



Metro Nashville
DISTRICT ENERGY SYSTEM

DES Advisory Board Meeting
Third Quarter FY20
May 21, 2020

Agenda

1. Call to Order
2. Review & Approval of Previous Meeting Minutes
3. Customer Sales
4. nCOVID-19 Response
5. Review of DES Contractor Performance
6. Natural Gas Purchasing Update
7. FY20 Costs to Date
8. FY20 Budget
9. Marketing
10. DES RFP Status Update
11. Capital Projects Review & Status
12. Other Board Member Items
13. Adjourn

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

3. Customer Sales

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

		Steam - Rolling 12 Month			Chilled Water - Rolling 12 Month		
		Apr 2018 - Mar 2019	Apr 2019 - Mar 2020	% Diff.	Apr 2018 - Mar 2019	Apr 2019 - Mar 2020	% Diff.
Private	Cost	\$ 1,551,274	\$ 1,337,044	-13.81%	\$ 3,833,961	\$ 3,745,906	-2.30%
	Usage (lbs or tonhrs)	105,552,428	96,990,379	-8.11%	20,131,792	20,034,342	-0.48%
State	Cost	\$ 1,896,289	\$ 1,630,976	-13.99%	\$ 3,353,126	\$ 3,202,633	-4.49%
	Usage (lbs or tonhrs)	123,187,618	105,276,649	-14.54%	14,043,048	12,608,214	-10.22%
Metro	Cost	\$ 1,969,735	\$ 1,686,055	-14.40%	\$ 5,216,003	\$ 4,906,028	-5.94%
	Usage (lbs or tonhrs)	160,265,362	152,699,848	-4.72%	29,132,008	28,999,663	-0.45%
Aggregate	Cost	\$ 5,417,298	\$ 4,654,075	-14.09%	\$ 12,403,090	\$ 11,854,567	-4.42%
	Usage (lbs or tonhrs)	389,005,408	354,966,876	-8.75%	63,306,848	61,642,219	-2.63%
	Unit Cost	\$ 13.93	\$ 13.11	-5.9%	\$ 0.196	\$ 0.192	-1.84%

MFA, True-up, late fees and misc. are not included in values shown

Figure 3A. Historic Chilled Water Sales

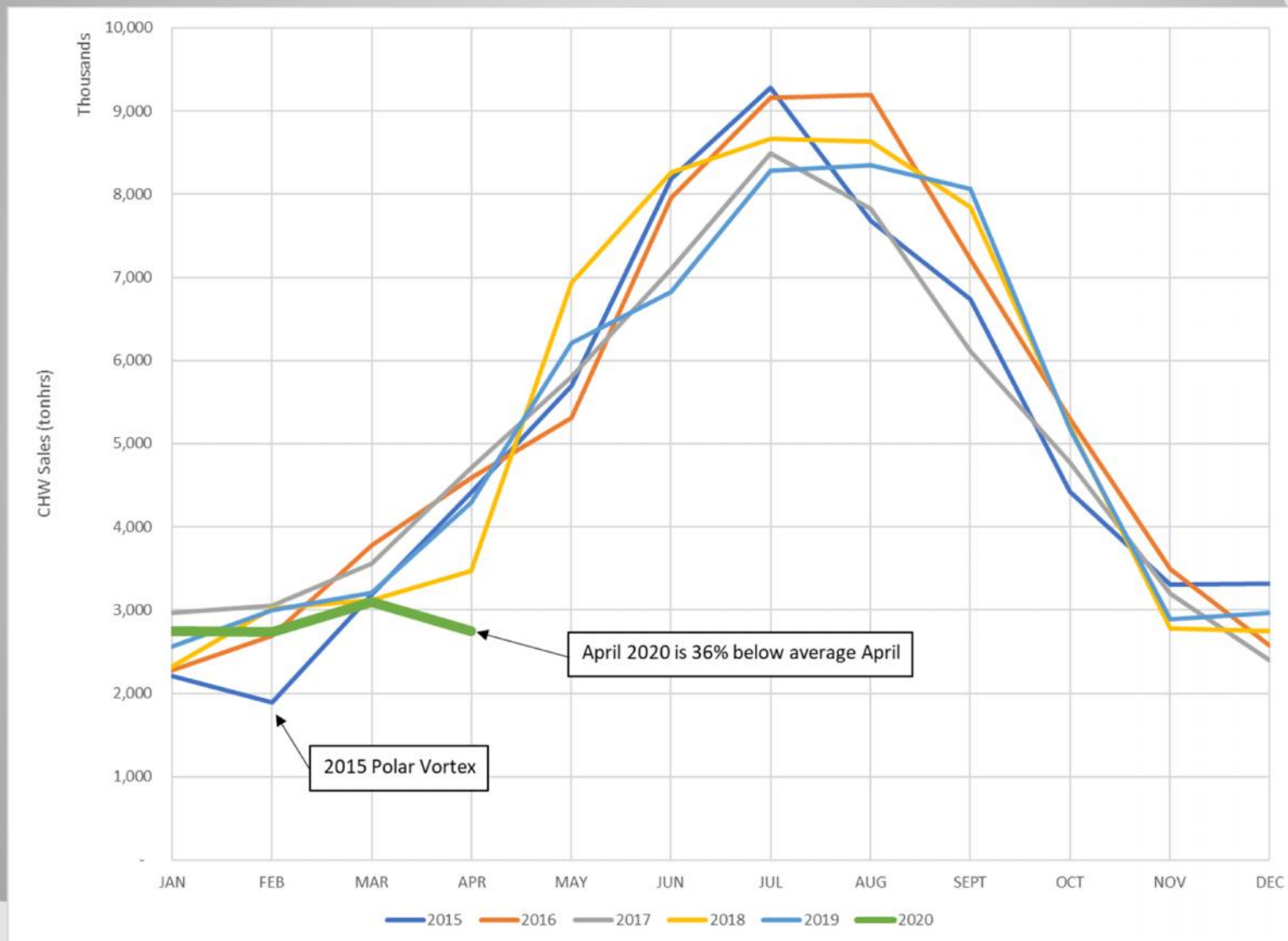
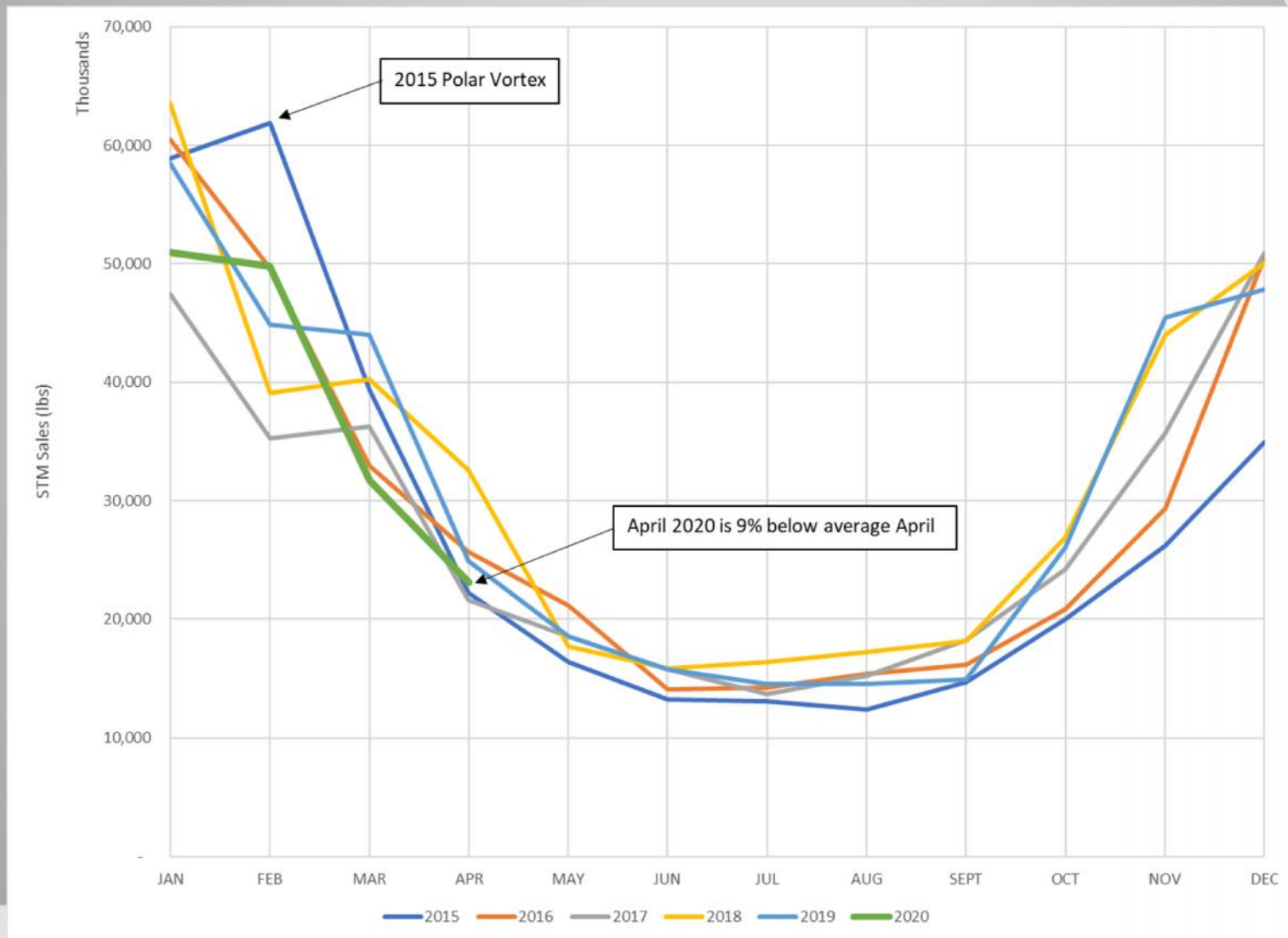


Figure 3B. Historic Steam Sales






4. nCOVID-19 Response

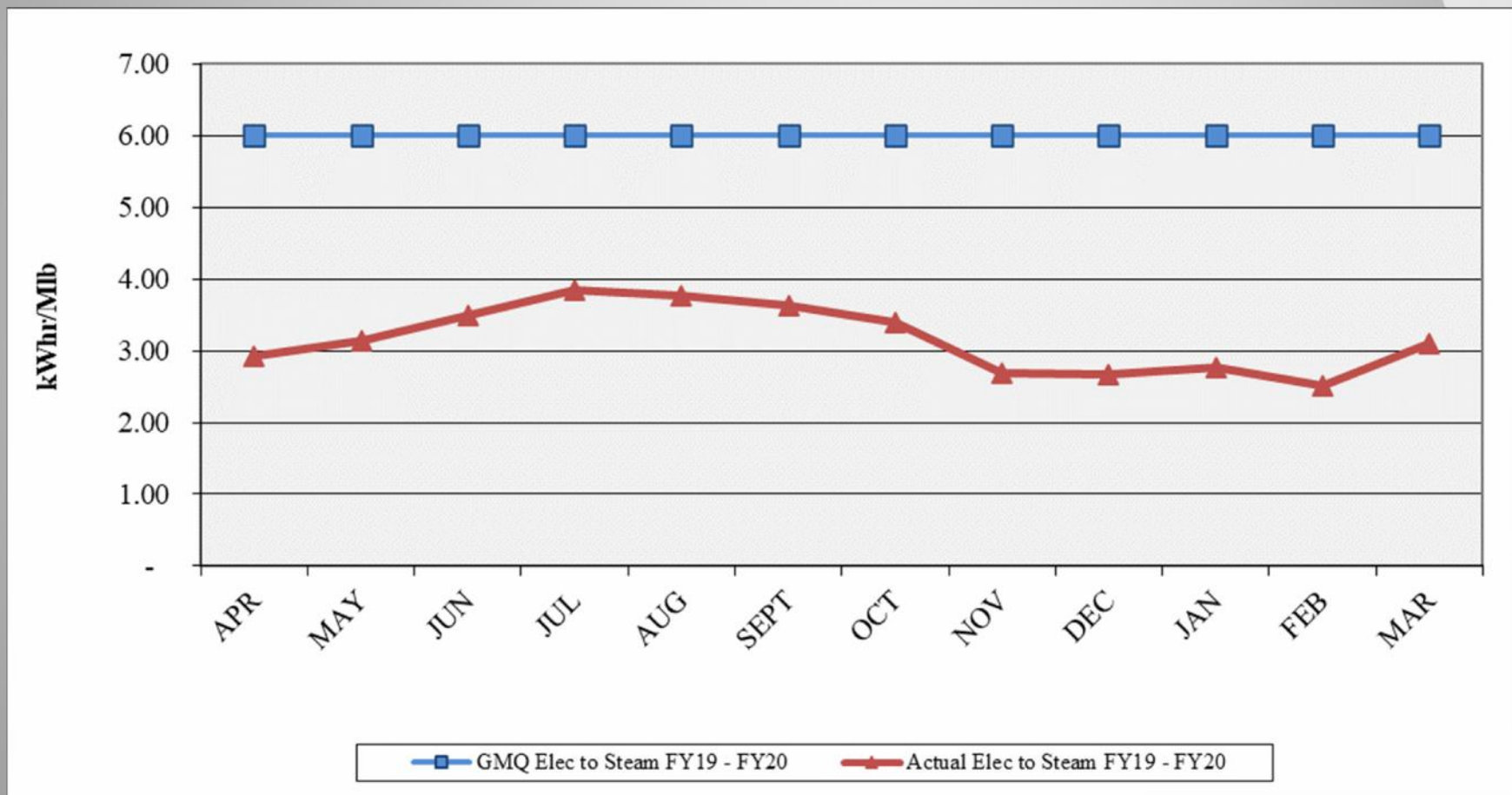
- Due to nCOVID-19 pandemic, DES implemented the following:
 - No late fees until the end of May
 - No customer disconnects for not paying
 - Option to defer two months of invoices through May and repay amounts due over following twelve months
- One customer opted for deferral and withdrew request
- One customer intends to request a deferral
- There are 3 customers currently in arrears
- CNE and TEG following CDC recommendations
- Construction activities reduced, delayed or put on hold
- Limited access to EGF to essential personnel only

5. *Review of DES Contractor Performance*

Contractor (CNE) is in compliance with their contractual obligations for FY20 to date.

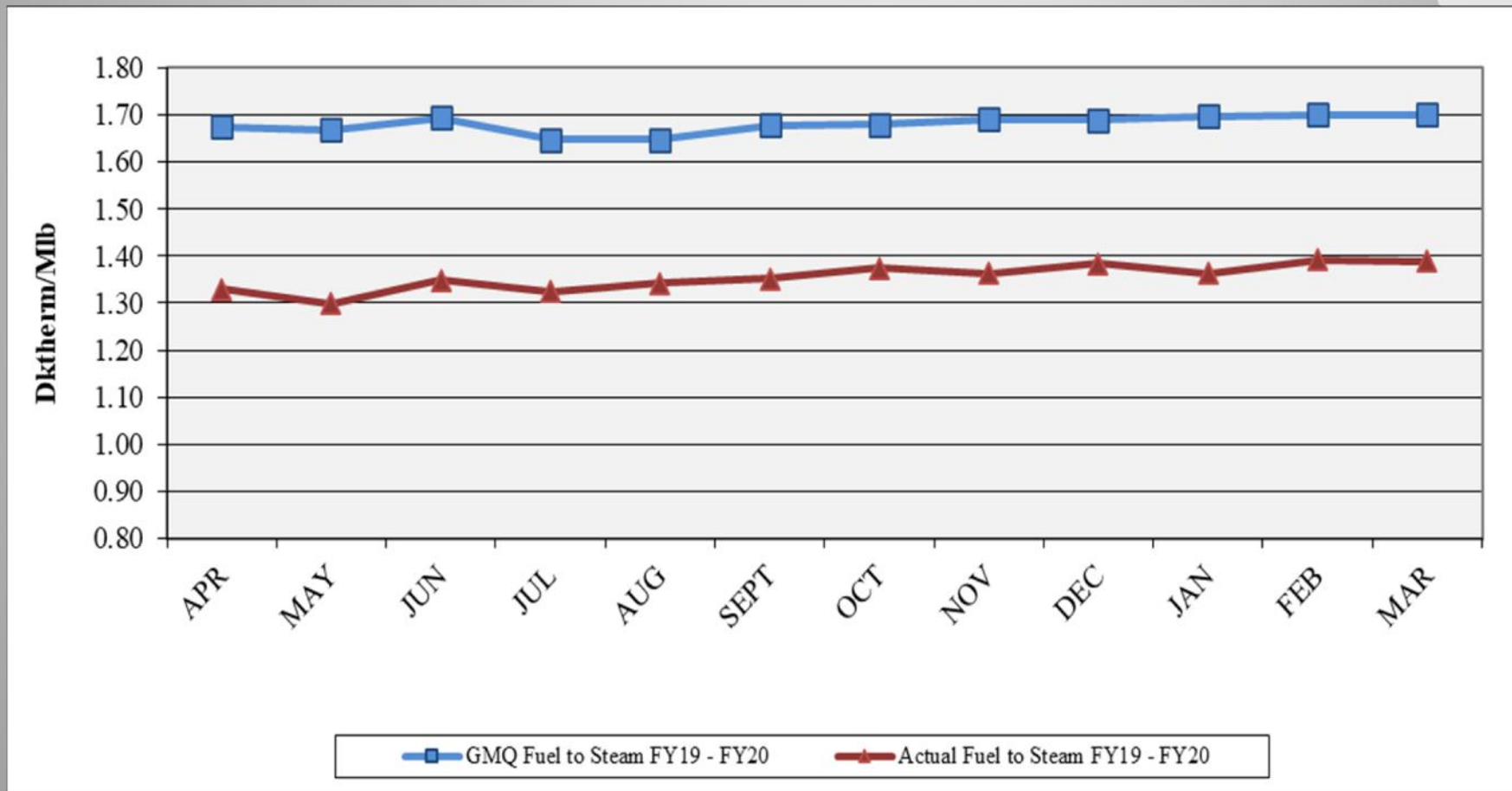
-  Excellent Performance – No Improvement Necessary
-  Satisfactory Performance – Some Improvement Could Be Made
-  Poor Performance – Much Improvement Necessary

Performance Measurement FY20: Steam Electric Conversion ●

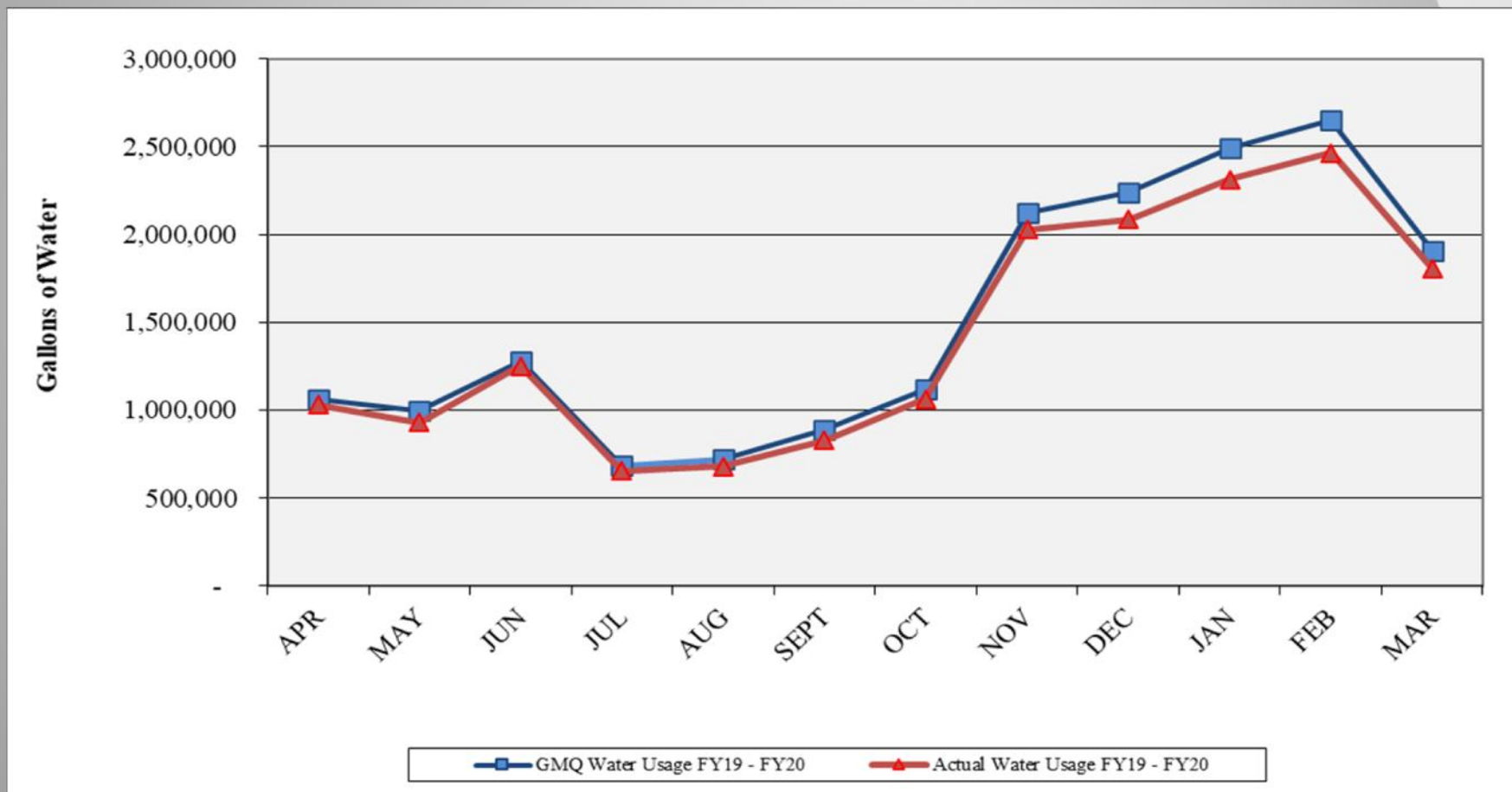


Values of 3.50 to 4.00 in summer months are not unusual.

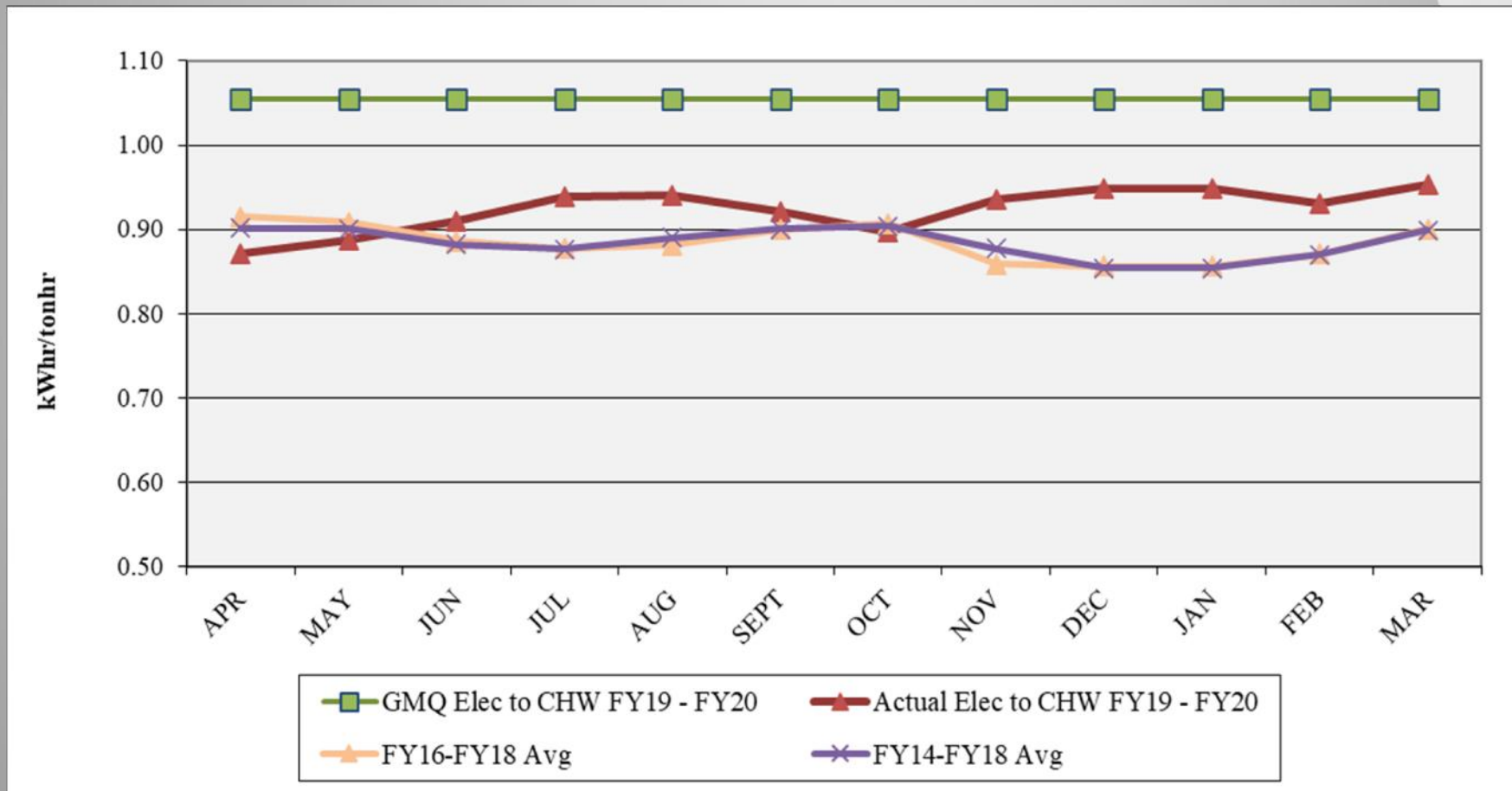
Performance Measurement FY20: Steam Plant Efficiency



Performance Measurement FY20: Steam Water Conversion ●

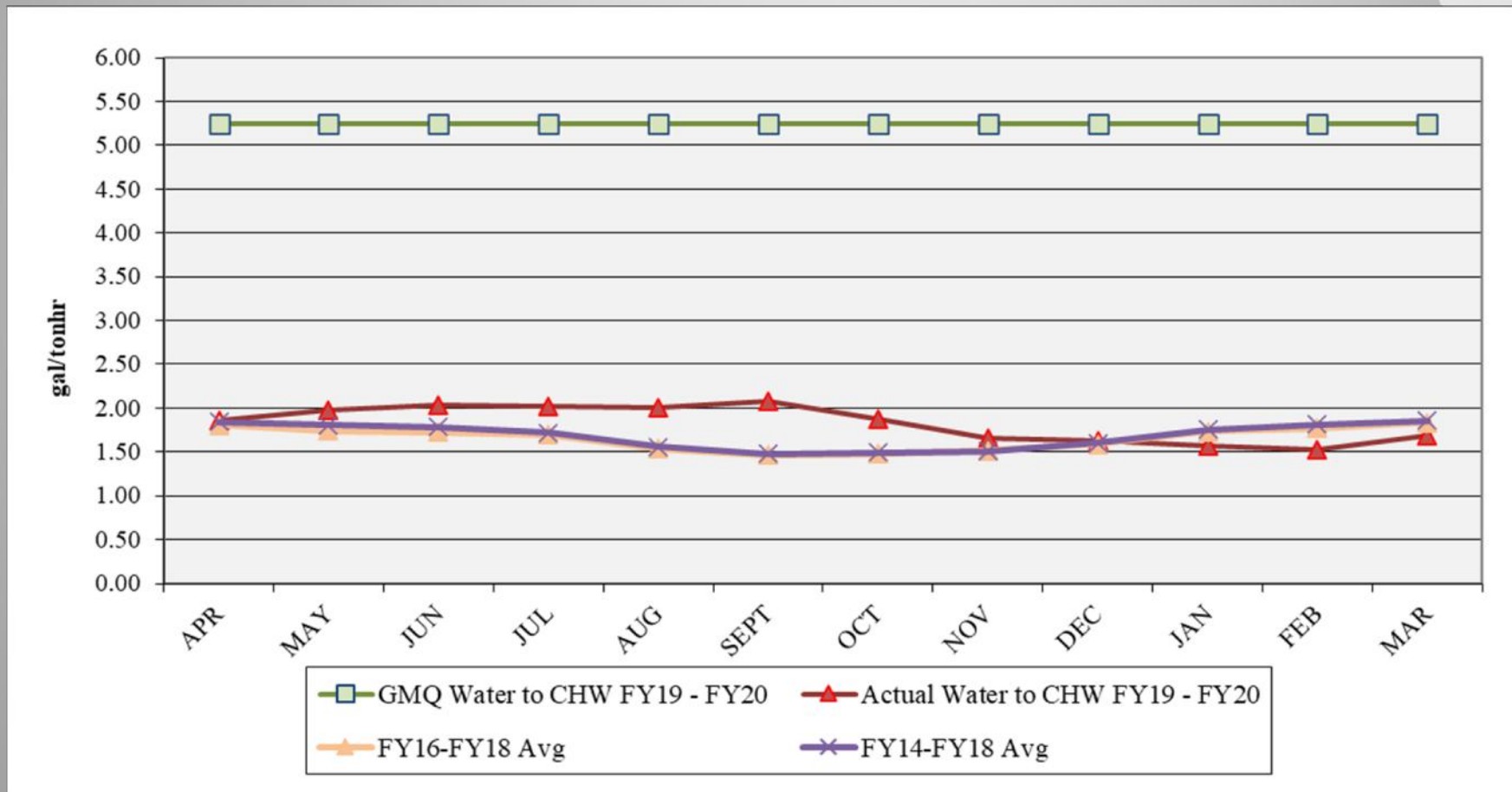


Performance Measurement FY20: CHW Electric Conversion



Performance Measurement FY20: CHW

Water Conversion ●



Water Treatment

Q3FY20 Q2FY20 Q1FY20 Q4FY19

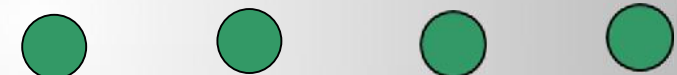
❖ Steam and Condensate

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



❖ Condensing Water

- ❖ Conductivity
- ❖ Biologicals



❖ Chilled Water

- ❖ Hardness
- ❖ Corrosion
- ❖ EGF and Customer Biologicals Good
- ❖ Deposits



EGF Walkthrough

	Q3FY20	Q2FY20	Q1FY20	Q4FY19
✓ 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

	Q3FY20	Q2FY20	Q1FY20	Q4FY19
Vault/Tunnel Housekeeping	Yellow	Yellow	Yellow	Yellow
Insulation Repair/Replacement	Green	Green	Green	Green
Water Infiltration	Yellow	Yellow	Yellow	Yellow
Corrosion of Structural Metal Components	Yellow	Yellow	Yellow	Yellow
Safety Items	Green	Green	Green	Green

6. *Natural Gas Purchasing*

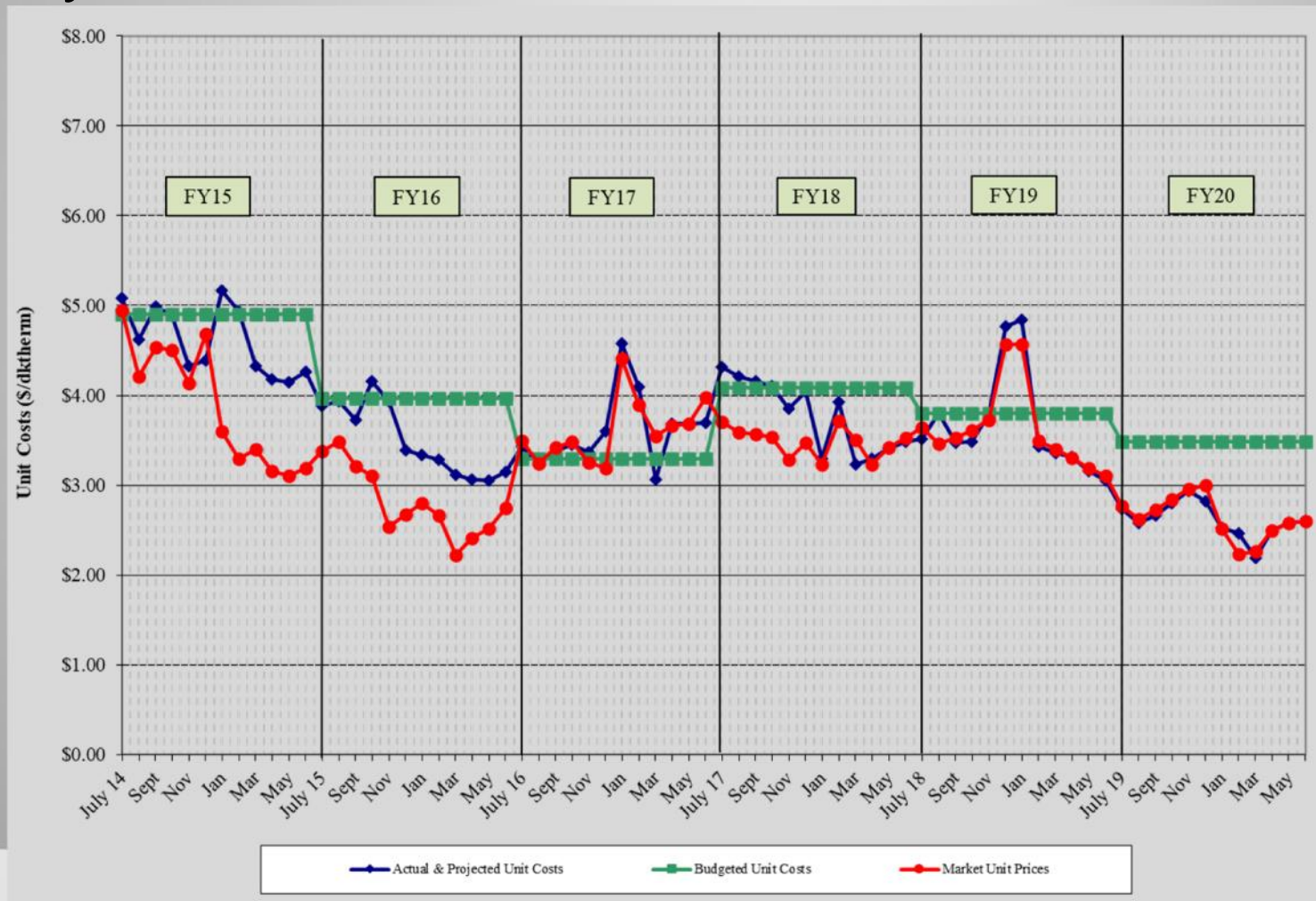
- ❖ Natural Gas Purchasing Review
 - ❖ Table 6: FY20 Gas Spending & Budget Comparison
 - ❖ Figure 6: Actual and Projected Gas Cost Comparison

Table 6: FY20 Gas Spending & Budget Comparison

	Actual FY20 To date (Mar 31)	Budget FY20	Percent Difference
Steam Sendout (Mlbs)	342,692	366,874	-6.6%
Fuel Use (Dth) (includes propane) ●	469,580	533,068	-11.9%
Plant Eff (Dth/Mlb) ●	1.370	1.453	-5.7%
Total Gas Cost (includes propane) ●	\$1,239,438	\$1,855,077	-34.8%
Unit Cost of Fuel (\$/Dth) ●	\$2.639	\$3.480	-24.2%

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

Figure 6. Actual and Projected Gas Cost Comparison History



7. FY20 Costs to Date

Item	FY20 Budget	FY20 Actual to date	Percent of FY20 Budget
FOC's	\$ 4,601,600	\$ 3,472,879	75.47%
Pass Throughs			
Administrative Costs	\$ 393,600	\$ 334,851	85.07%
Chemicals	\$ 253,100	\$ 164,341	64.93%
R&I Fund Transfers	\$ 287,600	\$ 239,667	83.33%
Water/Sewer	\$ 714,000	\$ 543,206	76.08%
Fuel Base	\$ 2,575,700	\$ 1,337,145	51.91%
Fuel Contingency	\$ 507,000	\$ -	0.00%
Electricity	\$ 5,977,200	\$ 3,623,029	60.61%
ORF Deposit	\$ -	\$ -	
Debt Service	\$ 5,079,200	\$ 3,902,178	76.83%
Total Expenses	\$ 20,389,000	\$ 13,617,296	66.79%
Total Revenues	\$ 19,070,500	\$ 12,340,651	64.71%
Metro Funding	\$ 1,318,500	\$ 1,276,645	96.83%

Actual Costs and Revenues to Date include FY19 True-up Items.

8. FY20 Budget

Item	FY19 Budget	FY20 Budget	Percent Change From FY19 Budget
FOC's	\$ 4,804,000	\$ 4,601,600	-4.21%
Pass Throughs			
Administrative Costs	\$ 613,300	\$ 393,600	-35.82%
Chemicals	\$ 245,700	\$ 253,100	3.01%
R&I Fund Transfers	\$ 281,700	\$ 287,600	2.09%
Water/Sewer	\$ 751,900	\$ 714,000	-5.04%
Natural Gas Base	\$ 2,173,300	\$ 2,575,700	18.52%
Natural Gas Contingency	\$ 816,400	\$ 507,000	-37.90%
Electricity	\$ 5,646,100	\$ 5,977,200	5.86%
ORF Deposit	\$ -	\$ -	
Debt Service	\$ 5,420,200	\$ 5,079,200	-6.29%
Total Expenses	\$ 20,752,600	\$ 20,389,000	-1.75%
Total Revenues	\$ 19,152,100	\$ 19,070,500	-0.43%
Metro Funding	\$ 1,600,500	\$ 1,318,500	-17.62%

9. *Marketing*

Remaining Capacity for Sale (approximate)

- 2,429 tons of chilled water
- 24,622 pph of steam

Potential Customers

- Service to Lot K
 - Site directly to the east of EGF
 - Early stages of communication
 - Potential ~1,000 ton and ~15,000 pph

Marketing (con't)

- Service to New KVB Hotels
 - Two hotels with retail space; discussions favorable
 - Site is between 1st Ave S, 2nd Ave S, KVB and Peabody St
 - Potential ~1,400 tons and ~20,000 pph
- Peabody St Hotel
 - Early stages of communications
 - Potential 2,000 to 3,000 tons
- New Development North of KVB
 - Early stages of communications
 - Potential ~1,100 tons and ~15,000 pph

10. DES RFP Status Update

DES-139

- Metro maintaining control of DES submitted in the Mayor's FY21 Budget to the Council
- If Budget is approved:
 - CNE contract extension (five years)
 - Contract extension results in a savings to the MFA and for DES customers
 - DES Administration oversight transfers to Metro Water Services
 - RFP will be rescinded

11. Capital Expenditure Update

	Spent to End of FY19	FY20 Spending	Balance to Date (04/27/20)
R&I Projects	\$3,675,354	\$199,279	\$104,102
49109-2010 Bond	\$2,596,698	\$1,227	\$7,991
49107-DES Infrastructure Fund	\$8,497,779	\$2,182	\$39
49116-DES Infrastructure Fund	\$822,320	\$646,742	\$290,344
Total	\$15,592,151	\$849,430	\$403,070

Capital Projects Review

Active Capital Projects

Note: Due to nCOVID-19 outbreak, CNE elected to delay project construction work (excluding emergency work).

- DES 133.1: Broadway Tunnel Damage Recovery: ongoing
- DES 152: MH A & M Coating Repairs – anticipate bidding in 4th Qtr FY20 or 1st Qtr FY21
- DES 153: MH L Repairs – anticipate bidding in 4th Qtr FY20 or 1st Qtr FY21
- DES 154: Manhole K Repairs – postponed until FY21

Capital Projects Review

Active Capital Projects - continued

- DES 157: MH 9 Repairs – construction in-progress; work delayed due to nCOVID-19; anticipated completion during 4th Qtr FY20
- DES 159: MH B2 Repairs – construction in-progress; pipe wall penetration leak discovered and needs to be addressed; work delayed due to nCOVID-19; anticipated completion during 4th Qtr FY20
- DES 160: 5th + Broadway Service Connection – instruments installed in early April; service available
- DES 161: MH S6 Insulation – anticipate bidding during 4th Qtr FY20 or 1st Qtr FY21

Capital Projects Review

Active Capital Projects - continued

- DES 162: Hyatt Centric Service – pipe install to be completed during 4th Qtr FY20; instrument install 1st Qtr FY21
- DES 163: MDHA Parcel K Service – negotiations with new customer in early stages
- DES 168: DES Service to 1st and KVB Hotels – negotiations with new customer in early stages
- DES 169: MH 20 Repairs – pipe supports corroded, require replacement; bid during 2nd Qtr FY20; work delayed by nCOVID-19; anticipate completion during 4th Qtr FY20

Capital Projects Review

Active Capital Projects - continued

- DES 171: Broadway Tunnel Pipe Support Repairs – corroded pipe supports to be repaired/replaced; ladder safety item to be addressed; in design
- DES 172: Viridian Service Line Support Repairs – corroded pipe supports to be repaired/replaced; ladder safety item to be addressed; in design
- DES 173: Manhole B3 Repairs – corroded pipe supports to be cleaned and coated; concrete repairs to be made; in design
- DES 174: 7th Avenue Tunnel Pipe Support Repairs – corroded pipe supports to be repaired/replaced; ladder safety item to be addressed; in design

Capital Projects Review

Capital Projects in Close-out/Closed During 3rd Qtr FY20

- None

12. Other Board Member Items

13. Adjourn

- *Advisory Board Meeting Schedule*
- FY20 – 4th Quarter Meeting – August 20, 2020
- FY21 – 1st Quarter Meeting – November 19, 2020
- FY21 – 2nd Quarter Meeting – February 18, 2021
- FY21 – 3rd Quarter Meeting – May 20, 2021