

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



***DES Advisory Board Meeting***  
***Third Quarter FY13***  
***May 16, 2013***



# *Agenda*

1. Call to Order
2. Review & Approval of Previous Meeting Minutes
3. Customer Sales
4. Review of DES Contractor Performance
5. Natural Gas Purchasing Status
6. FY13 Costs to Date
7. FY14 Budget
8. Capital Projects Review & Status Report Update
9. Other Board Member Items
10. Adjourn



1. *Call to Order*
2. *Review and Approval of  
Previous Meeting Minutes*



## ***3. Customer Sales***

- ❖ Table 3A: Customer Cost Comparison
- ❖ Figure 3A: Historic CHW Costs
- ❖ Figure 3B: Historic Steam Costs
- ❖ Table 3B: Summary of Price Changes

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

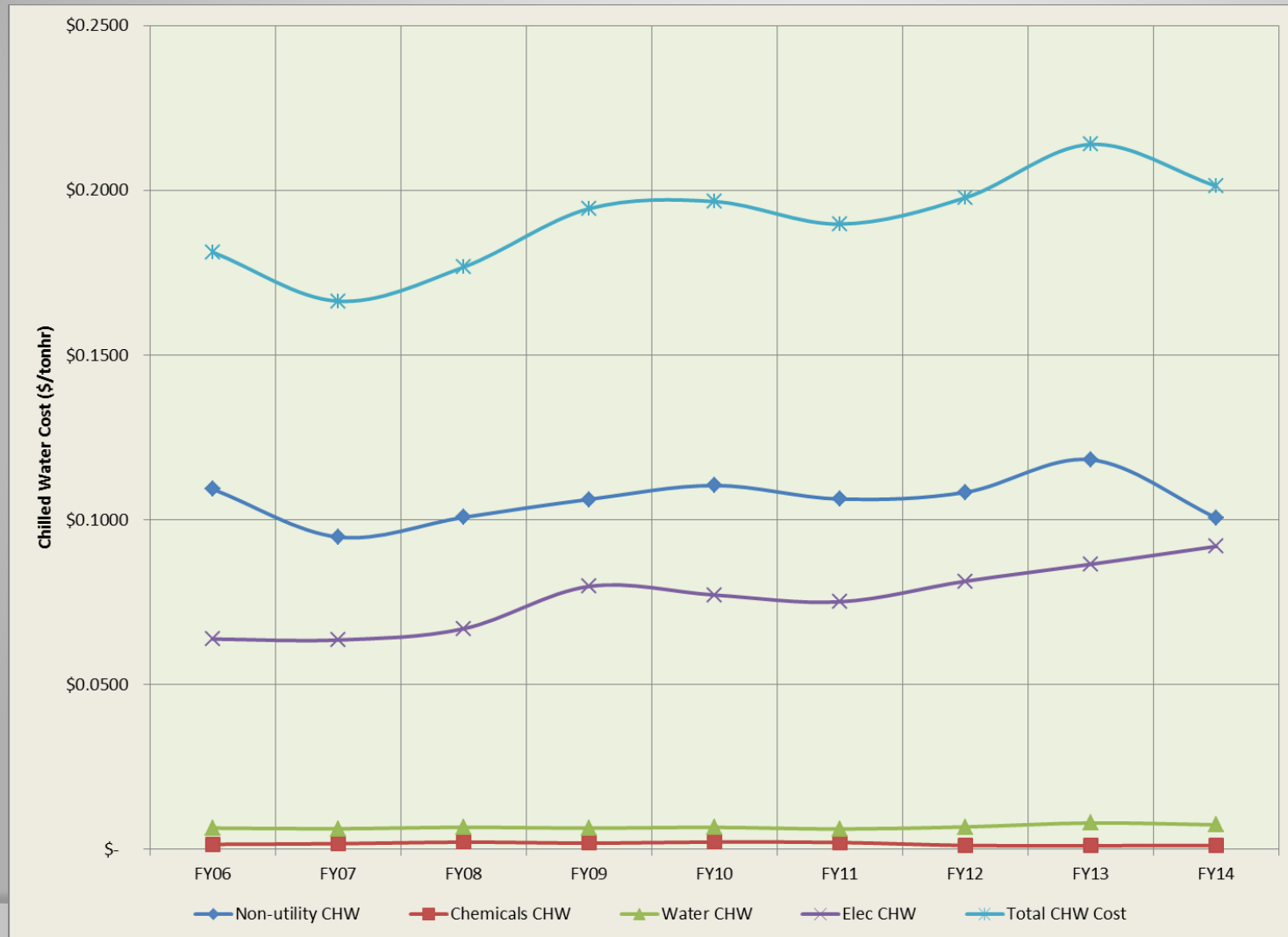
		Steam - Rolling 12 Month			Chilled Water - Rolling 12 Month		
		Apr 2011 - Mar 2012	Apr 2012 - Mar 2013	% Diff.	Apr 2011 - Mar 2012	Apr 2012 - Mar 2013	% Diff.
<b>Private</b>	Cost	\$ 1,467,637	\$ 1,337,722	-8.85%	\$ 3,422,288	\$ 3,391,795	-0.89%
	Usage (lbs or tonhrs)	79,522,078	84,520,591	6.29%	17,869,948	17,516,818	-1.98%
	Unit Cost	\$ 18.46	\$ 15.83	-14.2%	\$ 0.192	\$ 0.194	1.1%
<b>State</b>	Cost	\$ 1,893,713	\$ 1,836,030	-3.05%	\$ 3,466,582	\$ 3,414,727	-1.50%
	Usage (lbs or tonhrs)	92,062,410	105,502,775	14.60%	17,582,753	16,630,973	-5.41%
	Unit Cost	\$ 20.57	\$ 17.40	-15.4%	\$ 0.197	\$ 0.205	4.1%
<b>Metro</b>	Cost	\$ 1,689,879	\$ 2,034,136	20.37%	\$ 3,843,500	\$ 4,199,276	9.26%
	Usage (lbs or tonhrs)	84,939,850	152,601,345	79.66%	21,759,349	25,442,007	16.92%
	Unit Cost	\$ 19.90	\$ 13.33	-33.0%	\$ 0.177	\$ 0.165	-6.6%
<b>Aggregate</b>	Cost	\$ 5,051,229	\$ 5,207,888	3.10%	\$ 10,732,370	\$ 11,005,798	2.55%
	Usage (lbs or tonhrs)	256,524,338	342,624,711	33.56%	57,212,050	59,589,798	4.16%
	Unit Cost	\$ 19.69	\$ 15.20	-22.8%	\$ 0.188	\$ 0.185	-1.54%

MFA not included in values shown

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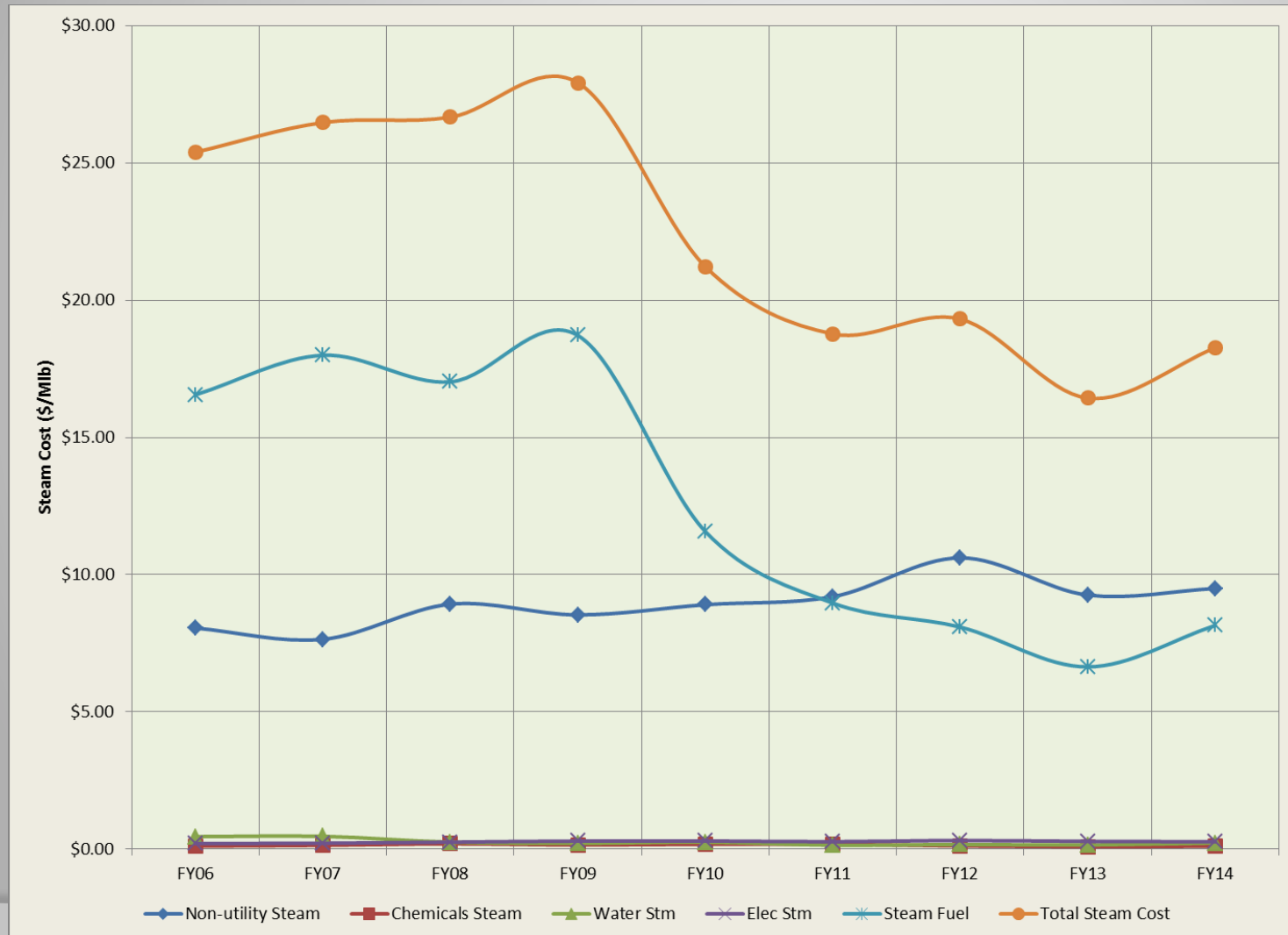
## Figure 3A: Historic CHW Costs



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Figure 3B: Historic Steam Costs





## Table 3B: Summary of Price Changes




- CPI from FY06 to FY13 (Avg) = +2.70%
- Chilled Water Costs:
  - Fixed Non-utility = +1.38%
  - Chemicals = -1.56%
  - Water/Sewer = +3.43%
  - Electricity = +4.68%
  - Total CHW = +2.58%
- Steam Costs:
  - Fixed Non-utility = +2.50%
  - Chemicals = -0.02%
  - Water/Sewer = -10.59%
  - Electricity = +5.43%
  - Fuel = -10.73%
  - Total Steam = -5.41%





## 4. *Review of DES Contractor Performance*

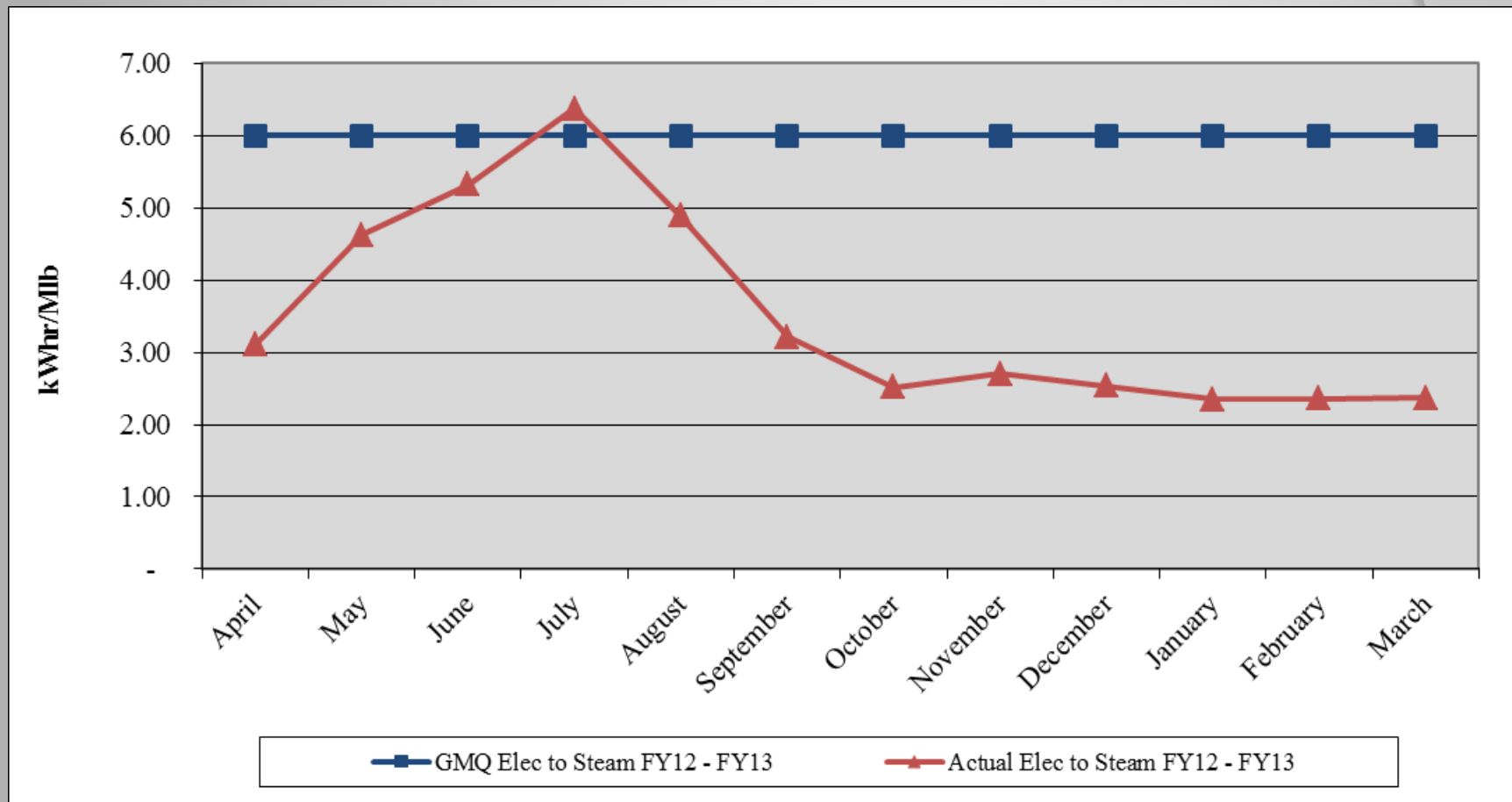
Contractor (CNE) is in compliance with their contractual obligations for FY13.

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

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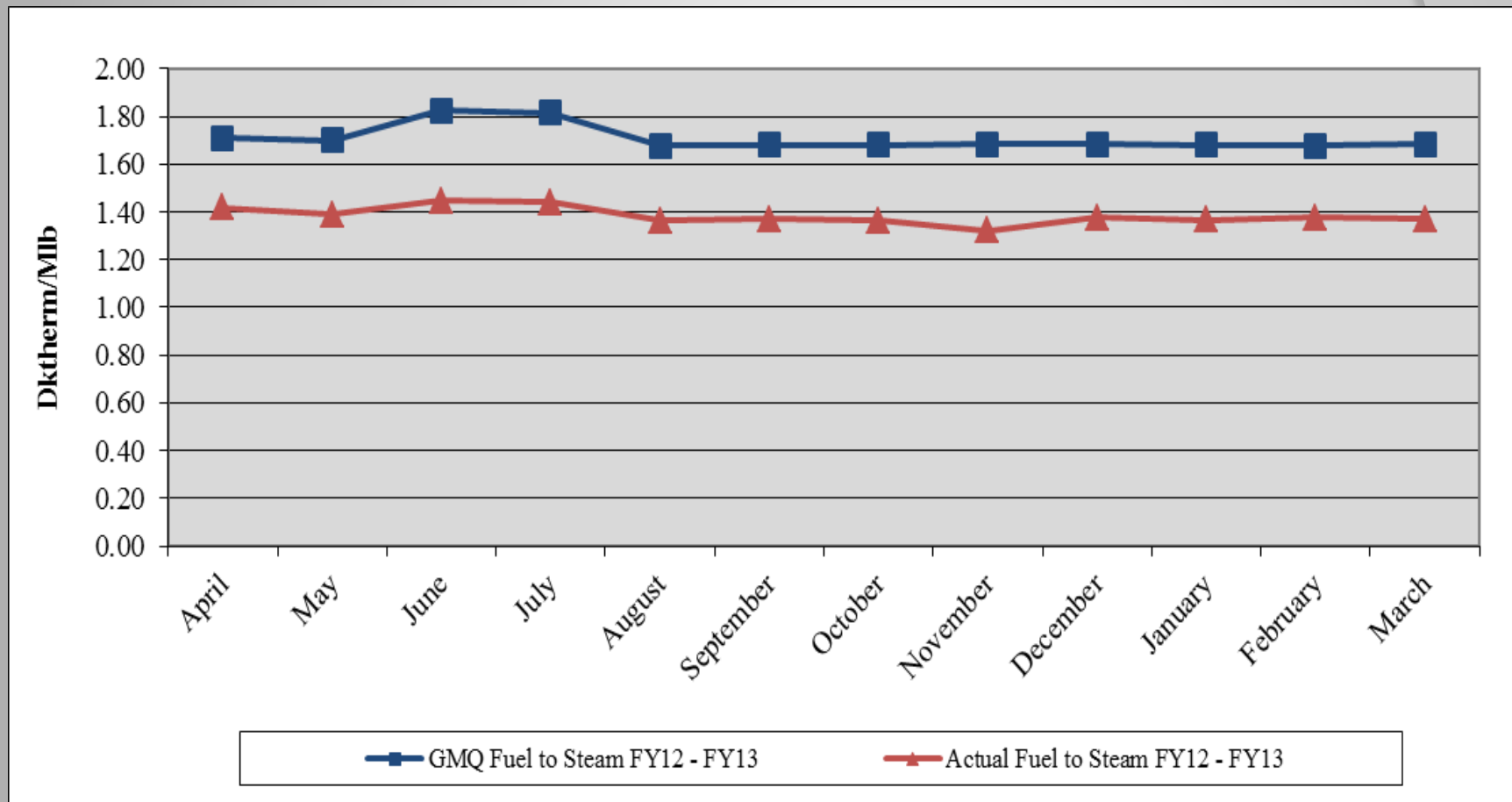
## Performance Measurement FY13: Steam Electric Conversion ●



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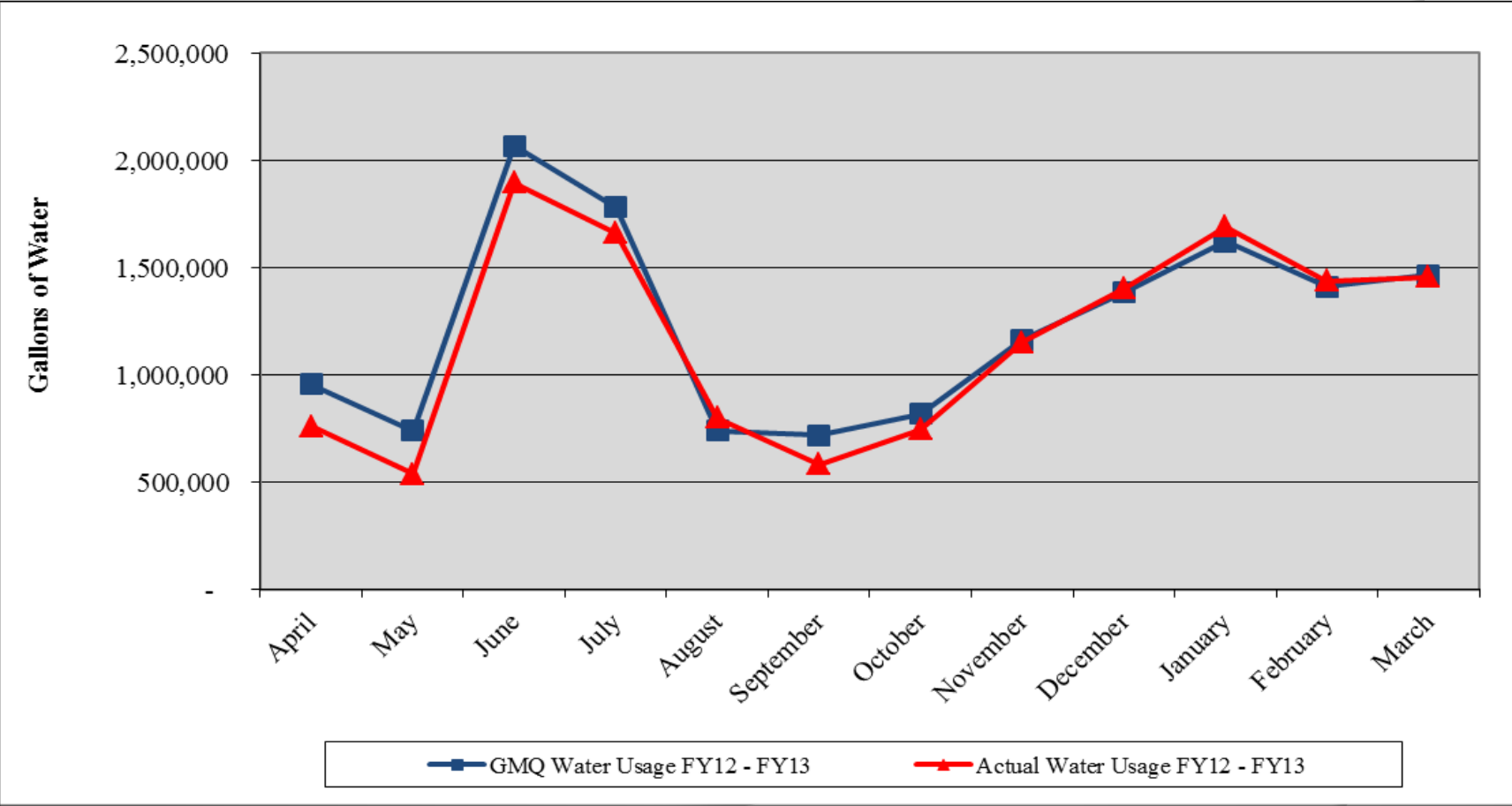
## Performance Measurement FY13: Steam Plant Efficiency ●



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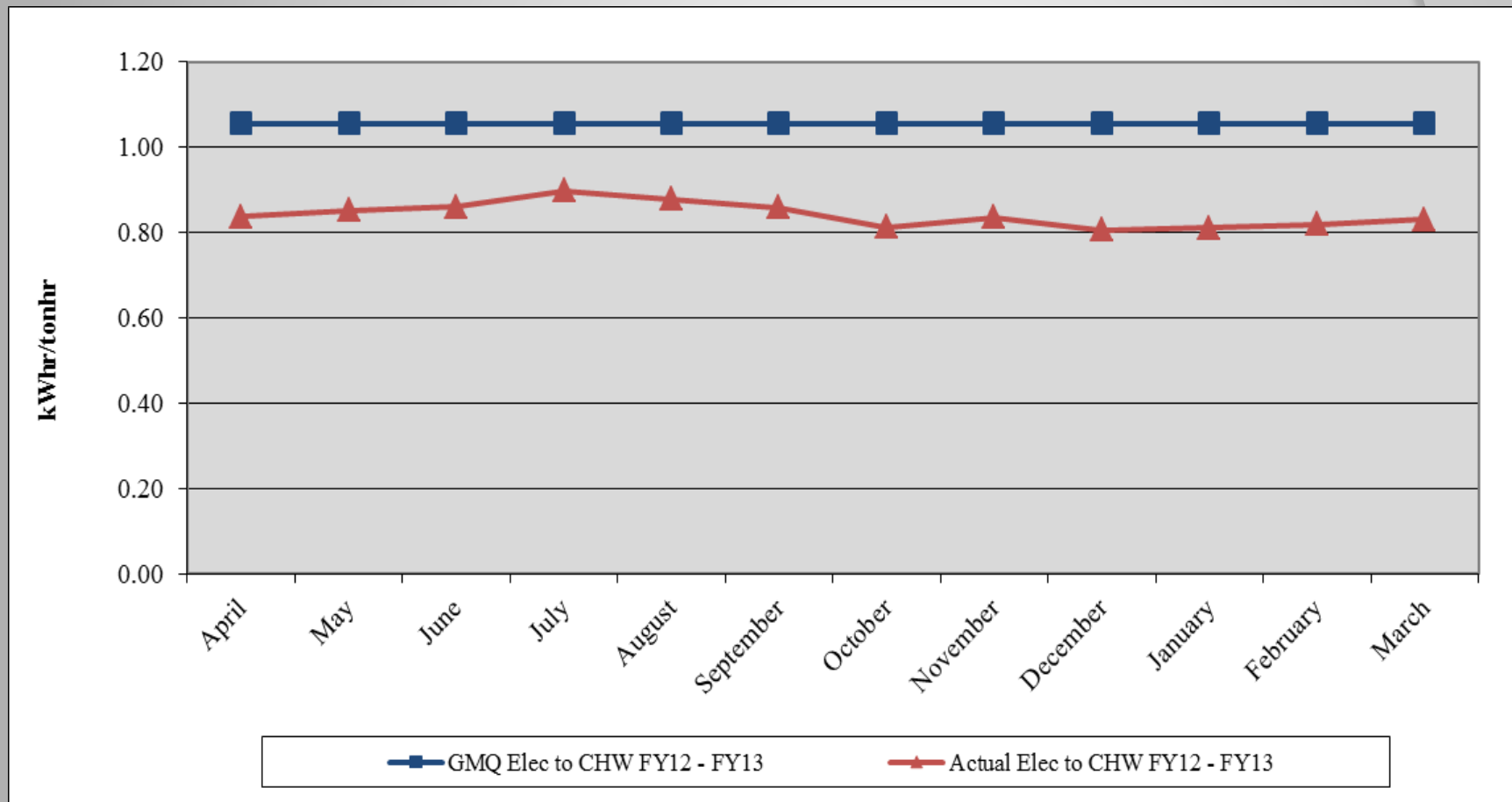
## Performance Measurement FY13: Steam Water Conversion ●



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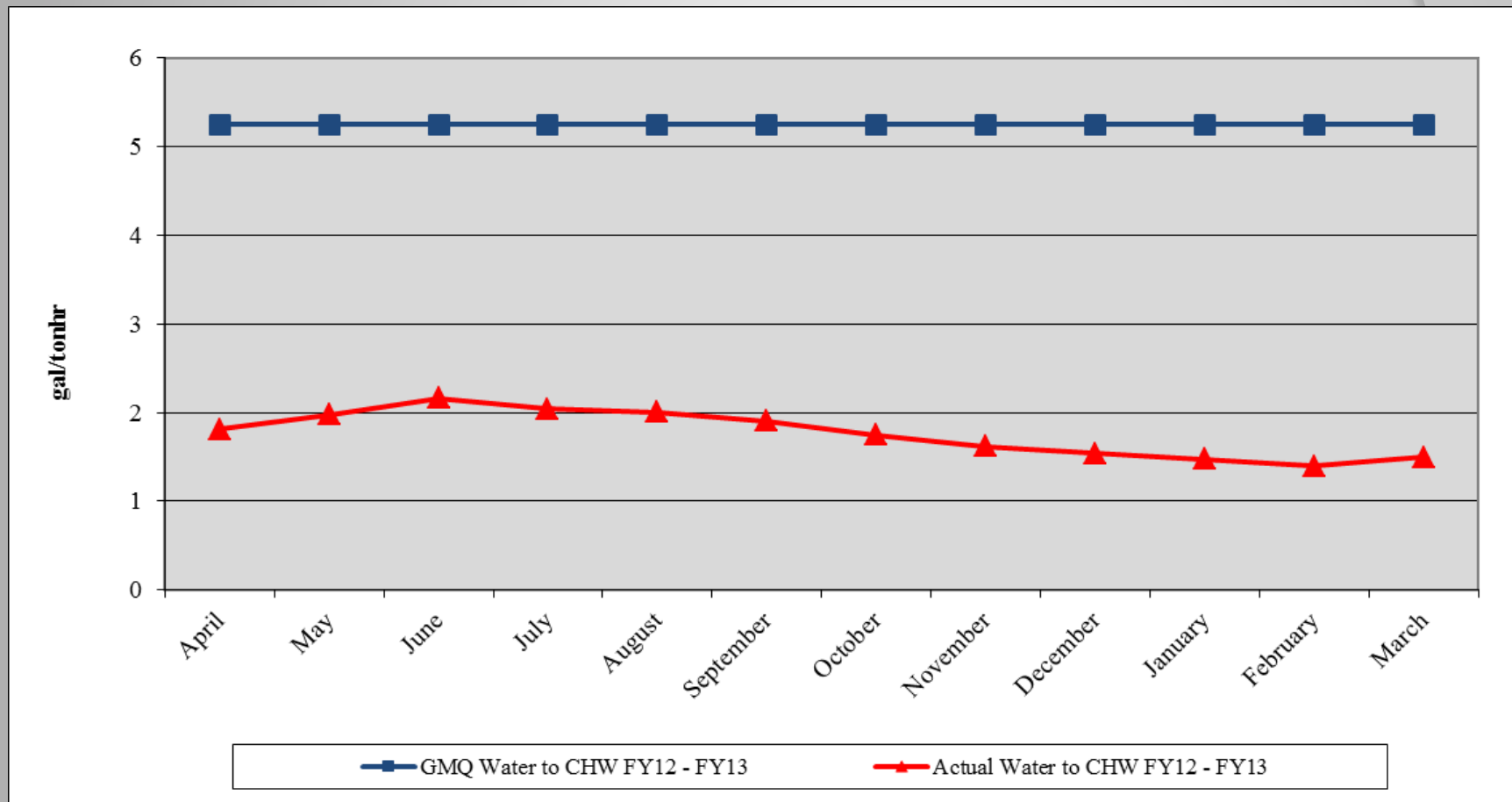


## Performance Measurement FY13: CHW Electric Conversion ●





### Performance Measurement FY13: CHW Water Conversion ●





# *Water Treatment*

## ❖ Steam and Condensate ●

- ❖ Corrosion
- ❖ Iron
- ❖ Hardness
- ❖ Chlorine/Sulfite

## ❖ Condensing Water ●

- ❖ Conductivity
- ❖ Biologicals

## ❖ Chilled Water ●

- ❖ Hardness
- ❖ Corrosion
- ❖ Biologicals



## *EGF Walkthrough*

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





## *EDS Walkthrough*

- ✓ Vault/Tunnel Housekeeping ●
- ✓ Maintenance Items ●
  - ✓ Insulation Repair/Replacement ●
  - ✓ Water Infiltration ●
  - ✓ Corrosion of Structural Metal Components ●
- ✓ Safety Items (DES 080 in closeout) ●



## 5. *Natural Gas Purchasing*

- ❖ Natural Gas Purchasing Review
  - ❖ Table 5: FY13 Gas Spending & Budget Comparison
  - ❖ Figure 5A: Actual and Projected Gas Cost Comparison
  - ❖ Figure 5B: Historic Hedging

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### Table 5: FY13 Gas Spending & Budget Comparison

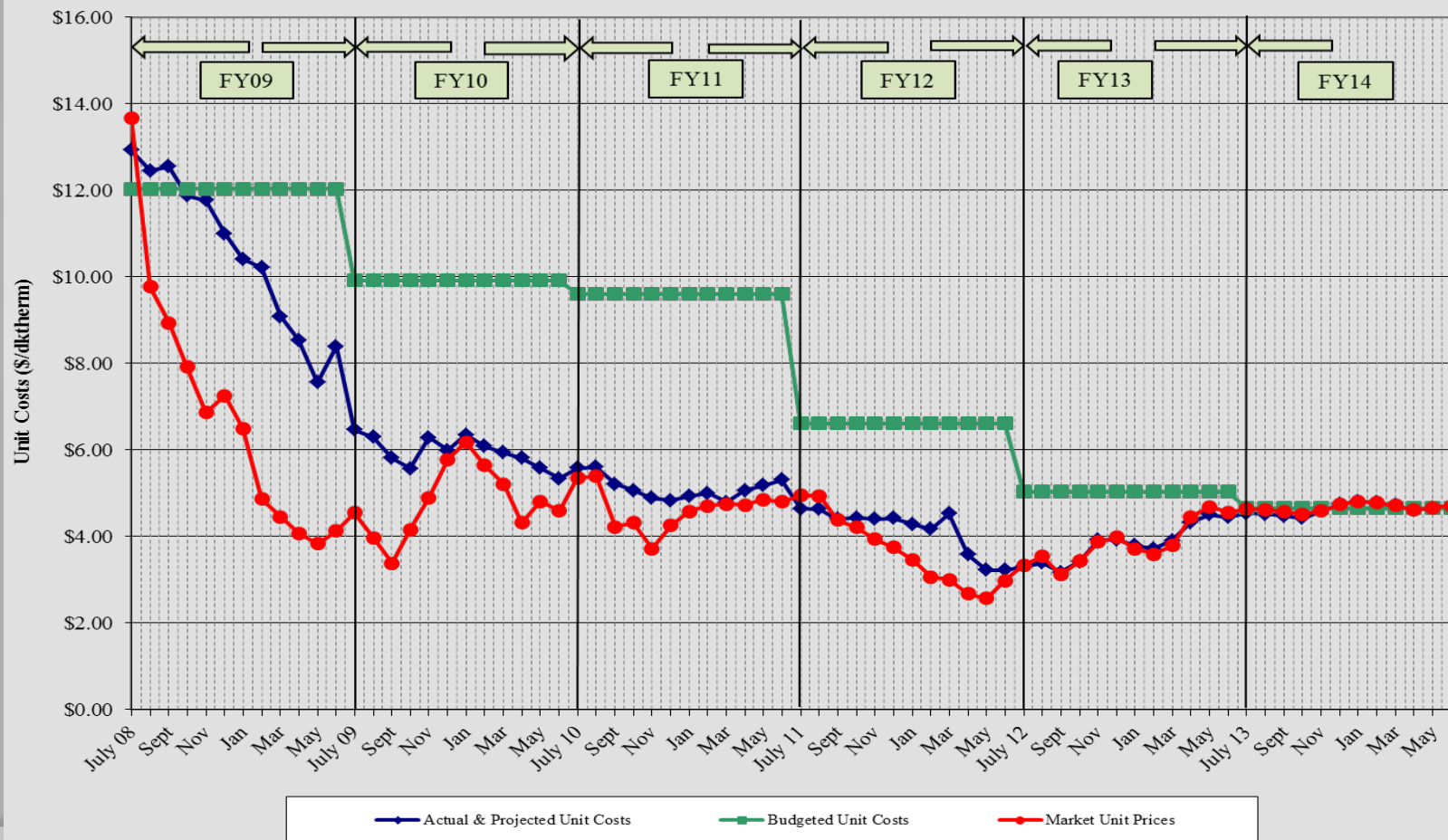
	Actual FY13 To date (Mar 31)	Budget FY13	Percent Difference
Steam Sendout (Mlbs)	348,667	285,405	-22.2%
Fuel Use (Dth) (includes propane)	● 477,066	395,000	-20.8%
Plant Eff (Dth/Mlb)	● 1.371	1.384	0.9%
Total Gas Cost (includes propane)	● \$1,962,353	\$1,990,010	1.4%
Unit Cost of Fuel (\$/ Dth)	● \$4.113	\$5.038	18.4%

Excludes consultant fees and FEA; high gas volumes due to exceptionally colder months than normal

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## Figure 5A. Actual and Projected Gas Cost Comparison History



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### 6. FY13 Costs to Date

Item	FY12 Actual	FY13 Budget	FY13 Actual to date	Percent of FY13 Budget
FOC's	\$ 4,303,100	\$ 4,448,321	\$ 3,293,242	74.03%
Pass Throughs				
Non-Energy	\$ 842,241	\$ 1,098,424	\$ 490,082	44.62%
Water/Sewer	\$ 433,255	\$ 616,500	\$ 382,358	62.02%
Natural Gas Base	\$ 2,025,943	\$ 2,129,500	\$ 1,971,625	92.59%
Natural Gas Contingency	\$ -	\$ 1,055,600	\$ -	0.00%
Electricity	\$ 4,737,502	\$ 5,673,500	\$ 3,828,963	67.49%
Debt Service	\$ 4,928,191	\$ 4,604,855	\$ 3,637,555	78.99%
<b>Total Expenses</b>	<b>\$ 17,270,232</b>	<b>\$ 19,626,700</b>	<b>\$ 13,603,824</b>	<b>69.31%</b>
<b>Total Revenues</b>	<b>\$ 15,644,921</b>	<b>\$ 17,263,800</b>	<b>\$ 12,383,413</b>	<b>71.73%</b>
<b>Metro Funding Amount</b>	<b>\$ 2,363,000</b>	<b>\$ 2,362,900</b>	<b>\$ 1,772,175</b>	<b>75.00%</b>

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### 7. FY14 Budget

Item	FY13 Budget	FY14 Budget	Percent Change
FOC's	\$ 4,448,321	\$ 4,583,500	3.04%
Pass Throughs			
Non-Energy	\$ 1,098,424	\$ 1,091,000	-0.68%
Water/Sewer	\$ 616,500	\$ 714,300	15.86%
Natural Gas Base	\$ 2,129,500	\$ 2,512,943	18.01%
Natural Gas Contingency	\$ 1,055,600	\$ 643,157	-39.07%
Electricity	\$ 5,673,500	\$ 6,585,000	16.07%
Debt Service	\$ 4,604,855	\$ 5,518,700	19.85%
<b>Total Expenses</b>	<b>\$ 19,626,700</b>	<b>\$ 21,648,600</b>	<b>10.30%</b>
<b>Total Revenues</b>	<b>\$ 17,263,800</b>	<b>\$ 19,690,300</b>	<b>14.06%</b>
<b>Metro Funding Amount</b>	<b>\$ 2,362,900</b>	<b>\$ 1,958,300</b>	<b>-17.12%</b>



## 8. Capital Expenditure Update

	<b>Spent to End of FY12</b>	<b>FY13 Spending</b>	<b>Balance to Date (04/01/13)</b>
R&I Projects	\$1,543,008	\$620,931	\$26,327
2005B Bond	\$8,186,500	\$0	\$0
2010 Bond	\$1,876,222	\$8,822	\$524,955
MCCC Fund	\$5,264,022	\$528,978	\$2,719,678
<b>Total</b>	<b>\$16,869,752</b>	<b>\$1,158,731</b>	<b>\$3,270,960</b>



# *Capital Projects Review*

## Active Capital Projects

- DES 061: MH & Tunnel Steel Corrosion Repair & Prevention – ongoing
- DES 091: TOU and Thermal Storage – developing TOU invoicing changes
- DES 098: Service Connection to Nashville Hyatt Place – complete; coordinating project close-out and start-up with building contractor
- DES 100: MH-10 Sump Pump and Roof Replacement – in design
- DES 101: MH-1 Abandonment – in design

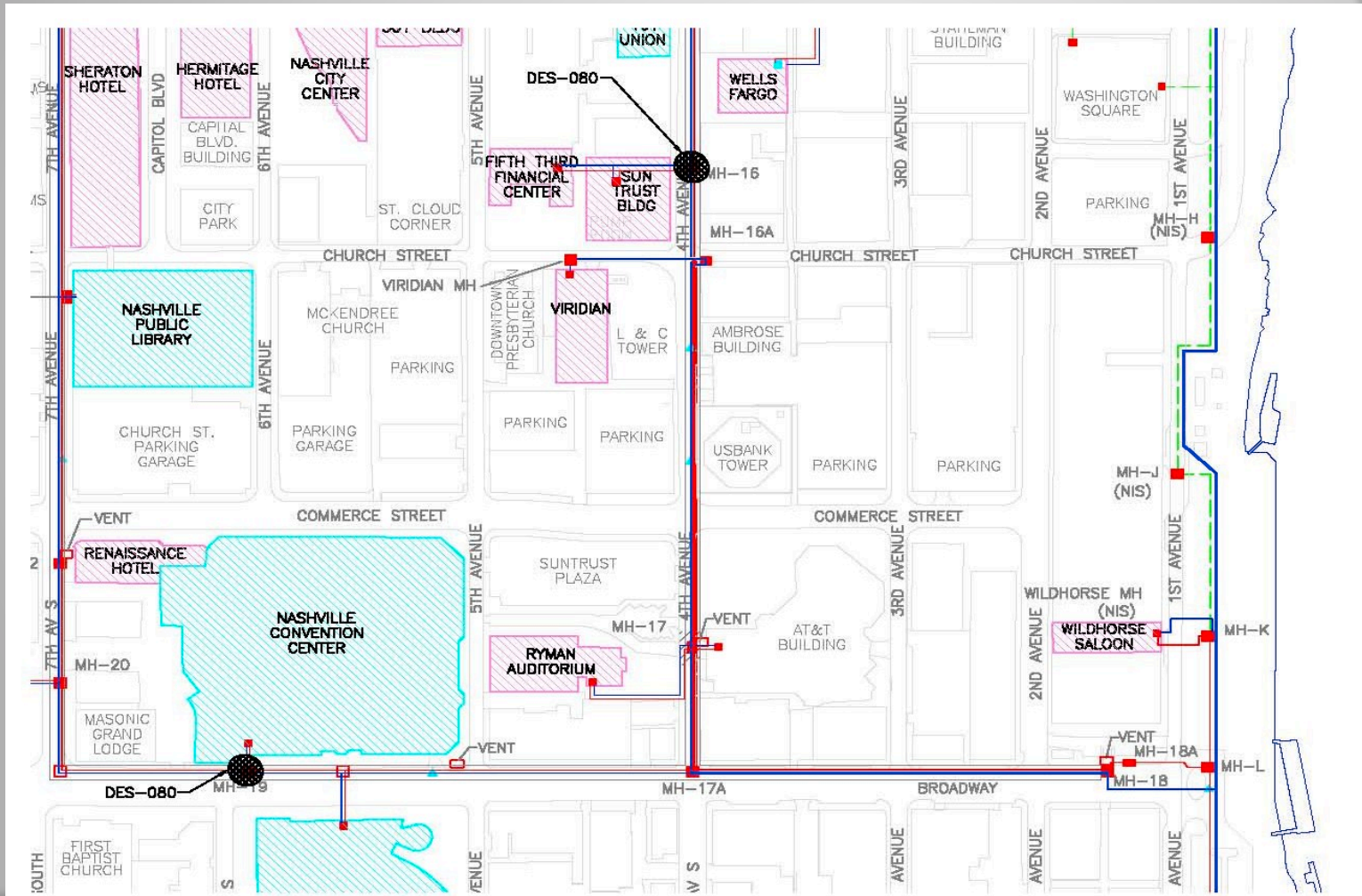




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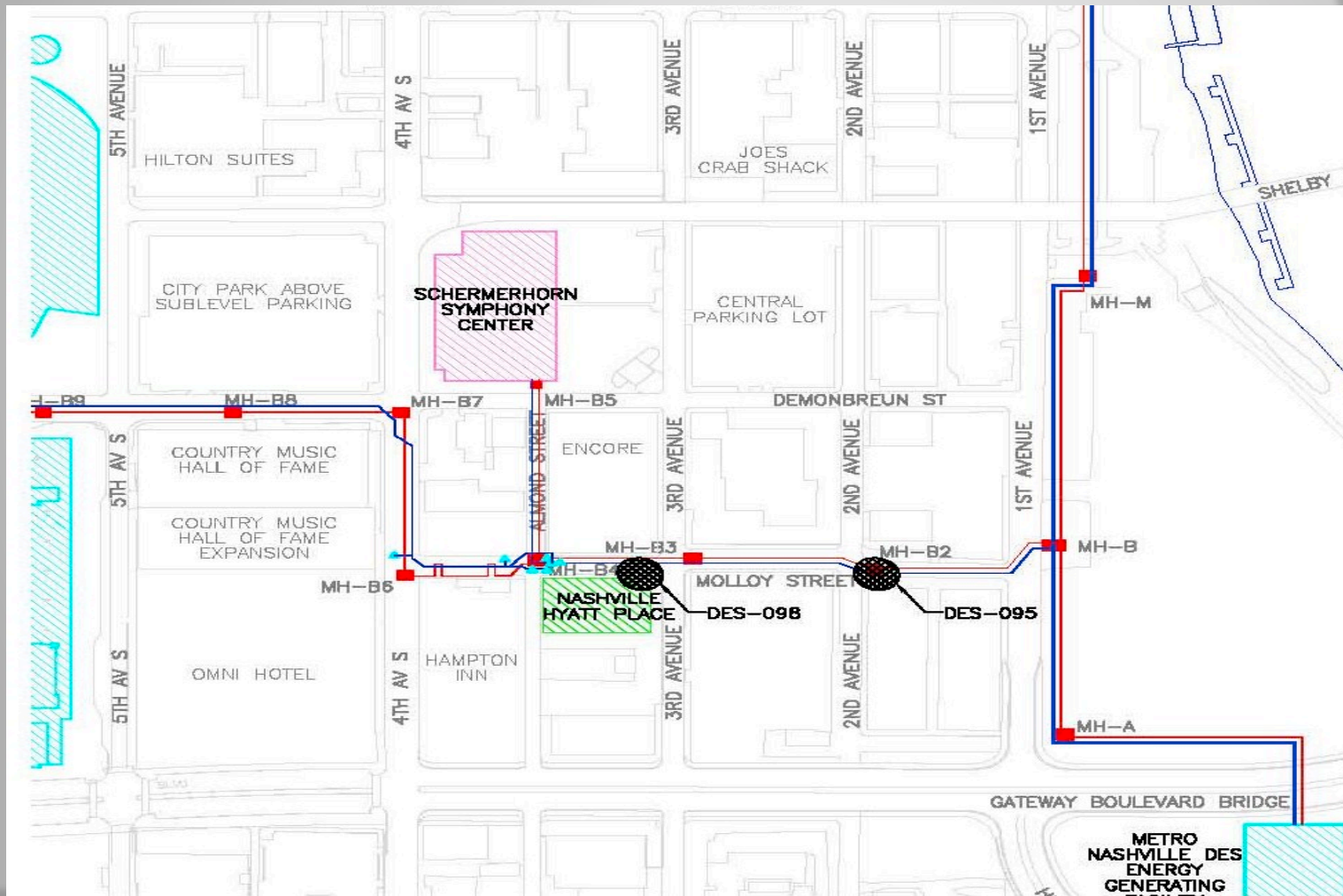
## Active Capital Projects



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## Active Capital Projects





# *Capital Projects Review*

## Capital Projects in Close-out

- DES 080: Misc. MH & Tunnel Safety Repairs – in closeout
- DES 090: Manhole & Tunnel Insulation – closed (ongoing)
- DES 094: Molloy Street Exploratory Dig – in closeout
- DES 095: MH B2 Water Infiltration Remediation – in closeout
- DES 099: 2012 Steam Shut-down (MH-B Valve Removal) – completed



## *9. Other Board Member Items*

## *10. Adjourn*

- *Advisory Board Meeting Schedule*
- FY13 – 4<sup>th</sup> Quarter Meeting – August 15, 2013
- FY14 – 1<sup>st</sup> Quarter Meeting – November 21, 2013
- FY14 – 2<sup>nd</sup> Quarter Meeting – February 20, 2014
- FY14 – 3<sup>rd</sup> Quarter Meeting – May 15, 2014