



Metro Nashville
DISTRICT ENERGY SYSTEM

DES Advisory Board Meeting
Fourth Quarter FY21
August 19, 2021



Agenda

1. Call to Order
2. New Board Member Acknowledgements
3. Review & Approval of Previous Meeting Minutes
4. Customer Sales
5. nCOVID-19 Response
6. Review of DES Contractor Performance
7. Natural Gas Purchasing Update
8. FY20 Costs to Date
9. FY22 Budget
10. Marketing
11. Capital Projects Review & Status
12. Other Board Member Items
13. Adjourn

1. Call to Order
2. New Private ISC and New Private Board Members:

Bill McKnight with Hyatt Centric
Chris Proctor with 5th + Broadway

3. 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		
		July 2019 - June 2020	July 2020 - June 2021	% Diff.	July 2019 - June 2020	July 2020 - June 2021	% Diff.
Private	Cost	\$ 1,251,018	\$ 1,275,565	1.96%	\$ 3,686,779	\$ 3,671,600	-0.41%
	Usage (lbs or tonhrs)	88,886,252	82,674,621	-6.99%	18,065,561	17,532,286	-2.95%
State	Cost	\$ 1,603,878	\$ 1,765,493	10.08%	\$ 3,213,799	\$ 3,236,233	0.70%
	Usage (lbs or tonhrs)	105,776,927	113,128,646	6.95%	12,299,713	13,019,176	5.85%
Metro	Cost	\$ 1,618,588	\$ 1,598,304	-1.25%	\$ 4,781,375	\$ 4,198,317	-12.19%
	Usage (lbs or tonhrs)	151,563,519	130,528,829	-13.88%	26,473,982	20,985,842	-20.73%
Aggregate	Cost	\$ 4,473,484	\$ 4,639,362	3.71%	\$11,681,953	\$11,106,149	-4.93%
	Usage (lbs or tonhrs)	346,226,698	326,332,096	-5.75%	56,839,256	51,537,304	-9.33%
	Unit Cost	\$ 12.92	\$ 14.22	10.0%	\$ 0.206	\$ 0.215	4.85%

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

Figure 3A. Historic Chilled Water Sales

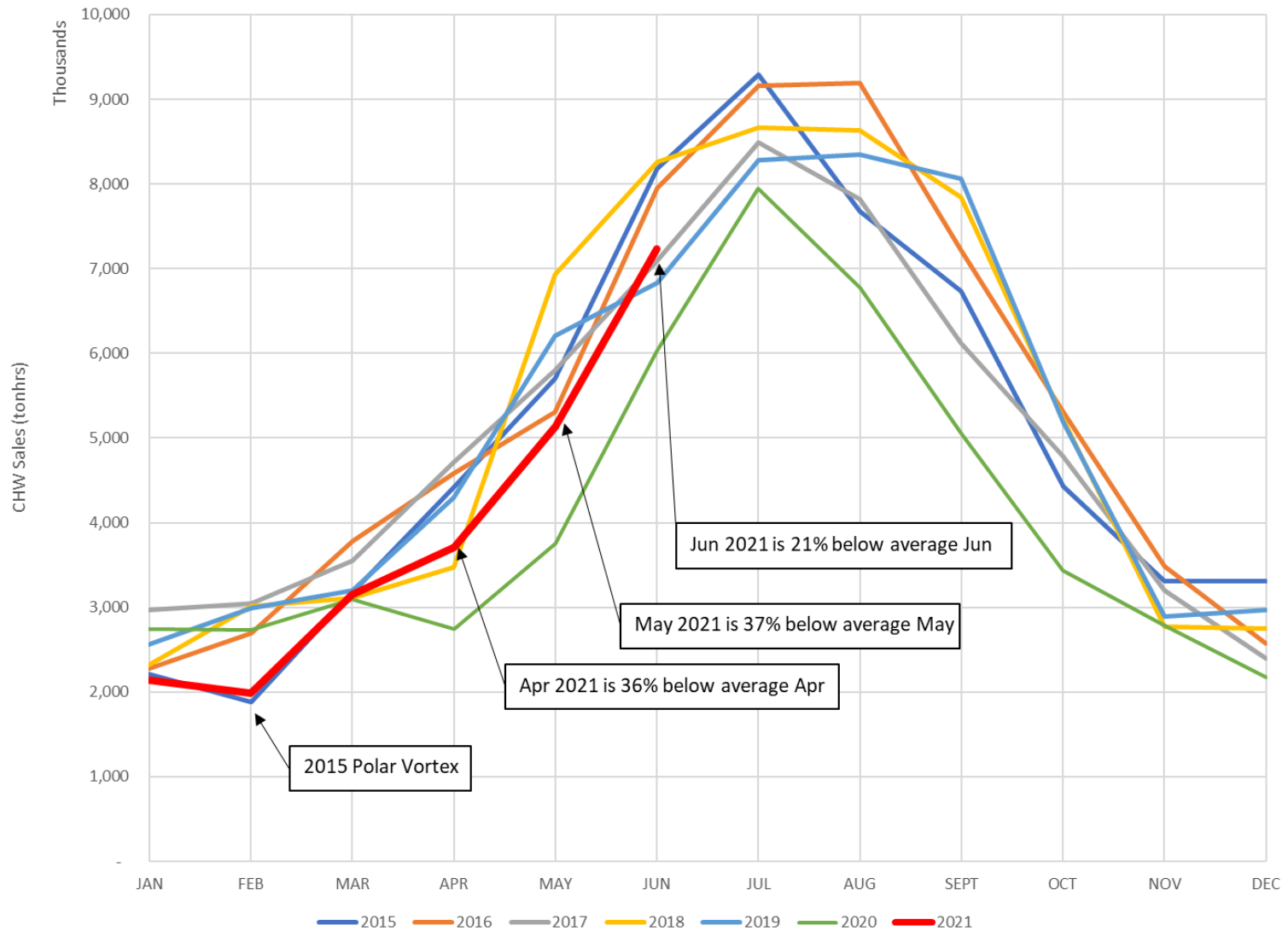
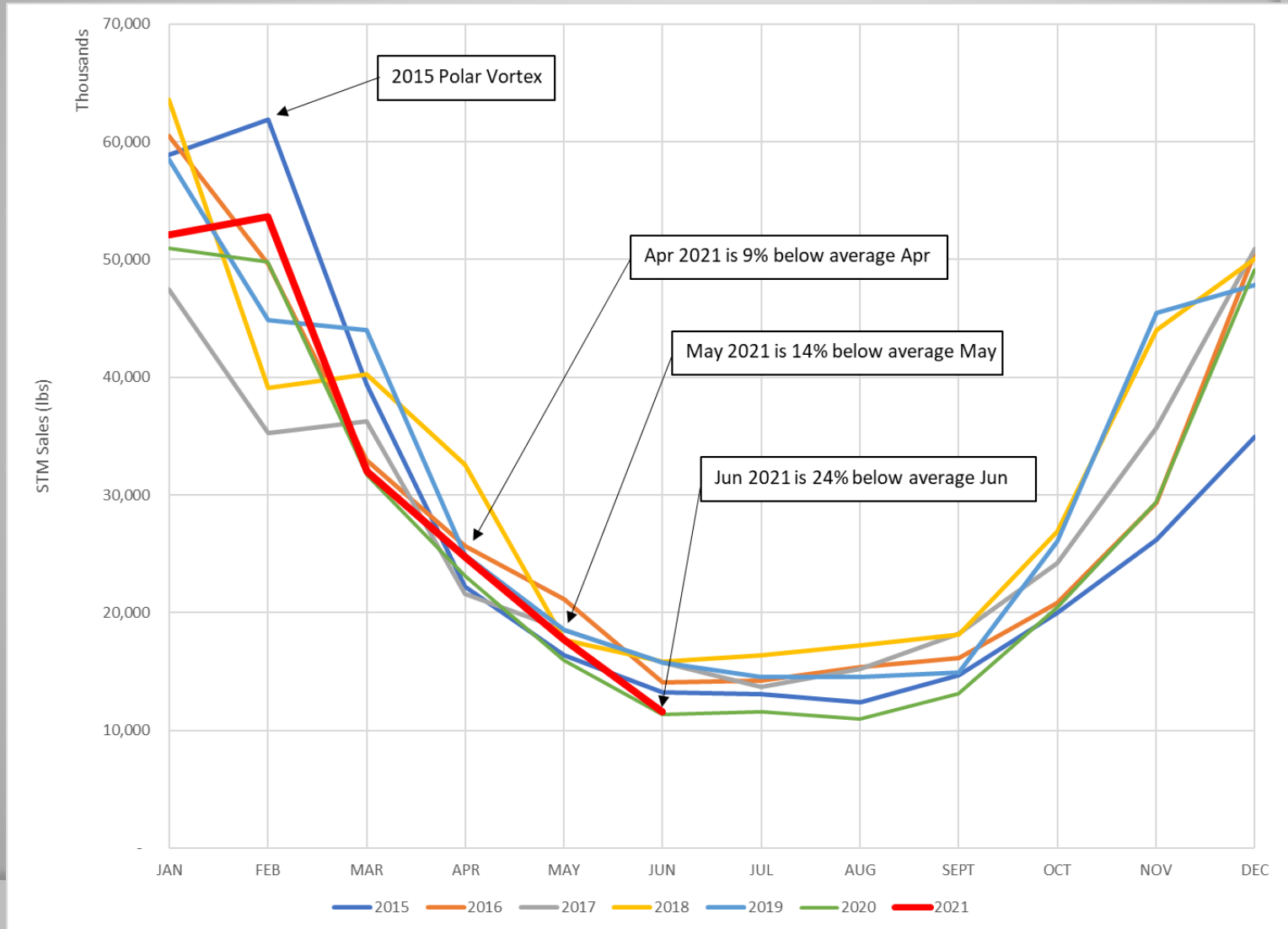


Figure 3B. Historic Steam Sales








4. nCOVID-19 Response

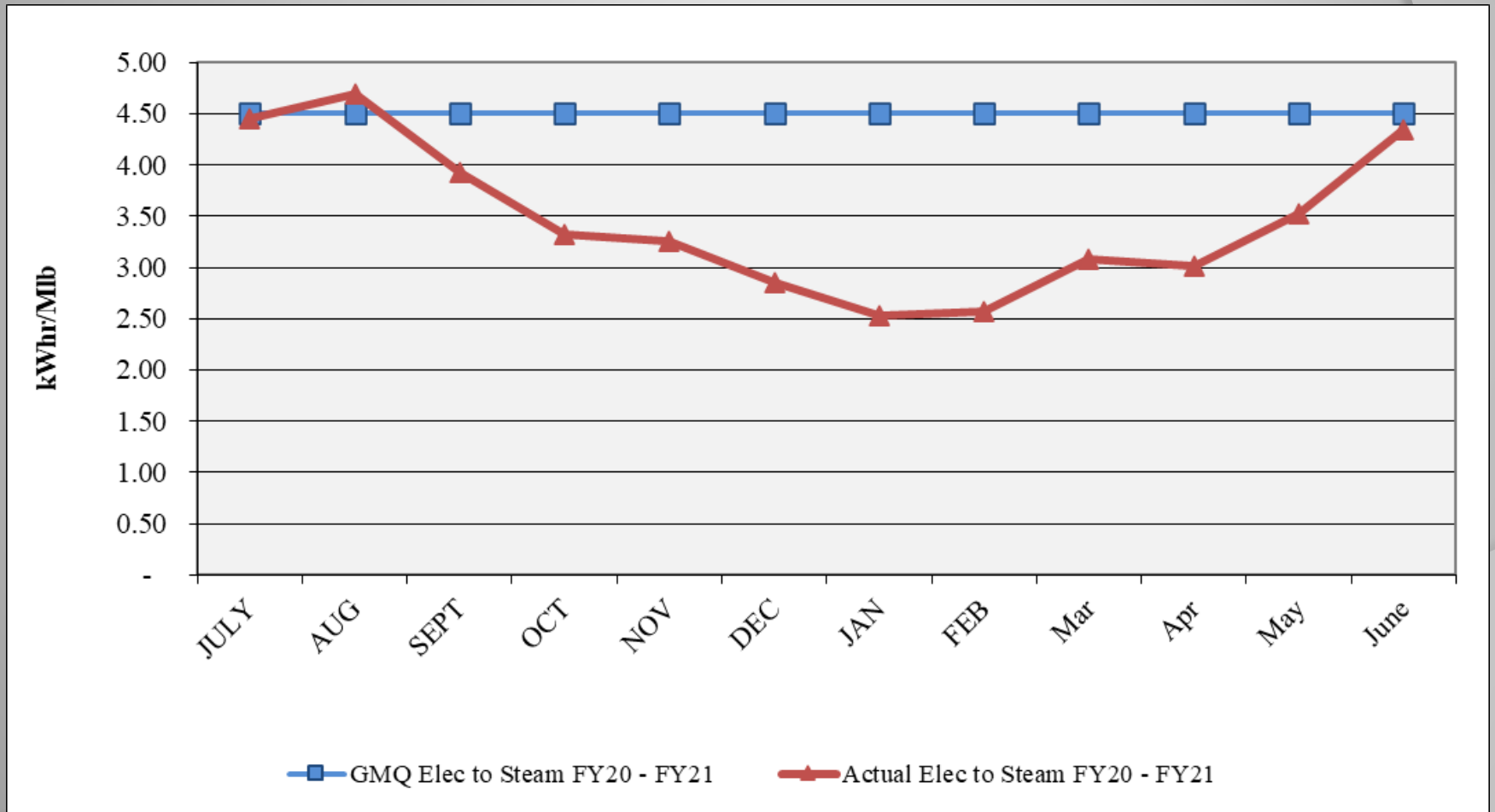
- Late fees re-activated May 2021
- Two customers opted for deferral last summer and are making their payments
- There are no customers currently in arrears more than 30 days
- CNE continues to limit access to EGF to essential personnel only
- Tele-meetings and job-site meetings still occurring

5. *Review of DES Contractor Performance*

Contractor (CNE) has failed to meet the new performance guarantees for twelve consecutive months in FY21.

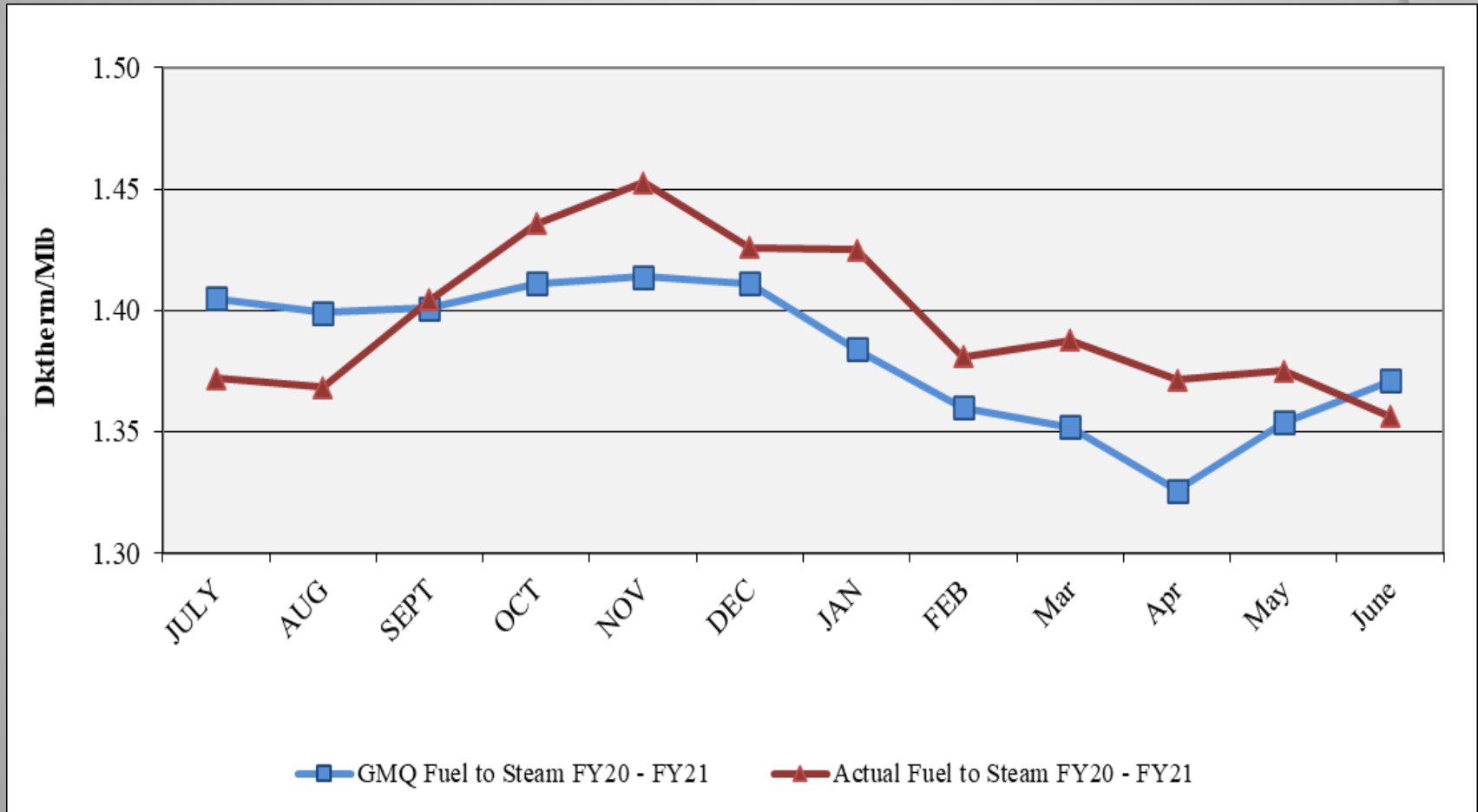
-  Excellent Performance – No Improvement Necessary
-  Satisfactory Performance – Some Improvement Could Be Made
-  Poor Performance – Much Improvement Necessary

Performance Measurement FY21: Steam Electric Conversion ●



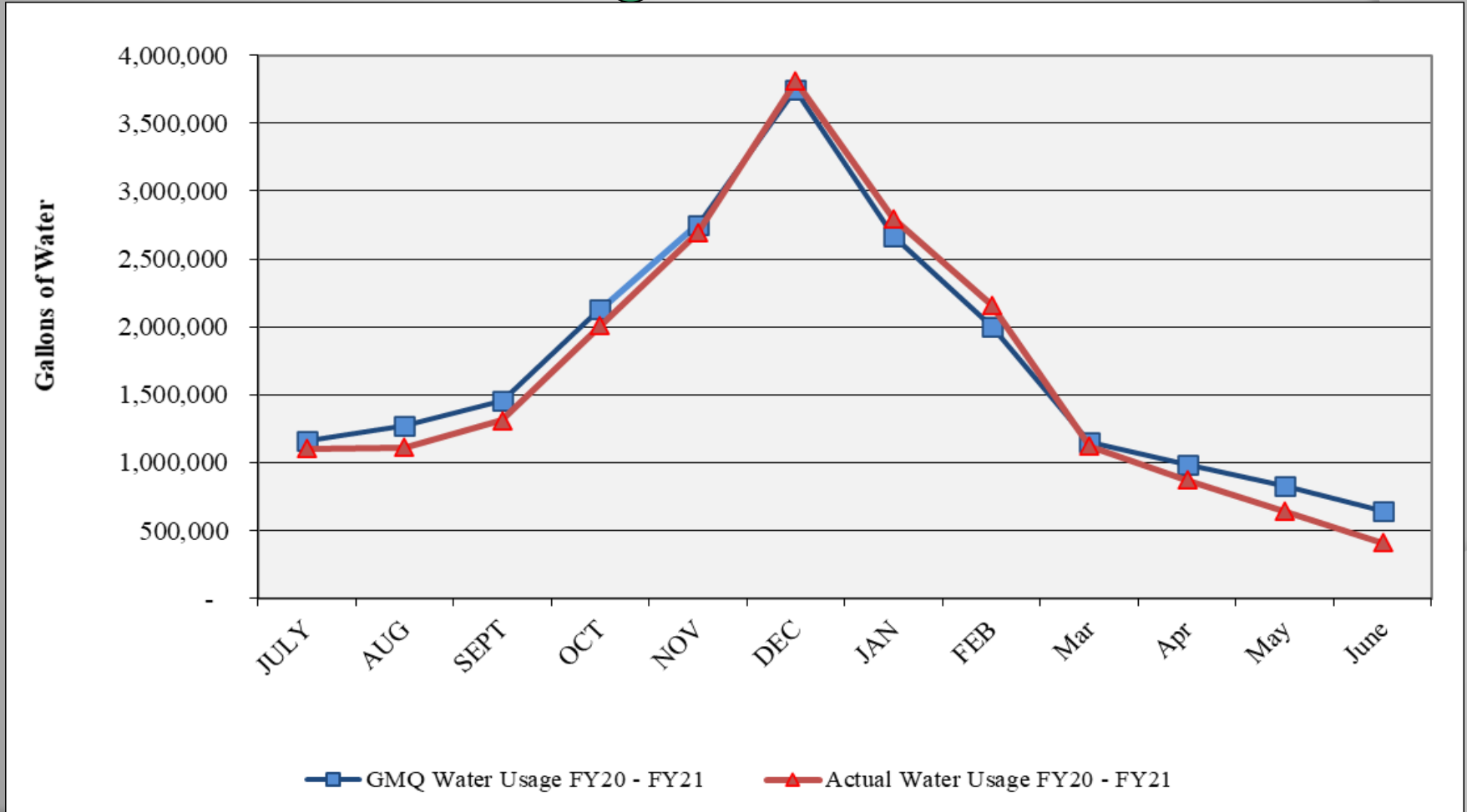
GMQ exceeded in August.

Performance Measurement FY21: Steam Plant Efficiency



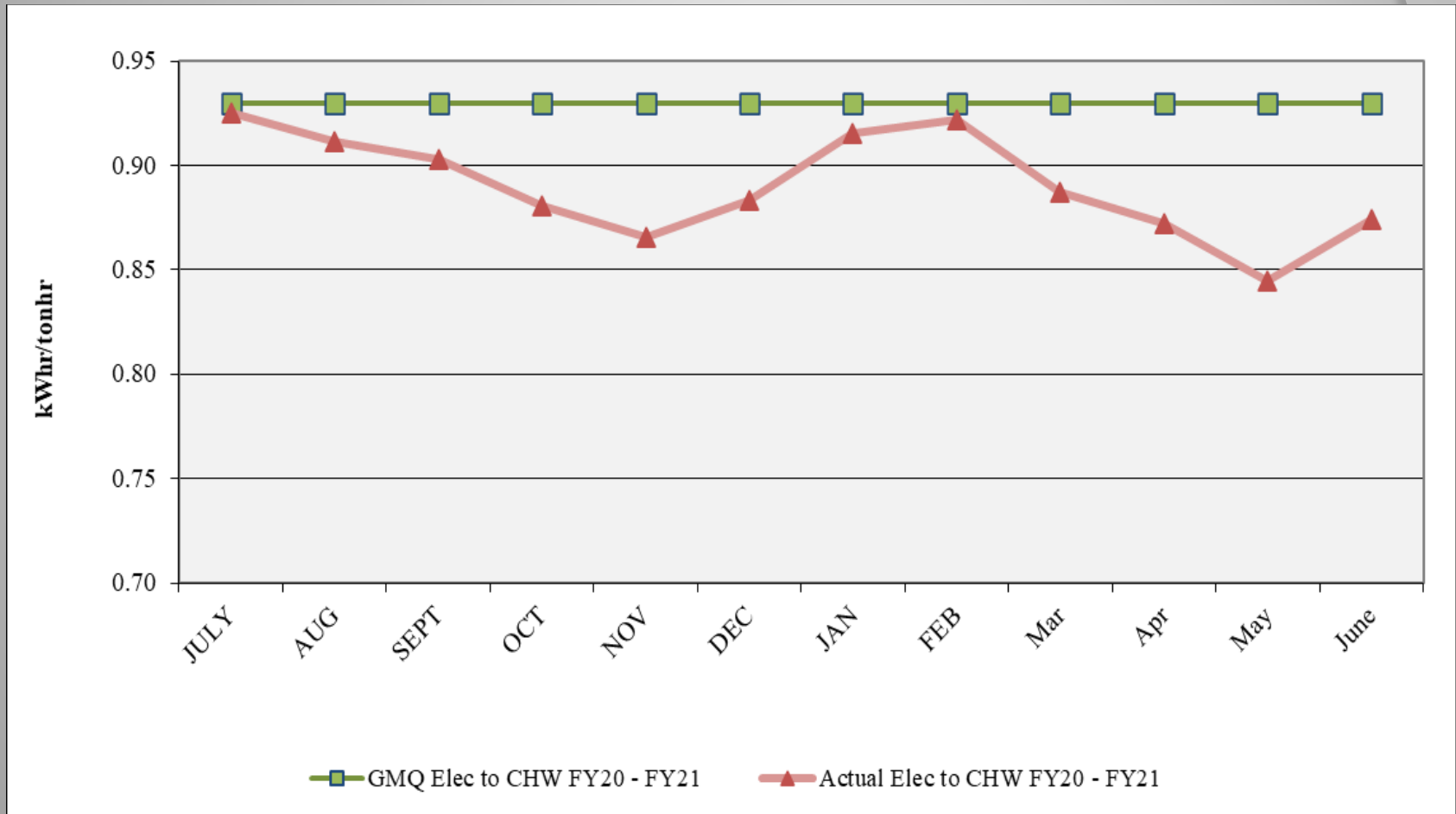
GMQ exceeded in Sept, Oct, Nov, Dec, Jan, Feb, Mar, Apr and May. Actuals higher than historic.

Performance Measurement FY21: Steam Water Conversion ●



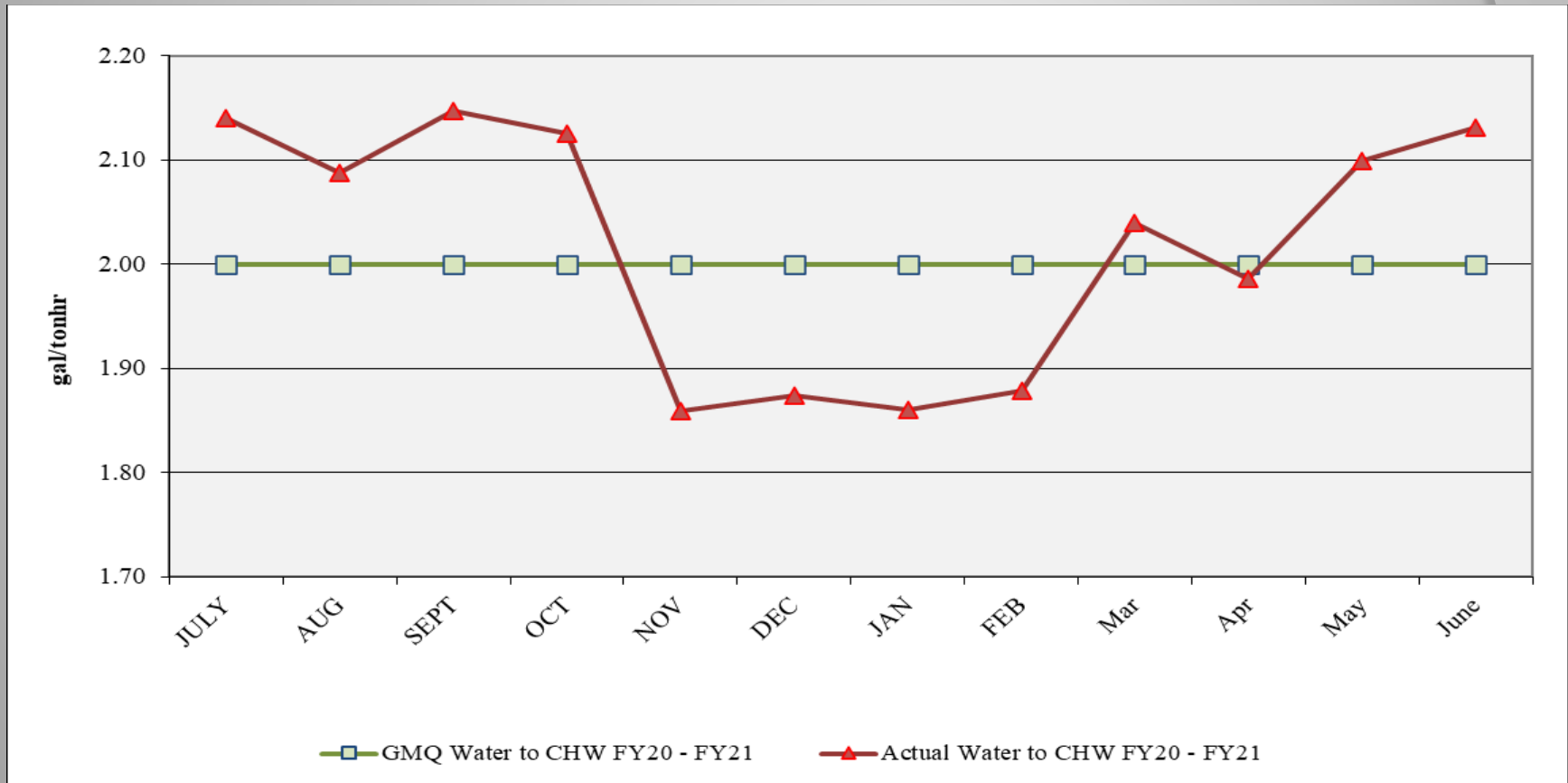
GMQ exceeded in Dec, Jan and Feb.

Performance Measurement FY21: CHW Electric Conversion ●



No excursion during the fiscal year.

Performance Measurement FY21: CHW Water Conversion ●



GMQ exceeded July, Aug, Sept, Oct, Mar, May, and June.

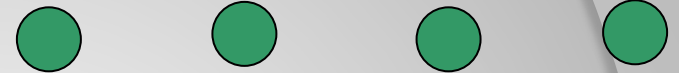


Water Treatment

Q4FY21 Q3FY21 Q2FY21 Q1FY21

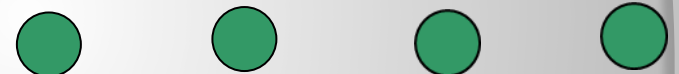
❖ Steam and Condensate

- ❖ Corrosion
- ❖ Iron
- ❖ Hardness; dumping condensate
- ❖ Chlorine/Sulfite



❖ Condensing Water

- ❖ Conductivity
- ❖ Biologicals



❖ Chilled Water

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



❖ Chem-Aqua is CNE's New Specialist



EGF Walkthrough

Q4FY21 Q3FY21 Q2FY21 Q1FY21

✓ Equipment Maintenance	● +	● +	● +	● +
✓ Operations	●	●	●	●
✓ Electrical	●	●	●	●
✓ Housekeeping	●	●	●	●
✓ Building Structure	●	●	●	●
✓ Building Exterior and Grounds	● +	●	●	●



EDS Walkthrough

	Q4FY21	Q3FY21	Q2FY21	Q1FY21
✓ Vault/Tunnel Housekeeping	● -	● +	● +	● +
✓ Maintenance Items				
✓ Piping	● -	NR	NR	NR
✓ Insulation R/R	●	●	●	●
✓ Water Infiltration	●	●	●	●
✓ Corrosion of Structural Metal Components	●	●	●	●
✓ Safety Items	●	●	●	●

NR – not reported previously

6. *Natural Gas Purchasing*

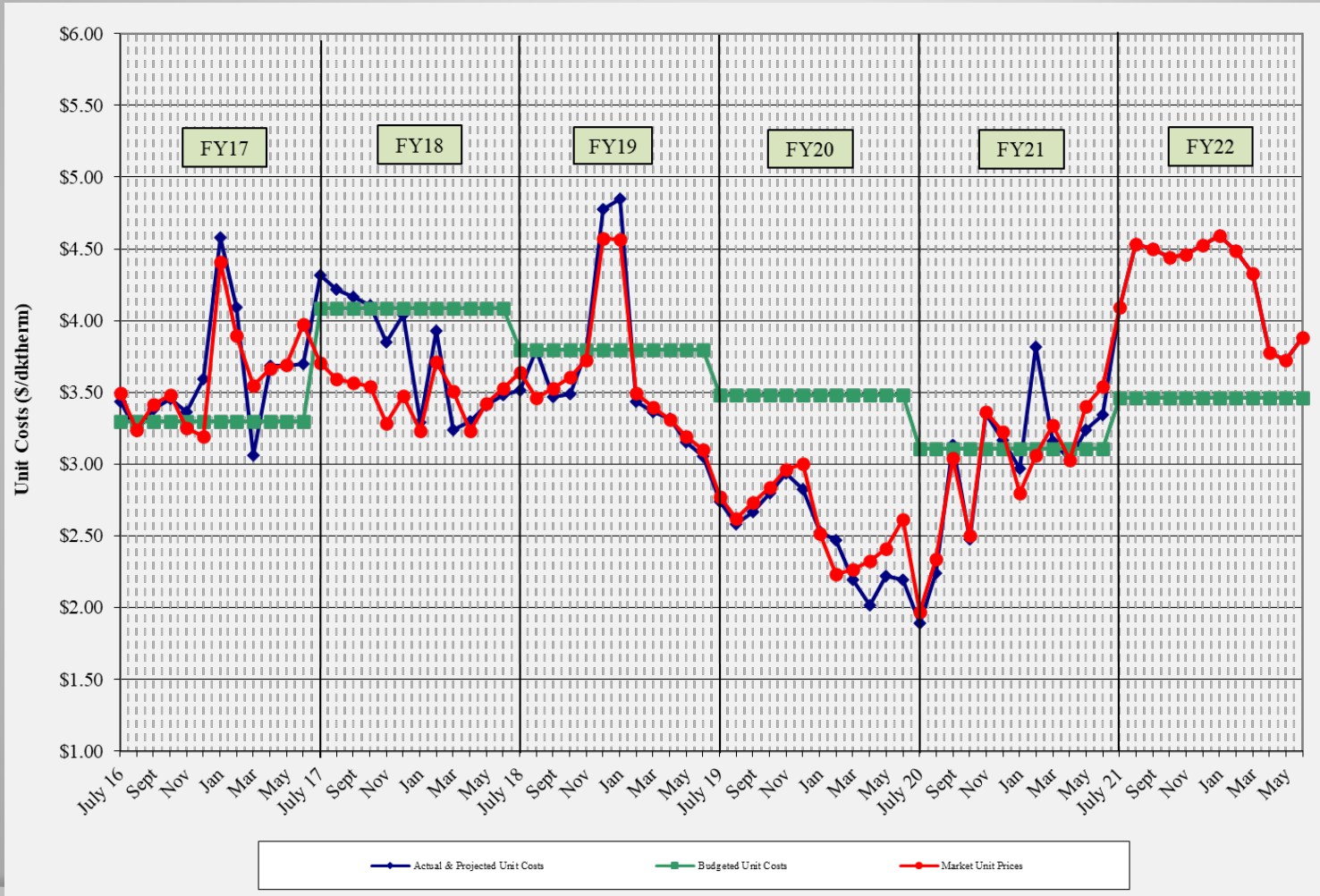
- ❖ Natural Gas Purchasing Review
 - ❖ Table 6: FY21 Gas Spending & Budget Comparison
 - ❖ Figure 6: Actual and Projected Fuel Cost Comparison

Table 6: FY21 Gas Spending & Budget Comparison

		Actual FY21 To June 30	Budget FY21	Percent Difference
Steam Sendout (Mlbs)		396,827	415,203	-4.4%
Fuel Use (Dth) (includes propane)	●	556,238	602,875	-7.7%
Plant Eff (Dth/Mlb)	●	1.402	1.452	-3.4%
Total Gas Cost (includes propane)	●	\$1,721,469	\$1,873,103	-8.1%
Unit Cost of Fuel (\$/Dth)	●	\$3.095	\$3.107	-0.4%

Excludes consultant fees and FEA and budget contingency; Includes transportation and actual propane costs and usages except unused pre-purchased propane

Figure 6. Actual and Projected Fuel Cost Comparison





7. FY21 Costs to Date

Item	FY21 Budget	FY21 Actual to date	Percent of FY21 Budget
FOC's	\$ 3,776,800	\$ 3,776,811	100.00%
Pass Throughs			
Administrative Costs	\$ 393,900	\$ 325,985	82.76%
Chemicals	\$ 260,700	\$ 245,778	94.28%
R&I Fund Transfers	\$ 291,900	\$ 291,900	100.00%
Water/Sewer	\$ 624,000	\$ 826,755	132.49%
Fuel Base	\$ 2,001,900	\$ 1,762,145	88.02%
Fuel Contingency	\$ 431,900	\$ -	0.00%
Electricity	\$ 6,130,100	\$ 4,131,585	67.40%
ORF Deposit	\$ -	\$ -	
Debt Service	\$ 5,098,000	\$ 4,983,816	97.76%
Total Expenses	\$ 19,009,200	\$ 16,344,775	85.98%
Total Revenues	\$ 18,378,500	\$ 15,810,397	86.03%
Metro Funding	\$ 630,700	\$ 630,700	100.00%

Actual Costs and Revenues to Date include FY20 True-up Items.

8. FY22 Budget

Item	FY21 Budget	FY22 Budget	Percent of FY21 Budget
FOC's	\$ 3,776,800	\$ 3,890,100	3.00%
Pass Throughs			
Administrative Costs	\$ 393,900	\$ 459,600	16.68%
Chemicals	\$ 260,700	\$ 232,200	-10.93%
R&I Fund Transfers	\$ 291,900	\$ 294,800	0.99%
Water/Sewer	\$ 624,000	\$ 751,500	20.43%
Fuel Base	\$ 2,001,900	\$ 2,115,186	5.66%
Fuel Contingency	\$ 431,900	\$ 516,814	19.66%
Electricity	\$ 6,130,100	\$ 6,329,500	3.25%
ORF Deposit	\$ -	\$ -	
Debt Service	\$ 5,098,000	\$ 5,083,200	-0.29%
Total Expenses	\$ 19,009,200	\$ 19,672,900	3.49%
Total Revenues	\$ 18,378,500	\$ 19,042,200	3.61%
Metro Funding	\$ 630,700	\$ 630,700	0.00%

9. *Marketing*

Remaining Capacity for Sale (approximate)

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

Potential Customers

- Service to Lot K (Peabody Union)
 - Site directly to the east of EGF
 - Active negotiations for chilled water service
 - Anticipated 550-ton capacity
 - Gaither Street

Marketing (con't)

- Peabody St Hotel
 - Potential 2,000 to 3,000 tons
- New Development North of KVB
 - Potential ~1,100 tons and ~15,000 pph
- Union Street Hotel
 - Ongoing renovation of existing building on Union St
 - Developer waiting on financing approval
 - Potential 100 tons and no steam
- Molloy St Development
 - Early stages of discussions

10. Capital Expenditure Update

	Spent to End of FY20	FY21 Spending	Balance to Date (07/31/21)
R&I Projects	\$3,887,279	\$383,360	\$47,950
49109-2010 Bond	\$2,600,602	\$5,314	\$0
49107-DES Infrastructure Fund	\$8,499,961	\$39	\$0
49116-DES Infrastructure Fund	\$1,568,389	\$1,144,726	\$2,583,689
Total	\$16,556,231	\$1,533,439	\$2,631,639

Capital Projects Review

Active Capital Projects – General & Marketing

- DES 133.1: Broadway Tunnel Damage Recovery - ongoing
- DES 139: Options Review - ongoing
- DES 163: Peabody Union – ongoing

Capital Projects Review

Active Capital Projects – Corrosion Repair/Prevention

- DES 152: MHs A, B & M – anticipate completion 1st Qtr FY22
- DES 161: MH S6 Insulation – existing corroded anchor to be replaced; piping to be insulated; drawing issued; anticipate completion late 1st Qtr FY22/early 2nd Qtr FY22
- DES 172: Viridian Service Line Support Repairs – anticipate completion 1st Qtr FY22
- DES 174: 7th Avenue Tunnel Pipe Support Repairs – anticipate completion 1st Qtr FY22
- DES 188: 4th & Church Bldg Access Tunnel Repairs – tunnel metal liner plates and piping supports corroded; anticipate bidding project during 1st Qtr FY22 and construction to start during 2nd Qtr FY22

Capital Projects Review

Active Capital Projects – Repairs/Modifications

- DES 177: MH B1 Platform & Ladder – bids rec'd; verbal award; anticipate construction late 1st Qtr FY22/early 2nd Qtr FY22
- DES 182: MH B10 Exp Jt Replacement – construction in 4th Qtr FY21; awaiting insulation repairs; anticipate 1st Qtr FY22 completion
- DES 185: 5th Ave N Exploratory Excavation – piping repairs complete; concrete repairs to be completed during 1st Qtr FY22
- DES 186: Printers Alley Exploratory Excavation – work complete except final mill & pave; anticipate completion during 1st Qtr FY22

Capital Projects Review

Active Capital Projects – Repairs/Modifications

- DES 187: Exploratory Excavation at MH 22B (Metro Public Library) – water flowing through steam casing into MH 22B; excavated and found buried steam & condensate pre-insulated piping in need of repair; awaiting purchase/delivery of replacement piping; anticipate completion during 2nd Qtr FY22
- DES 190: MH 2 Spare Tube & Trap Modifications – trap piping corroded & leaking due to low positioning in manhole; re-designed spare tube and trap piping to elevate position in manhole; construction began during 4th Qtr FY21; anticipate completion during 1st Qtr FY22.

Capital Projects Review

Capital Projects – Anticipated Construction in FY22

- DES 143: MH N1 and N2 Insulation – piping insulation to be installed/added
- DES 154: MH K Repairs – corrosion/concrete repairs; awaiting results of sealing MH N2
- DES 178: MH 5 Repairs – corrosion/concrete/insulation repairs
- DES 179: MH 11 Repairs - corrosion/concrete/insulation repairs
- DES 180: State Tunnel Pipe Support Repair – corrosion repairs
- DES 189: MH 4 Structural Steel & Insulation Repair

Capital Projects Review

Capital Projects – Closed/In Close-out

- DES 153: MH L Repairs
- DES 168: DES Service to 1st and KVB Hotels
- DES 171: Broadway Tunnel Pipe Support & Safety Repairs
- DES 173: MH B3 Repairs
- DES 181: CHW & CND Leak in 3rd Ave N
- DES 183: Hermitage Hotel Svc Line Modifications
- DES 184: 7th Ave N Steam Leak Repair

11. Other Board Member Items

12. Adjourn

- *Advisory Board Meeting Schedule*
- FY22 – 1st Quarter Meeting – November 18, 2021
- FY22 – 2nd Quarter Meeting – February 17, 2022
- FY22 – 3rd Quarter Meeting – May 19, 2022
- FY22 – 4th Quarter Meeting – August 20, 2022