

Metro Nashville
DISTRICT ENERGY SYSTEM



DES Advisory Board Meeting
Second Quarter FY13
February 21, 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. Capital Projects Review & Status Report Update
8. New Website Format
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 August CDD
- ❖ Figure 3B: Historic January HDD

Metro Nashville

DISTRICT ENERGY SYSTEM



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

		Steam - Rolling 12 Month			Chilled Water - Rolling 12 Month		
		Jan 2011 - Dec 2011	Jan 2012 - Dec 2012	% Diff.	Jan 2011 - Dec 2011	Jan 2012 - Dec 2012	% Diff.
Private	Cost	\$ 1,513,198	\$ 1,319,314	-12.81%	\$ 3,328,840	\$ 3,359,932	0.93%
	Usage (lbs or tonhrs)	85,554,418	77,575,803	-9.33%	17,297,332	18,005,960	4.10%
	Unit Cost	\$ 17.69	\$ 17.01	-3.8%	\$ 0.192	\$ 0.187	-3.0%
State	Cost	\$ 1,978,488	\$ 1,790,353	-9.51%	\$ 3,445,895	\$ 3,440,191	-0.17%
	Usage (lbs or tonhrs)	99,028,505	91,611,133	-7.49%	17,072,222	17,144,596	0.42%
	Unit Cost	\$ 19.98	\$ 19.54	-2.2%	\$ 0.202	\$ 0.201	-0.6%
Metro	Cost	\$ 1,787,846	\$ 1,865,238	4.33%	\$ 3,885,384	\$ 4,245,321	9.26%
	Usage (lbs or tonhrs)	91,922,769	116,202,003	26.41%	21,249,225	25,212,490	18.65%
	Unit Cost	\$ 19.45	\$ 16.05	-17.5%	\$ 0.183	\$ 0.168	-7.9%
Aggregate	Cost	\$ 5,279,532	\$ 4,974,905	-5.77%	\$ 10,660,119	\$ 11,045,444	3.61%
	Usage (lbs or tonhrs)	276,505,692	285,388,939	3.21%	55,618,779	60,363,046	8.53%
	Unit Cost	\$ 19.09	\$ 17.43	-8.7%	\$ 0.192	\$ 0.183	-4.53%

MFA not included in values shown

Metro Nashville DISTRICT ENERGY SYSTEM



Figure 3A: Historic August CDD

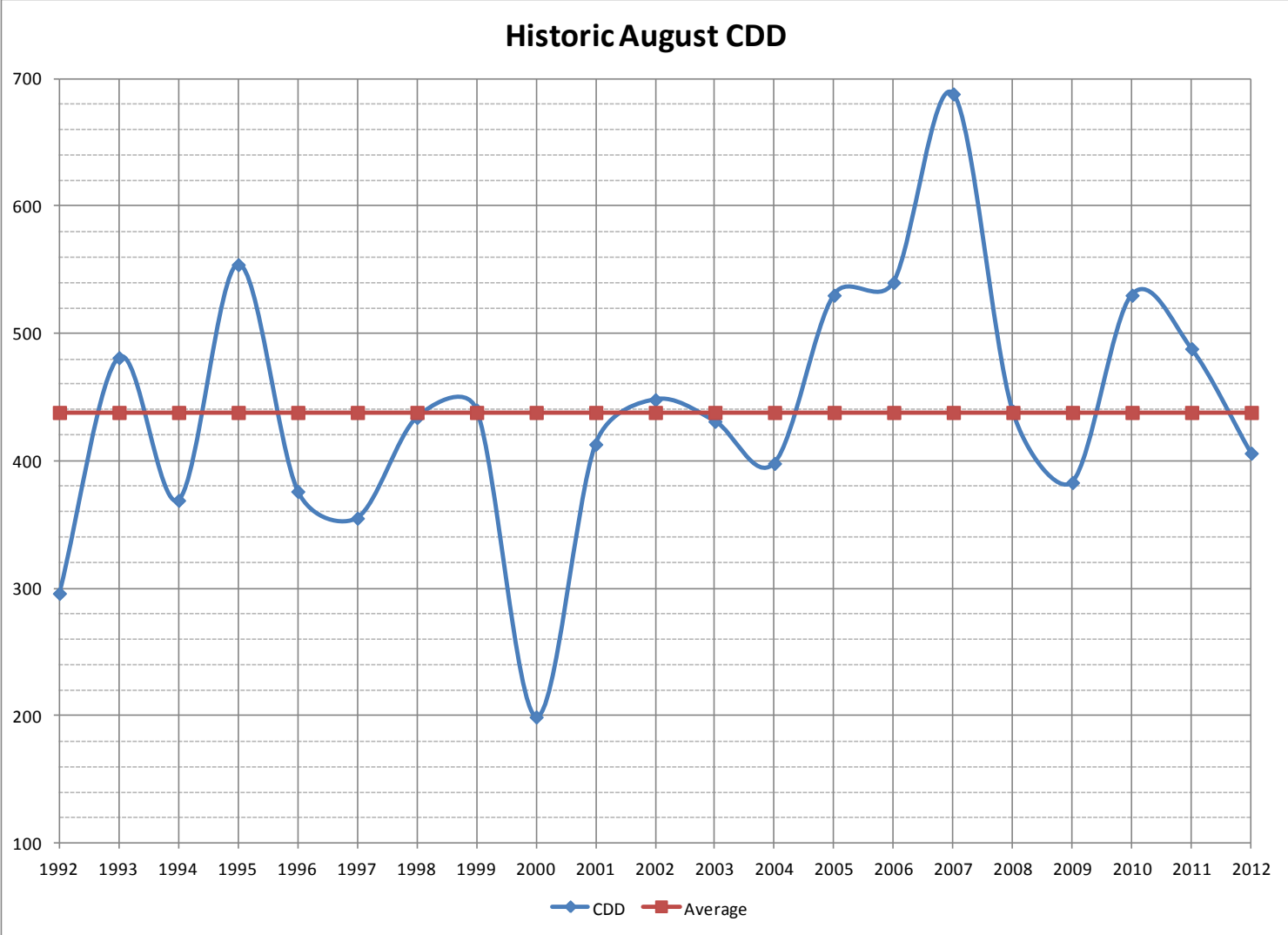
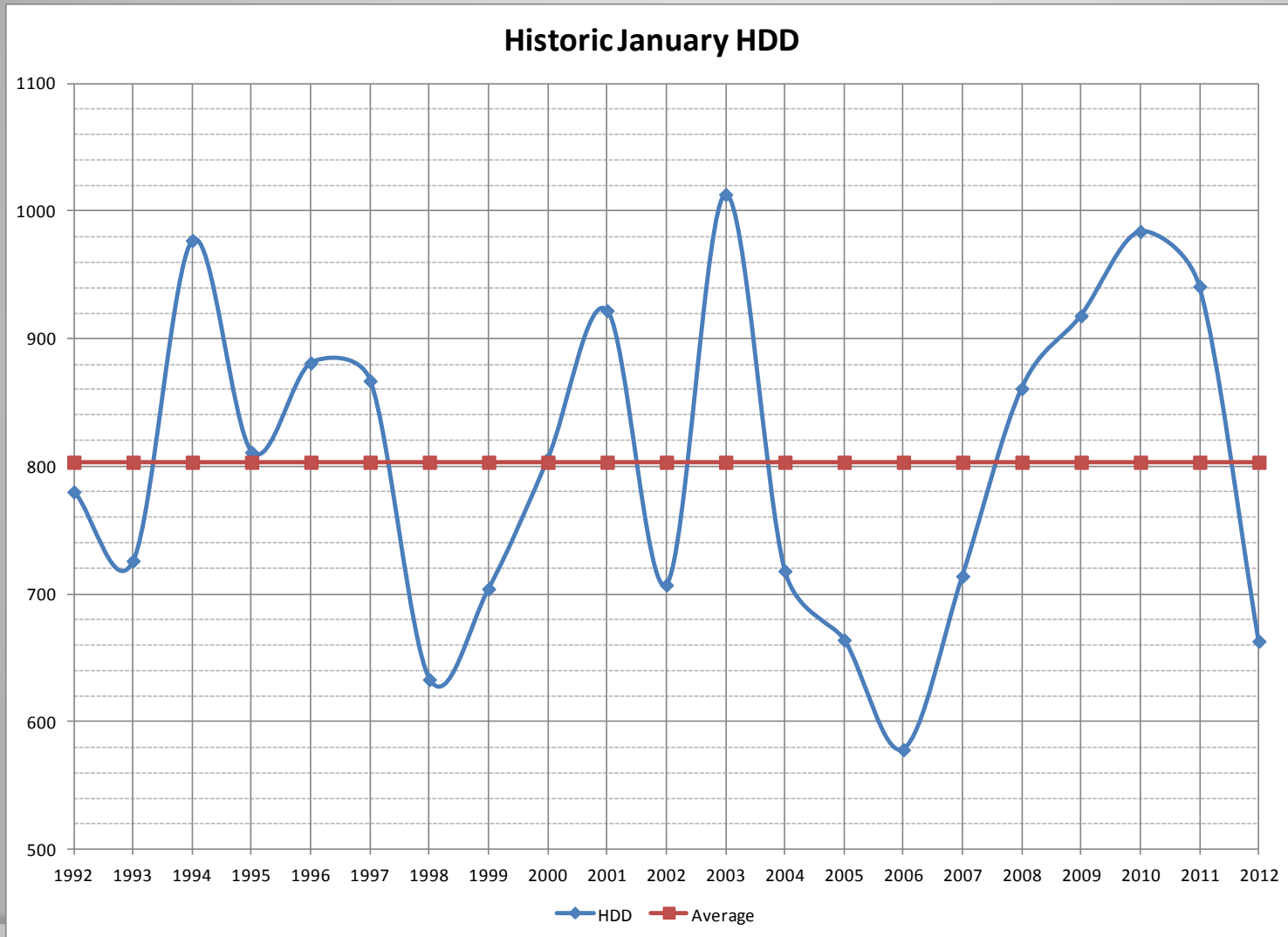







Figure 3B: Historic January HDD





4. *Review of DES Contractor Performance*

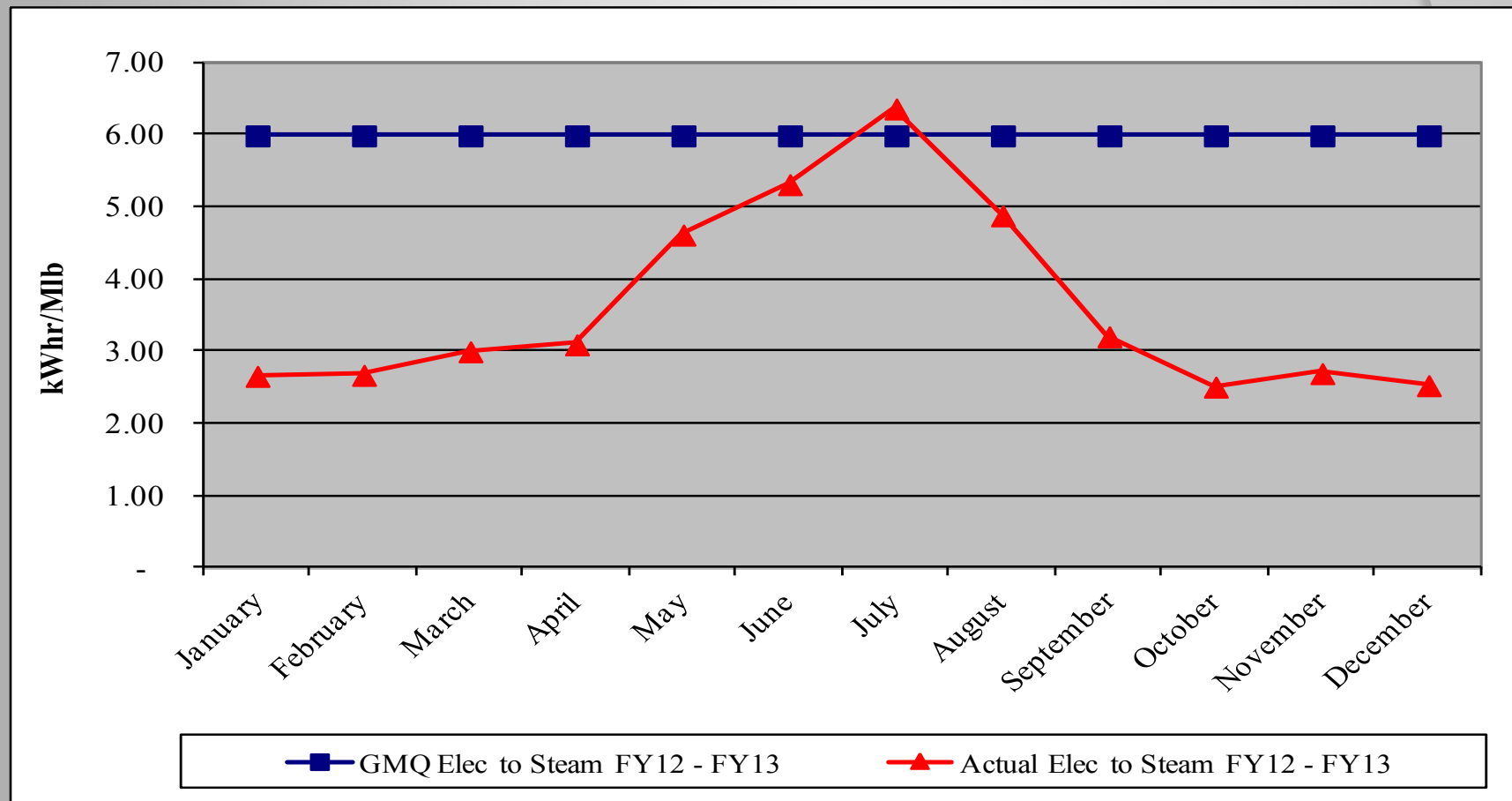
Contractor (CNE) is in compliance with their contractual obligations for FY13.

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

Metro Nashville DISTRICT ENERGY SYSTEM



Performance Measurement FY13: Steam Electric Conversion ●

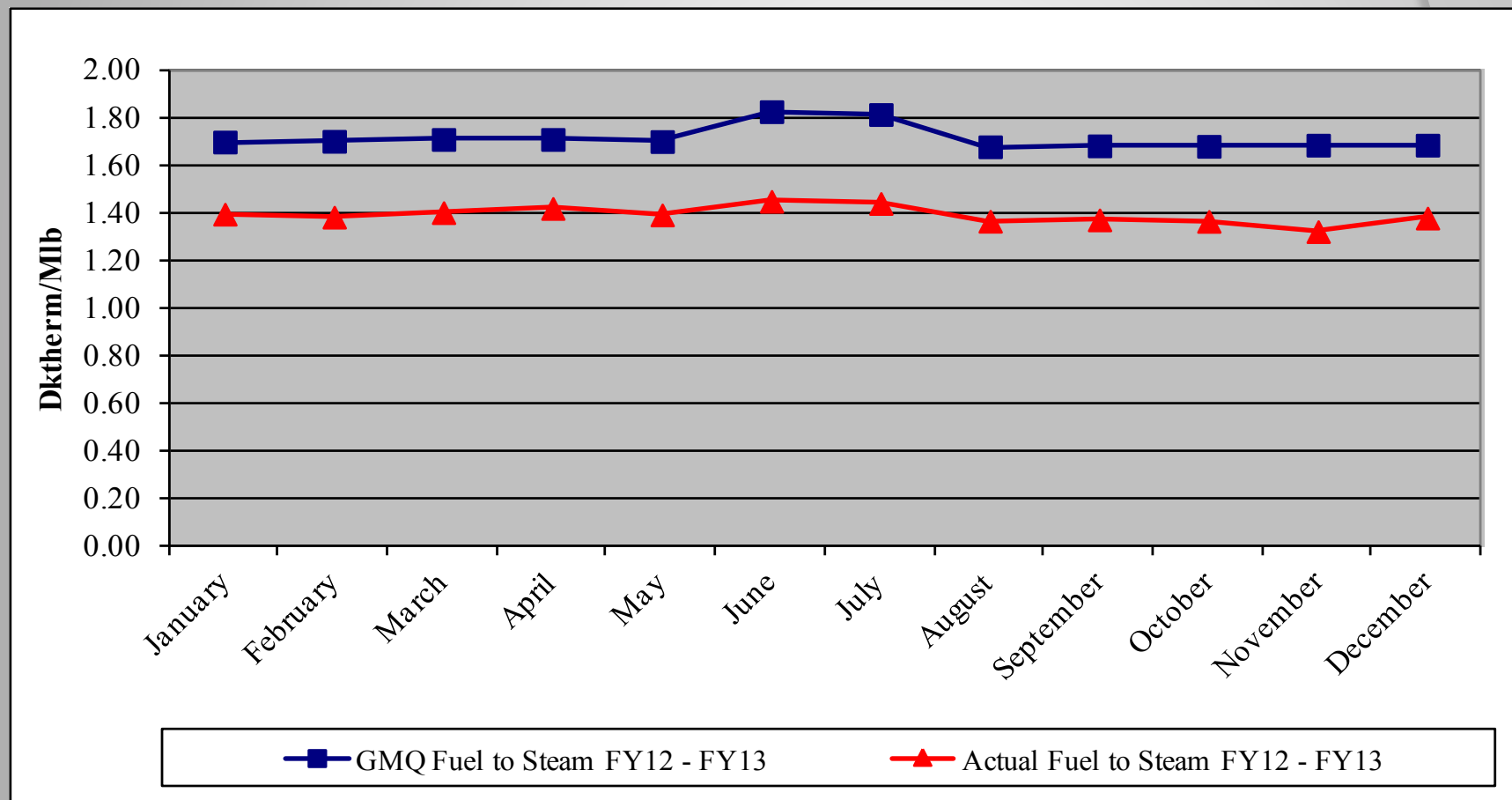


Metro Nashville

DISTRICT ENERGY SYSTEM



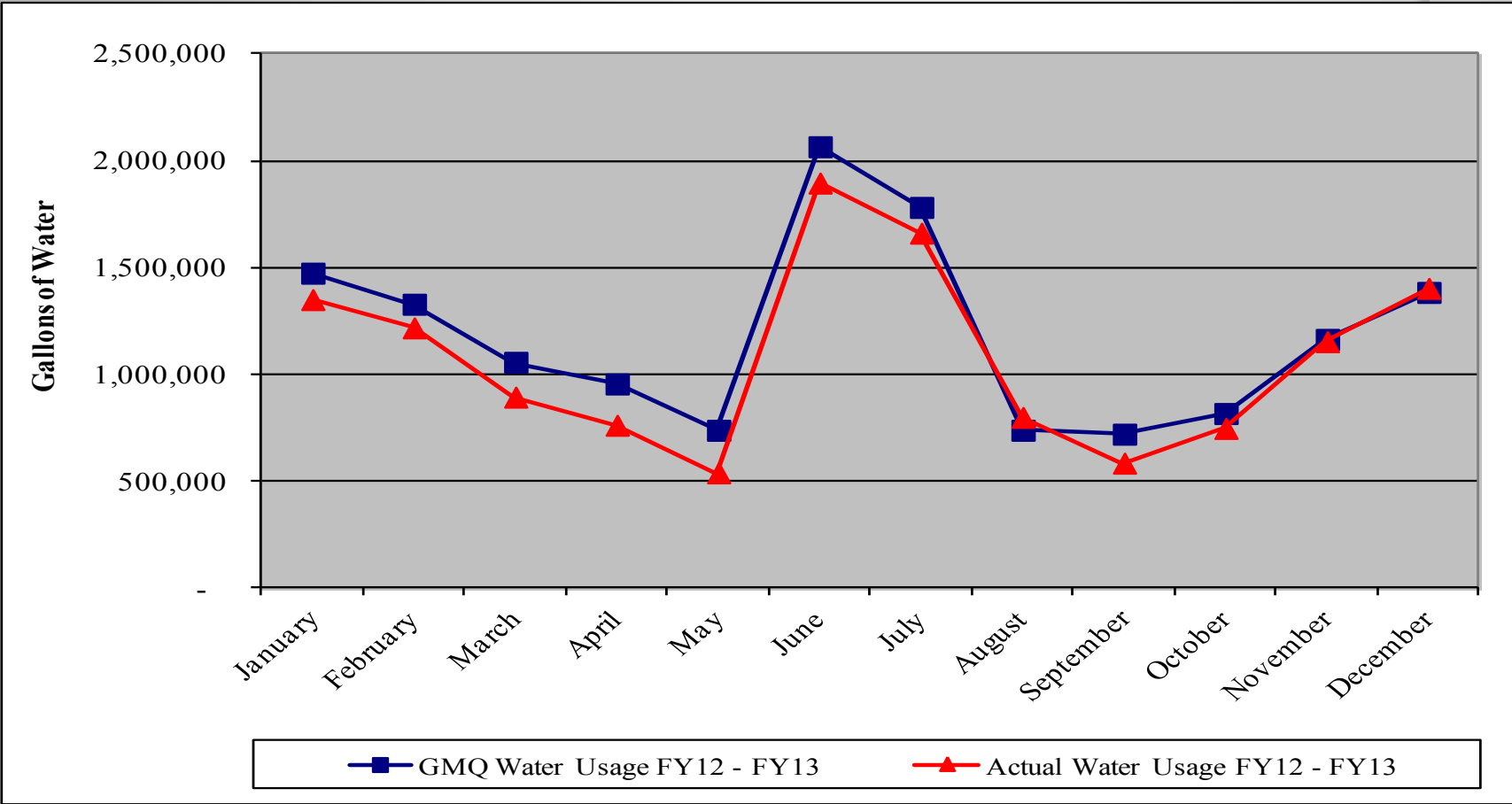
Performance Measurement FY13: Steam Plant Efficiency



Metro Nashville DISTRICT ENERGY SYSTEM



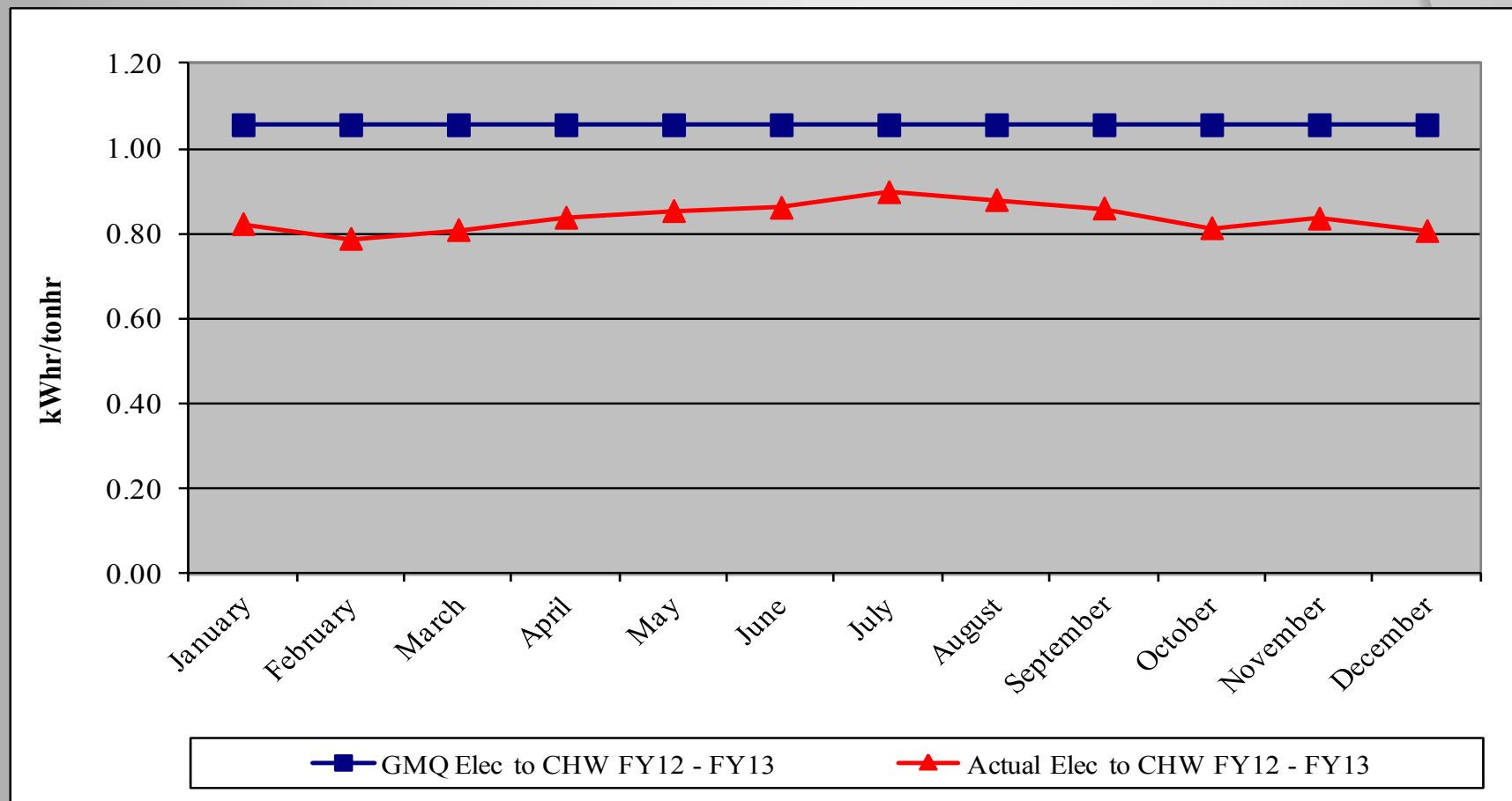
Performance Measurement FY13: Steam Water Conversion



Metro Nashville DISTRICT ENERGY SYSTEM

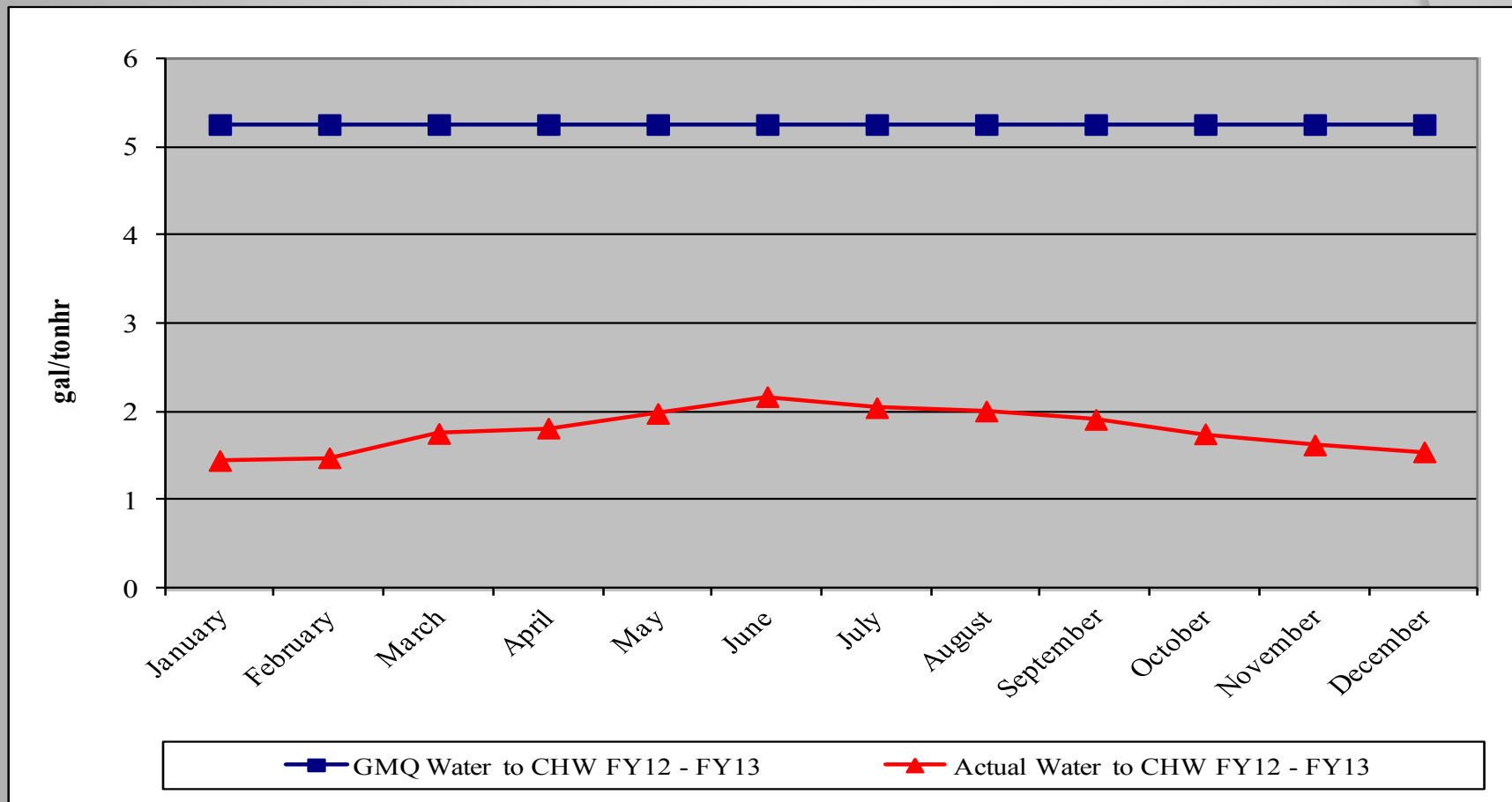


Performance Measurement FY13: CHW Electric Conversion ●





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

Metro Nashville

DISTRICT ENERGY SYSTEM



Table 5: FY13 Gas Spending & Budget Comparison

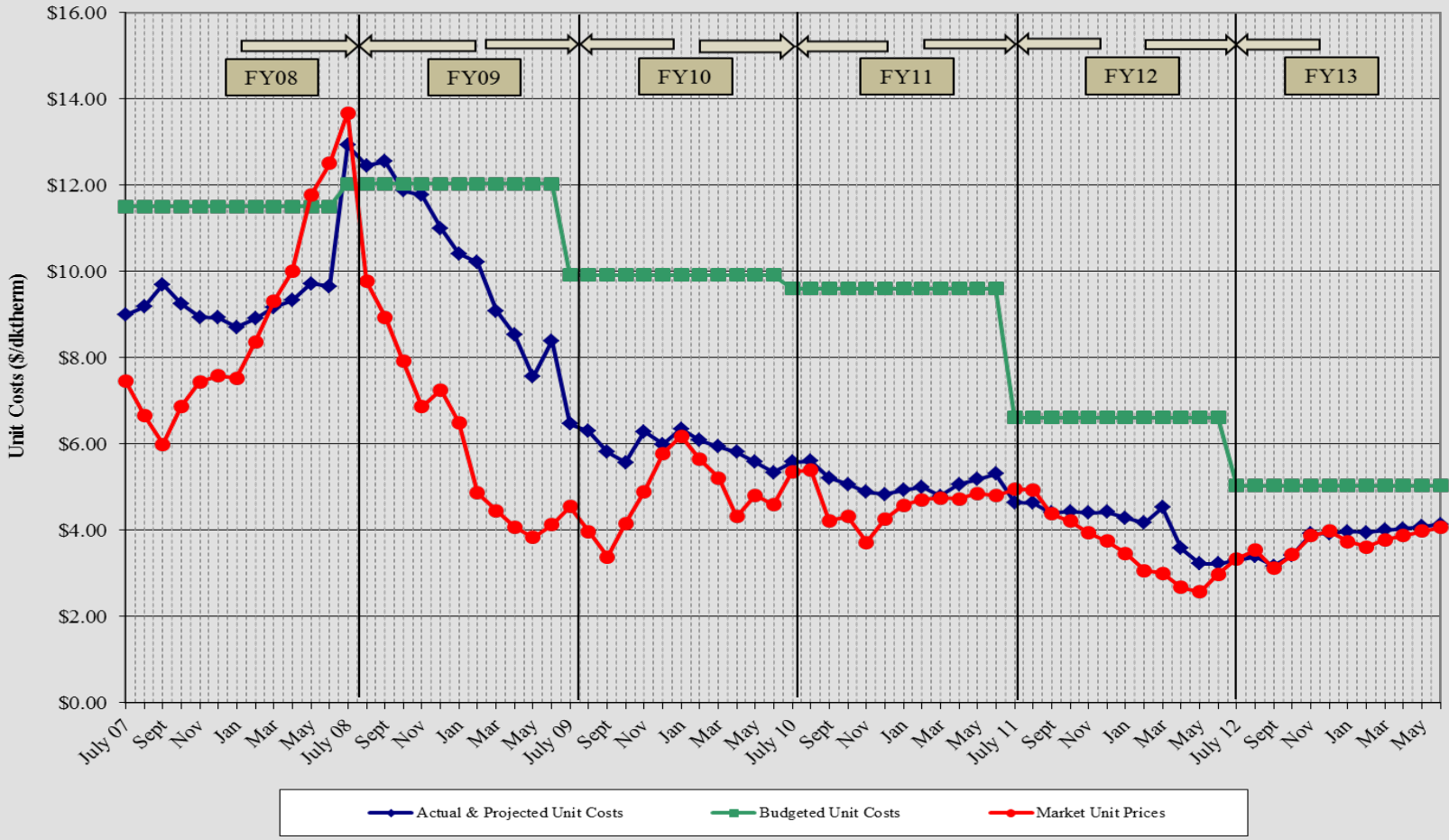
	Actual FY13 To date (Dec 31)	Budget FY13	Percent Difference
Steam Sendout (Mlbs)	181,081	152,457	-18.8%
Fuel Use (Dth) (includes propane)	● 246,974	211,000	-17.0%
Plant Eff (Dth/Mlb)	● 1.364	1.384	1.4%
Total Gas Cost (includes propane)	● \$1,006,312	\$1,063,018	5.3%
Unit Cost of Fuel (\$/ Dth)	● \$4.075	\$5.038	19.1%

Excludes consultant fees and FEA

Metro Nashville DISTRICT ENERGY SYSTEM



Figure 5A. Actual and Projected Gas Cost Comparison History



Metro Nashville

DISTRICT ENERGY SYSTEM



6. FY13 Costs to Date

Item	FY12 Actual	FY13 Budget	FY13 Actual to date	Percent of FY13 Budget
FOC's	\$ 4,303,100	\$ 4,303,100	\$2,195,495	51.02%
Pass Throughs				
Non-Energy	\$ 842,241	\$ 1,031,400	\$ 318,847	30.91%
Water/Sewer	\$ 433,255	\$ 597,700	\$ 303,826	50.83%
Natural Gas Base	\$ 2,025,943	\$ 2,129,500	\$1,012,875	47.56%
Natural Gas Contingency	\$ -	\$ 1,809,800	\$ -	0.00%
Electricity	\$ 4,737,502	\$ 5,192,900	\$3,014,399	58.05%
Debt Service	\$ 4,928,191	\$ 5,021,600	\$1,926,236	38.36%
Total Expenses	\$17,270,232	\$20,086,000	\$8,771,676	43.67%
Total Revenues	\$15,644,921	\$17,723,000	\$8,478,191	47.84%
Metro Funding Amount	\$ 2,363,000	\$ 2,363,000	\$1,157,828	49.00%



7. Capital Expenditure Update

	Spent to End of FY12	FY13 Spending	Balance to Date (01/31/13)
R&I Projects	\$1,543,008	\$549,243	\$32,465
2005B Bond	\$8,186,500	\$0	\$0
2010 Bond	\$1,876,222	\$5,701	\$528,077
MCCC Fund	\$5,264,022	\$120,165	\$3,115,814
Total	\$16,869,752	\$675,109	\$3,676,356



Capital Projects Review

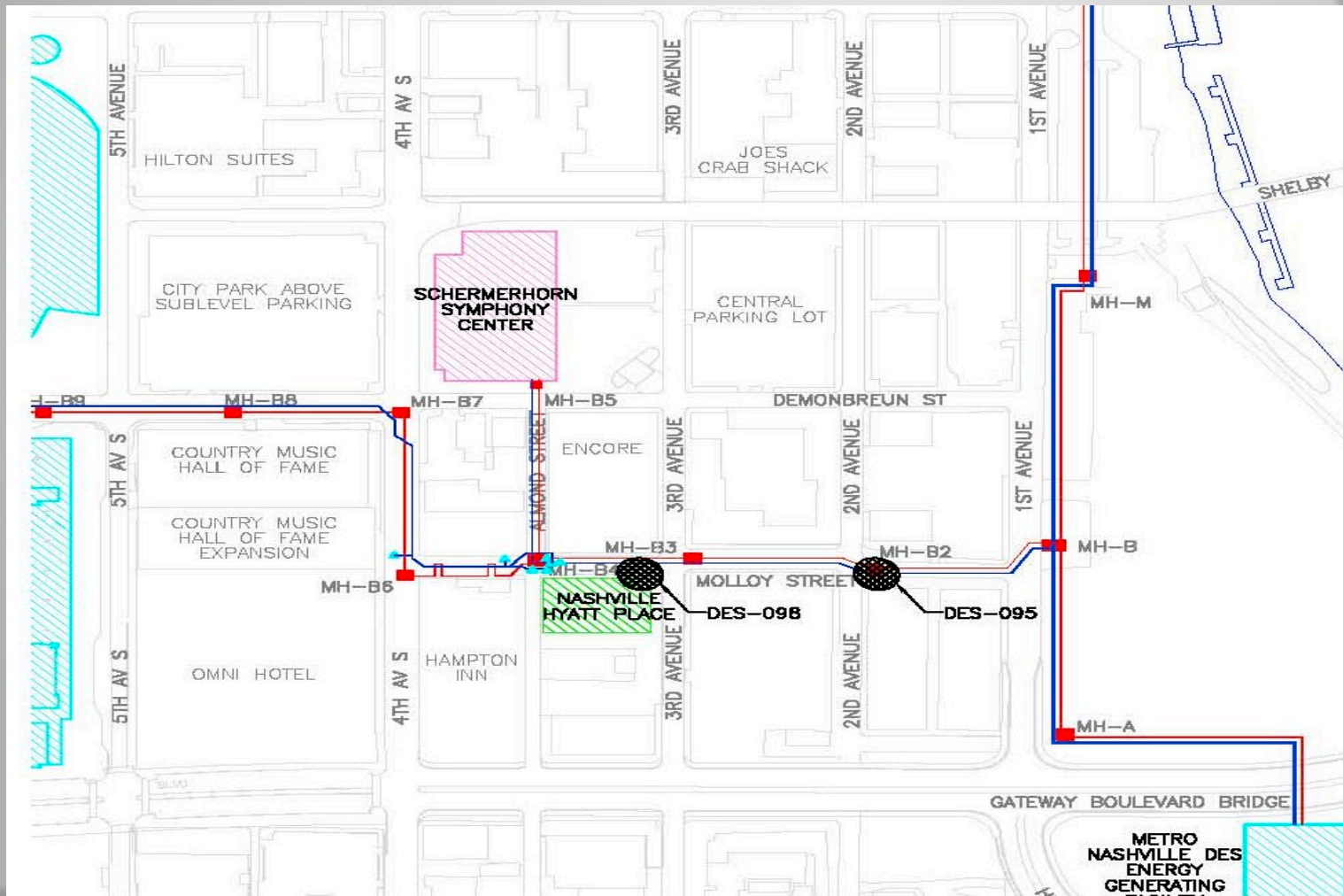
Active Capital Projects

- DES 061: MH & Tunnel Steel Corrosion Repair & Prevention – ongoing
- DES 080: Misc. MH & Tunnel Safety Repairs – in closeout
- DES 091: TOU and Thermal Storage – developing TOU customer rates
- DES 094: Molloy Street Exploratory Dig – in closeout
- DES 095: MH B2 Water Infiltration Remediation – in closeout
- DES 098: Service Connection to Nashville Hyatt Place – complete; waiting for instrumentation installation – coordinating with building contractor
- DES 100: MH-10 Sump Pump – in design

Metro Nashville DISTRICT ENERGY SYSTEM



Active Capital Projects





Capital Projects Review

Capital Projects in Close-out

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



8. New Website Format

- ❖ Randall Pomeroy with Pomeroy Marketing and Communications to present changes to DES website
- ❖ <http://www.nashville.gov/District-Energy-System.aspx>



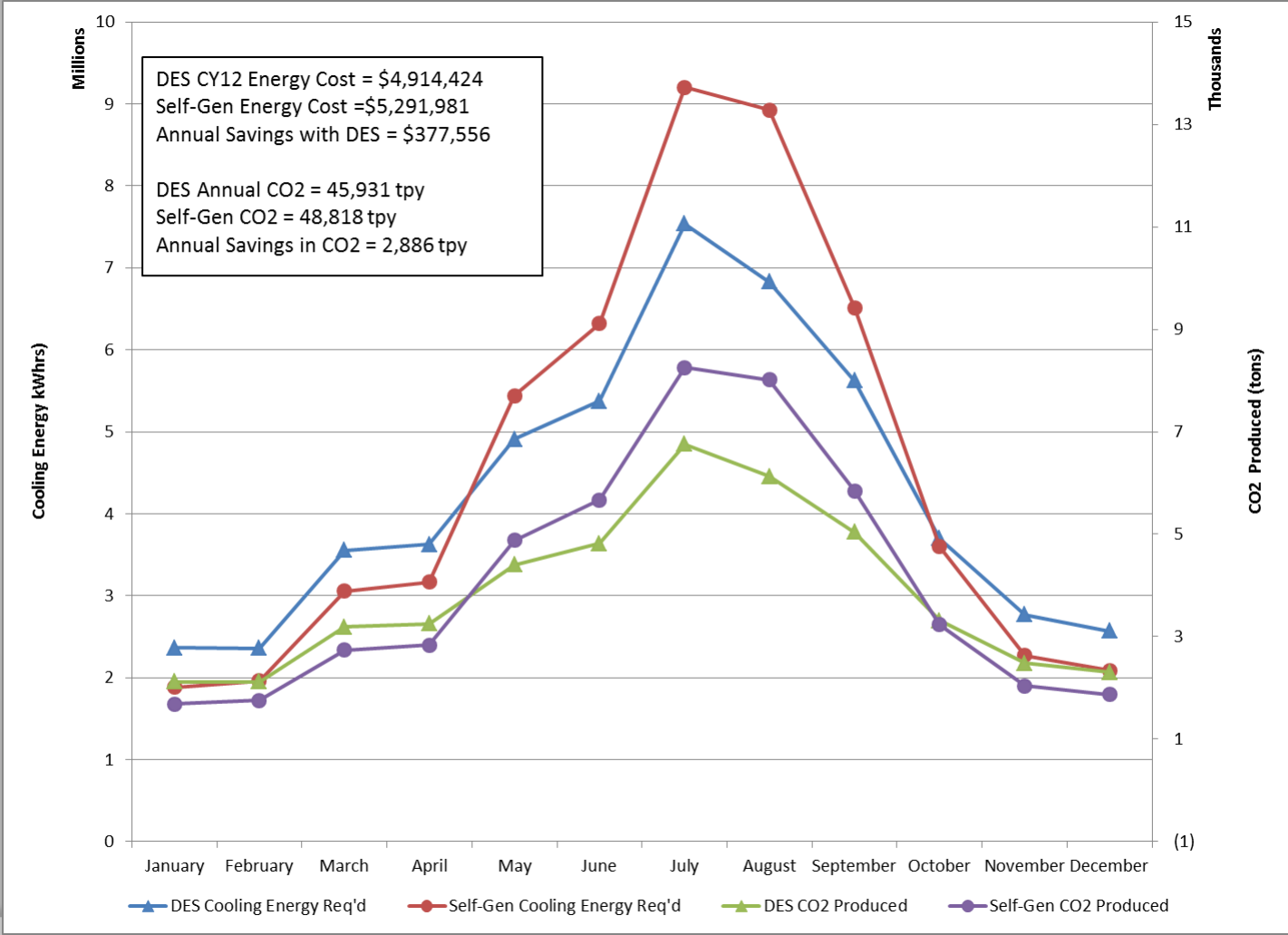
9. *Other Board Member Items*

- ❖ Avoided Energy Costs and CO₂ Production Related to the Self-Generation of Heating and Cooling with In-building Equipment
- ❖ Fig 9A: Cooling Comparison for CY12
- ❖ Fig 9B: Heating Comparison for CY12

Metro Nashville DISTRICT ENERGY SYSTEM



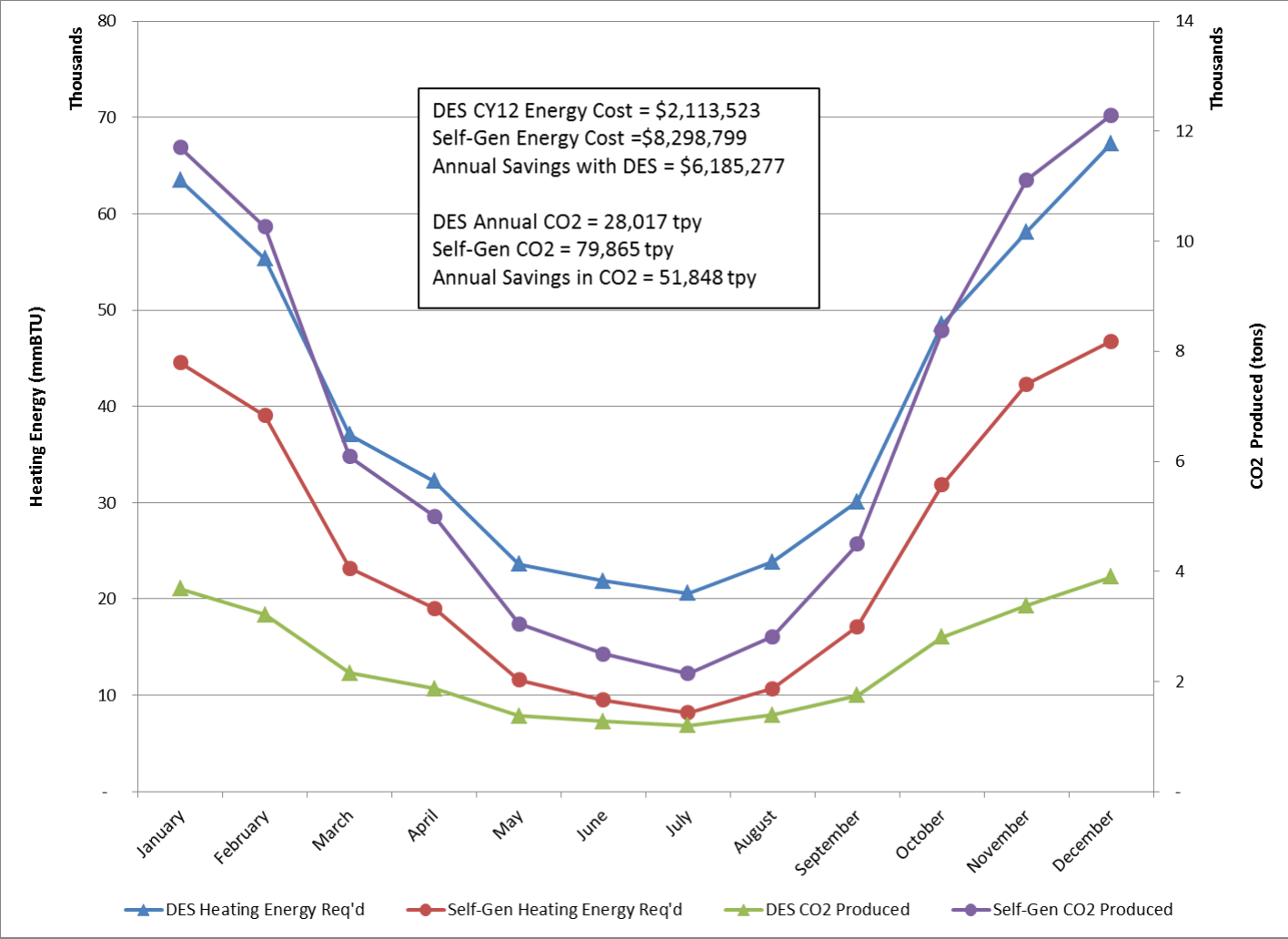
Fig 9A: Cooling Comparison for CY12



Metro Nashville DISTRICT ENERGY SYSTEM



Fig 9B: Heating Comparison for CY12





New Board Member Items

Customer Meeting – March 21, 2013 at 12:30 pm

10. Adjourn

- *Advisory Board Meeting Schedule*
- FY13 – 3rd Quarter Meeting – May 16, 2013
- FY13 – 4th Quarter Meeting – August 15, 2013
- FY14 – 1st Quarter Meeting – November 21, 2013
- FY14 – 2nd Quarter Meeting – February 20, 2014