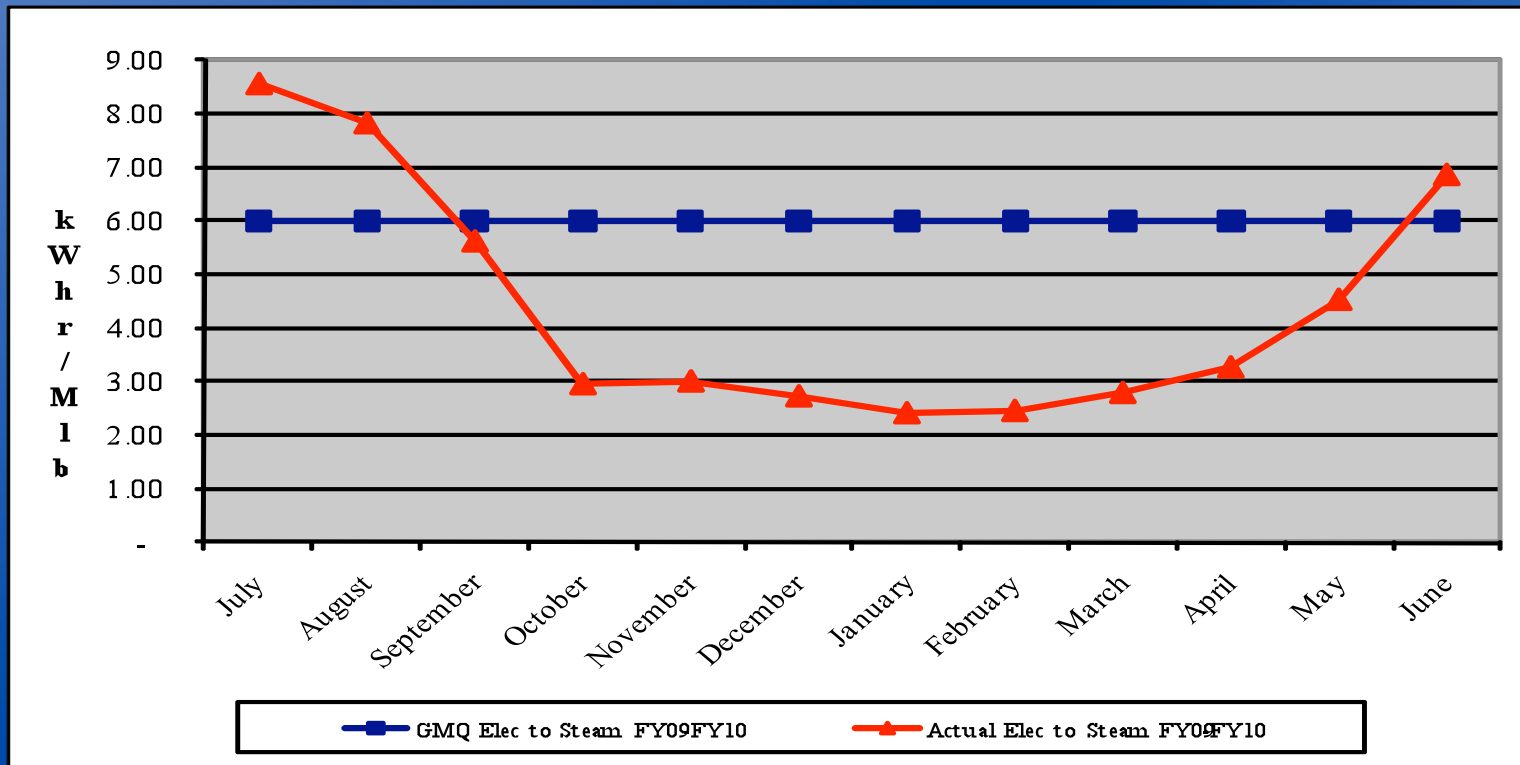
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## FY10 Operations: Chilled Water





# Performance Measurement FY10: Steam Electric Conversion ●

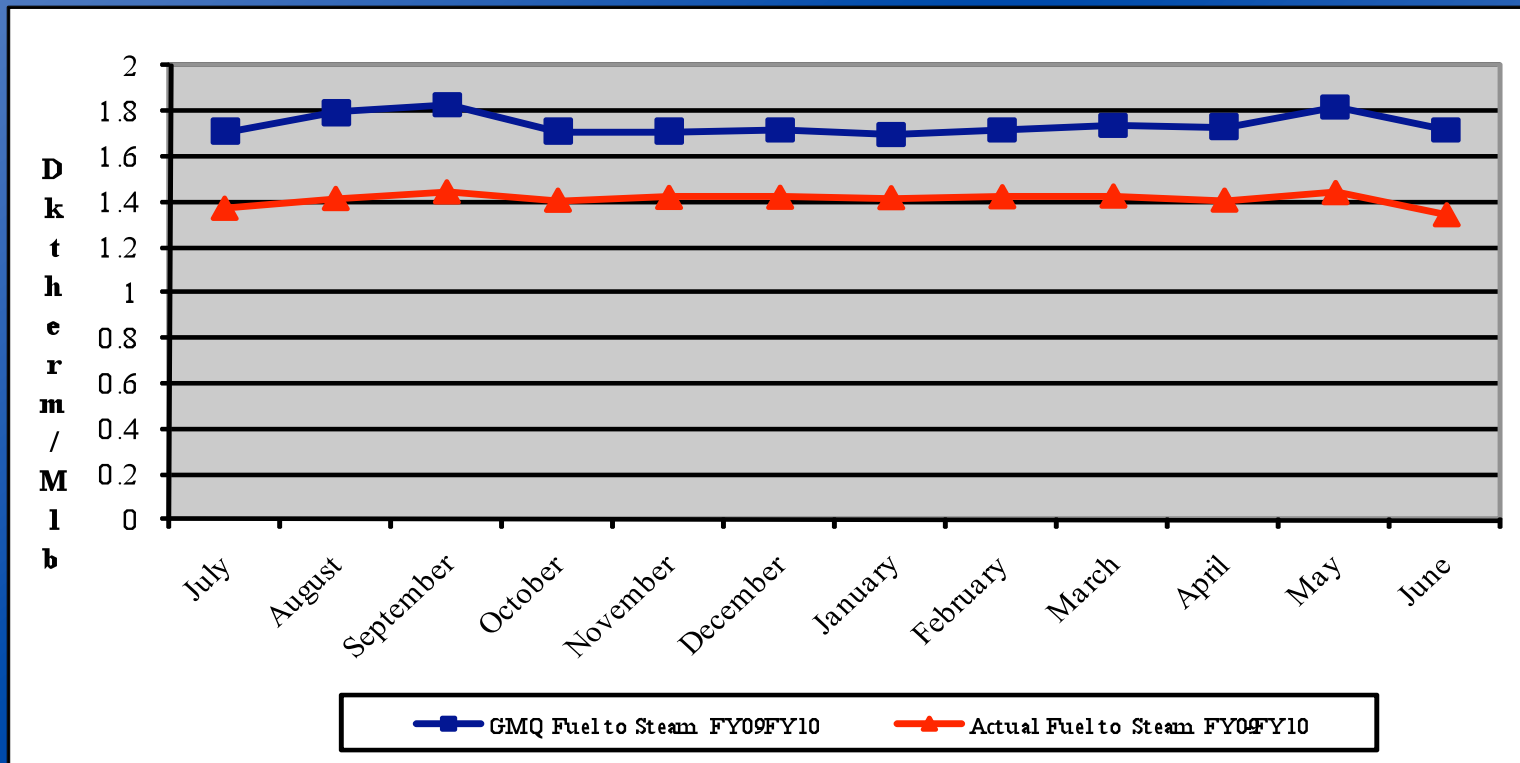






# Performance Measurement FY10: Steam

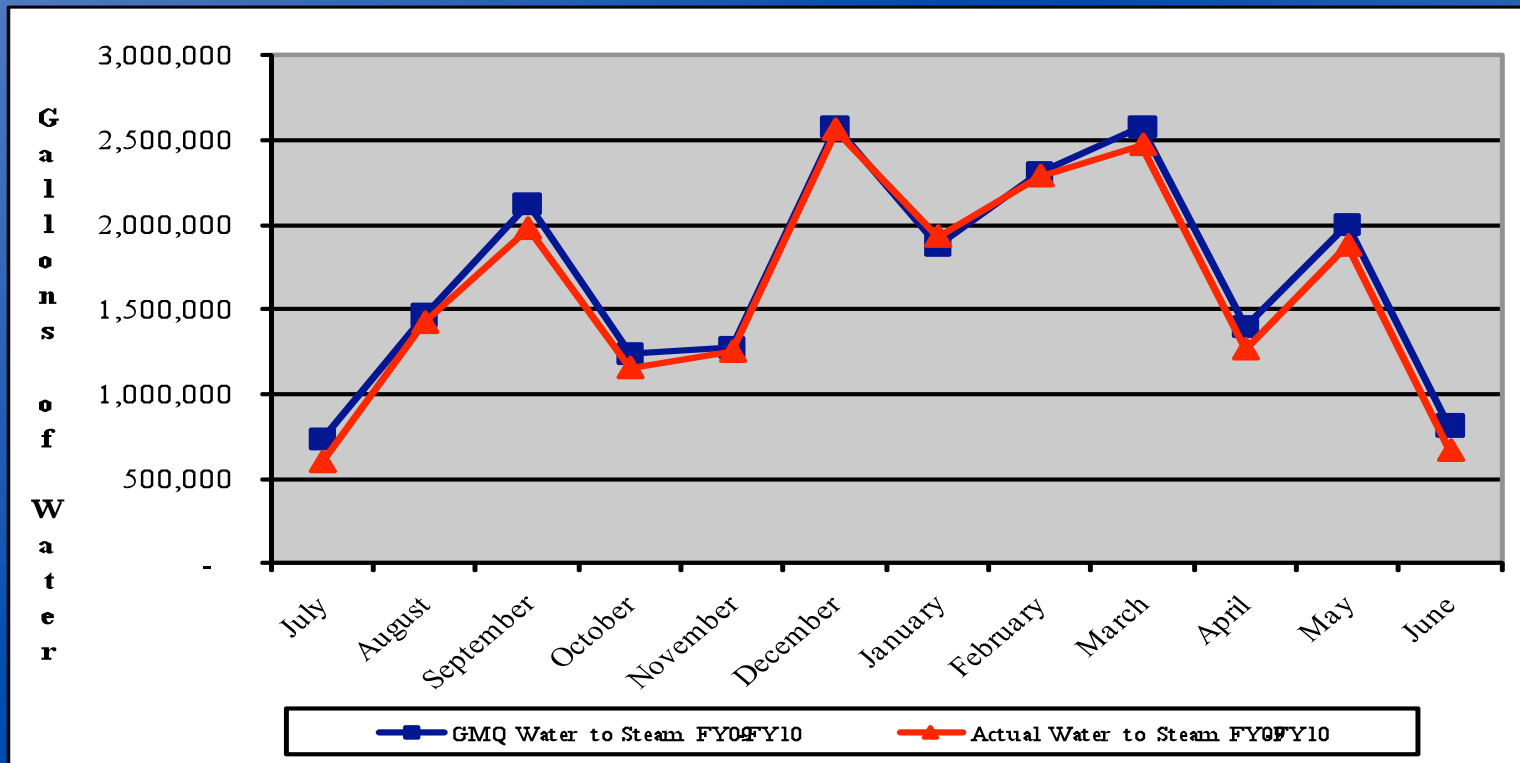
## Plant Efficiency ●





# Performance Measurement FY10: Steam

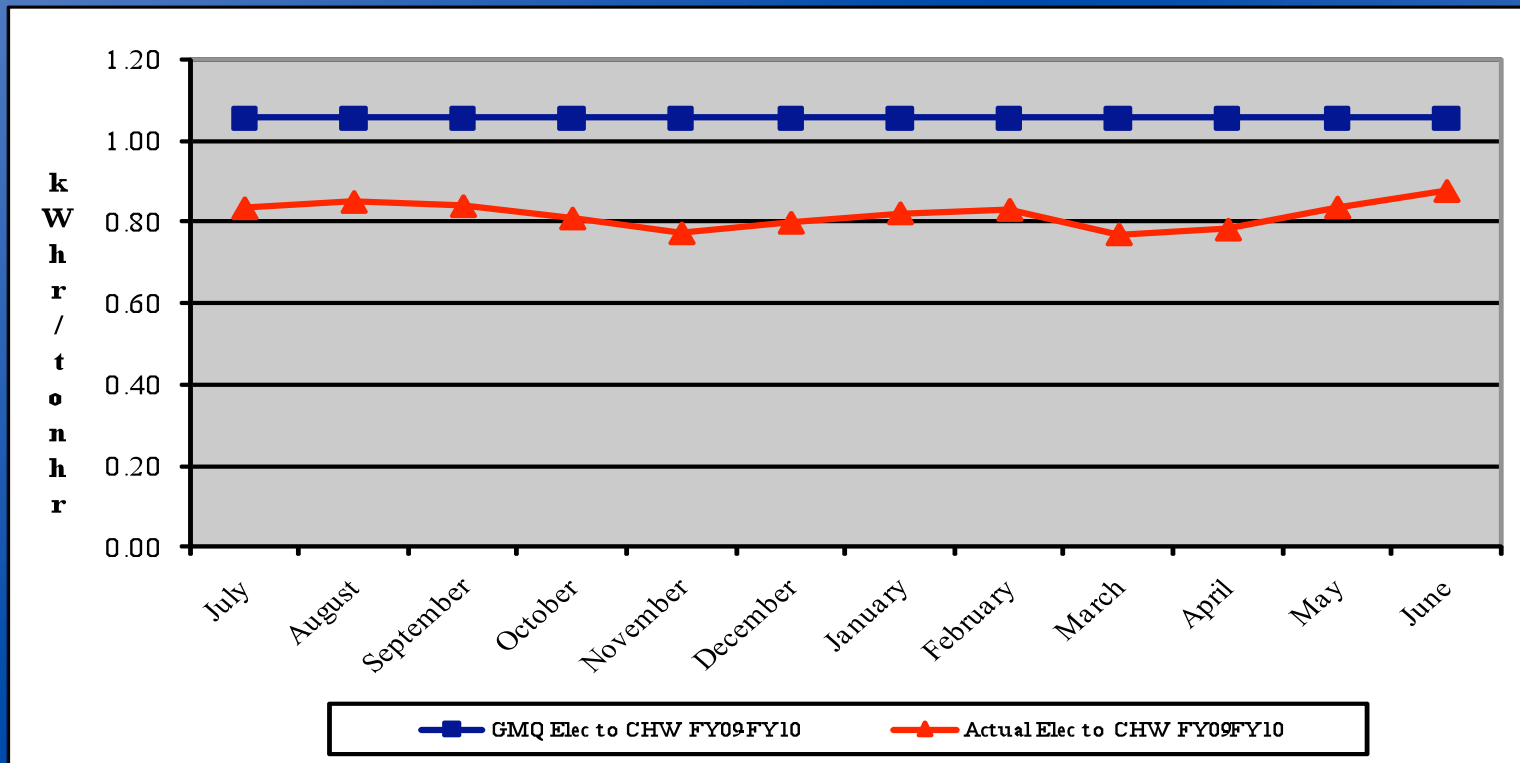
## Water Conversion ●





# Performance Measurement FY10: Chilled Water

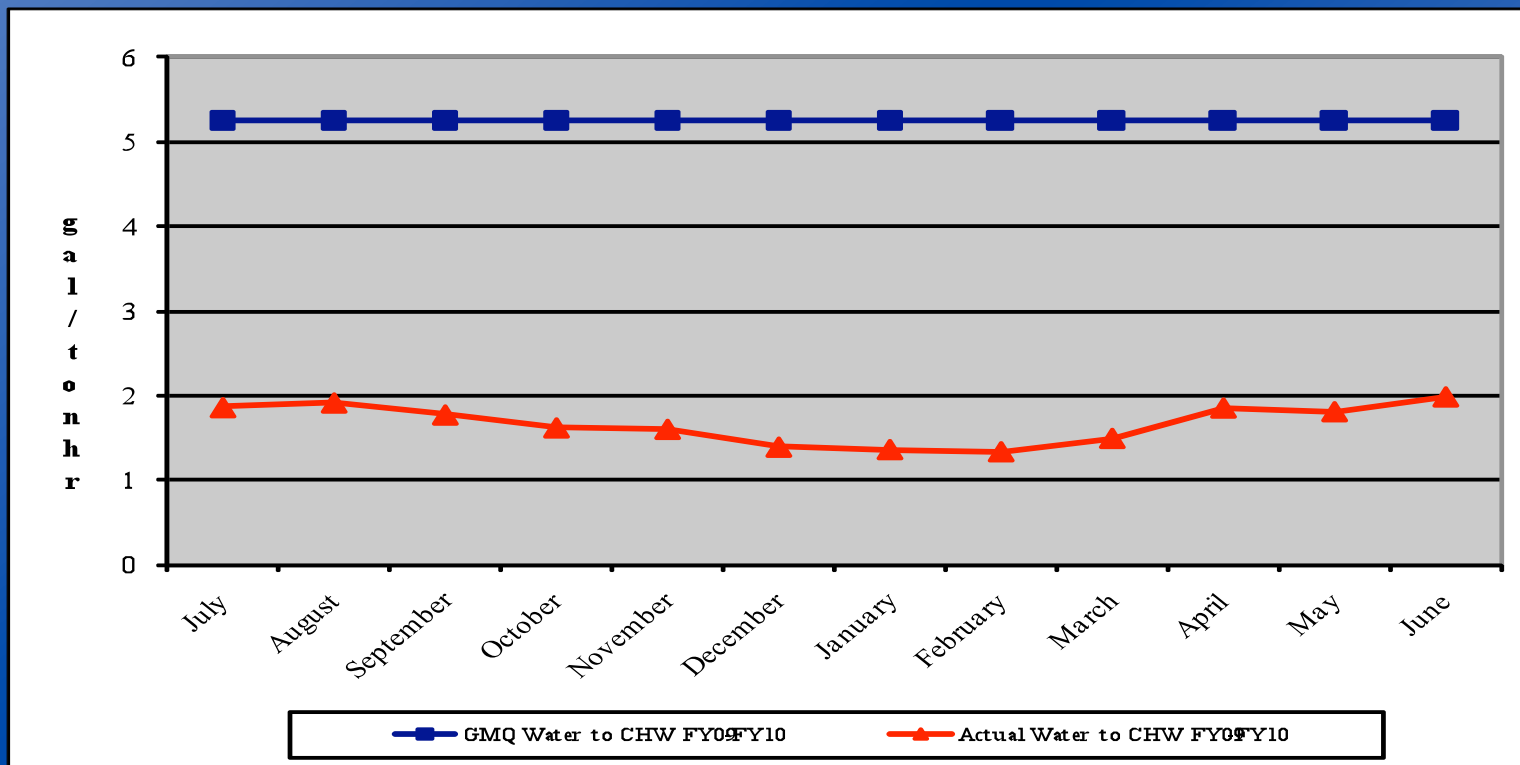
## Electric Conversion ●





# Performance Measurement FY10: 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 ●



## *4. Natural Gas Purchasing*

### **Natural Gas Purchasing Review**

**Table 4: FY10 Gas Spending & Budget  
Comparison**

**Figure 4: Actual and Projected Gas Cost  
Comparison for FY10**





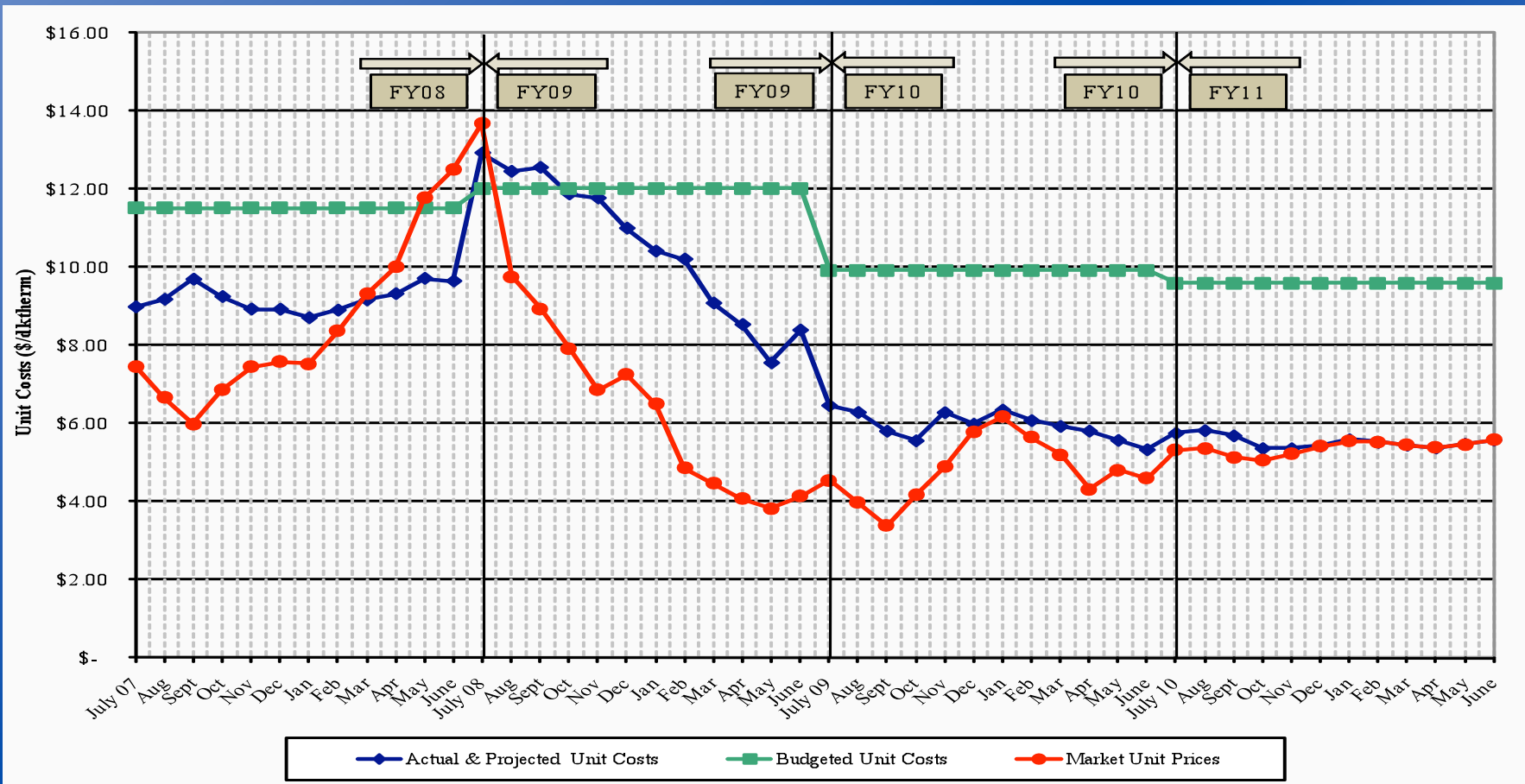
*Table 4: FY10 Gas Spending & Budget Comparison*

		<b>Actual FY10 To date (June 30)</b>	<b>Budget FY10</b>
Steam Sendout (Mlbs)		333,071	329,379
Fuel Use (Dth) (includes propane)	●	472,158	477,600
Plant Eff (Dth/Mlb)	●	1.418	1.450
Total Gas Cost (includes propane)	●	\$3,024,226	\$4,692,900
Unit Cost of Fuel (\$/Dth)	●	\$6.405	\$9.826



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*Fig 4. Actual and Projected Gas Cost Comparison History*





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### 5. Financial Reports: 4<sup>th</sup> Qtr FY10

Item	FY10 Budget	Total Expenses to Date (4th Qtr)	Percent of FY10 Budget
FOC: Basic	\$ 3,976,200	\$ 3,852,170	96.88%
FOC: 9th Chiller	\$ 37,200	\$ 36,095	97.03%
FOC: Change Order 6A	\$ 73,400	\$ 71,263	97.09%
FOC: Change Order 6B	\$ 64,300	\$ 62,388	97.03%
Chemicals	\$ 161,200	\$ 148,121	91.89%
Engineering	\$ 26,200	\$ 11,523	43.98%
Insurance	\$ 43,700	\$ 27,723	63.44%
Marketing: CEPS Sales Activity	\$ 9,800	\$ -	0.00%
Metro Marketing	\$ 35,000	\$ 21,025	60.07%
Incentive Payments	\$ -	\$ -	n.a.
Project Administration	\$ 24,000	\$ -	0.00%
Metro Incremental Cost	\$ 526,400	\$ 496,728	94.36%
FEA: Steam	\$ -	\$ 130,802	n.a.
FEA: Chilled Water	\$ -	\$ 365,307	n.a.
ARFA	\$ -	\$ 55,947	n.a.
Metro Credit	\$ -	\$ (711,957)	n.a.
Water/Sewer	\$ 689,600	\$ 375,016	54.38%
Natural Gas/Propane	\$ 4,692,900	\$ 3,023,588	64.43%
Electricity	\$ 5,034,100	\$ 3,976,234	78.99%
EDS Repair & Improvement	\$ 176,500	\$ 211,592	119.88%
EDS Surcharge	\$ 70,600	\$ -	0.00%
<b>Sub-total Operations</b>	<b>\$ 15,641,100</b>	<b>\$ 12,153,566</b>	<b>77.70%</b>
2002 Bonds	\$ 4,362,900	\$ 4,362,852	100.00%
2005 Bonds	\$ 627,600	\$ 627,588	100.00%
FY07 Projects	\$ 227,800	\$ 336,225	147.60%
FY08 Projects	\$ 220,500	\$ 336,225	152.48%
Debt Service Interest Revenue	\$ (123,700)	\$ (56,413)	45.60%
Oper. Reserve Funding Deposit	\$ -	\$ -	n.a.
<b>Sub-total Debt Service</b>	<b>\$ 5,315,100</b>	<b>\$ 5,606,477</b>	<b>105.48%</b>
<b>Total Expenses</b>	<b>\$ 20,956,200</b>	<b>\$ 17,760,043</b>	<b>84.75%</b>
<b>Customer Revenues</b>	<b>\$ 18,512,100</b>	<b>\$ 15,416,142</b>	<b>83.28%</b>
<b>Total Metro Funding Amount</b>	<b>\$ 2,444,100</b>	<b>\$ 2,343,901</b>	<b>95.90%</b>



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### 6. FY11 Budget Status Report

Item	FY10 Budget	FY11 Budget	Percent Change from FY10
FOC: Basic + C/O 6C	\$ 3,976,200	\$ 3,976,200	0.00%
FOC: 9th Chiller	\$ 37,200	\$ 37,200	0.00%
FOC: Change Order 6A	\$ 73,400	\$ 73,400	0.00%
FOC: Change Order 6B	\$ 64,300	\$ 64,300	0.00%
Chemicals	\$ 161,200	\$ 150,000	-6.95%
Engineering	\$ 26,200	\$ 26,200	0.00%
Insurance	\$ 43,700	\$ 27,700	-36.61%
Marketing: CEPS Sales Activity	\$ 9,800	\$ -	-100.00%
Metro Marketing	\$ 35,000	\$ 15,000	-57.14%
Incentive Payments	\$ -	\$ -	n.a.
Project Administration	\$ 24,000	\$ 30,700	27.92%
Metro Incremental Cost	\$ 526,400	\$ 485,900	-7.69%
Water/Sewer	\$ 689,600	\$ 574,000	-16.76%
Natural Gas/Propane	\$ 4,692,900	\$ 4,429,200	-5.62%
Electricity	\$ 5,034,100	\$ 4,949,700	-1.68%
EDS Repair & Improvement	\$ 176,500	\$ 176,500	0.00%
EDS Surcharge	\$ 70,600	\$ 70,600	0.00%
<b>Sub-total Operations</b>	<b>\$ 15,641,100</b>	<b>\$ 15,086,600</b>	<b>-3.55%</b>
2002 Bonds	\$ 4,362,900	\$ 4,239,500	-2.83%
2005 Bonds	\$ 627,600	\$ 628,100	0.08%
2007 Bonds	\$ 227,800	\$ 227,800	0.00%
2008 Bonds	\$ 220,500	\$ 220,500	0.00%
2010 Bonds	\$ -	\$ -	n.a.
Interest Revenue	\$ (123,700)	\$ (92,900)	-24.90%
Oper. Reserve Funding Deposit	\$ -	\$ -	n.a.
<b>Sub-total Debt Service</b>	<b>\$ 5,315,100</b>	<b>\$ 5,223,000</b>	<b>-1.73%</b>
<b>Total Expenses</b>	<b>\$ 20,956,200</b>	<b>\$ 20,309,600</b>	<b>-3.09%</b>
<b>Customer Revenues</b>	<b>\$ 18,488,100</b>	<b>\$ 17,820,100</b>	<b>-3.61%</b>
<b>Project Admin. Revenue</b>	<b>\$ 24,000</b>	<b>\$ 30,700</b>	<b>27.92%</b>
	\$ -	\$ 14,700	n.a.
<b>Total Metro Funding Amount</b>	<b>\$ 2,444,100</b>	<b>\$ 2,444,100</b>	<b>0.00%</b>



## *Capital Expenditure Update*

	<b>Spent to End of FY09</b>	<b>FY10 Spending</b>	<b>Balance to Date (07/30/10)</b>
R&I Projects	\$764,130	\$212,612	\$493,424
2005B Bond	\$7,920,090	\$134,128	\$132,282
2007 Bond	\$2,620,771	\$0	\$237,729
2008 Bond	\$1,846,622	\$1,031,878	\$0
2010 Bond	\$0	\$412,384	\$1,997,616
<b>Total</b>	<b>\$10,530,842</b>	<b>\$1,791,002</b>	<b>\$2,861,051</b>



## *7. Capital Projects Review*

### *Active Capital Projects*

- DES 060: MH Insulation - in construction/ongoing
- DES 061: Manhole & Tunnel Steel Corrosion Repair & Prevention – in construction/ongoing
- DES 062: Replacement of Stm and Cond Service to 120 2<sup>nd</sup> Ave. N. (Wildhorse Saloon) - in closeout
- DES 066: 1<sup>st</sup> Avenue Manhole & Steam Line Removal from Service - in closeout
- DES 067: Tunnel Rock Rehabilitation.: Broadway, 7<sup>th</sup> & 4<sup>th</sup> Ave. – construction to begin early July
- DES 068: Manhole 10 Repair – completed & closed
- DES 069: Municipal Auditorium Tempering Station – in construction
- DES 073: MH-18 Platform Modification – to be bid in late August



## *7. Capital Projects Review (cont'd.)*

### *Active Capital Projects*

- DES 075: 2010 Chilled Water Outage – completed & closed
- DES 076: MH-S4A State Manhole Rebuild – on hold; awaiting direction from State
- DES 077: Expansion of Service to the Music City Convention Center - in pre-construction
- DES 078: James K. Polk Drip-leg Installation – completed & closed
- DES 079: Tennessee Tower Gold Parking Lot Repair – completed & closed
- DES 080: Misc. Manhole & Tunnel Safety Repairs – in design
- DES 081: Flood Related Repairs – design completed; construction to start in July



## *FY 2010-2011 Proposed Projects*

- DES 048: Tunnel Lighting Replacement Phase III – awaiting DES 067
- DES 059: CJC Steam & Condensate Line Replacement – deferred
- DES 063: Sump Pump Installation in MH A, B & M – on standby
- DES 070: MH 6 to 23 Condensate Line Replacement – deferred to FY11
- DES 071: Hermitage Hotel Service Modifications – deferred to FY11
- DES 072: Sheraton Hotel Steam and Condensate Replacement



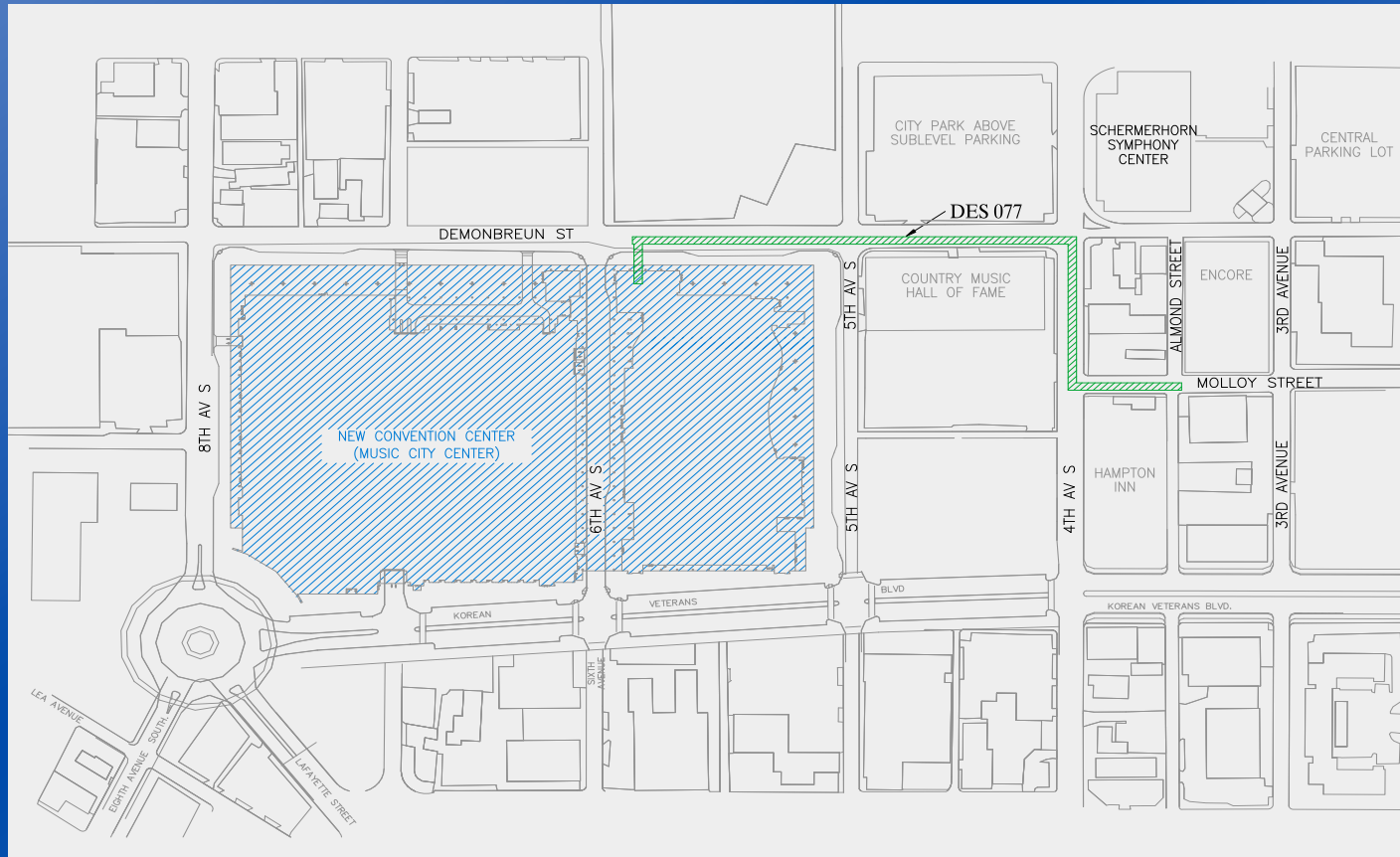


## *8. Music City Convention Center Expansion Update*

- Music City Convention Center
  - 5,820 tons (contract)
  - 53,130 pph (contract)
- Estimated Capital Cost \$6,022,000
- Estimated \$700,000 (~27% ) Reduction in MFA
- Construction to Begin Mid-September
- “Service Ready” Anticipated 03/15/2011



# *Music City Convention Center Location & Routing Plan*





## *9. Damage Report from May 1-2, 2010 Flood*

- Actual Costs to Date (08/12/10) - \$375,000
- Estimated Costs to Complete Repairs
  - Electrical/Communications - \$175,000
  - Mechanical Systems - \$223,500
  - Temporary Boiler - \$150,000
  - Tech Support/Admin - \$40,000
  - Other - \$25,000
  - Total Anticipated Cost - \$478,500
- Majority of costs may not be affect capital budget



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*Anchor Plate Failure in MH-L*



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*MH-L Piping & Slip Joint*



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*Condensate Pumps in MH-18*



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*10. Other Board Member Items*

*11. Adjourn*