



***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

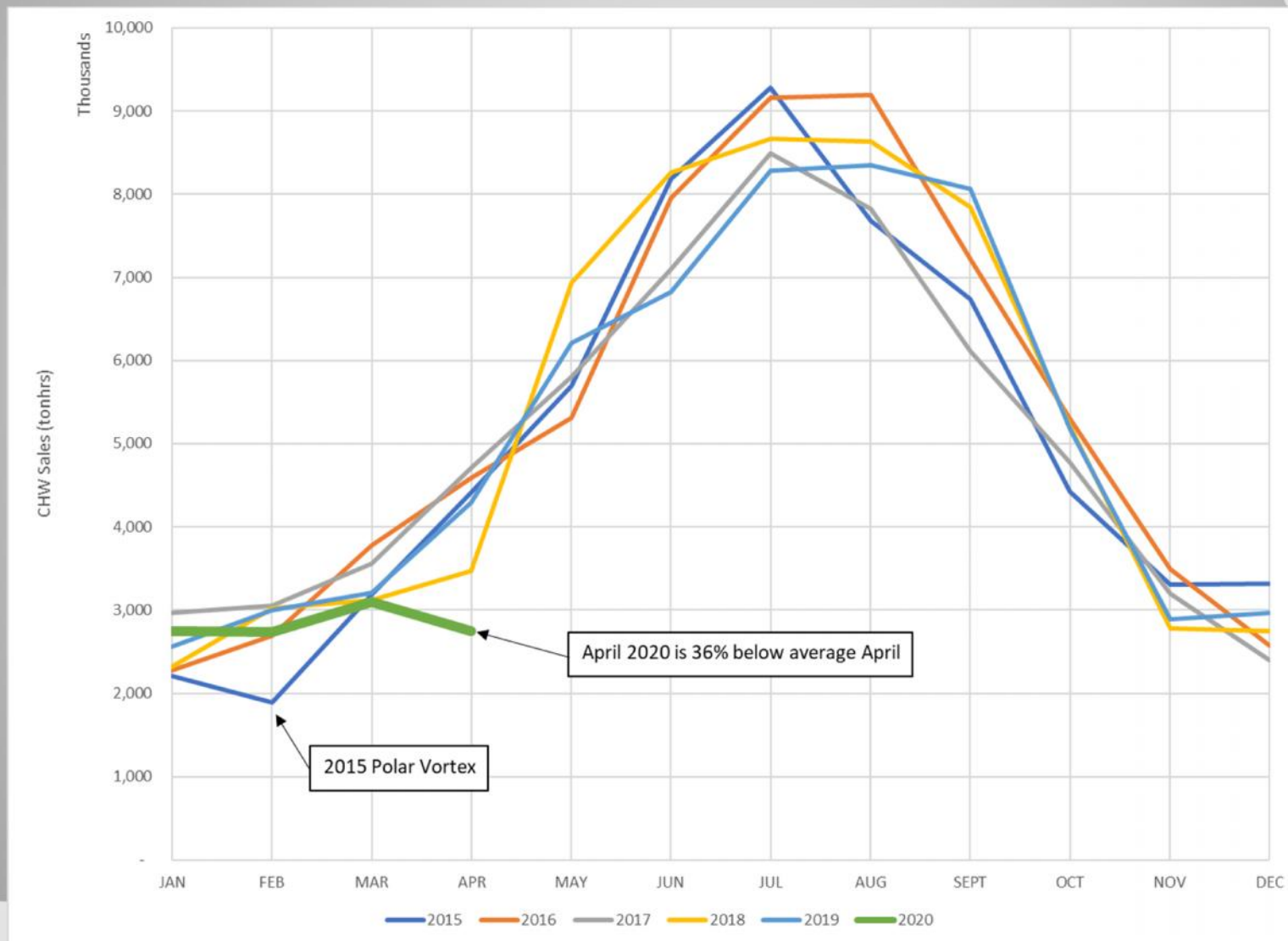
## 3. Customer Sales

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

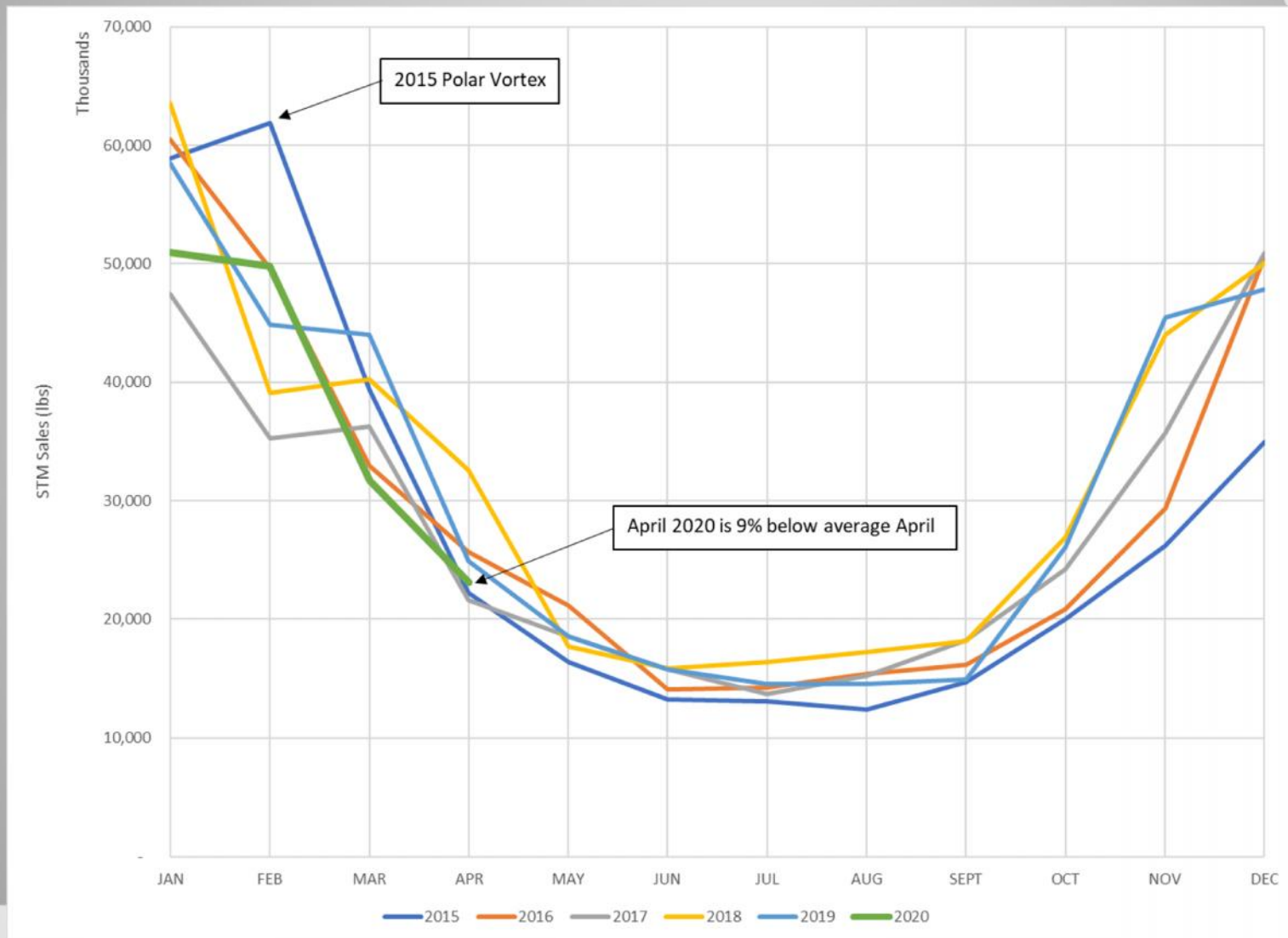
		Steam - Rolling 12 Month			Chilled Water - Rolling 12 Month		
		Apr 2018 - Mar 2019	Apr 2019 - Mar 2020	% Diff.	Apr 2018 - Mar 2019	Apr 2019 - Mar 2020	% Diff.
<b>Private</b>	Cost	\$ 1,551,274	\$ 1,337,044	-13.81%	\$ 3,833,961	\$ 3,745,906	-2.30%
	Usage (lbs or tonhrs)	105,552,428	96,990,379	-8.11%	20,131,792	20,034,342	-0.48%
<b>State</b>	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%
<b>Metro</b>	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%
<b>Aggregate</b>	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

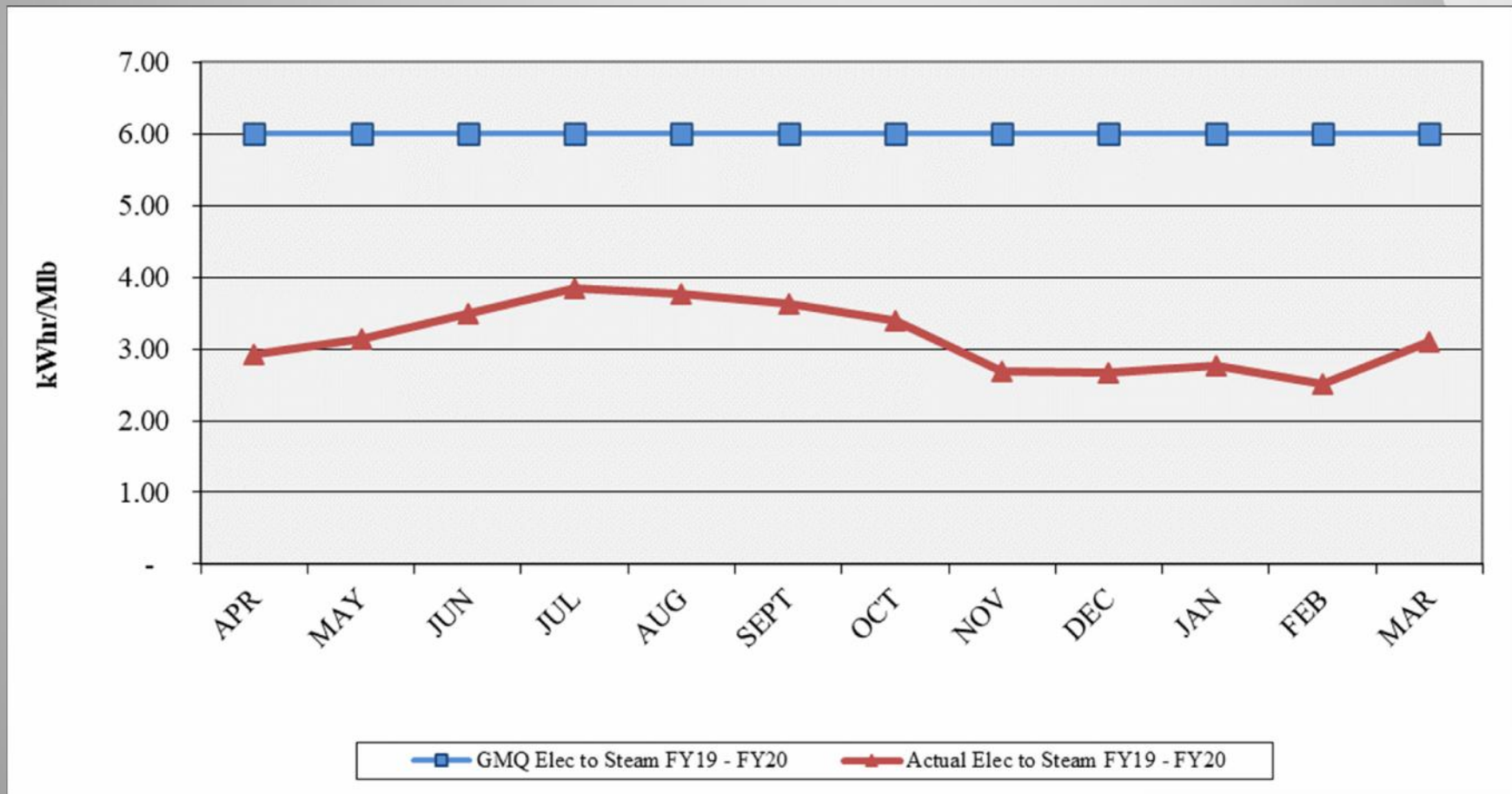
## *5. Review of DES Contractor Performance*

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

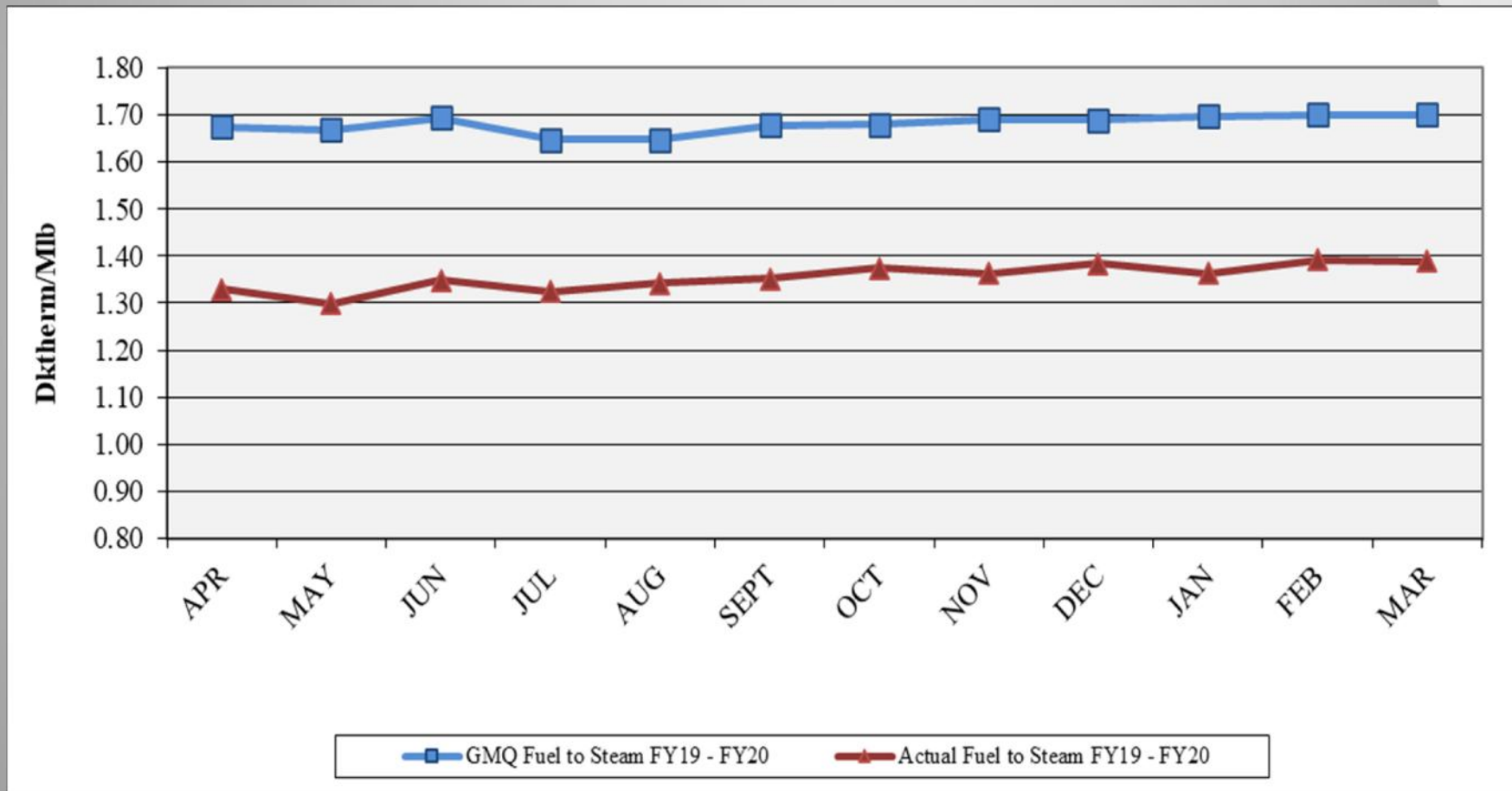


# Performance Measurement FY20: Steam Electric Conversion ●

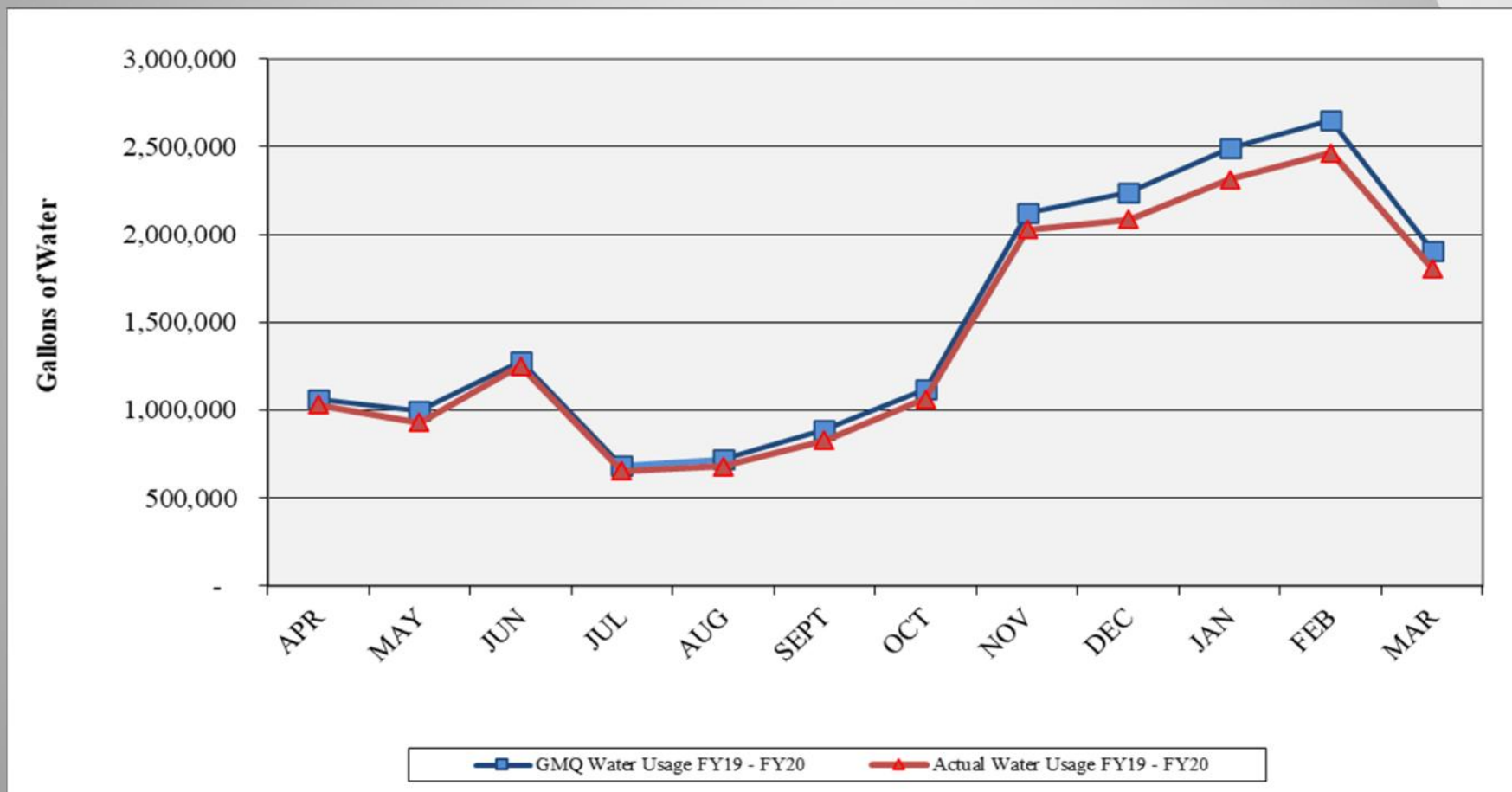


Values of 3.50 to 4.00 in summer months are not unusual.

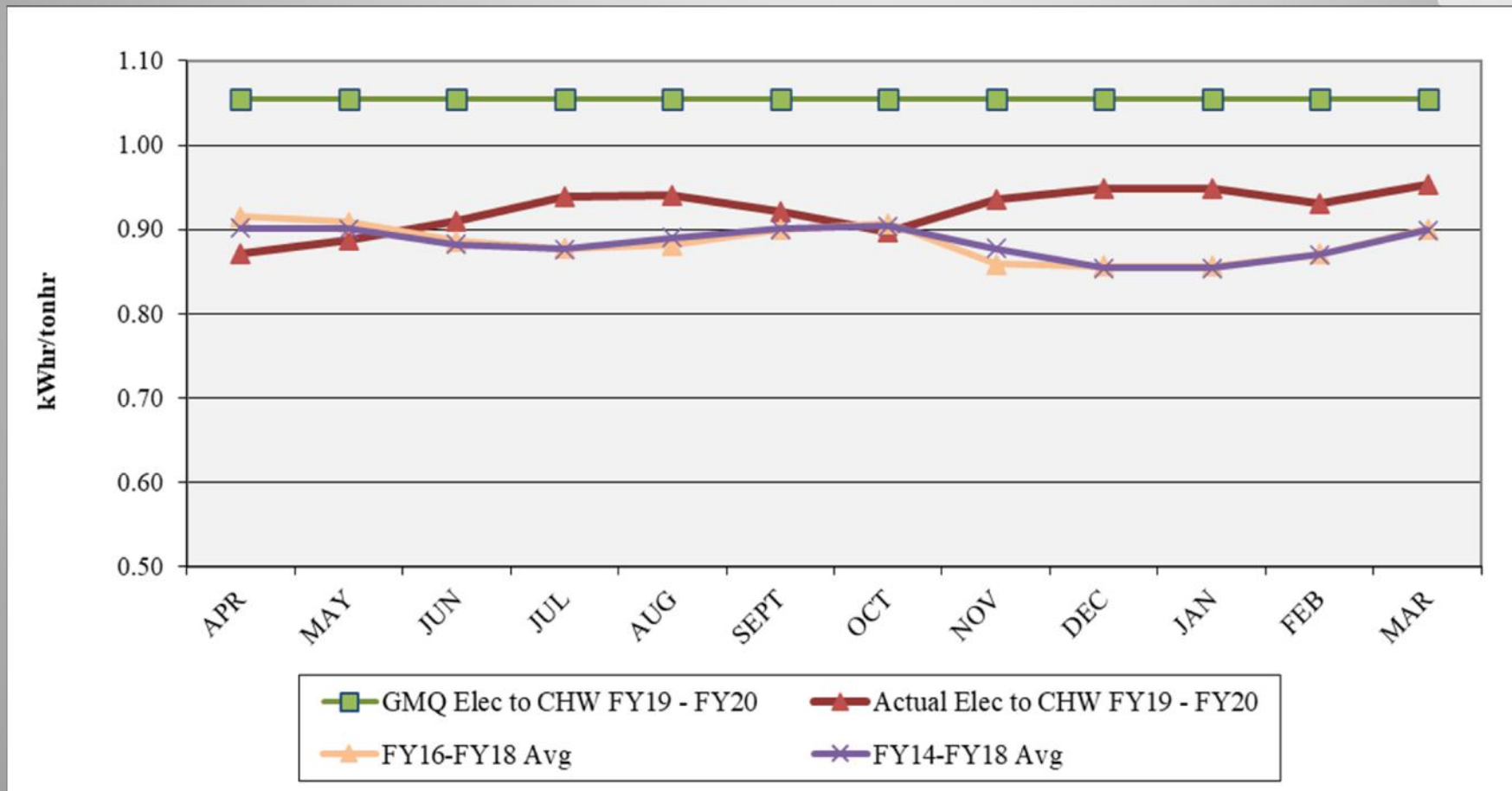
# Performance Measurement FY20: Steam Plant Efficiency



# Performance Measurement FY20: Steam Water Conversion ●

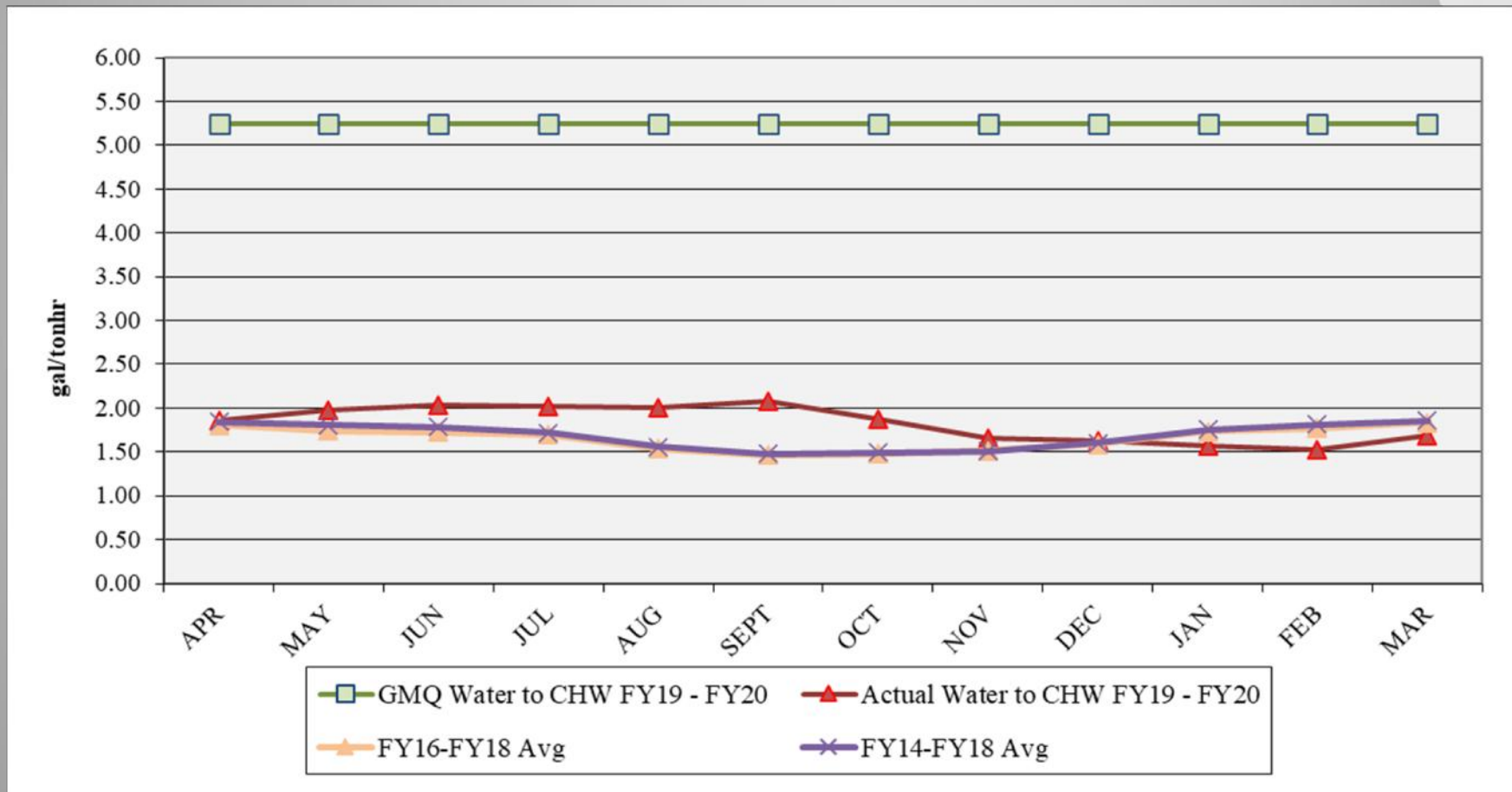


# Performance Measurement FY20: CHW Electric Conversion



# Performance Measurement FY20: CHW

## Water Conversion ●



# Water Treatment

Q3FY20    Q2FY20    Q1FY20    Q4FY19

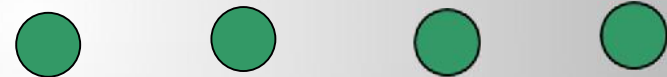
## ❖ Steam and Condensate

- ❖ 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*

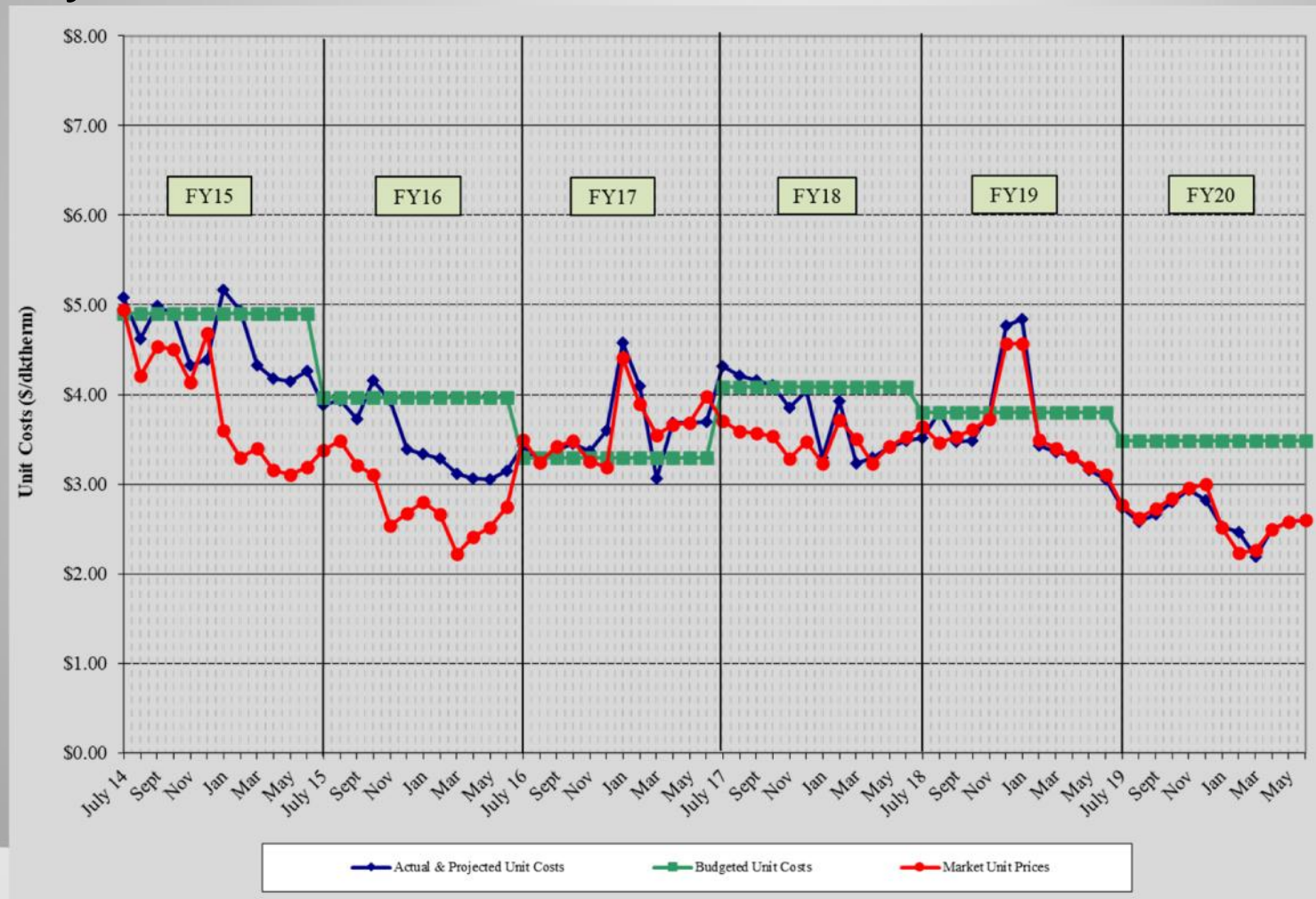
- ❖ Natural Gas Purchasing Review
  - ❖ Table 6: FY20 Gas Spending & Budget Comparison
  - ❖ Figure 6: Actual and Projected Gas Cost Comparison

## 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%
<b>Total Expenses</b>	<b>\$ 20,389,000</b>	<b>\$ 13,617,296</b>	<b>66.79%</b>
<b>Total Revenues</b>	<b>\$ 19,070,500</b>	<b>\$ 12,340,651</b>	<b>64.71%</b>
<b>Metro Funding</b>	<b>\$ 1,318,500</b>	<b>\$ 1,276,645</b>	<b>96.83%</b>

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%
<b>Total Expenses</b>	<b>\$ 20,752,600</b>	<b>\$ 20,389,000</b>	<b>-1.75%</b>
<b>Total Revenues</b>	<b>\$ 19,152,100</b>	<b>\$ 19,070,500</b>	<b>-0.43%</b>
<b>Metro Funding</b>	<b>\$ 1,600,500</b>	<b>\$ 1,318,500</b>	<b>-17.62%</b>

## 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 1<sup>st</sup> Ave S, 2<sup>nd</sup> 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

	<b>Spent to End of FY19</b>	<b>FY20 Spending</b>	<b>Balance to Date (04/27/20)</b>
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 4<sup>th</sup> Qtr FY20 or 1<sup>st</sup> Qtr FY21
- DES 153: MH L Repairs – anticipate bidding in 4<sup>th</sup> Qtr FY20 or 1<sup>st</sup> 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 4<sup>th</sup> 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 4<sup>th</sup> Qtr FY20
- DES 160: 5<sup>th</sup> + Broadway Service Connection – instruments installed in early April; service available
- DES 161: MH S6 Insulation – anticipate bidding during 4<sup>th</sup> Qtr FY20 or 1<sup>st</sup> Qtr FY21

# *Capital Projects Review*

## Active Capital Projects - continued

- DES 162: Hyatt Centric Service – pipe install to be completed during 4<sup>th</sup> Qtr FY20; instrument install 1<sup>st</sup> Qtr FY21
- DES 163: MDHA Parcel K Service – negotiations with new customer in early stages
- DES 168: DES Service to 1<sup>st</sup> and KVB Hotels – negotiations with new customer in early stages
- DES 169: MH 20 Repairs – pipe supports corroded, require replacement; bid during 2<sup>nd</sup> Qtr FY20; work delayed by nCOVID-19; anticipate completion during 4<sup>th</sup> 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: 7<sup>th</sup> 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 3<sup>rd</sup> Qtr FY20

- None

## *12. Other Board Member Items*

## *13. Adjourn*

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