



Metro Nashville
DISTRICT ENERGY SYSTEM

DES Advisory Board Meeting
Second Quarter FY17
February 16, 2017

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. FY17 Costs to Date
7. Capital Projects Review & Status
8. Other Board Member Items
 - *Update of RFQ on Third Party Review of DES Options*
 - *Executive Order 015 – DES Advisory Board*
 - *Issuance of RFP for Contract Administrator*
9. Adjourn

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

3. *Customer Sales*

- ❖ Table 3: Customer Cost Comparison
- ❖ Figure 3A: Historic EGF Water Usage
- ❖ Figure 3B: Historic EGF Water Costs
- ❖ Figure 3C: Historic EDS Make-up

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

		Steam - Rolling 12 Month			Chilled Water - Rolling 12 Month		
		Jan 2015 - Dec 2015	Jan 2016 - Dec 2016	% Diff.	Jan 2015 - Dec 2015	Jan 2016 - Dec 2016	% Diff.
Private	Cost	\$ 1,548,978	\$ 1,359,219	-12.25%	\$ 3,596,042	\$ 3,556,100	-1.11%
	Usage (lbs or tonhrs)	92,608,318	92,692,969	0.09%	18,147,511	19,311,054	6.41%
State	Cost	\$ 1,908,412	\$ 1,656,021	-13.23%	\$ 3,367,688	\$ 3,247,738	-3.56%
	Usage (lbs or tonhrs)	102,080,034	96,254,500	-5.71%	14,313,369	14,153,213	-1.12%
Metro	Cost	\$ 2,240,299	\$ 2,112,613	-5.70%	\$ 5,479,252	\$ 5,429,446	-0.91%
	Usage (lbs or tonhrs)	138,581,290	161,579,279	16.60%	27,290,066	30,067,129	10.18%
Aggregate	Cost	\$ 5,697,689	\$ 5,127,853	-10.00%	\$ 12,442,982	\$ 12,233,285	-1.69%
	Usage (lbs or tonhrs)	333,269,642	350,526,748	5.18%	59,750,946	63,531,396	6.33%
	Unit Cost	\$ 17.10	\$ 14.63	-14.4%	\$ 0.208	\$ 0.193	-7.54%

MFA not included in values shown

Figure 3A: Historic EGF Water Usage

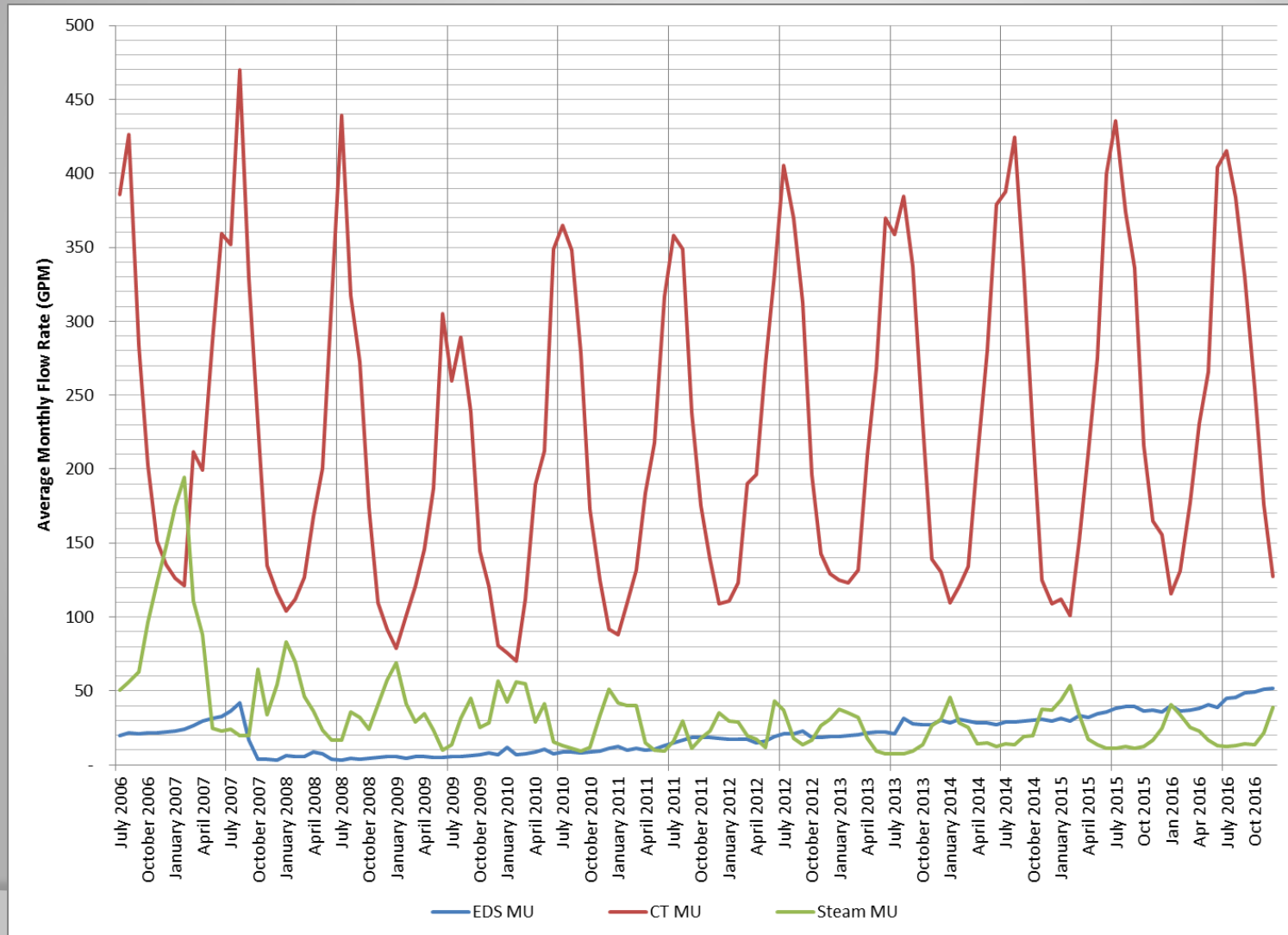


Figure 3B: Historic EGF Water Costs

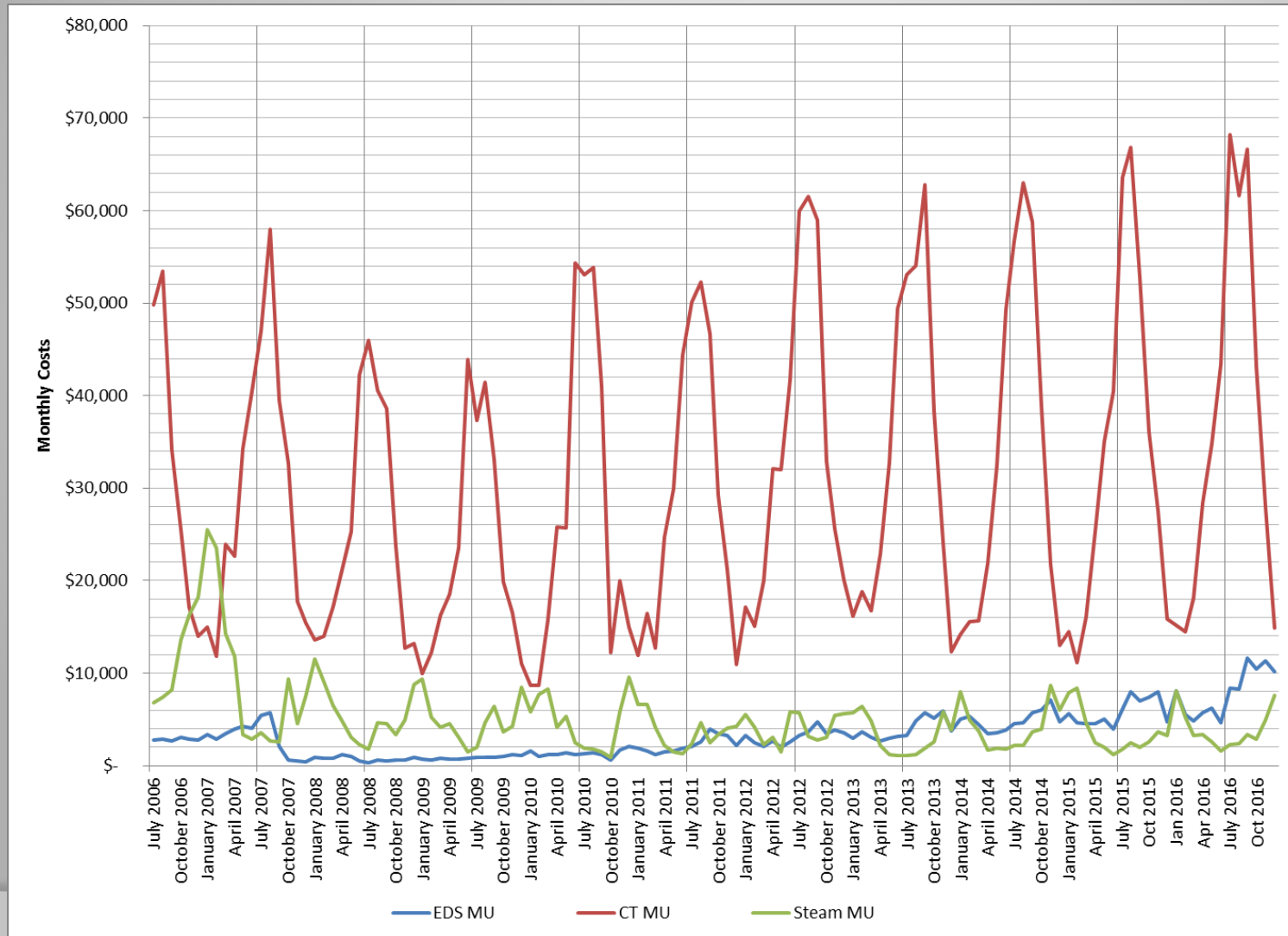
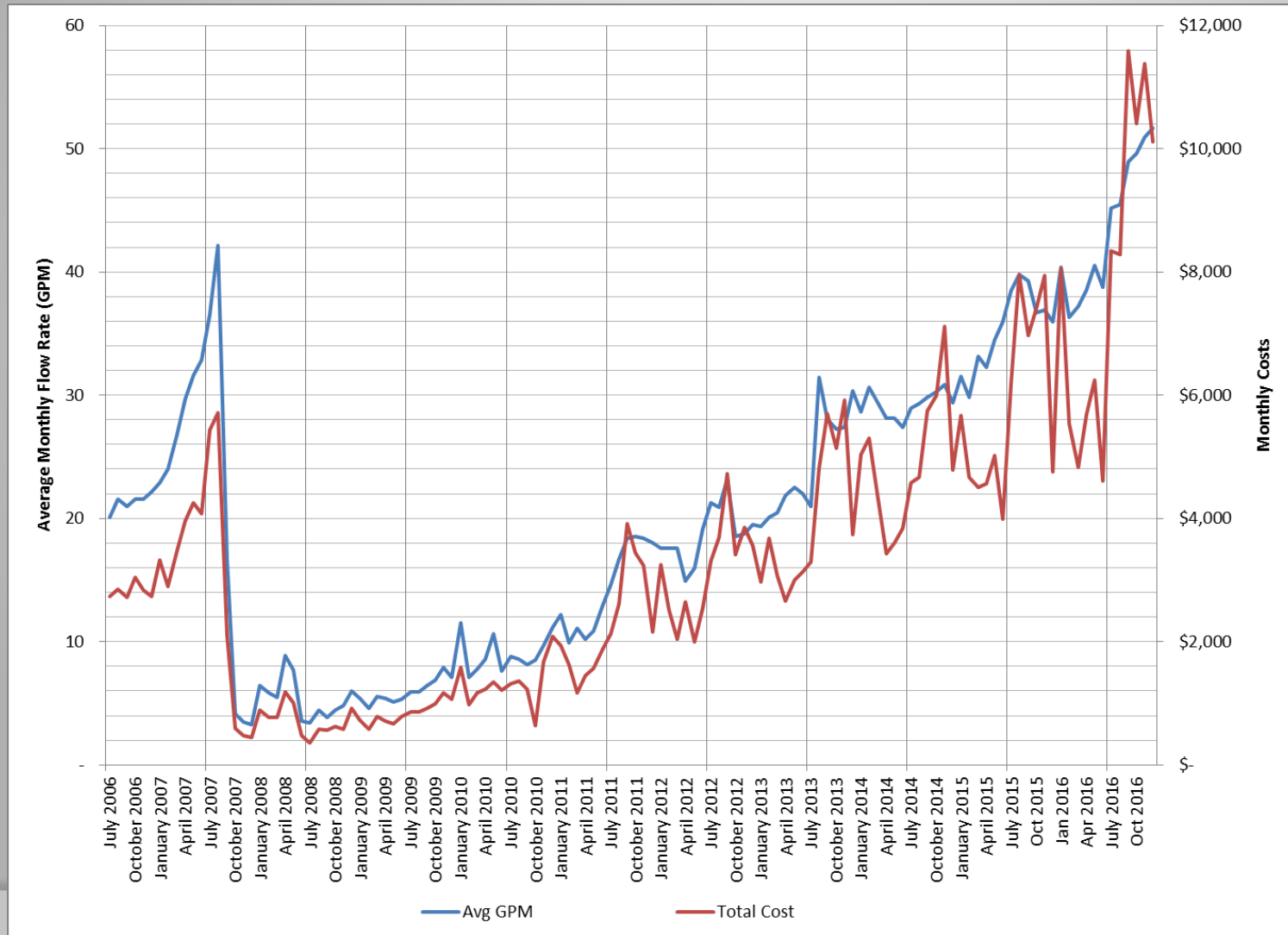





Figure 3C: Historic EDS Make-up

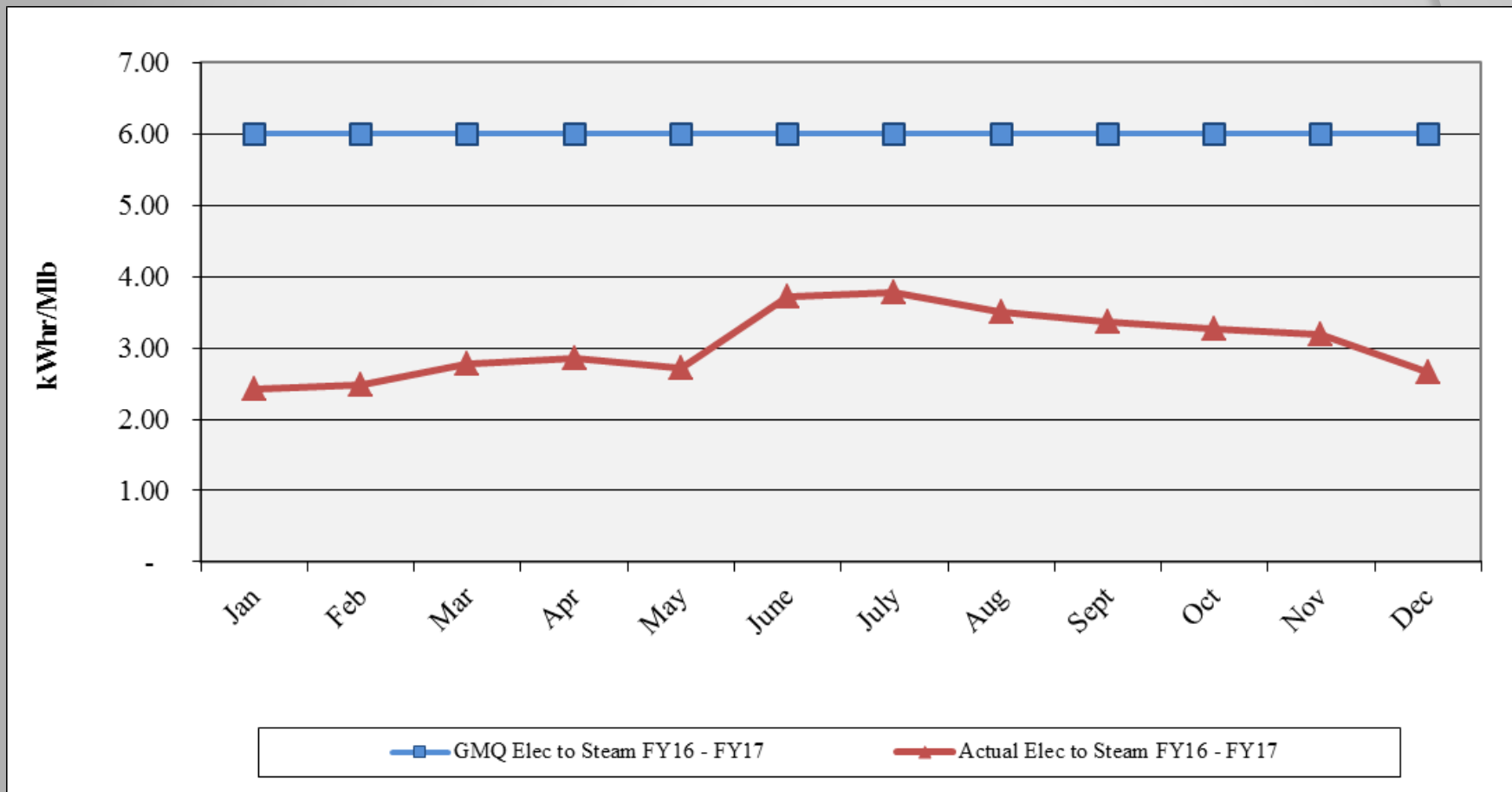


4. *Review of DES Contractor Performance*

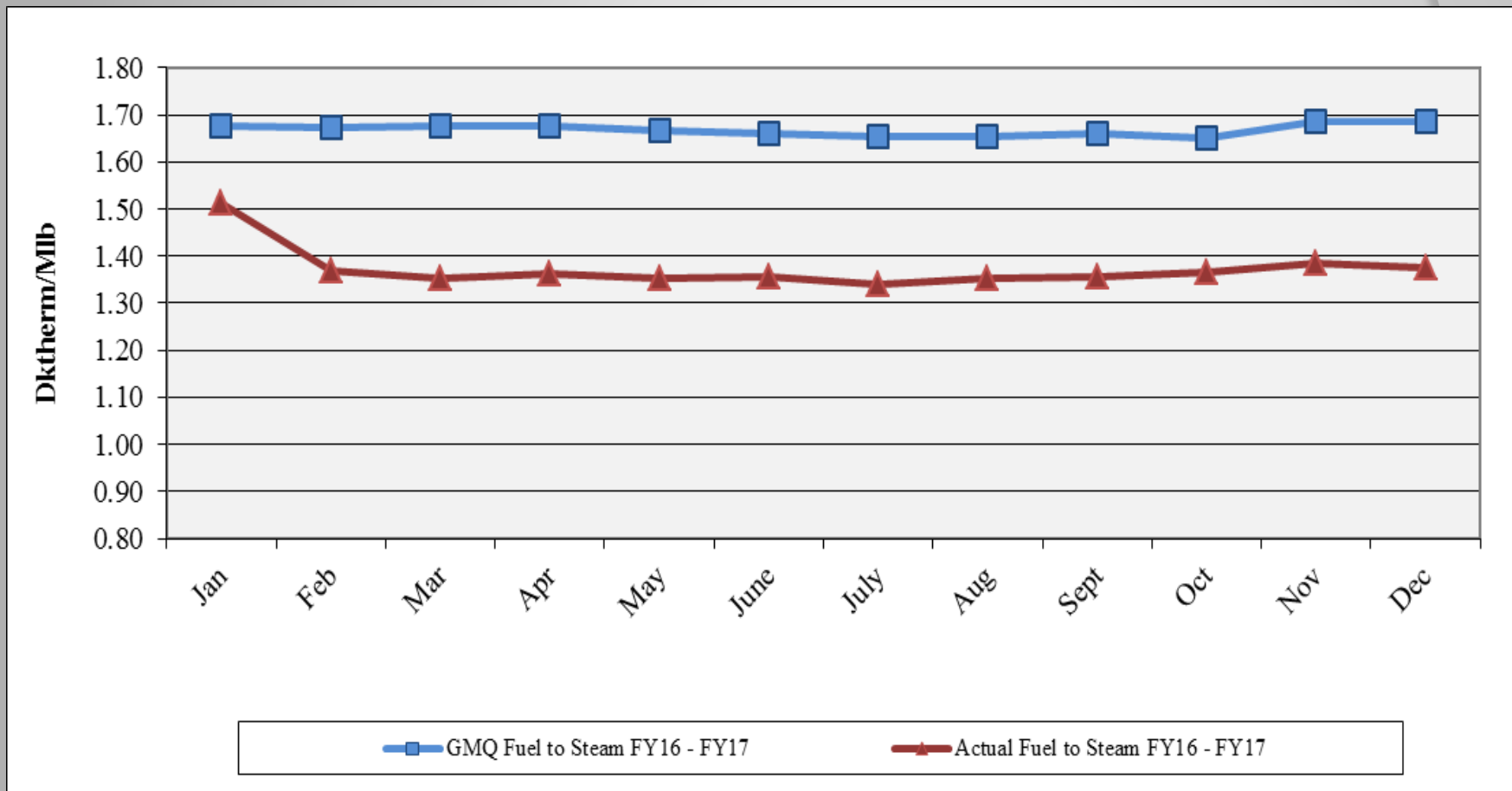
Contractor (CNE) is in compliance with their contractual obligations for FY17.

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

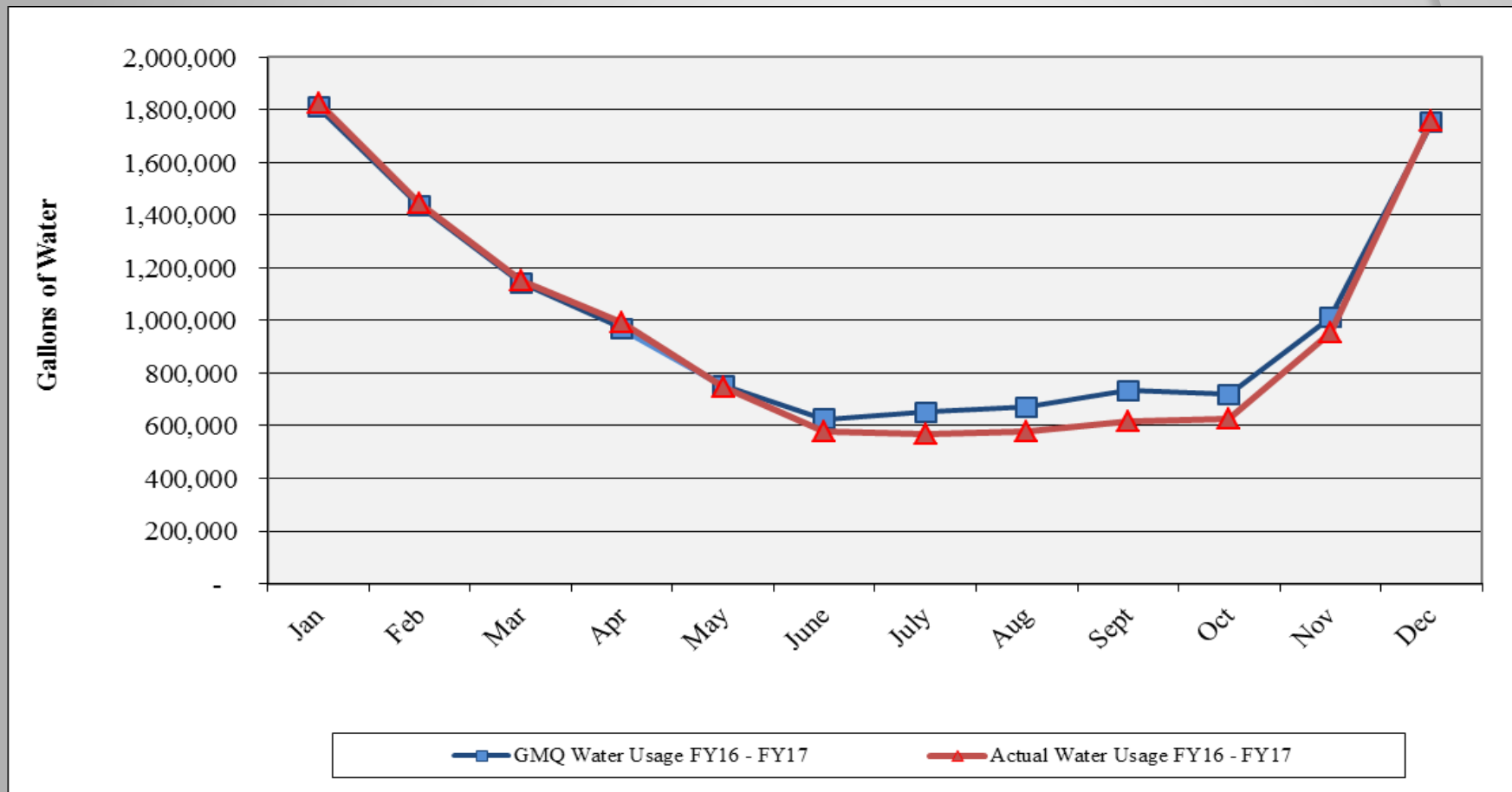
Performance Measurement FY17: Steam Electric Conversion ●



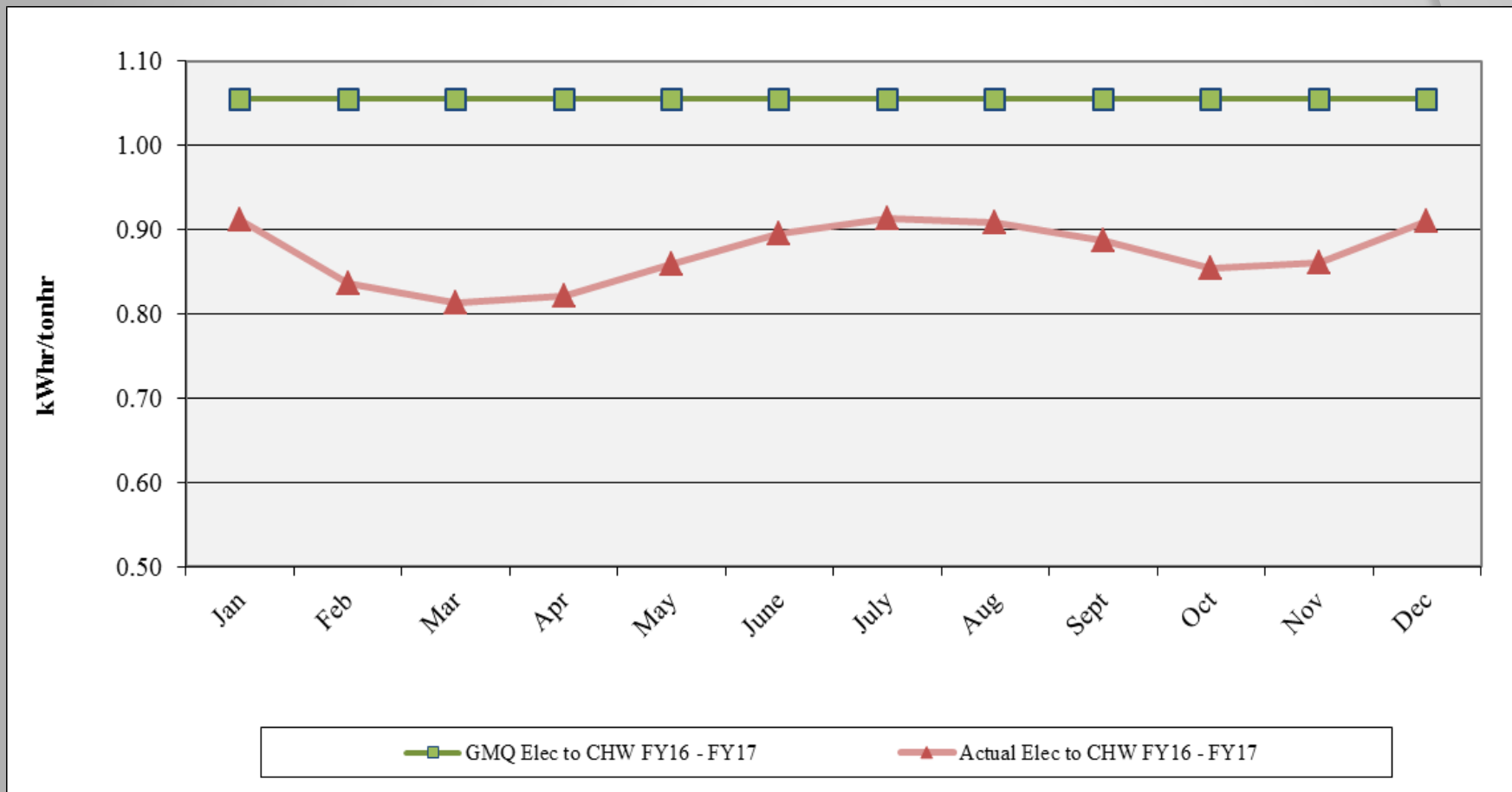
Performance Measurement FY17: Steam Plant Efficiency



Performance Measurement FY17: Steam Water Conversion ●

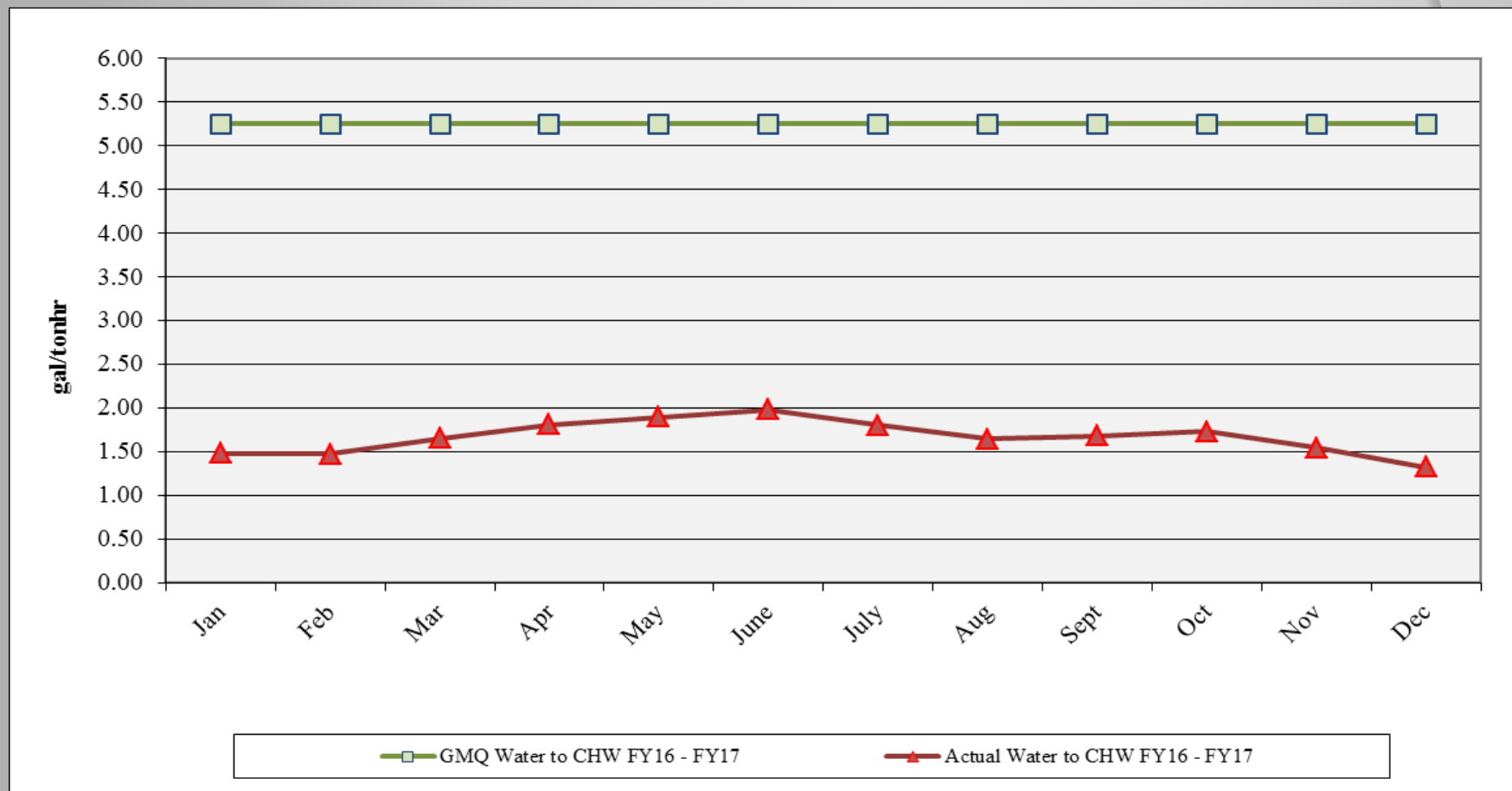


Performance Measurement FY17: CHW Electric Conversion



Performance Measurement FY17: CHW

Water Conversion ●





Water Treatment

❖ Steam and Condensate ●

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

❖ Condensing Water ●

- ❖ Conductivity
- ❖ Biologicals

❖ Chilled Water ●

- ❖ Hardness
- ❖ Corrosion
- ❖ Biologicals
- ❖ Delta T Issue (better)



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

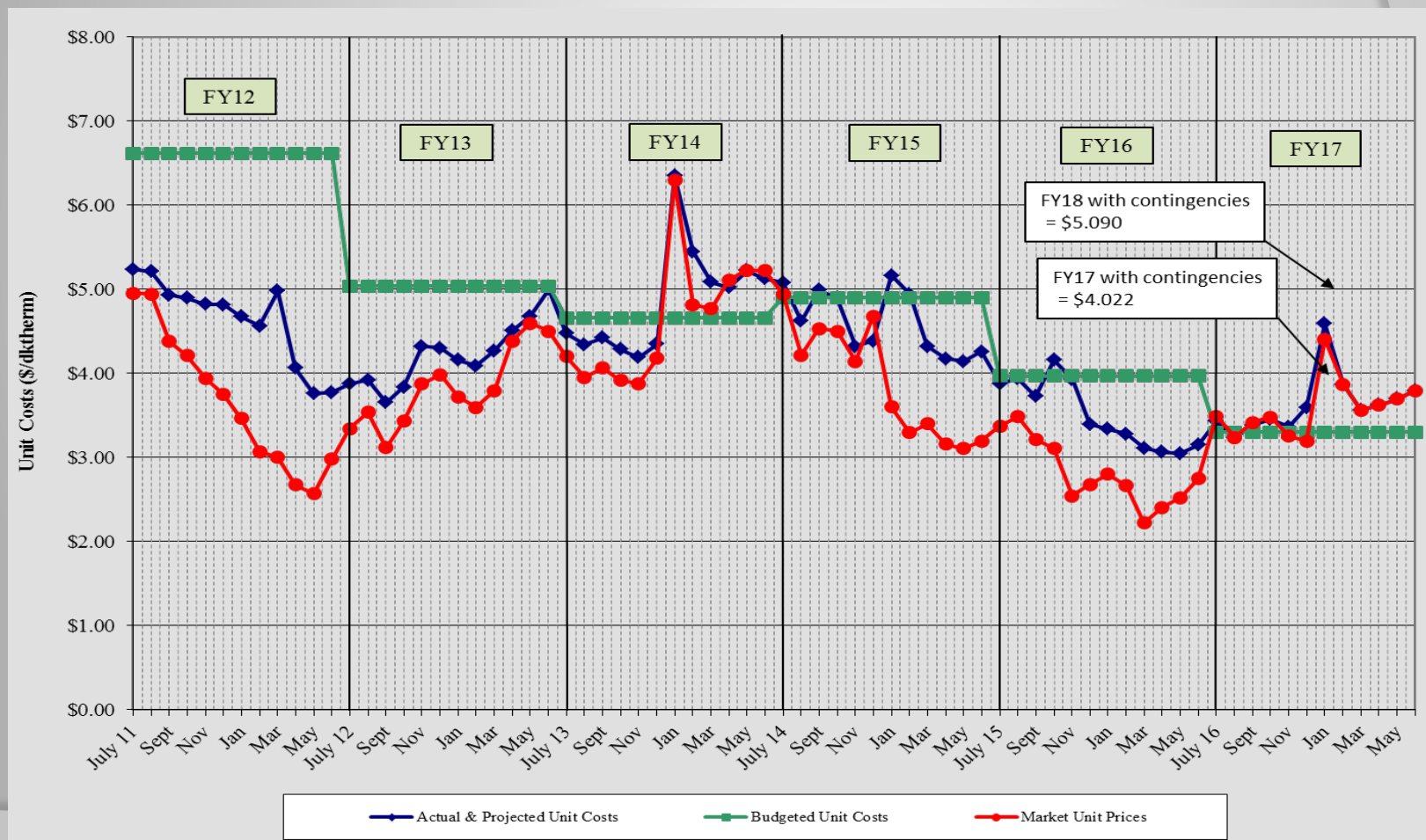
- ❖ Natural Gas Purchasing Review
 - ❖ Table 5: FY17 Gas Spending & Budget Comparison
 - ❖ Figure 5: Actual and Projected Gas Cost Comparison

Table 5: FY17 Gas Spending & Budget Comparison

	Actual FY17 To date (Jan 31)	Budget FY17	Percent Difference 2 nd Qtr	Percent Difference 1 st Qtr
Steam Sendout (Mlbs)	227,687	253,786	-10.3%	29.6%
Fuel Use (Dth) (includes propane)	● 311,958	367,183	-15.0%	20.8%
Plant Eff (Dth/Mlb)	● 1.370	1.447	-5.3%	-6.7%
Total Gas Cost (includes propane)	● \$1,099,678	\$1,200,658	-8.4%	28.3%
Unit Cost of Fuel (\$/Dth)	● \$3.525	\$3.270	7.8%	6.2%

Excludes consultant fees and FEA and budget contingency; Includes transportation and propane costs

Figure 5. Actual and Projected Gas Cost Comparison History



6. FY17 Costs to Date

Item	FY16 Actual	FY17 Budget	FY17 Actual to date	Percent of FY16 Budget
FOC's	\$ 4,532,100	\$ 4,668,100	\$ 2,279,600	48.83%
Pass Throughs				
Non-Energy	\$ 1,450,800	\$ 1,103,500	\$ 790,700	71.65%
Water/Sewer	\$ 533,100	\$ 640,200	\$ 366,200	57.20%
Natural Gas Base	\$ 1,971,200	\$ 2,155,700	\$ 835,800	38.77%
Natural Gas Contingency	\$ -	\$ 570,900	\$ -	0.00%
Electricity	\$ 5,530,500	\$ 6,093,800	\$ 3,072,300	50.42%
ORF Deposit	\$ -	\$ -	\$ -	
Debt Service	\$ 5,565,900	\$ 5,525,000	\$ 3,784,000	68.49%
Total Expenses	\$ 19,583,600	\$ 20,757,200	\$ 11,128,600	53.61%
Total Revenues	\$ 17,774,500	\$ 19,035,200	\$ 9,231,800	48.50%
Metro Funding Amount	\$ 1,809,100	\$ 1,722,000	\$ 861,000	50.00%

7. Capital Expenditure Update

	Spent to End of FY16	FY17 Spending	Balance to Date (01/26/17)
R&I Projects	\$2,903,301	\$161,178	\$3,548
49109-2010 Bond	\$2,480,531	\$4,347	\$121,038
49107-Customer Connection Fund	\$6,760,435	\$141,299	\$1,607,266
49116-DES CHP	\$127,686	\$41,020	\$25,831,294
Total	\$12,271,953	\$347,844	\$27,563,146
Available			\$1,731,852

Capital Projects Review

Active Capital Projects

- DES 061: MH & Tunnel Steel Corrosion Repair & Prevention – Ongoing
- DES 111: EGF Combined Heat and Power – On hold
- DES 119: Chilled Water System Delta T – Device Failed to Perform
- DES 121: Misc. Manhole Repairs – Replace Ladders; Insulation, etc.; construction complete; to be closed in 3rd Quarter FY17
- DES 122: Manhole 13 Structural Repairs – Concrete Roof Repairs; bid and awarded; construction to start in 3rd Quarter FY17
- DES 124: CJC Redevelopment – Demolition Phase Complete; Bldg Under Design by Others
- DES 129: Manhole 22B Repair – seeking reimbursement
- DES 130: Manhole B3 Repair – re-assigned; awaiting construction schedule
- DES 134: 401 Union Reconnection – Bid and Awarded; construction to start in 3rd Quarter FY17
- DES 135: CHW Leak at 5th Ave and Union (at JKP/TPAC) – in construction
- DES 137: Addition of CHW Valves at Cordell Hull – Bid and Awarded; construction to start in 3rd Quarter FY17

Capital Projects Review

Capital Projects in Close-out/Closed

- DES 128: Manhole 12 Steam Anchor Repair

8. Other Board Member Items

- *Update of RFQ on Third Party Review of DES Options*
- *Executive Order 015 – DES Advisory Board*
- *Issuance of RFP for Contract Administrator*

9. *Adjourn*

- *Advisory Board Meeting Schedule*
- FY17 – 3rd Quarter Meeting – May 18, 2017
- FY17 – 4th Quarter Meeting – August 17, 2017
- FY18 – 1st Quarter Meeting – November 16, 2017
- FY18 – 2nd Quarter Meeting – February 15, 2018