

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



*Annual DES Customer Meeting FY11*  
*March 17, 2011*



# *Agenda*

- Welcome!
- Historic Customer Sales and Expenses
- Effect of CEPS Performance on Customer Expenses
- Energy Costs and Trends
- DES FY11 Expenses to Date
- Proposed FY12 Budget
- Capital Projects Review and How They Affect You
- Music City Convention Center
- Questions and Answers
- Adjourn

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



*1. Welcome DES Customers!*



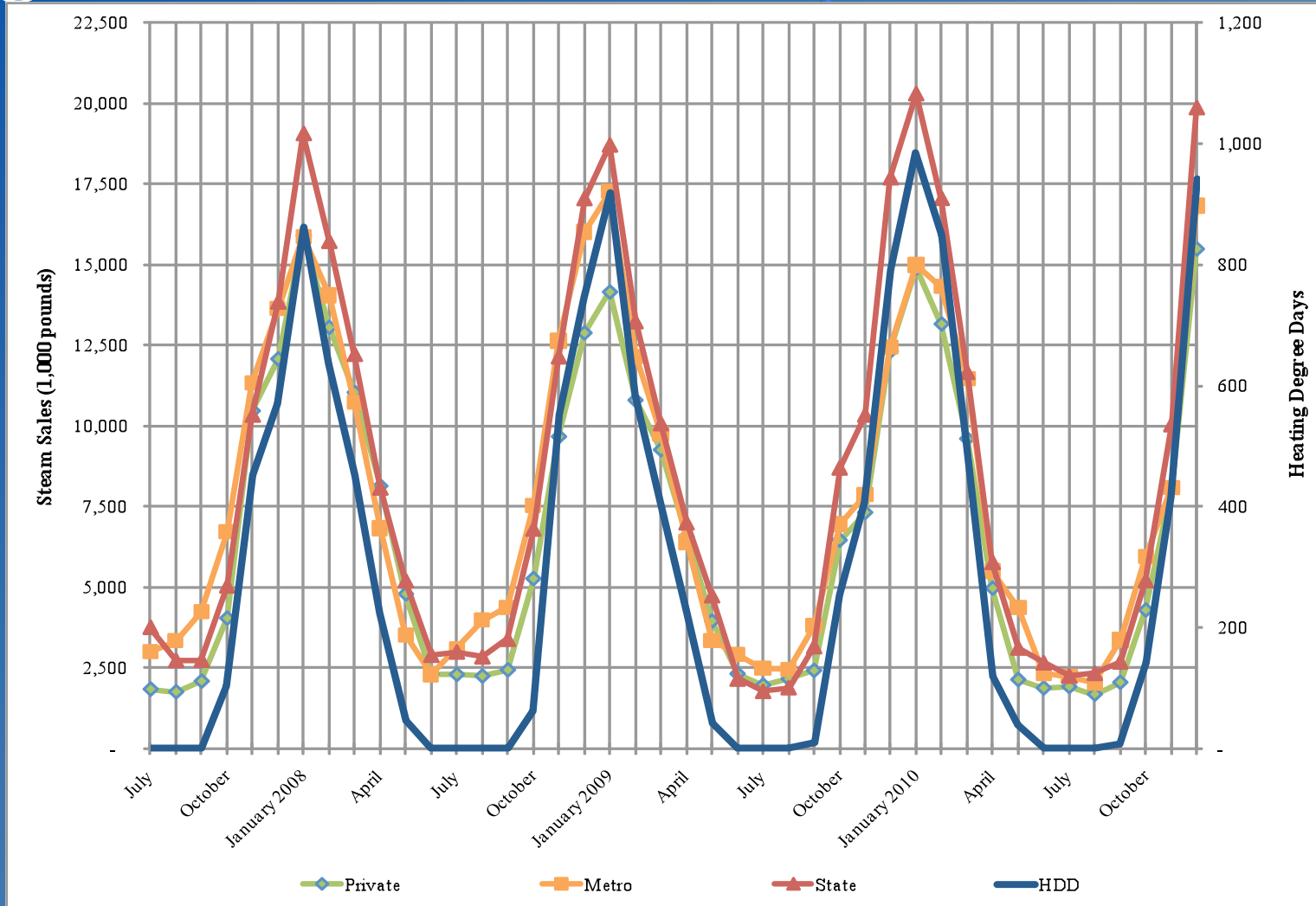


## *2. Historic Customer Sales and Expenses*

- Fig. 2.1. Historic Steam Sales
- Fig. 2.2. Historic Steam Cost
- Fig. 2.3. Historic Chilled Water Sales
- Fig. 2.4. Historic Chilled Water Cost



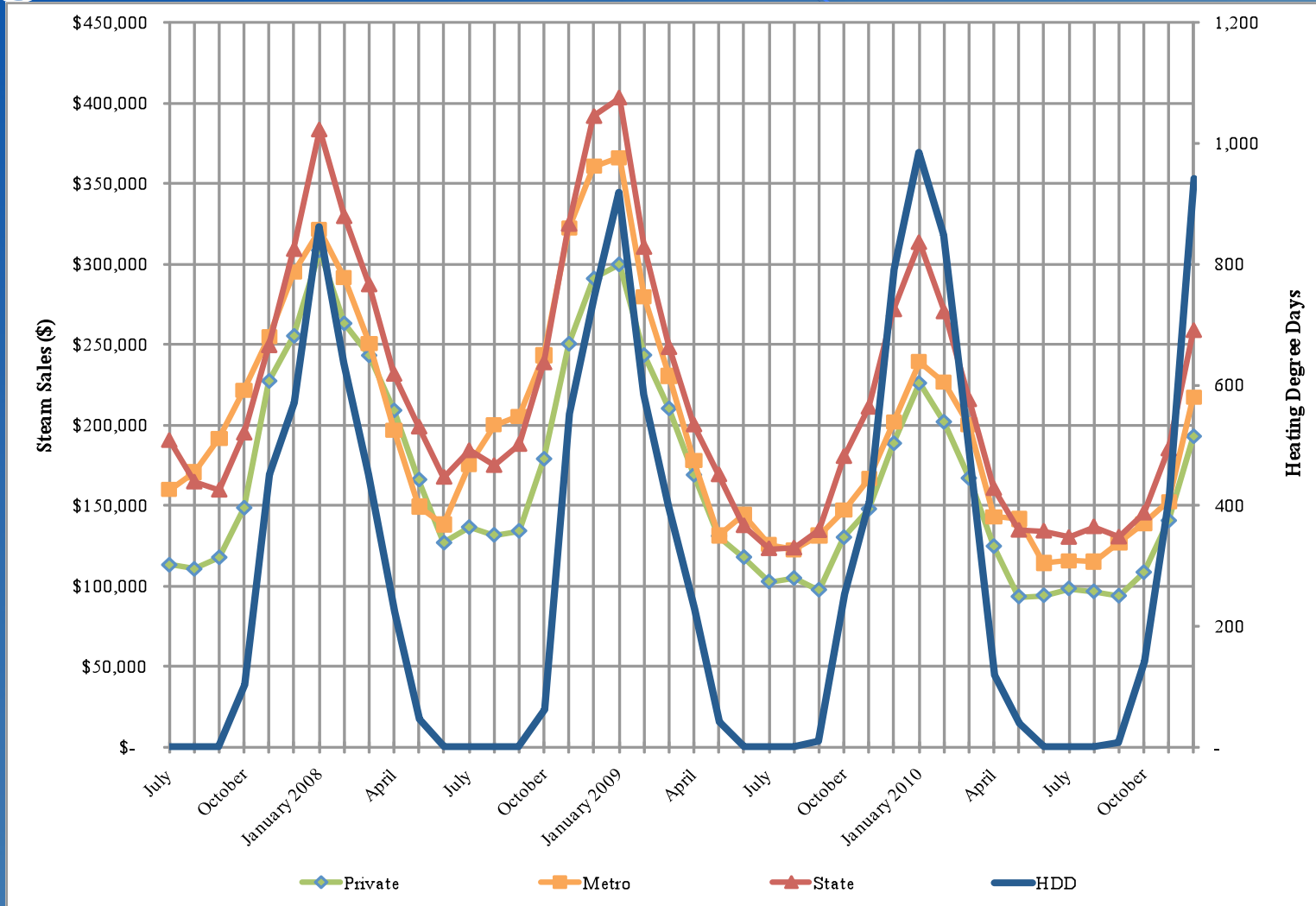
## Fig. 2.1. Historic Steam Sales



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*Fig. 2.2. Historic Steam Cost*

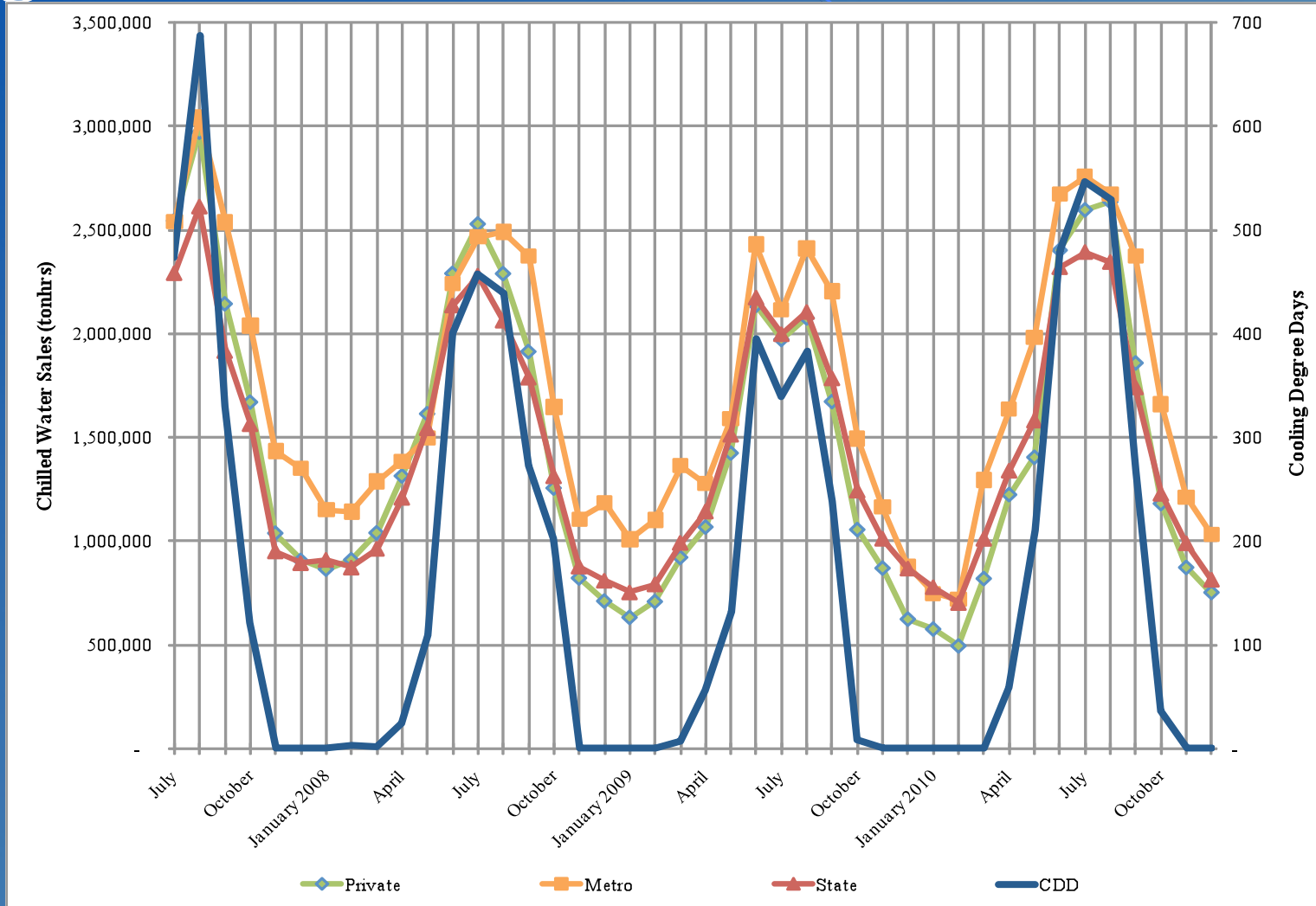




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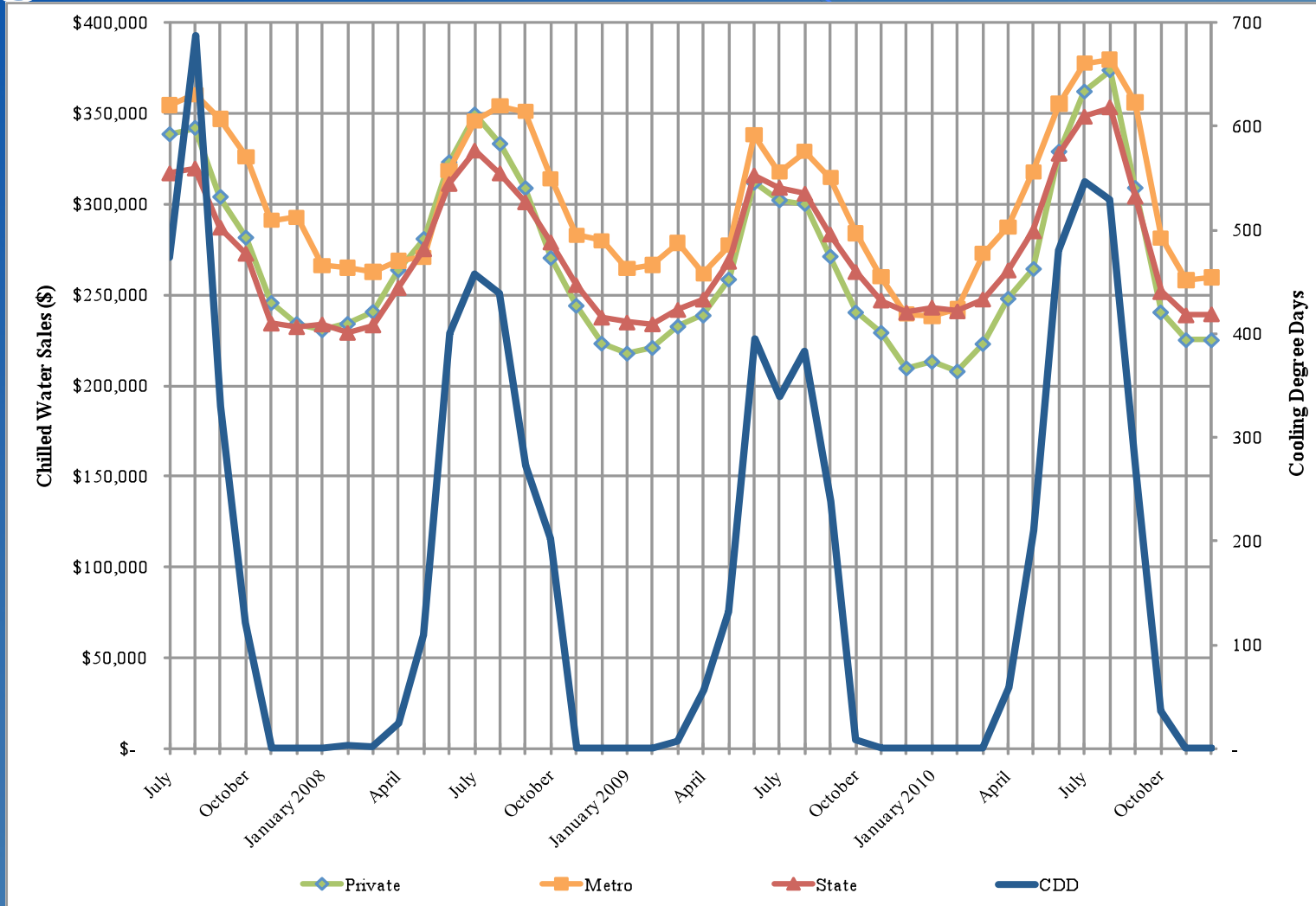
*Fig. 2.3. Historic CHW Sales*



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## Fig. 2.4. Historic CHW Cost





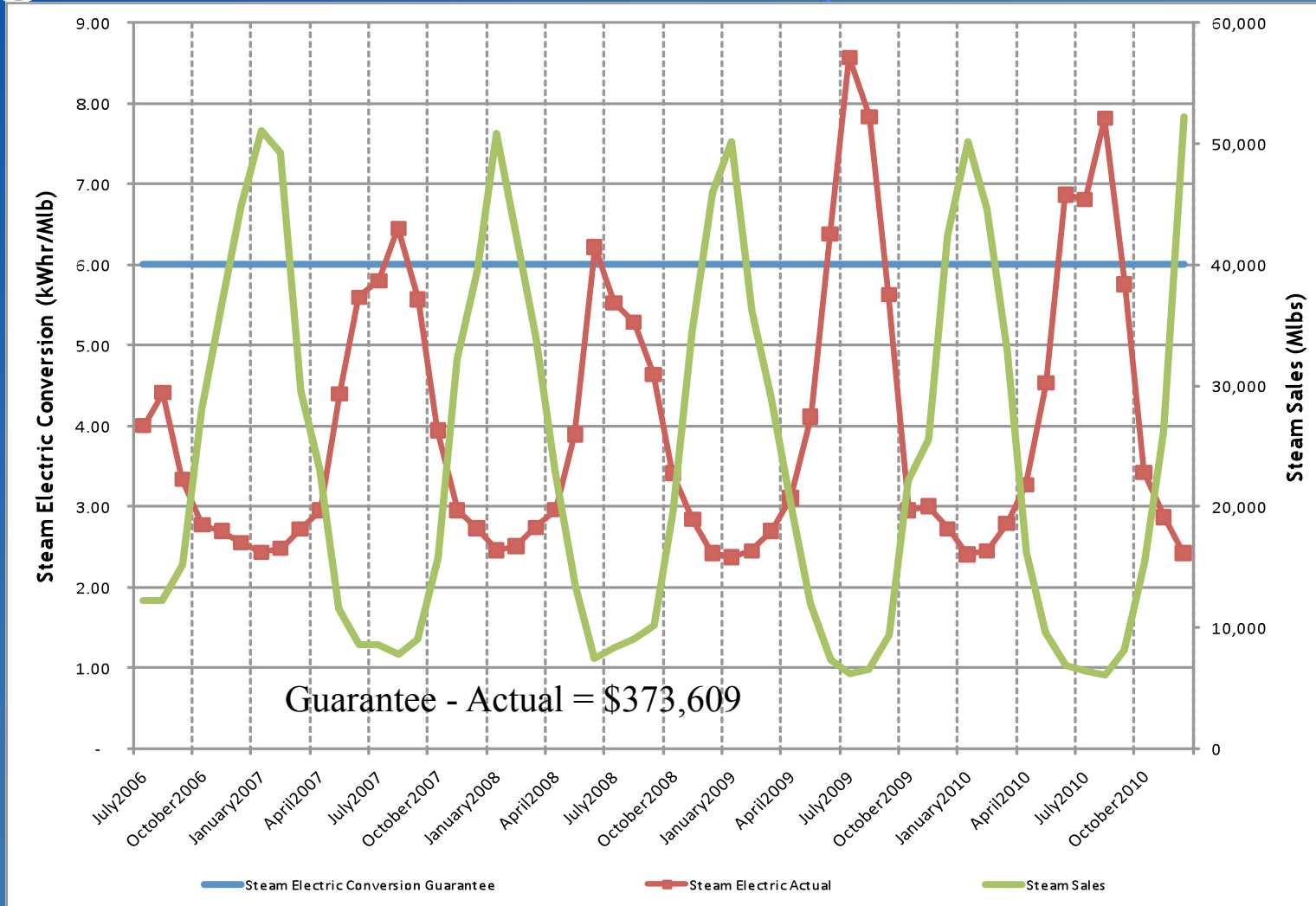


### *3. Effect of CEPS Performance on Customer Expenses*

- Fig. 3.1. Steam-Elec Conversion
- Fig. 3.2. Steam-Water Conversion
- Fig. 3.3. Steam Plant Efficiency
- Fig. 3.4. CHW-Elec Conversion
- Fig. 3.5. CHW-Water Conversion
- Savings Summary
- Water Treatment
- EGF Walk-Through
- EDS Walk-Through

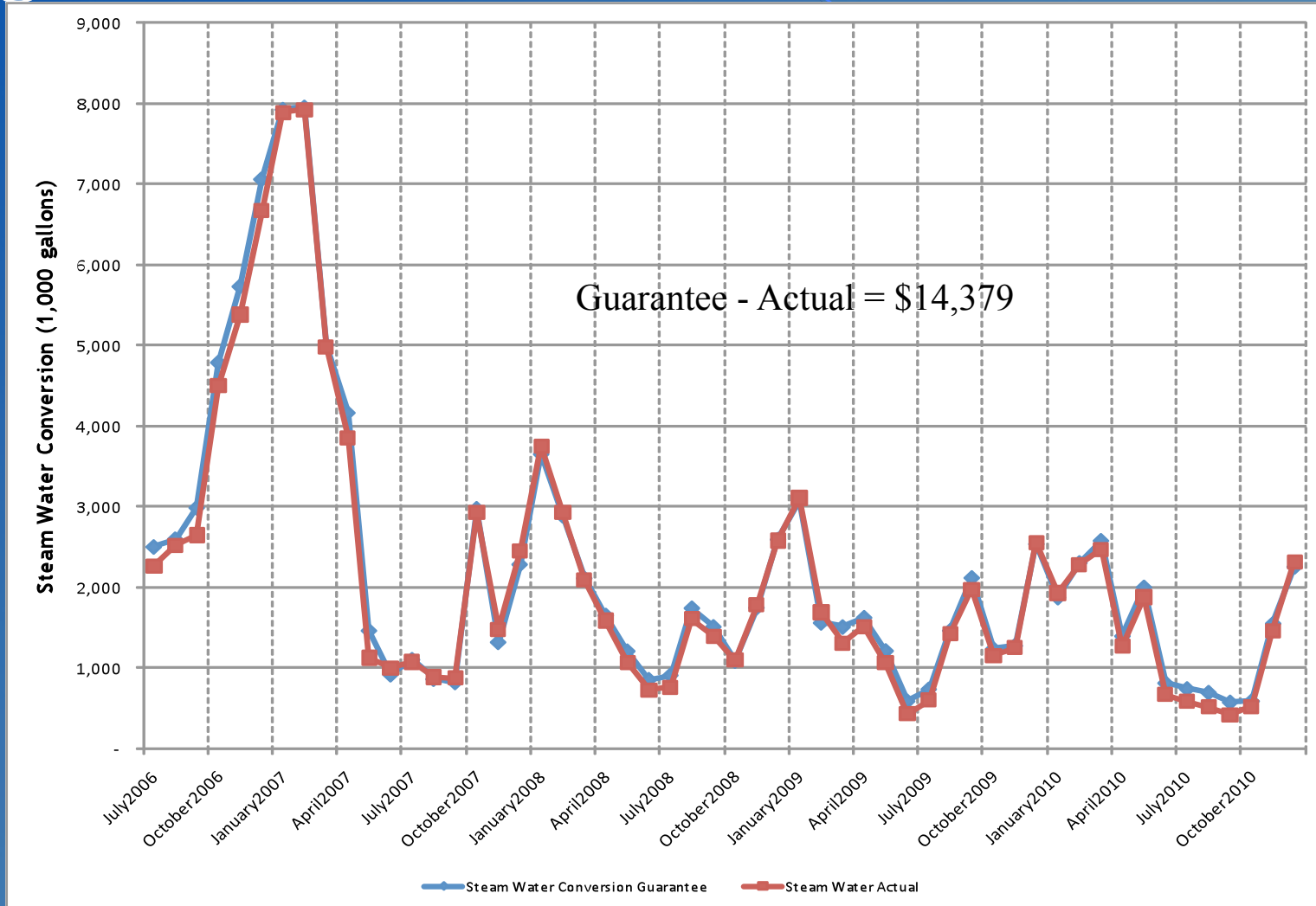


## Fig. 3.1. Steam-Elec Conversion



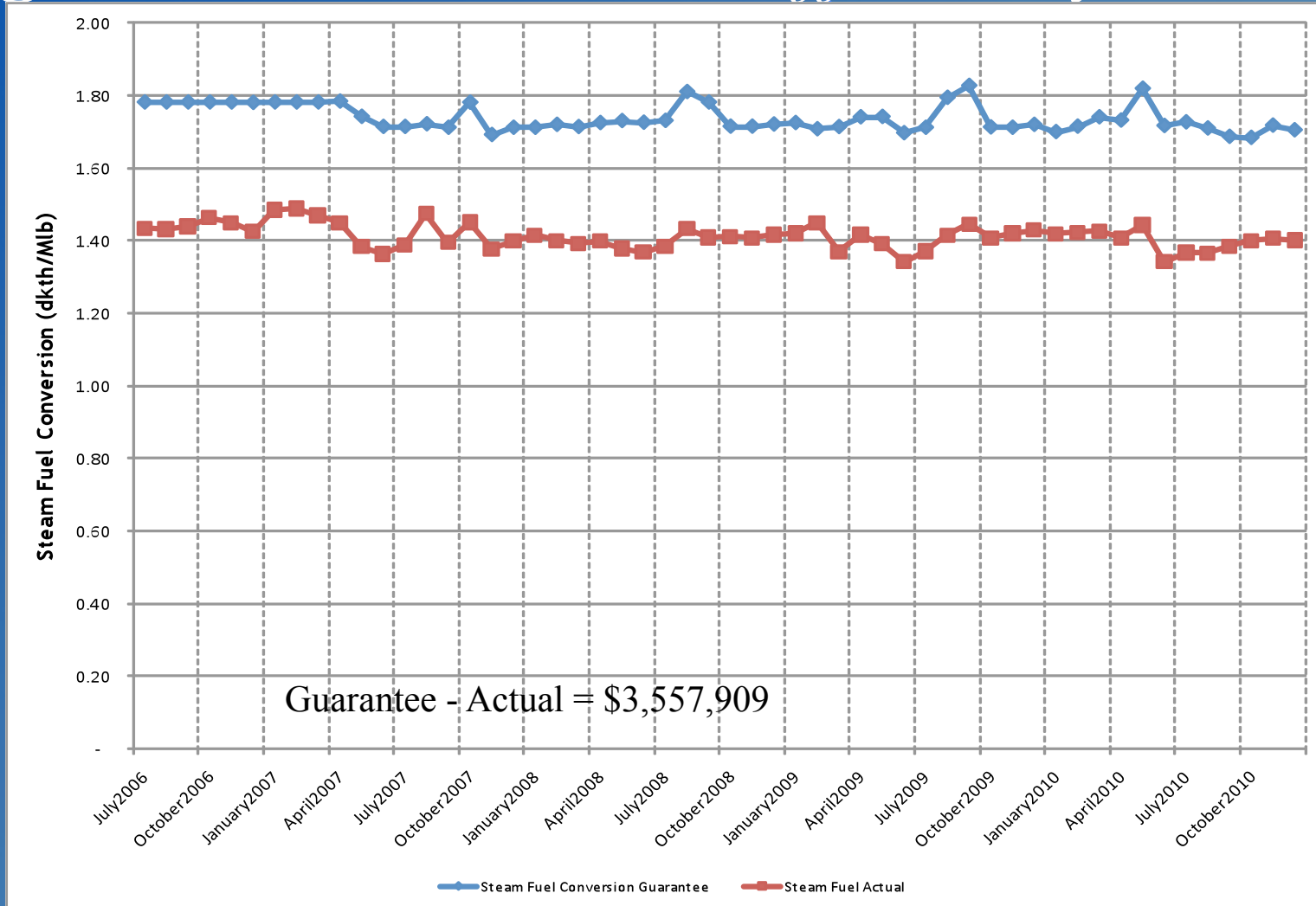


## Fig. 3.2. Steam-Water Conversion



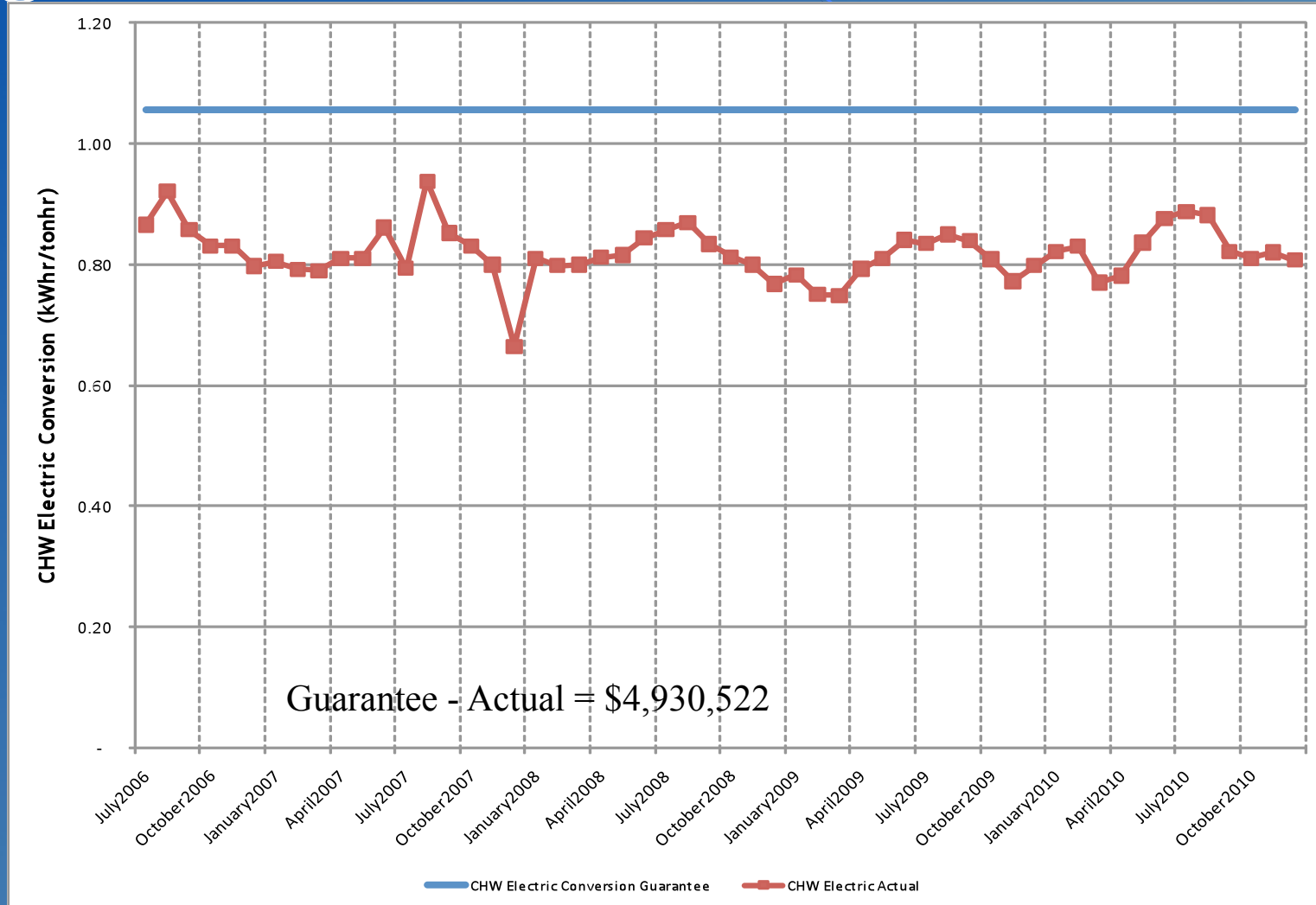


## Fig. 3.3. Steam Plant Efficiency



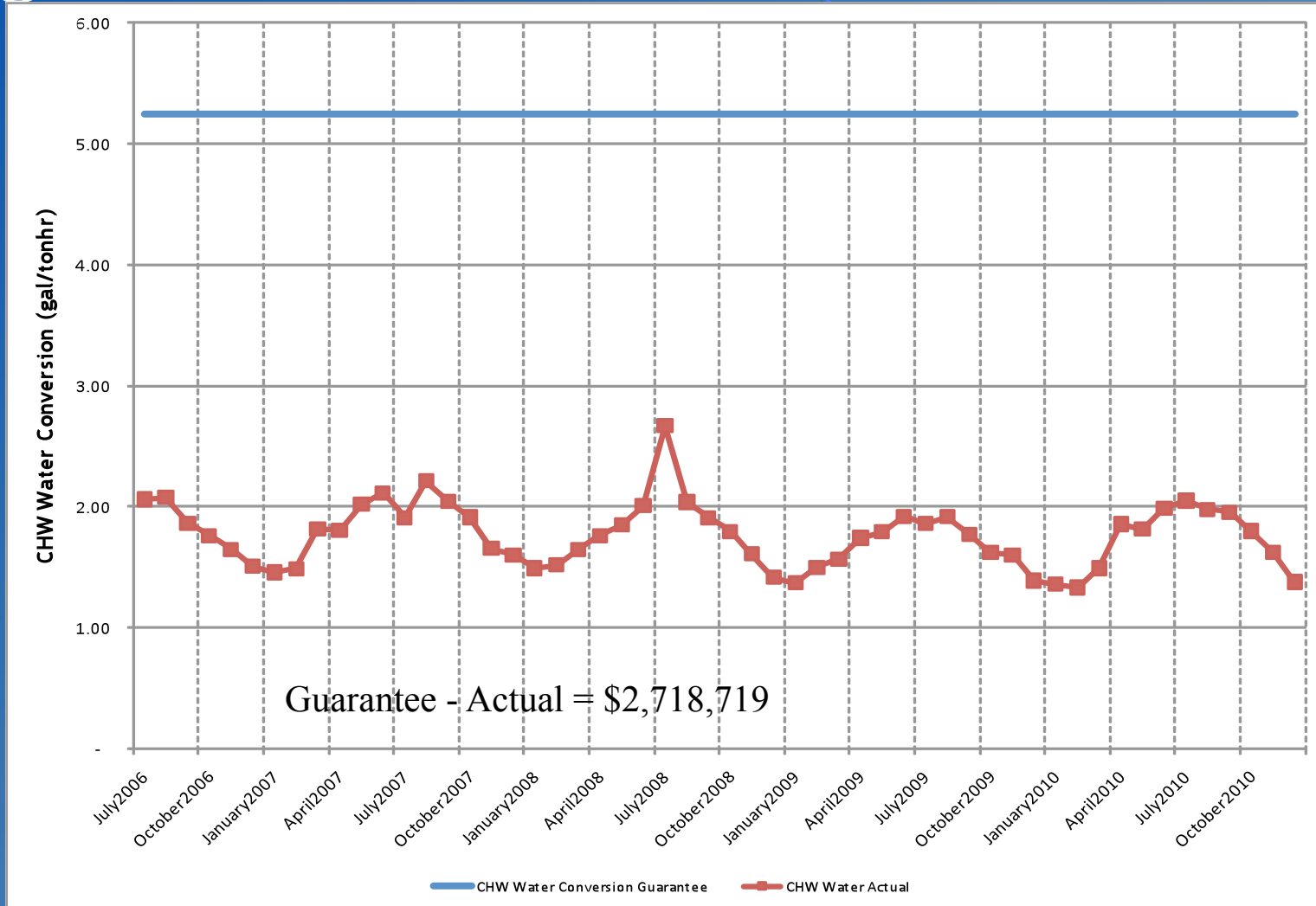


## Fig. 3.4. CHW-Elec Conversion





## Fig. 3.5. CHW-Water Conversion







# *CEPS Operational Savings Summary*

	Electricity		Water		Fuel	
	kWhr	Guarantee - Actual	kgal	Guarantee - Actual	mmBTU	Guarantee - Actual
Steam	3,674,405	\$373,609	4,625	\$14,379	401,195	\$3,557,909
Chilled Water	56,795,421	\$4,930,522	864,959	\$2,718,719	-	-
Total	60,469,826	\$5,304,131	869,584	\$2,733,098	401,195	\$3,557,909
Sub-Total Difference						\$11,595,138
Estimated FEA Collection by CEPS						\$1,208,721
Grand Total Favorable Performance Difference						\$10,386,417

Valid from July 2006 (FY07) thru December 2010 (FY11)



## *Water Treatment*

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



## *EGF Walk-Through*

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



## *EDS Walk-Through*

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



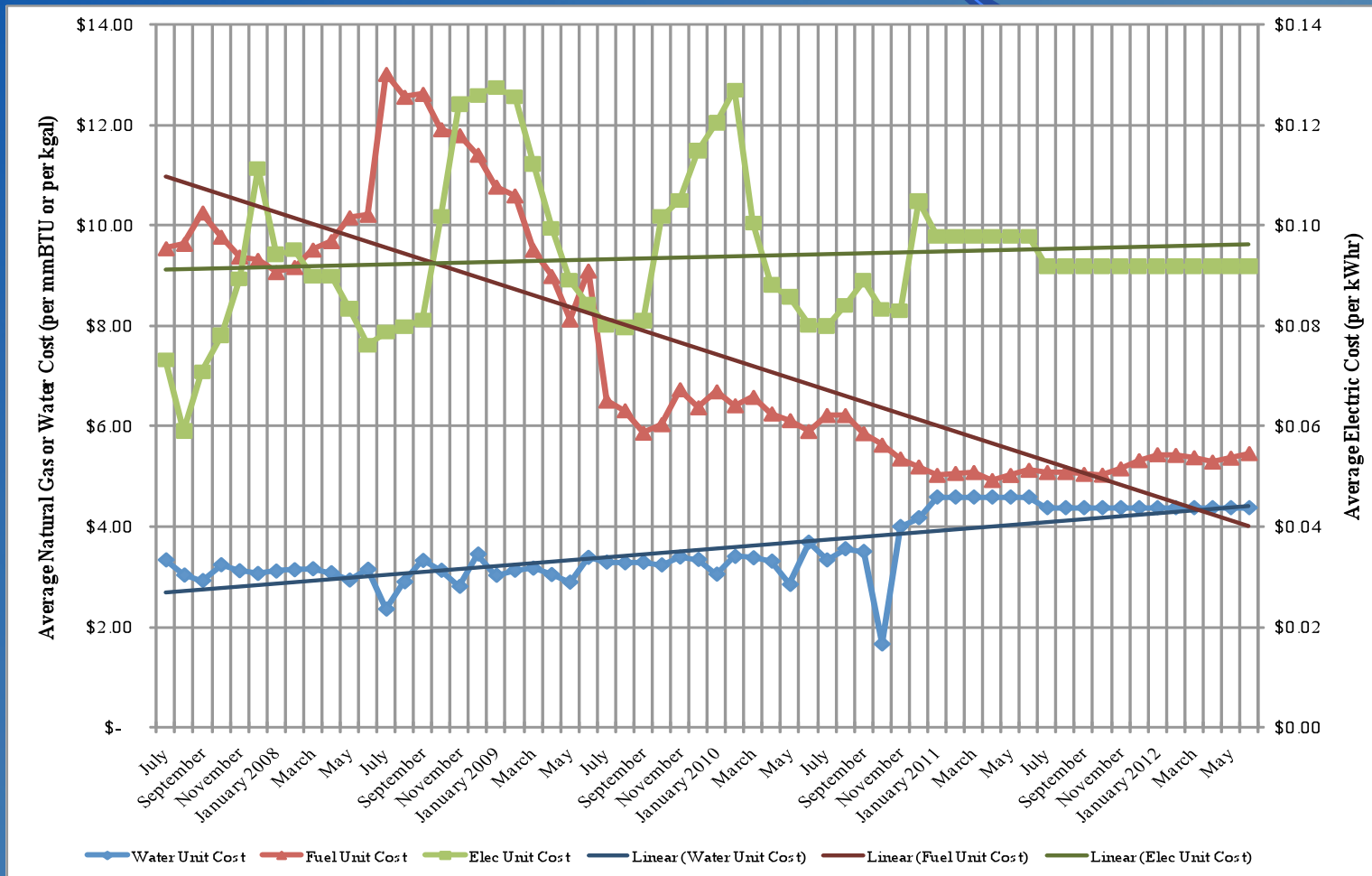
## *4. Energy Costs and Trends*

- Fig 4.1. Historic Electric, Fuel and Water Costs
- Fig 4.2. Fuel Cost Comparison to Market Value

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## Fig. 4.1. Historic Elec, Fuel & Water Costs

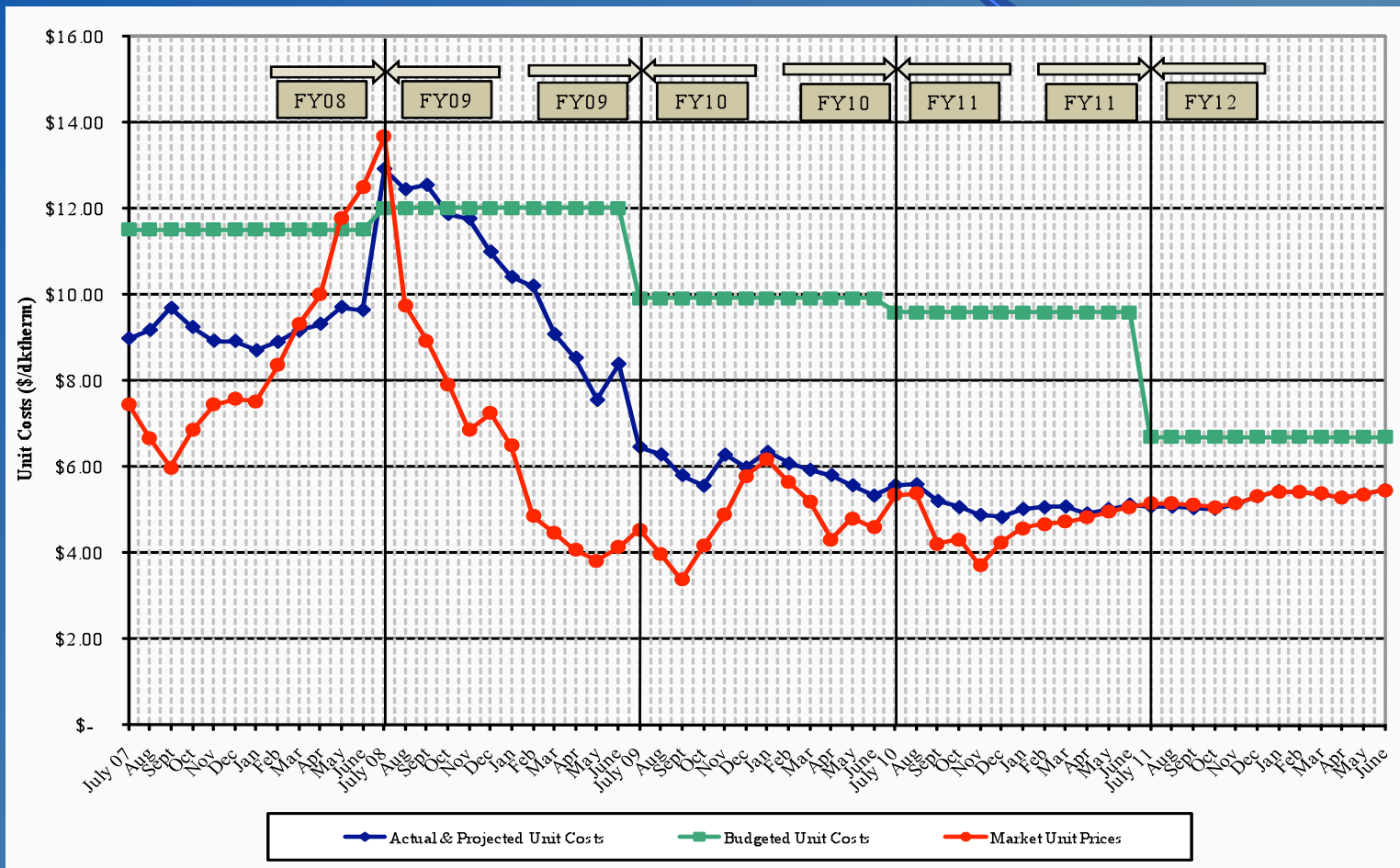




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## Fig. 4.2. Fuel Cost Comparison to Market Value



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### 5. FY11 Expenses to Date

*Chilled Water (as of 12/31/10)*

<u>COMPOSITE CHARGES FOR CHILLED WATER SERVICE</u>	<u>AMOUNT</u>	<u>AMOUNT</u>	
	<u>FY11 Budget</u>	<u>Actual Cost</u>	<u>% of Budget</u>
Capacity Charge	\$ 5,132,702	\$ 2,607,147	50.79%
Contract Capacity Charge	\$ 2,105,032	\$ 1,303,553	
Fixed Operating Charge	\$ 2,778,480	\$ 1,175,145	
EDS Improvement Charge	\$ 67,107	\$ 34,289	
Metro Incremental Admin. Charge	\$ 182,083	\$ 94,160	
Pass Through Charges	\$ 710,873	\$ 388,354	54.63%
Water and Sewer	\$ 500,778	\$ 220,217	
Chemicals	\$ 130,865	\$ 54,200	
Engineering	\$ 11,848	\$ 5,932	
Insurance	\$ 17,962	\$ -	
EDS Electricity	\$ -	\$ 18,331	
EDS Maintenance Cost Allocation	\$ 49,420	\$ 27,155	
Thermal Inefficiency Fuel Surcharge	\$ -	\$ 62,518	
Energy Charges	\$ 4,846,419	\$ 2,387,927	49.27%
Electric	\$ 4,846,419	\$ 2,387,927	
<b>TOTAL CHILLED WATER CHARGES</b>	<b>\$ 10,689,994</b>	<b>\$ 5,383,428</b>	<b>50.36%</b>
	<b>\$ 0.1929</b> per tonhr	<b>\$ 0.1729</b> per tonhr	

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## DISTRICT ENERGY SYSTEM



### Steam and Total Expenses (as of 12/31/10)

<b>COMPOSITE CHARGES FOR STEAM SERVICE</b>		<b>AMOUNT</b>		<b>AMOUNT</b>	
	<b>FY11 Budget</b>		<b>Actual Cost</b>		<b>% of Budget</b>
Capacity Charge		<b>\$ 2,477,303</b>		<b>\$ 1,243,248</b>	<b>50.19%</b>
Contract Capacity Charge	\$ 1,310,886		\$ 739,932		
Fixed Operating Charge	\$ 1,072,828		\$ 456,028		
EDS Improvement Charge	\$ 25,203		\$ 12,624		
Metro Incremental Admin. Charge	\$ 68,385		\$ 34,665		
Pass Through Charges		<b>\$ 125,440</b>		<b>\$ 108,711</b>	<b>86.66%</b>
Water and Sewer	\$ 72,977		\$ 67,613		
Chemicals	\$ 19,071		\$ 23,212		
Engineering	\$ 4,400		\$ 2,171		
Insurance	\$ 7,813		\$ -		
EDS Electricity	\$ -		\$ 8,051		
EDS Maintenance Cost Allocation	\$ 21,180		\$ 7,664		
Energy Charges		<b>\$ 4,539,974</b>		<b>\$ 1,233,631</b>	<b>27.17%</b>
Electric	\$ 101,929		\$ 47,571		
Natural Gas	\$ 4,438,045		\$ 1,185,091		
Propane	\$ -		\$ 969		
<b>TOTAL STEAM CHARGES</b>		<b>\$ 7,142,717</b>		<b>\$ 2,585,590</b>	<b>36.20%</b>
		<b>\$ 25.35</b>	per Mlb	<b>\$ 22.60</b>	per Mlb
		<b>\$ 21.19</b>	per mmBTU	<b>\$ 18.90</b>	per mmBTU
<b>TOTAL CHARGES FOR 1ST AND 2ND QUARTER FY11</b>		<b>\$ 17,832,711</b>		<b>\$ 7,969,018</b>	
<b>FY10 TRUE-UP ADJUSTMENT</b>				<b>\$ (211,680)</b>	
<b>OTHER ADJUSTMENTS</b>				<b>\$ 37,420</b>	
<b>NET CHARGES TO CUSTOMERS</b>				<b>\$ 7,794,758</b>	
<b>METRO FUNDING AMOUNT</b>				<b>\$ 786,787</b>	
<b>TOTAL METRO DES EXPENSES TO DATE</b>				<b>\$ 8,581,546</b>	



# 6. FY12 Proposed Budget

## Chilled Water

<b>COMPOSITE CHARGES FOR CHILLED WATER SERVICE</b>		<b>AMOUNT</b>	<b>AMOUNT</b>	
	<b>FY11 Budget</b>		<b>FY12 Budget</b>	<b>% of Budget</b>
Capacity Charge		<b>\$ 5,132,702</b>	<b>\$ 5,687,021</b>	<b>110.80%</b>
Contract Capacity Charge	\$ 2,105,032		\$ 2,211,649	
Fixed Operating Charge	\$ 2,778,480		\$ 3,144,216	
EDS Improvement Charge	\$ 67,107		\$ 69,120	
Metro Incremental Admin. Charge	\$ 182,083		\$ 262,036	
Pass Through Charges		<b>\$ 710,873</b>	<b>\$ 790,440</b>	<b>111.19%</b>
Water and Sewer	\$ 500,778		\$ 507,489	
Chemicals	\$ 130,865		\$ 158,419	
Engineering	\$ 11,848		\$ 16,106	
Insurance	\$ 17,962		\$ 57,523	
EDS Electricity	\$ -		\$ -	
EDS Maintenance Cost Allocation	\$ 49,420		\$ 50,903	
Thermal Inefficiency Fuel Surcharge	\$ -		\$ -	
Energy Charges		<b>\$ 4,846,419</b>	<b>\$ 5,102,986</b>	<b>105.29%</b>
Electric	\$ 4,846,419		\$ 5,102,986	
<b>TOTAL CHILLED WATER CHARGES</b>		<b>\$ 10,689,994</b>	<b>\$ 11,580,446</b>	<b>108.33%</b>
		<b>\$ 0.1929</b> per tonhr	<b>\$ 0.1873</b> per tonhr	

Preliminary Budget as of 02/21/11

# Metro Nashville

## DISTRICT ENERGY SYSTEM



### Steam and Total Expenses (Preliminary Budget as of 02/21/11)

<b>COMPOSITE CHARGES FOR STEAM SERVICE</b>		<b>AMOUNT</b>		<b>AMOUNT</b>	
	<b>FY11 Budget</b>		<b>FY12 Budget</b>		<b>% of Budget</b>
Capacity Charge		<b>\$ 2,477,303</b>		<b>\$ 2,608,218</b>	<b>105.28%</b>
Contract Capacity Charge	\$ 1,310,886		\$ 1,342,778		
Fixed Operating Charge	\$ 1,072,828		\$ 1,139,496		
EDS Improvement Charge	\$ 25,203		\$ 25,888		
Metro Incremental Admin. Charge	\$ 68,385		\$ 100,056		
Pass Through Charges		<b>\$ 125,440</b>		<b>\$ 156,046</b>	<b>124.40%</b>
Water and Sewer	\$ 72,977		\$ 89,972		
Chemicals	\$ 19,071		\$ 28,086		
Engineering	\$ 4,400		\$ 6,080		
Insurance	\$ 7,813		\$ 10,093		
EDS Electricity	\$ -		\$ -		
EDS Maintenance Cost Allocation	\$ 21,180		\$ 21,815		
Energy Charges		<b>\$ 4,539,974</b>		<b>\$ 4,022,363</b>	<b>88.60%</b>
Electric	\$ 101,929		\$ 88,674		
Natural Gas	\$ 4,438,045		\$ 3,933,689		
Propane	\$ -		\$ -		
<b>TOTAL STEAM CHARGES</b>		<b>\$ 7,142,717</b>		<b>\$ 6,786,627</b>	<b>95.01%</b>
		<b>\$ 25.35</b>	per Mlb	<b>\$ 20.50</b>	per Mlb
		<b>\$ 21.19</b>	per mmBTU	<b>\$ 17.14</b>	per mmBTU
<b>TOTAL BUDGET CHARGES</b>		<b>\$ 17,832,711</b>		<b>\$ 18,367,073</b>	<b>103.00%</b>
<b>TOTAL ADJUSTMENTS</b>		<b>\$ 45,400</b>		<b>\$ 31,700</b>	<b>69.82%</b>
<b>METRO FUNDING AMOUNT</b>		<b>\$ 2,444,100</b>		<b>\$ 2,370,800</b>	<b>97.00%</b>
<b>TOTAL METRO DES EXPENSES</b>		<b>\$ 20,322,211</b>		<b>\$ 20,769,573</b>	<b>102.20%</b>



# 7. Capital Projects Review

## Expense Summary

	Spent to End of FY10	FY11 Spending	Balance to Date (03/01/11)
R&I Projects	\$976,742	\$54,457	\$583,110
2005B Bond	\$8,075,740	\$59,040	\$51,428
2010 Bond	\$412,384	\$433,544	\$1,564,072
MCCC Fund	\$102,062	\$944,262	\$7,453,676
Total	\$9,566,928	\$1,491,303	\$9,652,286





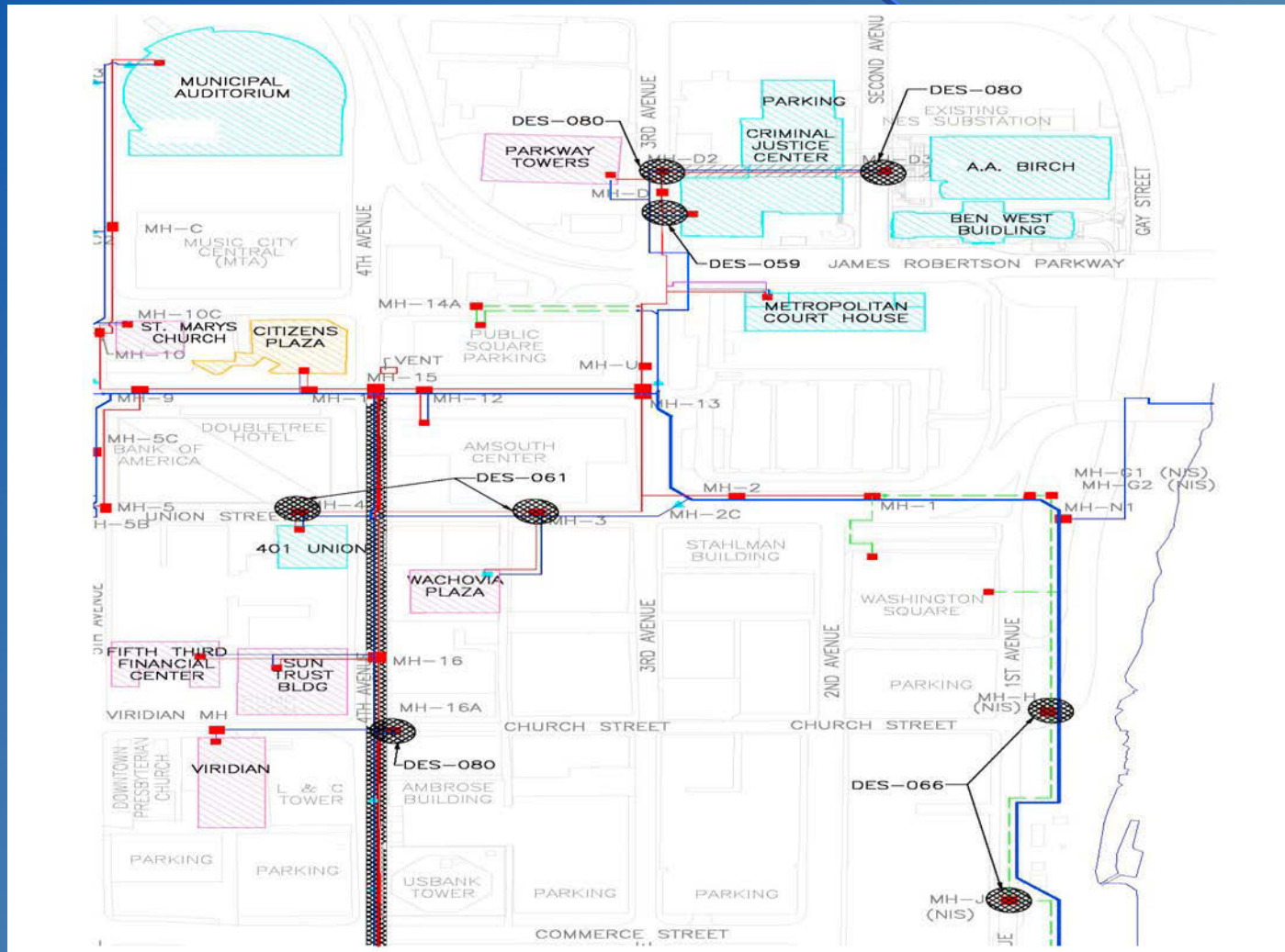
## *Active Capital Projects*

- DES 060: MH Insulation - in construction/ongoing
- DES 061: Manhole & Tunnel Steel Corrosion Repair & Prevention – in construction/ongoing
- DES 067: Tunnel Rock Rehabilitation.: Broadway, 7<sup>th</sup> & 4<sup>th</sup> Ave. – in construction; substantial completion anticipated in 3<sup>rd</sup> Qtr FY11
- DES 076: MH-S4A State Manhole Rebuild – on hold; awaiting completion of the State alternate fiber optic duct
- DES 077: Expansion of Service to the Music City CC - in construction
- DES 080: Misc. Manhole & Tunnel Safety Repairs – in design

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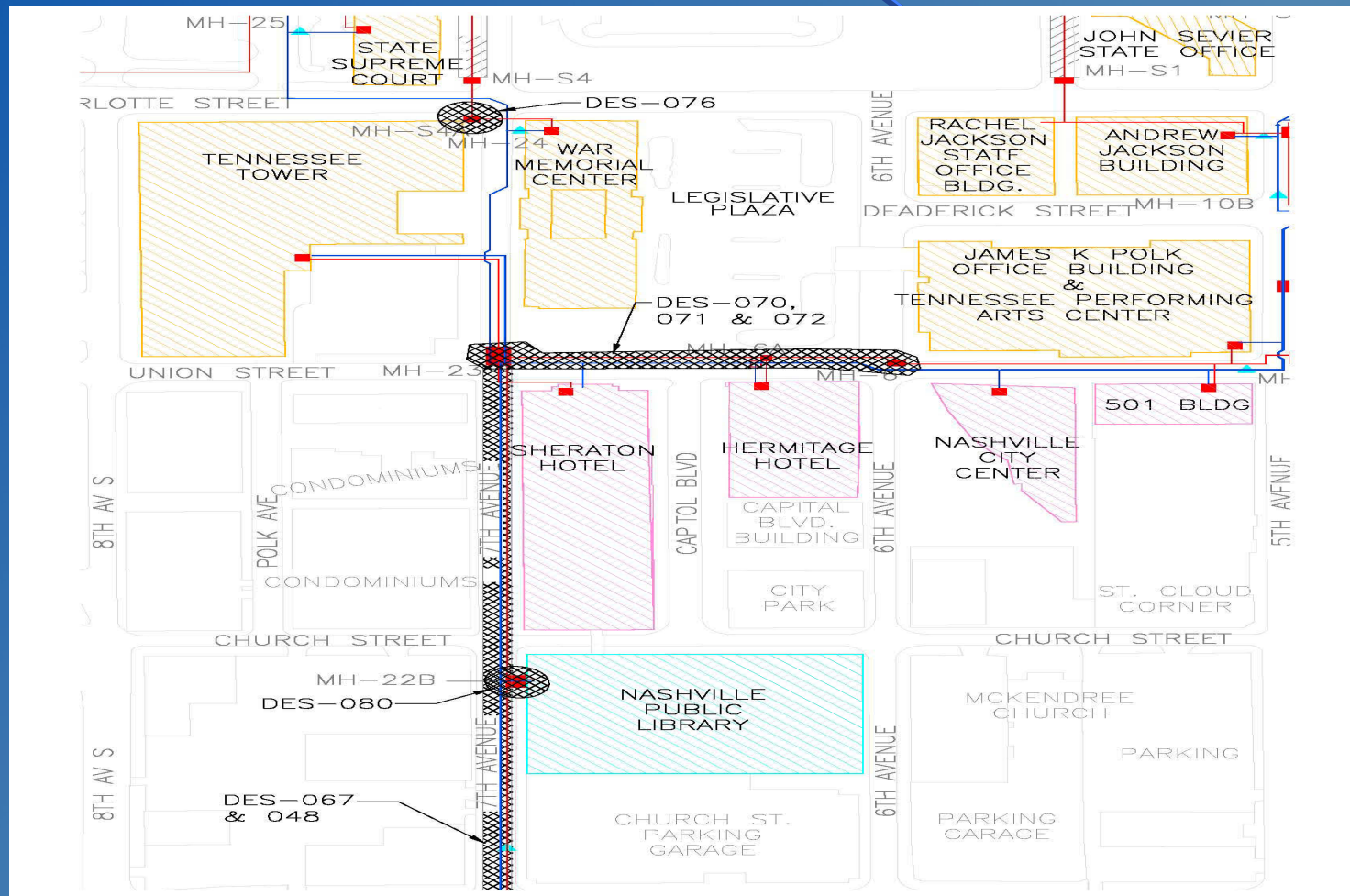
## Active Capital Projects



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## Active Capital Projects

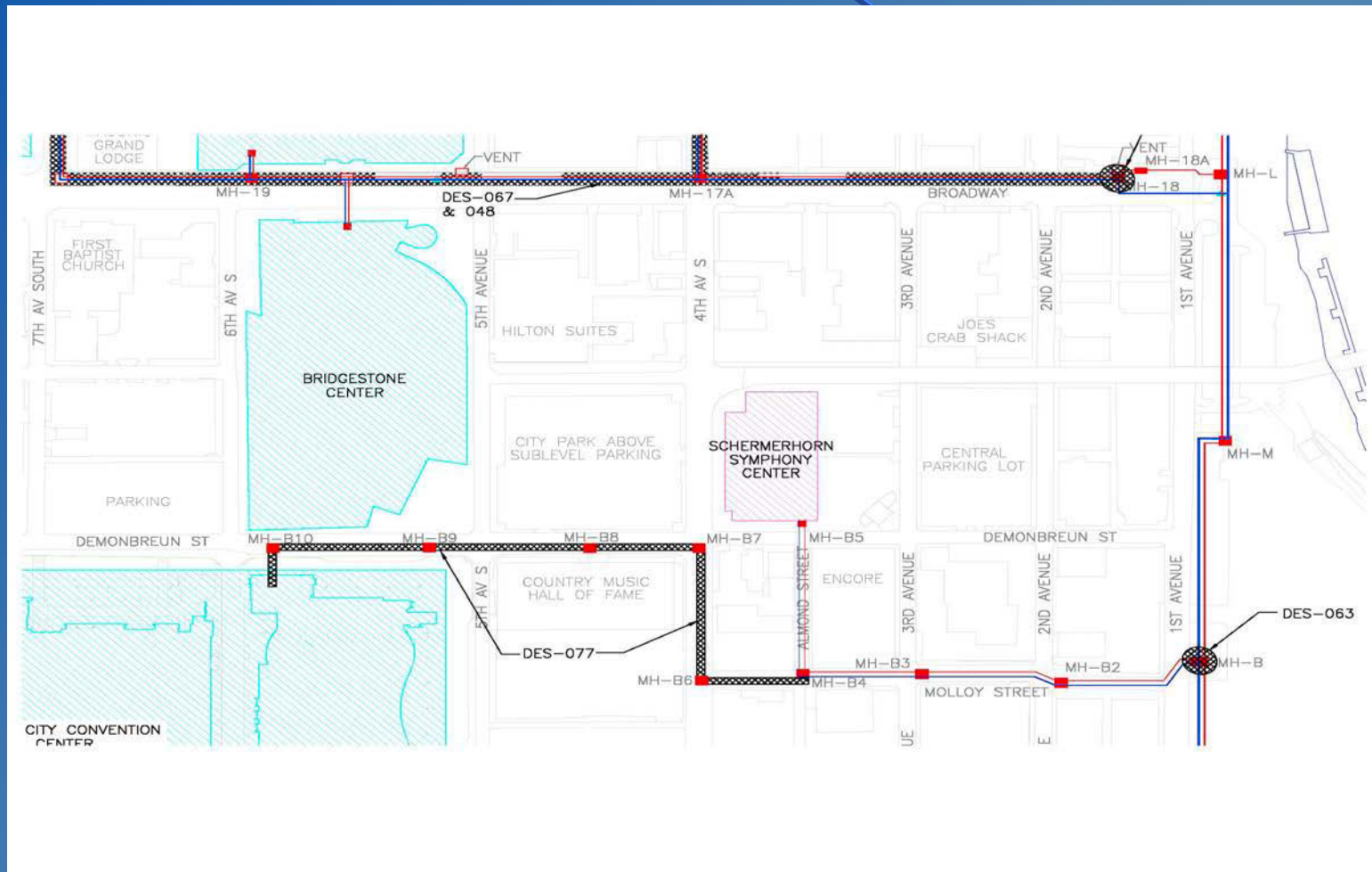




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## Active Capital Projects





## *Capital Projects in Close-out*

- DES 059: CJC Condensate Service Line Repair – construction completed during 1<sup>st</sup> Qtr FY11; closeout to occur in 3<sup>rd</sup> Qtr FY11
- DES 063: Manhole A, B & M Sump Pump Installation – Manhole B complete; closeout to occur in 3<sup>rd</sup> Qtr FY11
- DES 066: 1<sup>st</sup> Avenue Manhole & Steam Line Removal from Service - in closeout
- DES 073: MH-18 Platform Modification – construction completed during 2<sup>nd</sup> Qtr FY11; closeout to occur in 3<sup>rd</sup> Qtr FY11
- DES 081: Flood Related Repairs – construction complete; in closeout



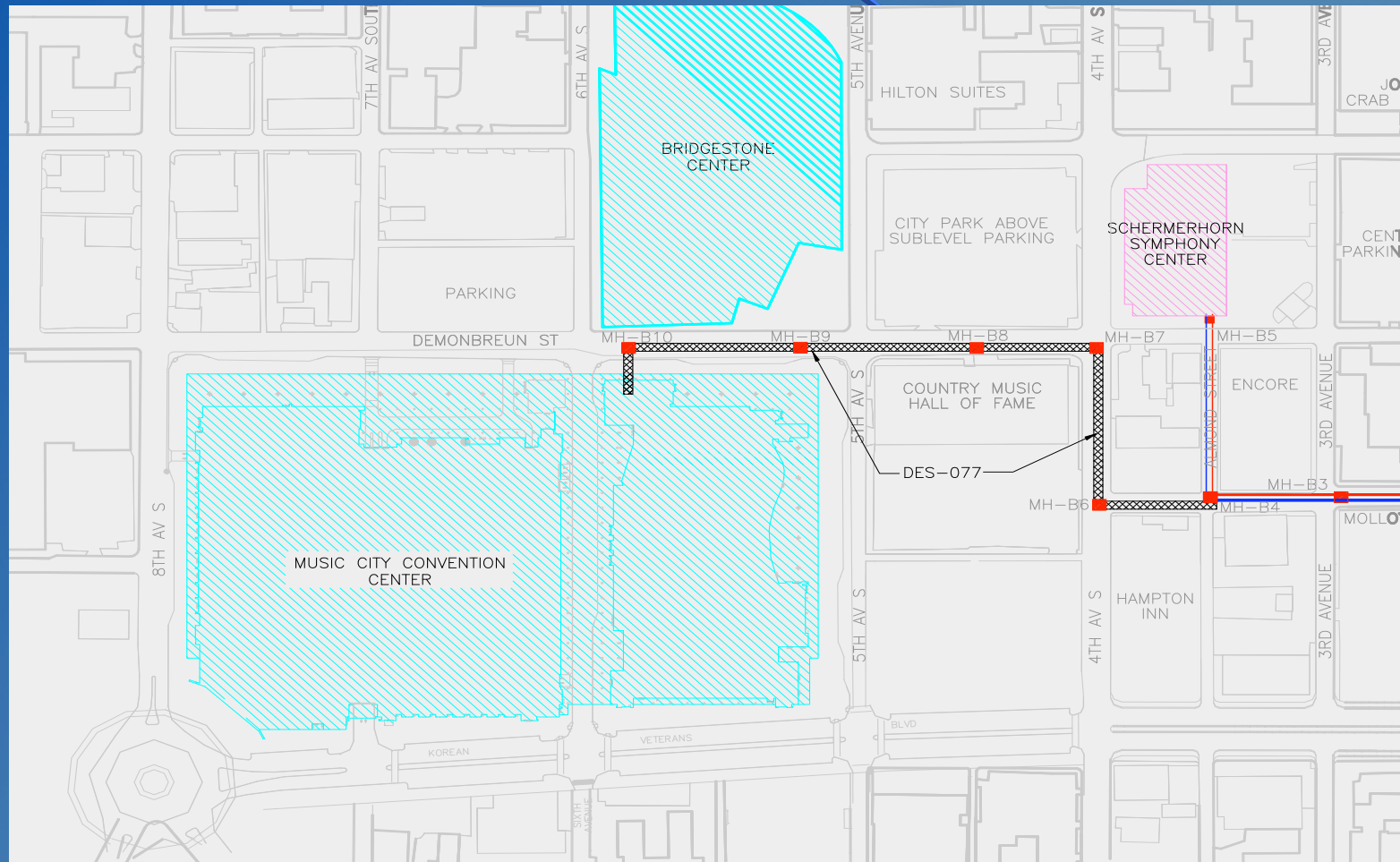
## *8. Music City Convention Center*

- Construction Began October 2010
- Four of Five New Vaults Set
- Direct-Buried Piping Progressing
- “Service Ready” Anticipated 04/15/2011





## MCCC Location & Routing Plan





*9. Questions and Answers*

*10. Adjourn*