



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

*DES Advisory Board Meeting*  
*Fourth Quarter FY14*  
*August 21, 2014*



# *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. FY14 Costs to Date
7. FY15 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 3: Customer Cost Comparison
- ❖ Figure 3A: Historic CHW Sales
- ❖ Figure 3B: Historic Steam Sales



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

		Steam - Rolling 12 Month			Chilled Water - Rolling 12 Month		
		July 2012 - June 2013	July 2013 - June 2014	% Diff.	July 2012 - June 2013	July 2013 - June 2014	% Diff.
<b>Private</b>	Cost	\$ 1,335,369	\$ 1,494,950	11.95%	\$ 3,361,048	\$ 3,313,129	-1.43%
	Usage (lbs or tonhrs)	86,617,922	92,588,814	6.89%	17,344,304	17,002,070	-1.97%
	Unit Cost	\$ 15.42	\$ 16.15	4.7%	\$ 0.194	\$ 0.195	0.6%
<b>State</b>	Cost	\$ 1,870,844	\$ 2,145,493	14.68%	\$ 3,407,215	\$ 3,304,434	-3.02%
	Usage (lbs or tonhrs)	110,793,094	122,182,740	10.28%	16,456,479	15,262,594	-7.25%
	Unit Cost	\$ 16.89	\$ 17.56	4.0%	\$ 0.207	\$ 0.217	4.6%
<b>Metro</b>	Cost	\$ 2,266,862	\$ 2,765,773	22.01%	\$ 4,592,658	\$ 5,359,536	16.70%
	Usage (lbs or tonhrs)	176,955,110	190,482,533	7.64%	28,736,817	28,993,711	0.89%
	Unit Cost	\$ 12.81	\$ 14.52	13.3%	\$ 0.160	\$ 0.185	15.7%
<b>Aggregate</b>	Cost	\$ 5,473,075	\$ 6,511,863	18.98%	\$ 11,360,922	\$ 12,070,679	6.25%
	Usage (lbs or tonhrs)	374,366,126	410,073,610	9.54%	62,537,600	61,768,221	-1.23%
	Unit Cost	\$ 14.62	\$ 15.88	8.6%	\$ 0.182	\$ 0.195	7.57%

MFA not included in values shown

Figure 3A: Historic CHW Sales

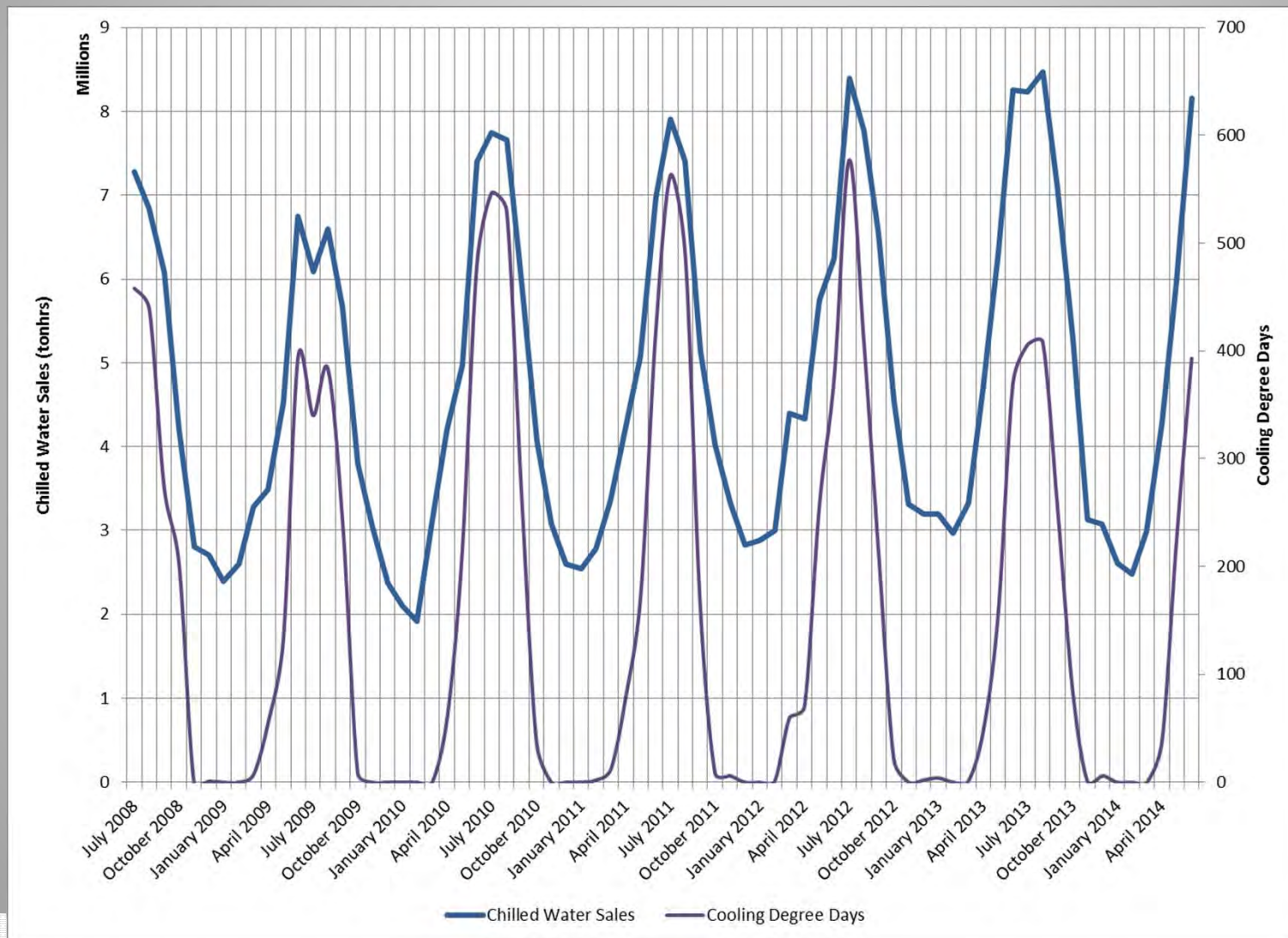
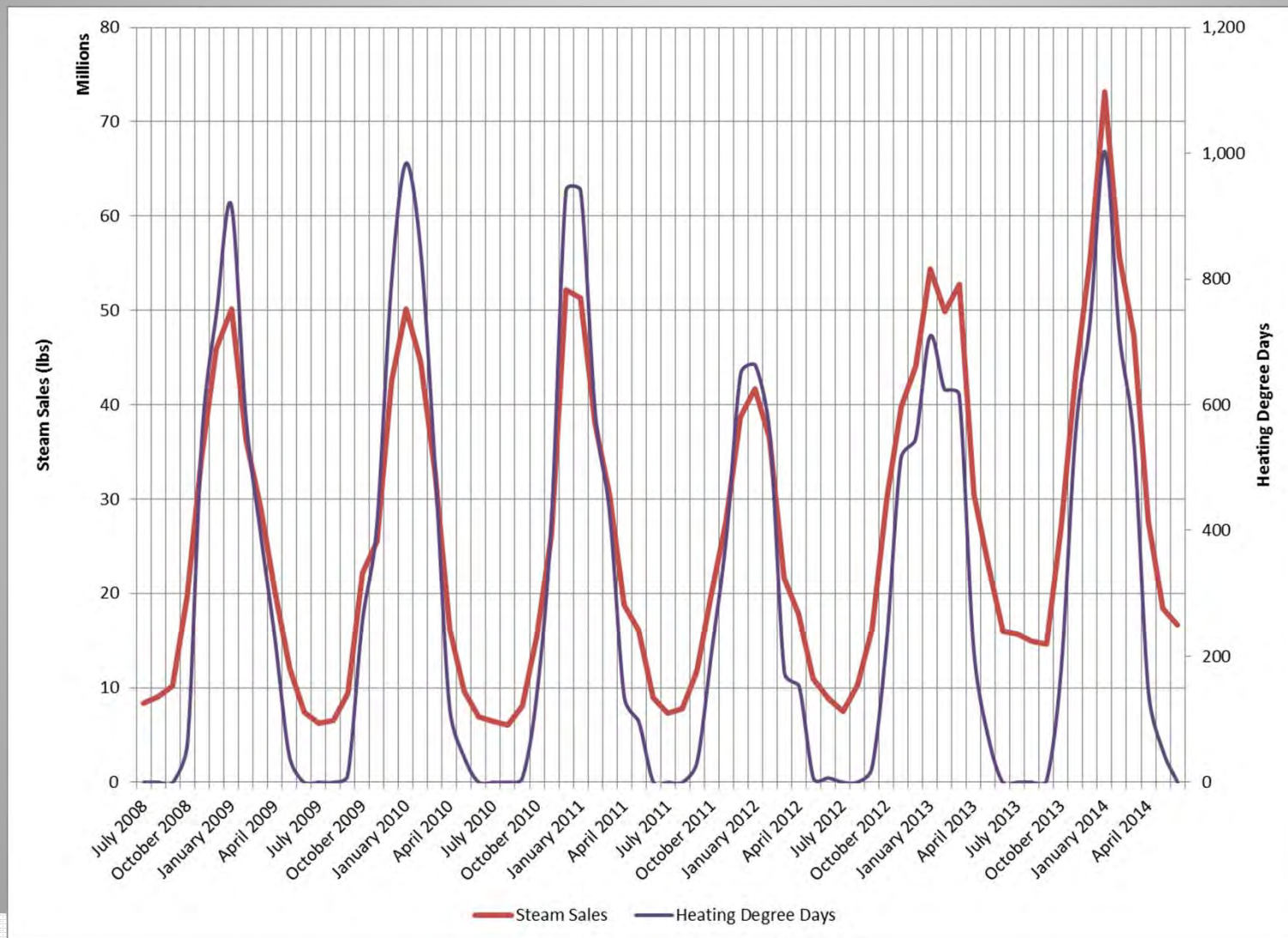







Figure 3B: Historic Steam Sales



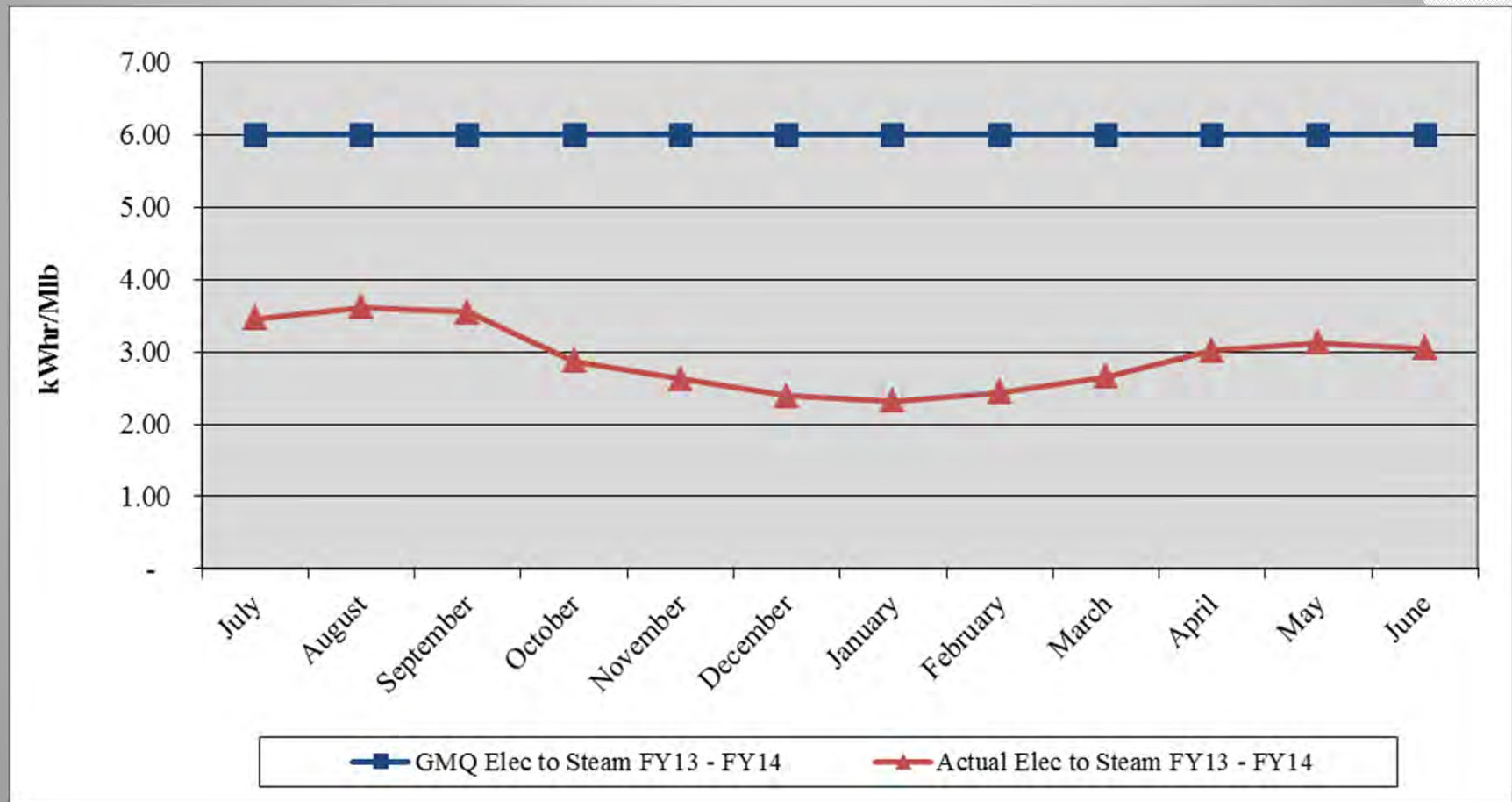
## 4. *Review of DES Contractor Performance*

Contractor (CNE) is in compliance with their contractual obligations for FY14.

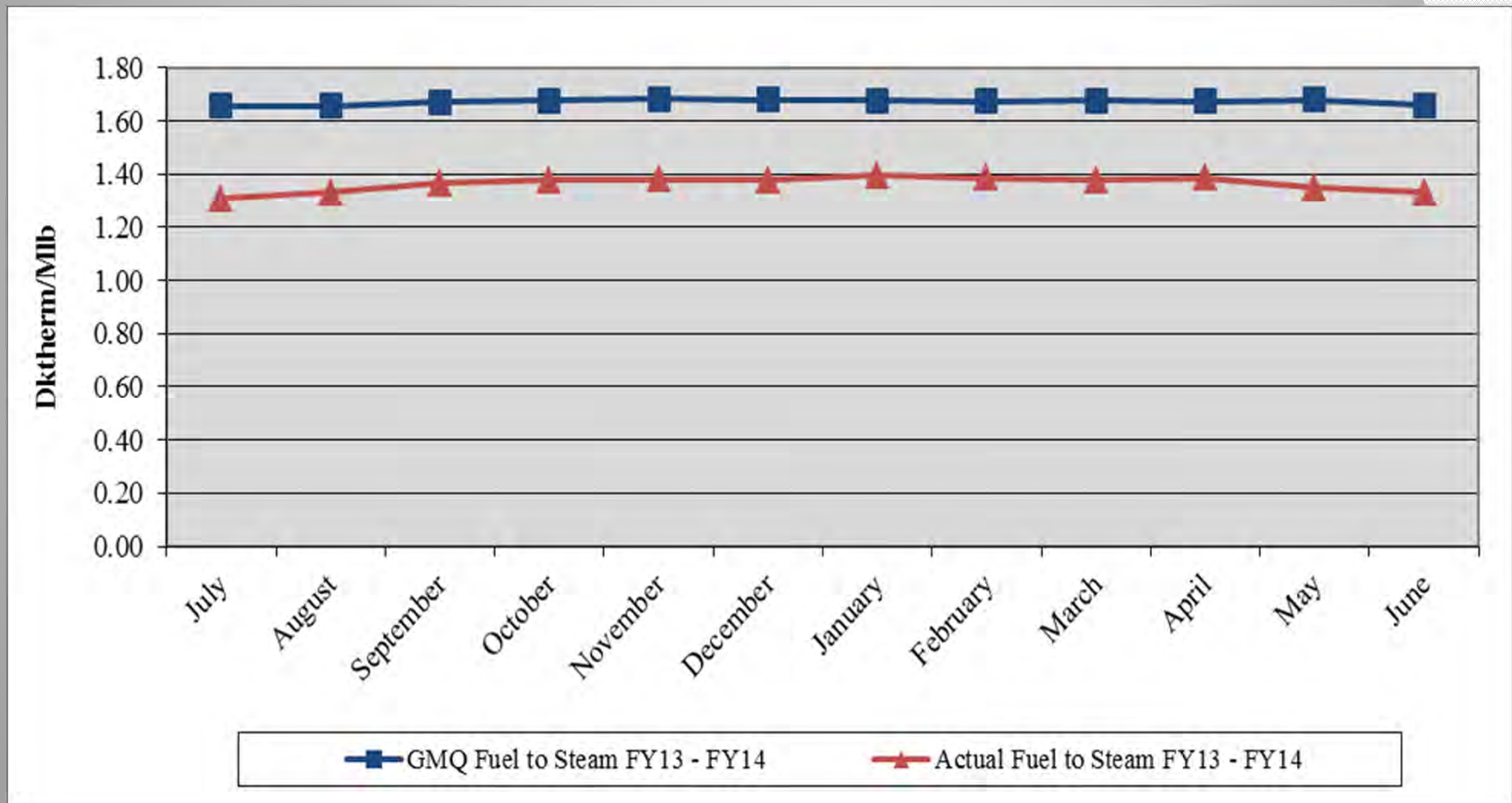
-  Excellent Performance – No Improvement Necessary
-  Satisfactory Performance – Some Improvement Could Be Made
-  Poor Performance – Much Improvement Necessary



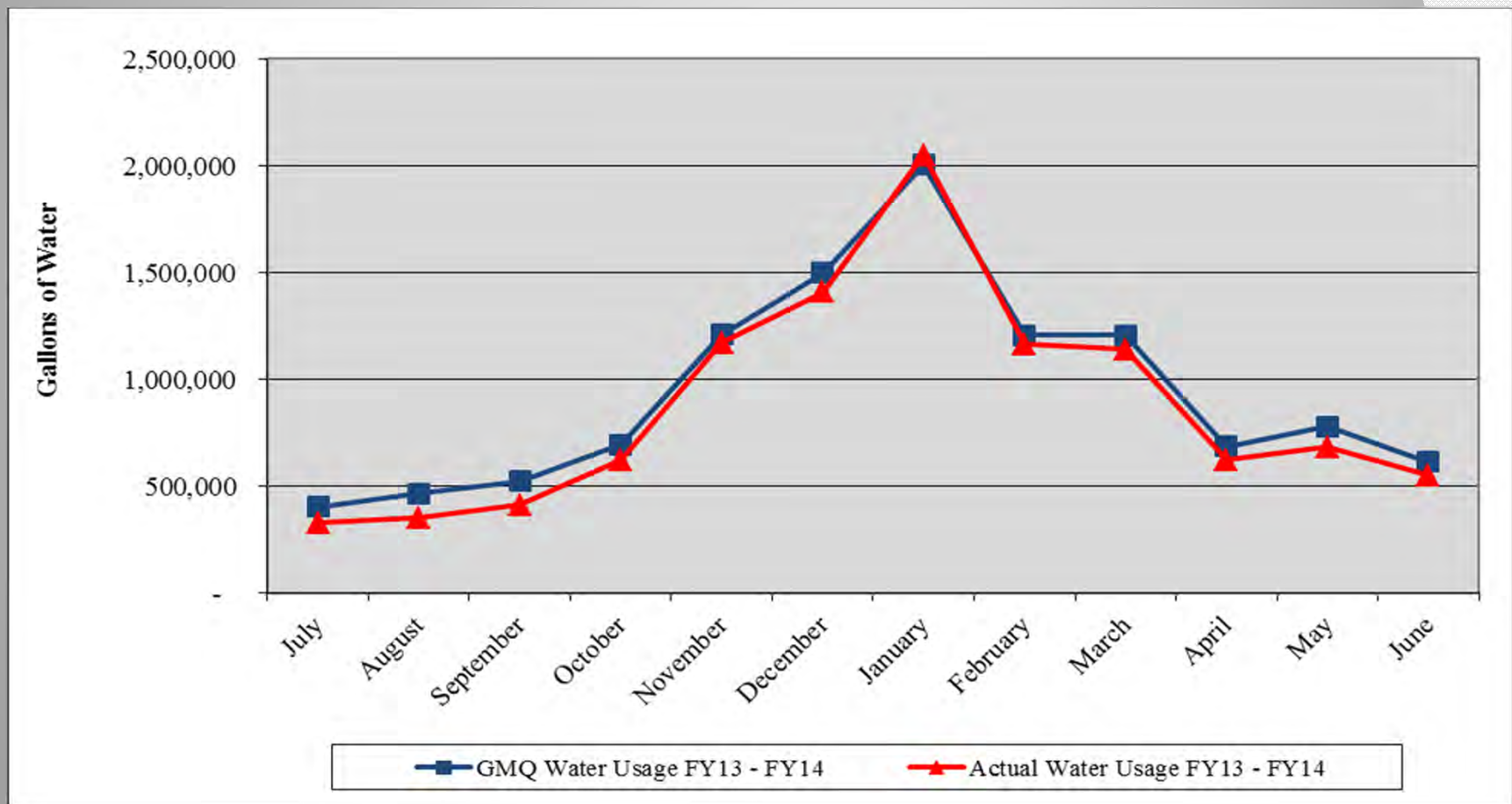
# Performance Measurement FY14: Steam Electric Conversion ●



# Performance Measurement FY14: Steam Plant Efficiency

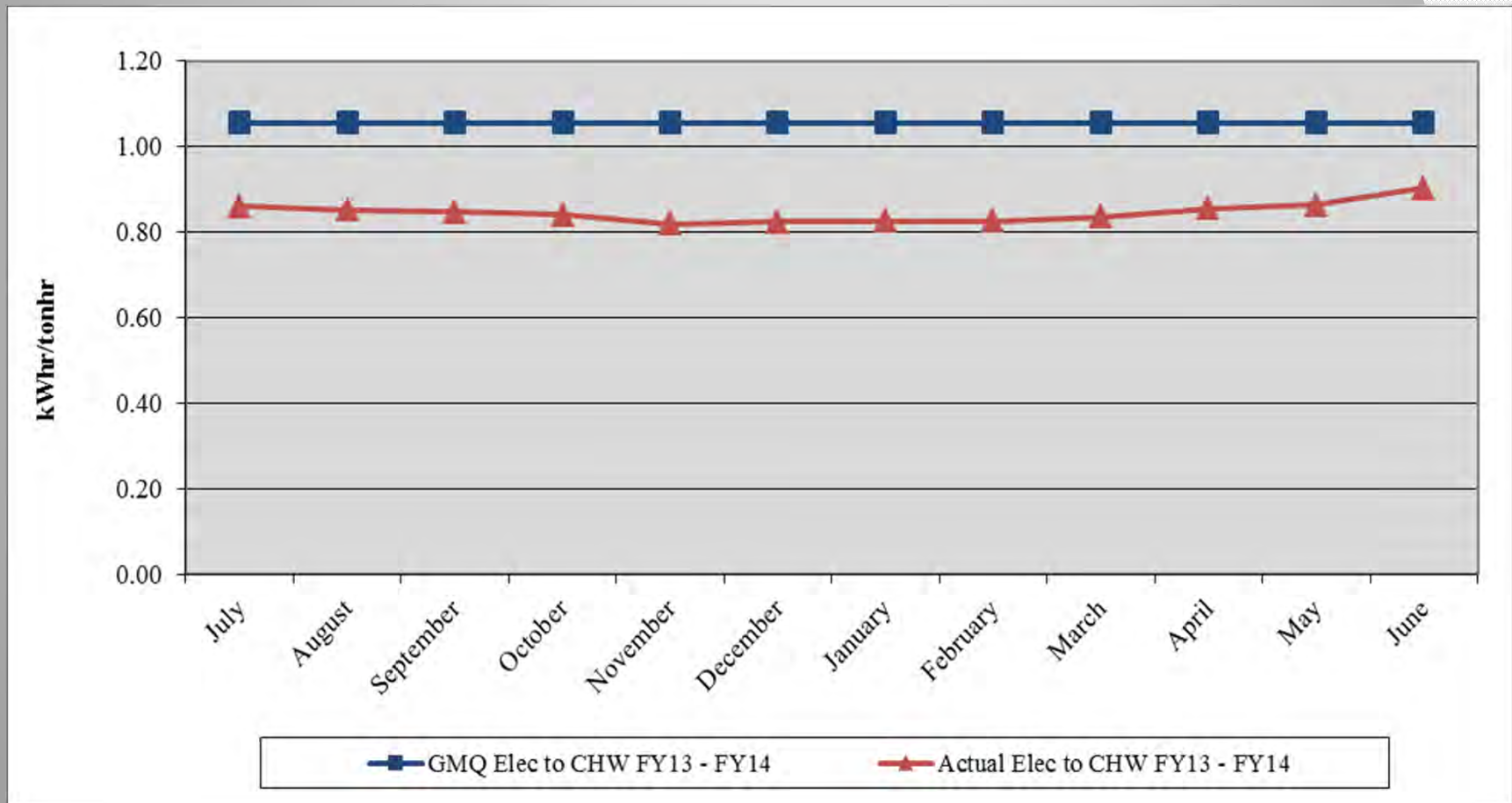


# Performance Measurement FY14: Steam Water Conversion

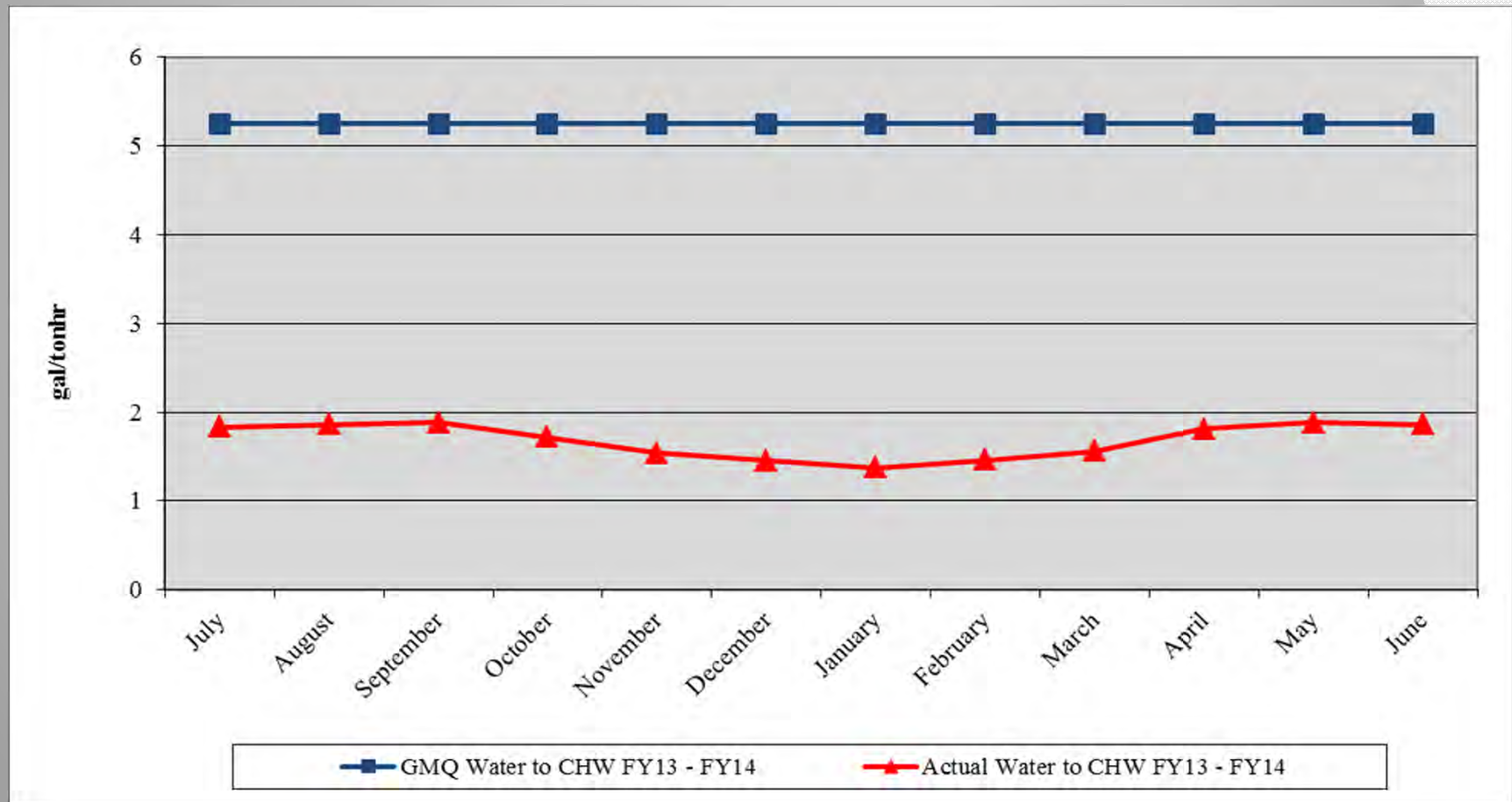




# Performance Measurement FY14: CHW Electric Conversion ●



# Performance Measurement FY14: 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 ●



## *5. Natural Gas Purchasing*

- ❖ Natural Gas Purchasing Review
  - ❖ Table 5: FY14 Gas Spending & Budget Comparison
  - ❖ Figure 5: Actual and Projected Gas Cost Comparison

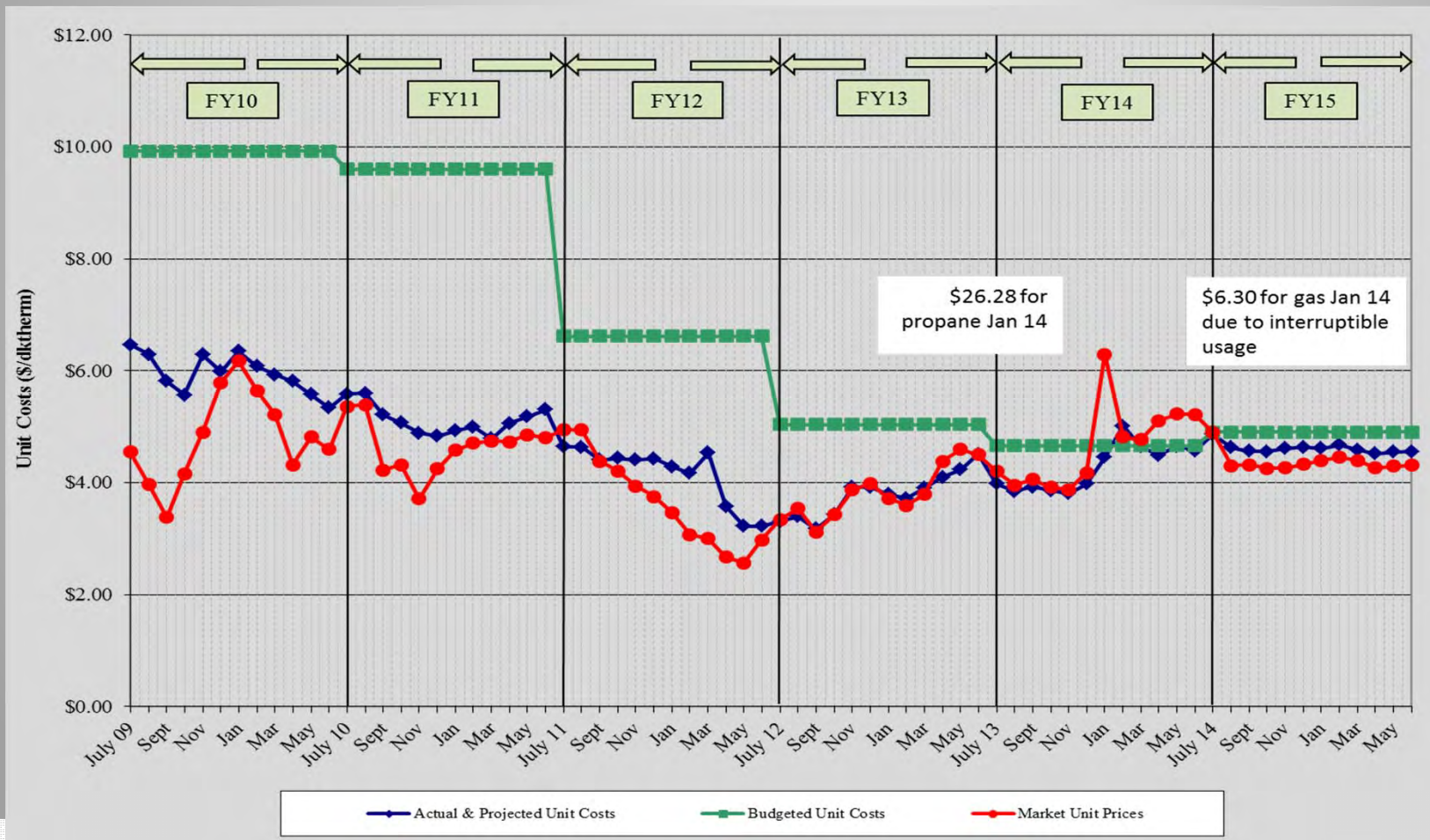


## Table 5: FY14 Gas Spending & Budget Comparison

		Actual FY14 To date (June 30)	Budget FY14	Percent Difference
Steam Sendout (Mlbs)		463,085	384,927	20.3%
Fuel Use (Dth) (includes propane)	●	635,611	539,260	17.9%
Plant Eff (Dth/Mlb)	●	1.373	1.401	-2.0%
Total Gas Cost (includes propane)	●	\$3,144,981	\$2,512,949	25.2%
Unit Cost of Fuel (\$/Dth)	●	\$4.948	\$4.660	6.2%

Excludes consultant fees and FEA and budget contingency

# Figure 5. Actual and Projected Gas Cost Comparison History





## 6. FY14 Costs to Date

Item	FY13 Actual	FY14 Budget	FY14 Actual to date	Percent of FY14 Budget
FOC's	\$ 4,401,100	\$ 4,583,500	\$ 4,471,266	97.55%
Pass Throughs				
Non-Energy	\$ 937,672	\$ 1,091,000	\$ 1,138,049	104.31%
Water/Sewer	\$ 501,903	\$ 714,300	\$ 486,375	68.09%
Natural Gas Base	\$ 2,491,106	\$ 2,515,126	\$ 2,772,022	110.21%
Natural Gas Contingency	\$ -	\$ 640,974	\$ 640,974	100.00%
Electricity	\$ 5,277,414	\$ 6,585,000	\$ 5,228,389	79.40%
Debt Service	\$ 4,209,145	\$ 5,518,700	\$ 5,558,719	100.73%
<b>Total Expenses</b>	<b>\$ 17,818,340</b>	<b>\$ 21,648,600</b>	<b>\$ 20,295,794</b>	<b>93.75%</b>
<b>Total Revenues</b>	<b>\$ 16,739,403</b>	<b>\$ 19,690,300</b>	<b>\$ 18,526,227</b>	<b>94.09%</b>
<b>Metro Funding Amount</b>	<b>\$ 1,078,937</b>	<b>\$ 1,958,300</b>	<b>\$ 1,958,300</b>	<b>100.00%</b>



## 7. FY15 Budget

Item	FY14 Budget	FY15 Budget	Percent Change
FOC's	\$ 4,583,500	\$ 4,606,800	0.51%
Pass Throughs			
Non-Energy	\$ 1,091,000	\$ 1,041,300	-4.56%
Water/Sewer	\$ 714,300	\$ 724,600	1.44%
Natural Gas Base	\$ 2,515,126	\$ 2,972,457	18.18%
Natural Gas Contingency	\$ 640,974	\$ 784,744	22.43%
Electricity	\$ 6,585,000	\$ 6,574,600	-0.16%
Debt Service	\$ 5,518,700	\$ 5,470,700	-0.87%
<b>Total Expenses</b>	<b>\$ 21,648,600</b>	<b>\$ 22,175,200</b>	<b>2.43%</b>
<b>Total Revenues</b>	<b>\$ 19,690,300</b>	<b>\$ 20,325,700</b>	<b>3.23%</b>
<b>Metro Funding Amount</b>	<b>\$ 1,958,300</b>	<b>\$ 1,849,500</b>	<b>-5.56%</b>

## 8. *Capital Expenditure Update*

	<b>Spent to End of FY13</b>	<b>FY14 Spending</b>	<b>Balance to Date (06/30/14)</b>
R&I Projects	\$2,181,091	\$112,168	\$208,525
49109-2010 Bond	\$1,888,400	\$2,857	\$518,743
49107-Customer Connection Fund	\$5,825,733	\$742,869	\$1,931,398
<b>Total</b>	<b>\$9,895,224</b>	<b>\$857,894</b>	<b>\$2,658,666</b>

# *Capital Projects Review*

## Active Capital Projects

- DES 061: MH & Tunnel Steel Corrosion Repair & Prevention – ongoing
- DES 104: TOU – developing TOU invoicing changes





# *Capital Projects Review*

## Capital Projects in Close-out

- DES 100: MH-10 Sump Pump and Roof Replacement
- DES 106: Customer Delta T Modifications



**Metro Nashville**  
DISTRICT ENERGY SYSTEM

## *9. Other Board Member Items*

## 10. *Adjourn*

- *Advisory Board Meeting Schedule*
- FY15 – 1<sup>st</sup> Quarter Meeting – November 20, 2014
- FY15 – 2<sup>nd</sup> Quarter Meeting – February 19, 2015
- FY15 – 3<sup>rd</sup> Quarter Meeting – May 21, 2015
- FY15 – 4<sup>th</sup> Quarter Meeting – August 20, 2015