



Metro Nashville
DISTRICT ENERGY SYSTEM

DES Advisory Board Meeting
Third Quarter FY26
May 21, 2026



Presented by:
MNDES Project Administrator
Thermal Engineering Group, Inc

Agenda

1. Call to Order
2. Review & Approval of Previous Meeting Minutes
3. Metro Liaison Update
4. Customer Sales
5. Marketing
6. Review of DES Contractor Performance
7. Natural Gas Purchasing Update
8. FY26 Costs to Date
9. FY26 Budget
10. Review of EGF and EDS
11. Capital Projects Review & Status
12. System Operator Update
13. Special Topics
14. Other Board Member Items
15. Adjourn

1. Call to Order
2. Review & Approval of Previous Meeting Minutes
3. Metro Liaison Update

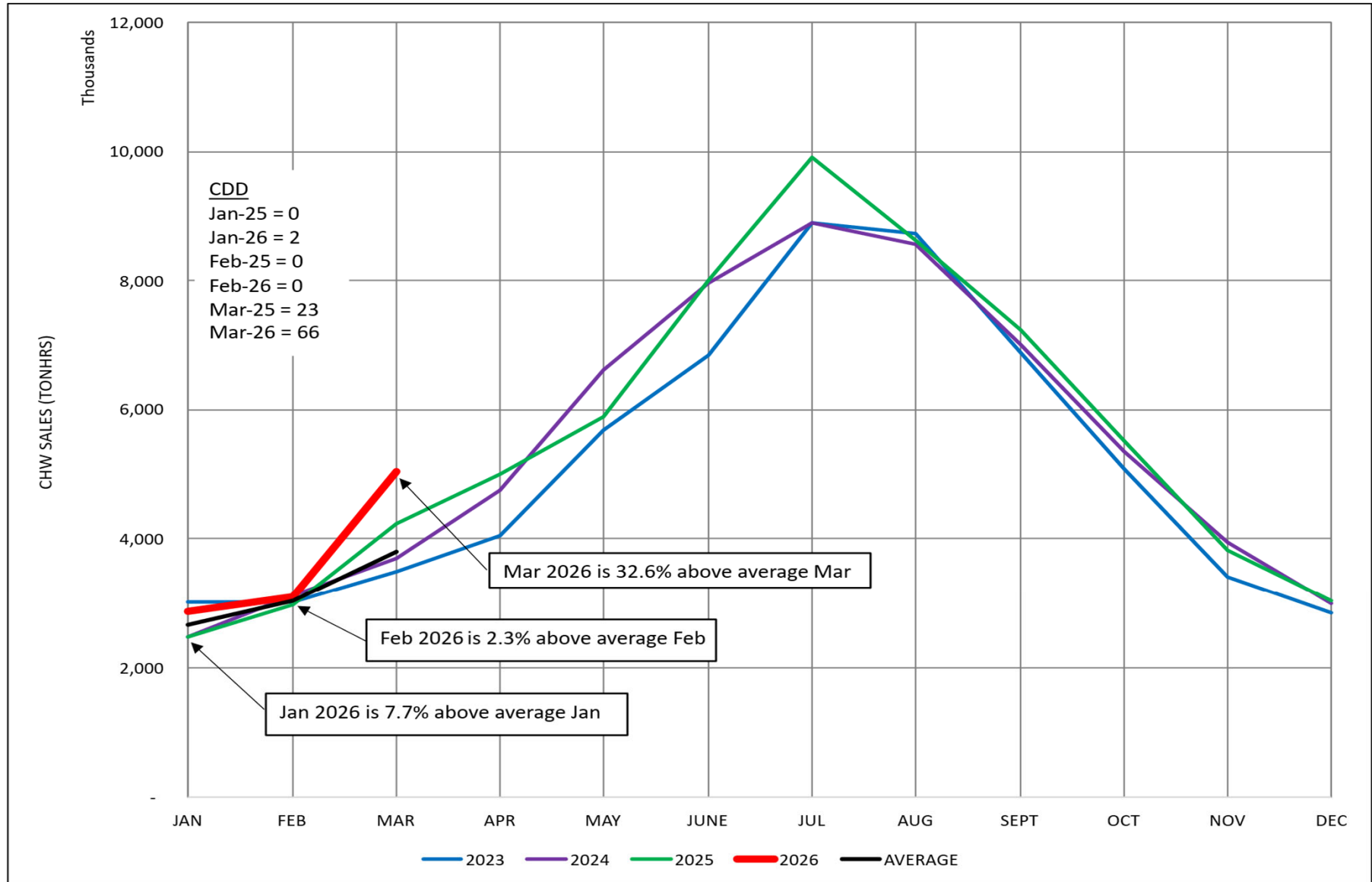
4. *Customer Sales*

- ❖ There are 2 customers in arrears more than 30 days
- ❖ Table 4: Customer Cost Comparison for the Previous 12 Months
- ❖ Figure 4A: Historic Chilled Water Sales
- ❖ Figure 4B: Historic Steam Sales

Summary Table 4: Customer Cost Comparison for the Previous 12 Months

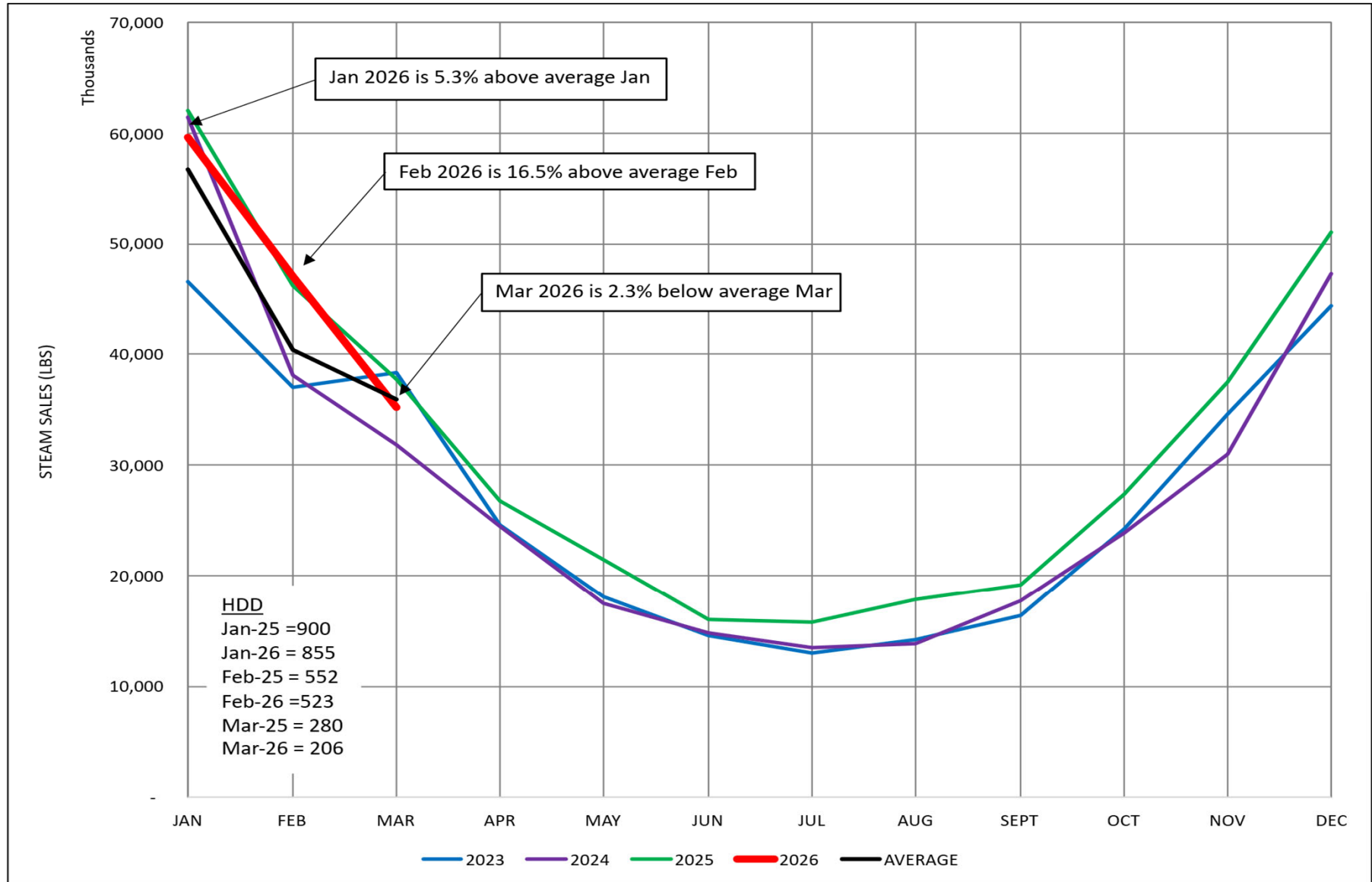
		Steam - Rolling 12 Month			Chilled Water - Rolling 12 Month		
		Apr 2024- Mar 2025	Apr 2025- Mar 2026	% Diff.	Apr 2024- Mar 2025	Apr 2025- Mar 2026	% Diff.
Private	Cost	\$ 1,625,675	\$ 1,735,831	6.78%	\$ 4,584,642	\$ 4,766,709	3.97%
	Usage (lbs or tonhrs)	97,564,675	96,733,558	-0.85%	22,946,316	23,571,250	2.72%
State	Cost	\$ 1,997,063	\$ 2,232,016	11.76%	\$ 3,570,809	\$ 3,617,471	1.31%
	Usage (lbs or tonhrs)	109,504,209	122,857,017	12.19%	13,544,644	14,732,930	8.77%
Metro	Cost	\$ 2,007,379	\$ 2,339,580	16.55%	\$ 5,343,204	\$ 5,584,154	4.51%
	Usage (lbs or tonhrs)	142,632,275	154,999,692	8.67%	29,293,979	29,781,316	1.66%
Aggregate	Cost	\$ 5,630,117	\$ 6,307,427	12.03%	\$13,498,654	\$13,968,335	3.48%
	Usage (lbs or tonhrs)	349,701,159	374,590,267	7.12%	65,784,939	68,085,496	3.50%
	Unit Cost	\$ 16.10	\$ 16.84	4.6%	\$ 0.205	\$ 0.205	-0.02%

Figure 4A. Historic Chilled Water Sales



Averages include the years 2023, 2024, and 2025.

Figure 4B. Historic Steam Sales



Averages include the years 2023, 2024, and 2025.

5. *Marketing*

- Remaining Capacity for Sale (under evaluation)
 - 1,800 tons of chilled water
 - 35,100 pph of steam
- Potential New Customer Interest
 - ~8,500 tons
 - ~97,000 pph (or equivalent)
- Decoupling Existing Customers
- Existing Building Renovations
 - Another Customer Converting to Hotel
 - Another Customer Renovations on Hold
- 414 Union St (Philips Plaza) – Executed CSA

Marketing (con't)

- Rolling Mill Hill Development
 - 1st and KVB
 - Development on hold
 - 4th and Lea Ave
 - Re-evaluating development; on hold
- Two Large Developments in Preliminary Design

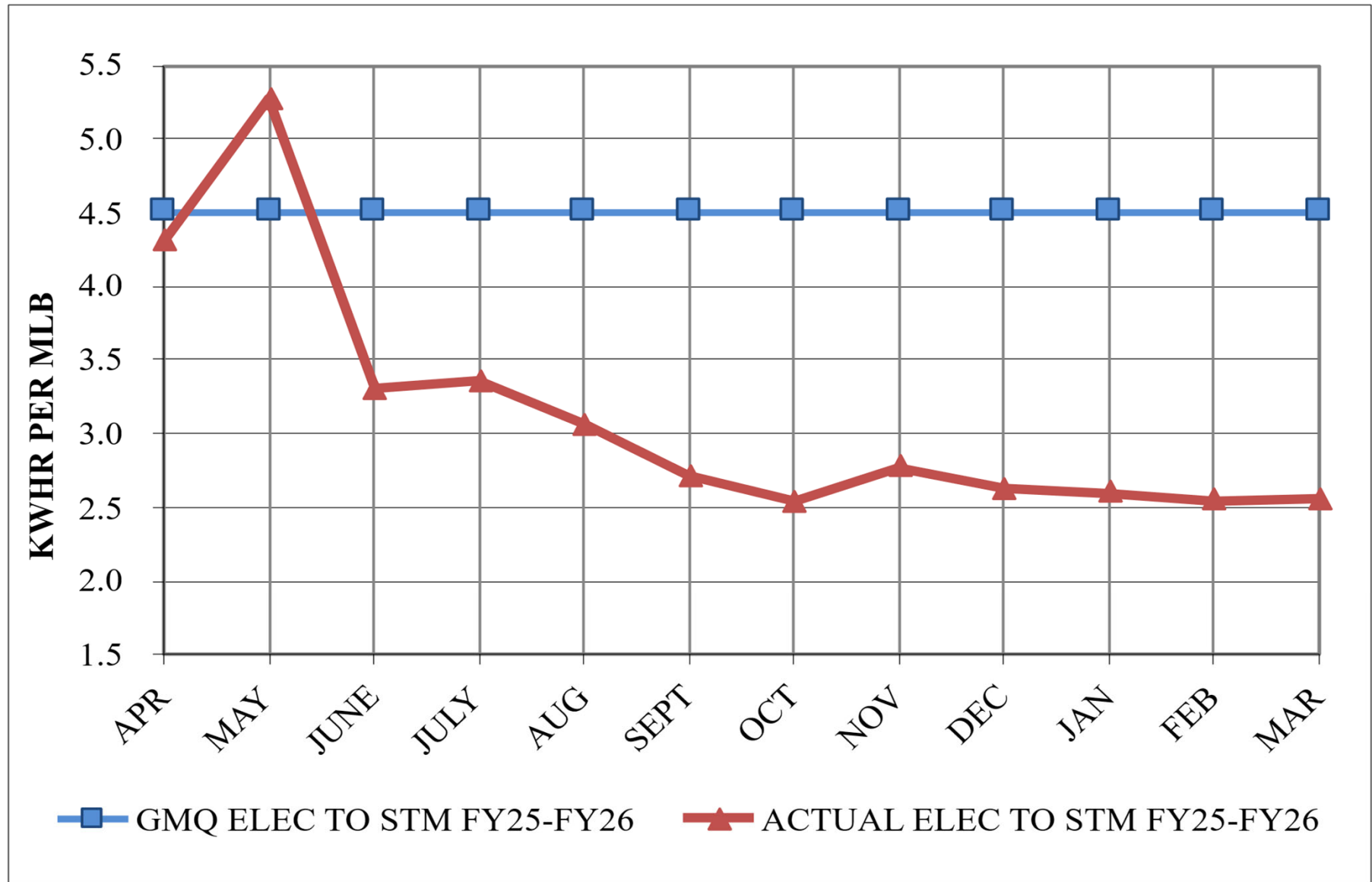
Marketing (con't)

- New Developments North of KVB
 - Printer's and Banker's Alley
 - Development on hold; design includes chilled water
 - 7th and Commerce
 - Development on hold; design includes steam and chilled water
 - Washington Square
 - Anticipate replacing existing chiller with DES
 - Two New Buildings Considering DES in Preliminary Design
 - One Existing Building Considering DES in Preliminary Design

6. Review of DES Contractor Performance

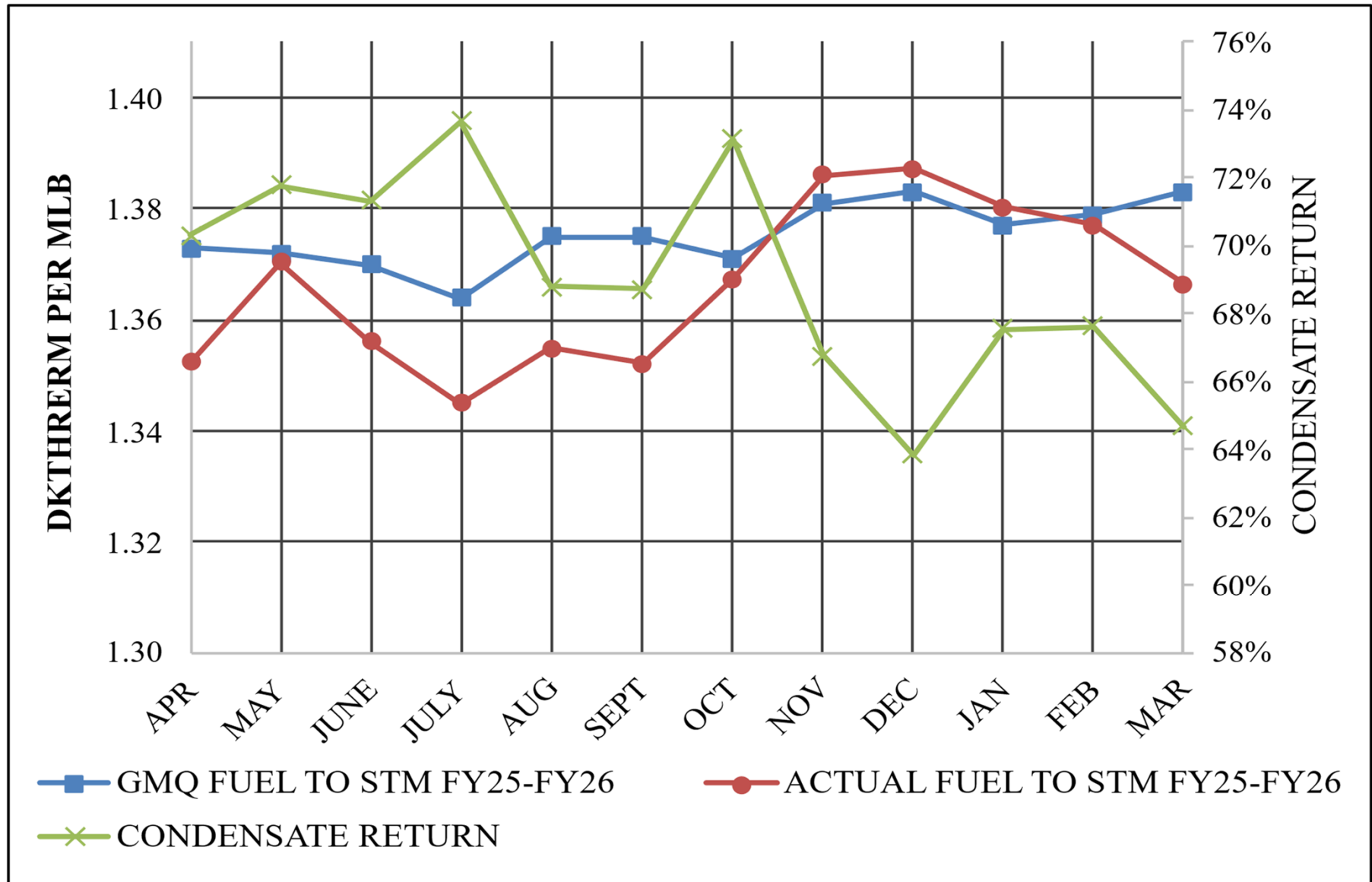
DEAO failed to meet the steam-to-fuel performance metric for one month in the quarter. All other metrics met during the quarter. DEAO continues to address the system energy usage.

Performance Measurement FY26: Steam Electric



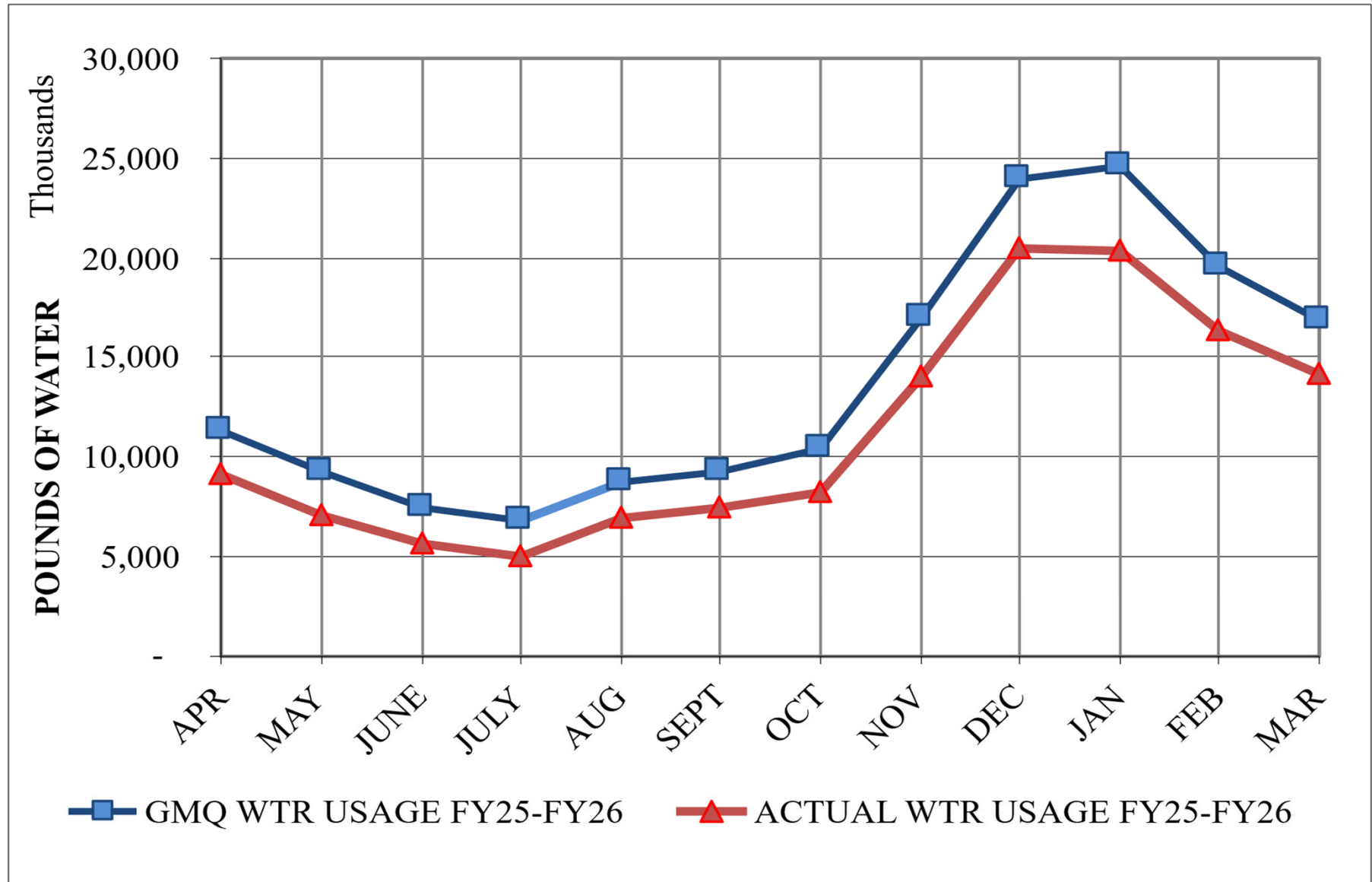
GMQ not met in May.

Performance Measurement FY26: Steam Plant Eff



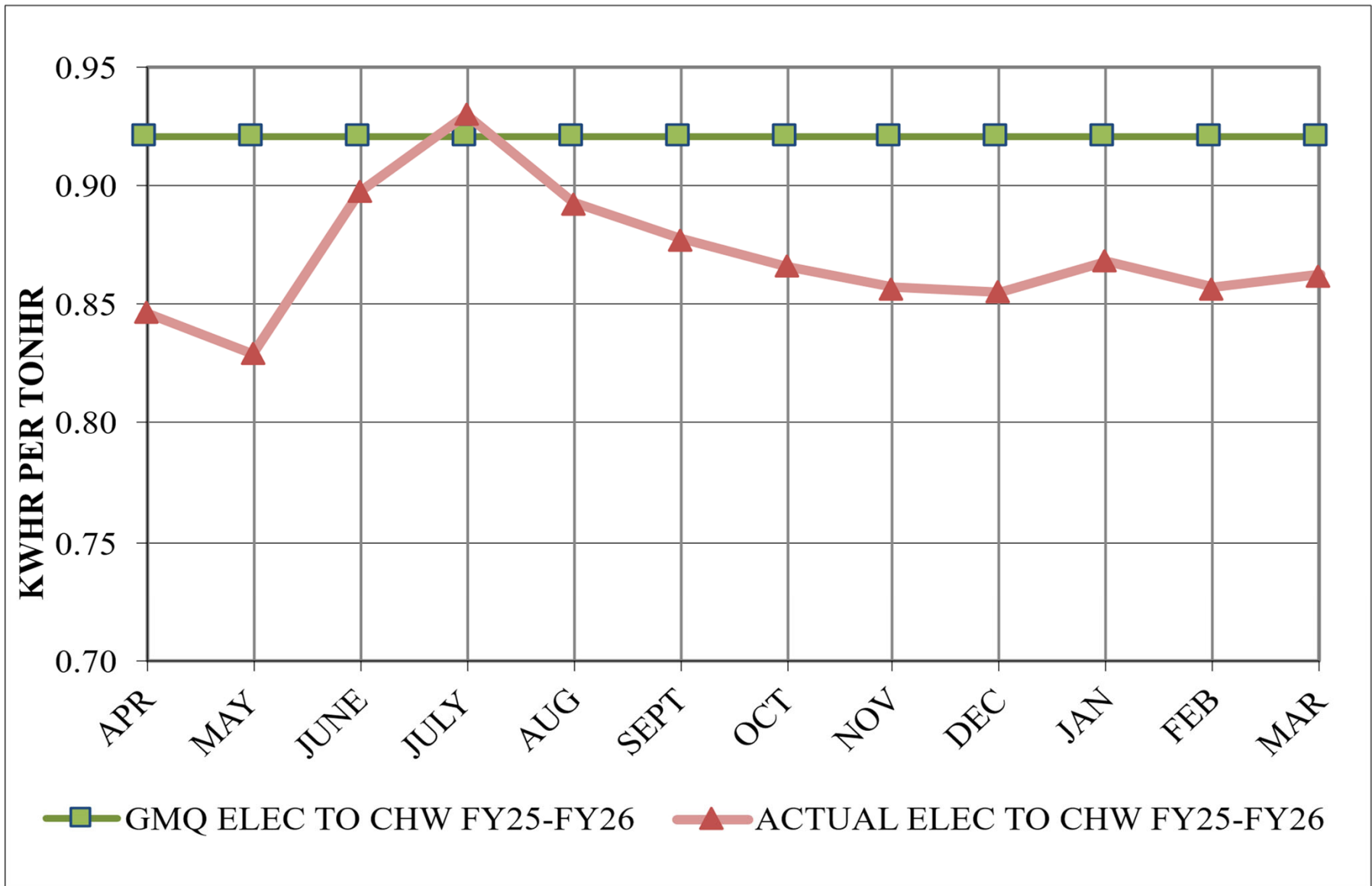
GMQ not met Nov, Dec, and Jan.

Performance Measurement FY26: Steam Water



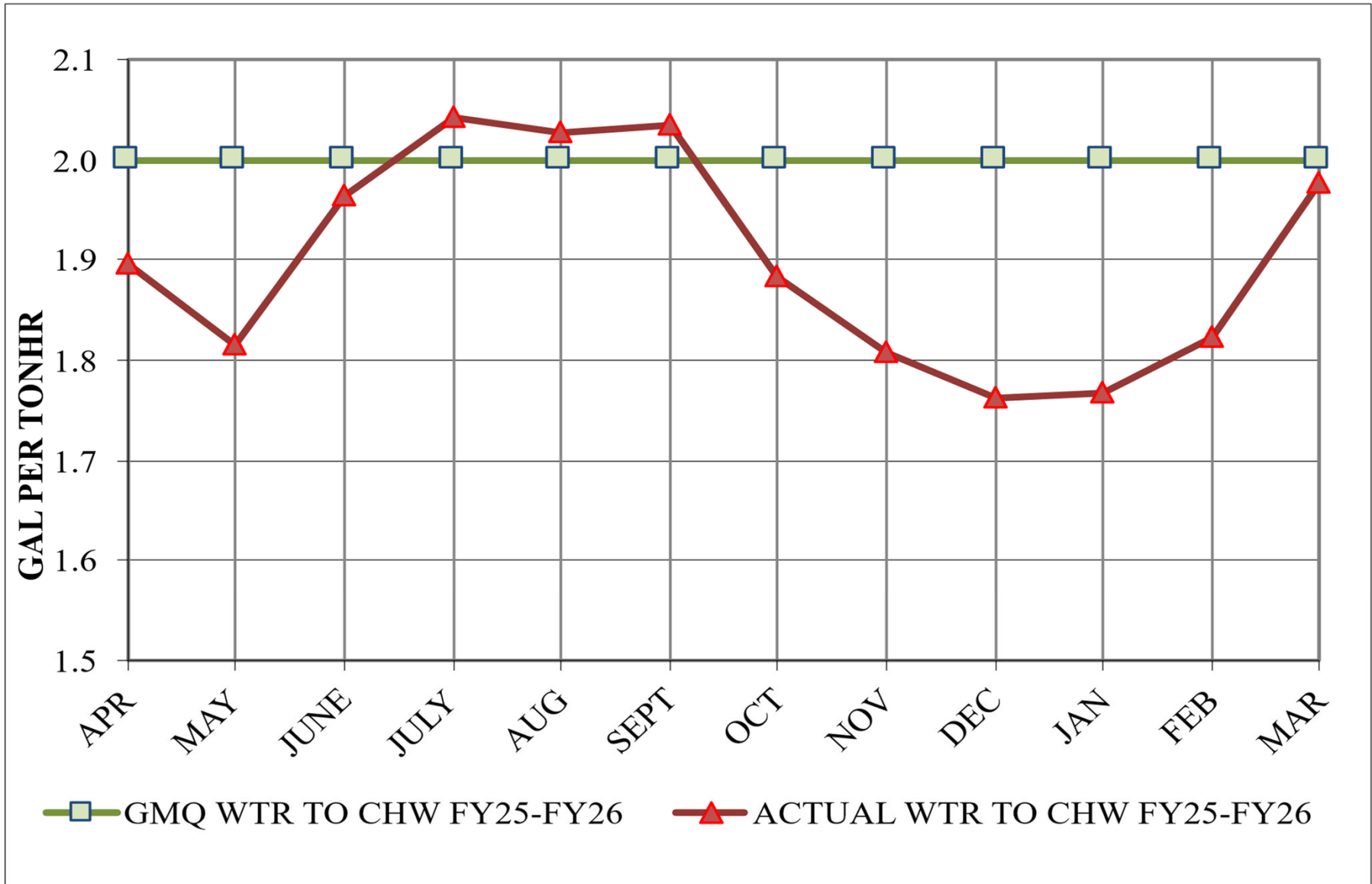
GMQ met in all months.

Performance Measurement FY26: CHW Electric



GMQ not met in July.

Performance Measurement FY26: CHW Water



GMQ not met July, Aug, and Sept.

Water Treatment

❖ Steam and Condensate

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

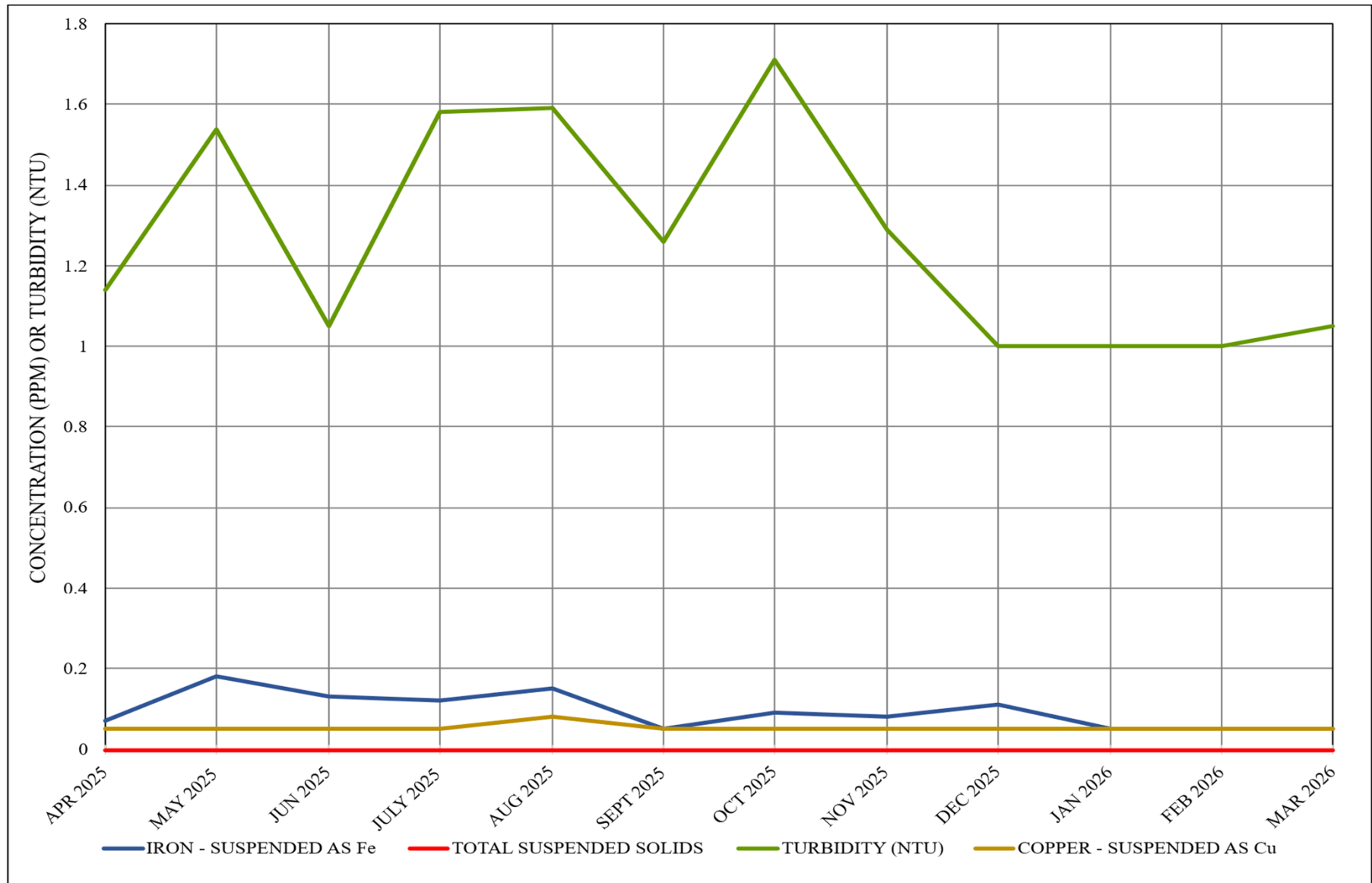
❖ Condensing Water

- ❖ Conductivity
- ❖ Biologicals

❖ Chilled Water

- ❖ Hardness
- ❖ Corrosion
- ❖ EGF and Customer Biologicals Good
- ❖ Side Stream Filter

Side Stream Filter Performance



7. Natural Gas Purchasing

- ❖ Natural Gas Purchasing Review
 - ❖ Table 7A: FY26 Gas Spending & Budget Comparison
 - ❖ Table 7B: Propane Use During Jan-Feb Winter Storm
 - ❖ Figure 7: Actual and Projected Fuel Cost Comparison

Table 7A: FY26 Gas Spending & Budget Comparison

	Actual FY26 To Mar 31	Budget FY26 To Mar 31	Percent Difference
Steam Sendout (Mlbs)	352,587	346,217	1.8%
Fuel Use (Dth) (includes propane)	484,120	496,128	-2.4%
Plant Eff (Dth/Mlb)	1.373	1.433	-4.2%
Total Gas Cost (includes propane)	\$2,556,206	\$3,063,515	-16.6%
Unit Cost of Fuel (\$/Dth)	\$5.280	\$6.175	-14.5%

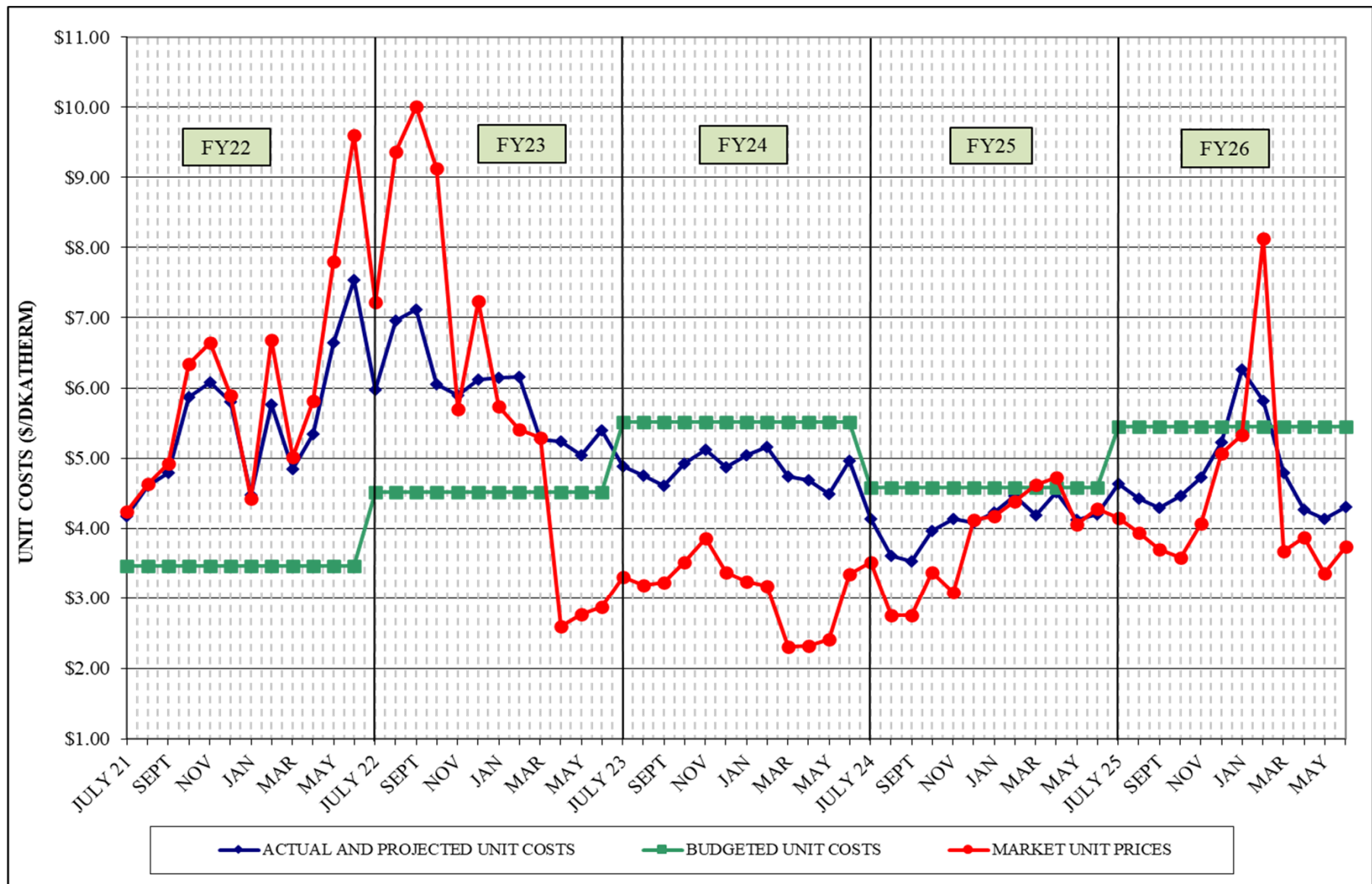
Excludes consultant fees, FEA, and pre-purchased and stored propane; Includes transportation and actual propane costs and usages. Budget values include price and weather contingencies.

Table 7B: Propane Use During Jan-Feb Winter Storm

Date	Propane Delivered		Propane Cost	Propane Delivery Cost	Total Propane Cost	Propane Unit Cost (per Dth)
	(Dth)	(gal)				
1/24/2026	281	3,088	\$ 7,448	\$ 9.33	\$ 7,458	\$ 26.54
1/25/2026	Propane Delivery Unavailable					
1/26/2026						
1/27/2026	856	9,407	\$ 8,953	\$ 1,507.24	\$ 10,460	\$ 12.22
1/28/2026	857	9,414	\$ 8,960	\$ 1,526.72	\$ 10,487	\$ 12.24
1/29/2026	1,712	18,812	\$ 17,905	\$ 3,090.83	\$ 20,995	\$ 12.26
1/30/2026	856	9,404	\$ 8,950	\$ 1,525.09	\$ 10,475	\$ 12.24
1/31/2026	856	9,411	\$ 8,957	\$ 1,525.26	\$ 10,482	\$ 12.24
2/1/2026	856	9,405	\$ 8,951	\$ 1,525.26	\$ 10,477	\$ 12.24
2/2/2026	1,713	18,820	\$ 17,912	\$ 1,836.50	\$ 19,749	\$ 11.53
2/3/2026	No Propane Delivery					
2/4/2026	856	9,409	\$ 8,955	\$ 801.36	\$ 9,756	\$ 11.39
Total Event	8,842	97,170	\$ 96,992	\$ 13,348	\$ 110,339	\$ 12.48
Propane Credit for Sell-Back (March 2026)					\$ (3,669)	\$ (6.81)
Total Net Propane Cost					\$ 106,670	\$ 12.85

Sold back 5,918 gallons of propane (539 Dth); propane tank remains ~80% full.

Figure 7. Actual and Projected Fuel Cost Comparison



Currently hedging 70% on natural gas through end of FY26; transportation costs included.

8. *FY26 Costs to Date*

Item	FY25 Budget	FY26 Budget	FY26 Actual to date	Percent of FY26 Budget
FOC's	\$ 4,250,800	\$ 4,378,300	\$ 3,248,700	74.20%
Pass Throughs				
Administrative Costs	\$ 752,500	\$ 753,200	\$ 493,098	65.47%
Chemicals	\$ 379,300	\$ 330,300	\$ 254,927	77.18%
R&I Fund Transfers	\$ 322,200	\$ 763,600	\$ 636,333	83.33%
Water/Sewer	\$ 1,187,300	\$ 1,267,800	\$ 876,315	69.12%
Fuel Base	\$ 2,631,171	\$ 2,833,109	\$ 2,605,650	91.97%
Fuel Contingency	\$ 795,729	\$ 1,044,791	\$ -	0.00%
Electricity	\$ 6,801,900	\$ 6,212,900	\$ 4,393,962	70.72%
ORF Deposit	\$ -	\$ -	\$ -	0.00%
Debt Service	\$ 5,385,300	\$ 4,786,400	\$ 3,246,935	67.84%
Total Expenses	\$ 22,506,200	\$ 22,370,400	\$ 15,755,920	70.43%
Total Revenues	\$ 22,121,200	\$ 21,985,400	\$ 15,651,896	71.19%
Metro Funding	\$ 385,000	\$ 385,000	\$ 192,500	50.00%

Actual Costs and Revenues to Date include FY25 True-up Items.

9. FY26 Budget

Item	FY25 Budget	FY26 Budget	Percent of FY25 Budget
FOC's	\$ 4,250,800	\$ 4,378,300	3.00%
Pass Throughs			
Administrative Costs	\$ 752,500	\$ 753,200	0.09%
Chemicals	\$ 379,300	\$ 330,300	-12.92%
R&I Fund Transfers	\$ 322,200	\$ 763,600	137.00%
Water/Sewer	\$ 1,187,300	\$ 1,267,800	6.78%
Fuel Base	\$ 2,631,171	\$ 2,833,109	7.67%
Fuel Contingency	\$ 795,729	\$ 1,044,791	31.30%
Electricity	\$ 6,801,900	\$ 6,212,900	-8.66%
ORF Deposit	\$ -	\$ -	n.a.
Debt Service	\$ 5,385,300	\$ 4,786,400	-11.12%
Total Expenses	\$ 22,506,200	\$ 22,370,400	-0.60%
Total Revenues	\$ 22,121,200	\$ 21,985,400	-0.61%
Metro Funding	\$ 385,000	\$ 385,000	0.00%

Budget shown does not include any budget true-up items.

10. Review of EGF and EDS

- Routine maintenance of the EDS is the responsibility of System Operator and is defined within the ARMA. Additional maintenance is directed by the Project Administrator resulting from reviews performed quarterly for tunnels and manholes such that each section and manhole are reviewed annually as presented in TEG's quarterly Walkthrough Reports.
- As identified in one or more EDS and EGF quarterly reports, there are several outstanding maintenance items that were not timely addressed. However, DEAO has addressed several EDS and EGF items and is in the process of addressing the remaining outstanding items.

EGF Walkthrough

- Equipment Maintenance
 - Pipe Insulation
 - Cooling Towers
- Operations
- Electrical
 - Metering
- Housekeeping
- Building Structure
- Building Exterior and Grounds

EDS Walkthroughs

- **Piping**
 - Valve condition/operation being evaluated
 - CND replacement in 3rd Ave
- **Insulation**
 - Tunnels – being addressed
- **Water Infiltration**
 - Runoff through manways – various manholes
 - 7th Ave Tunnel infiltration
- **Corrosion**
 - State Tunnel
 - Main Tunnels
- **Housekeeping**
- **Safety**
- **Action Items**
 - Several repeat items but DEAO has addressed several and is working on outstanding items

11. Capital Expenditure Update

	Spent to End of FY25	FY26 Spending	Balance to Date (04/16/26)
R&I Projects	\$5,502,812	\$684,800	\$22,093
49116-DES Infrastructure Fund	\$7,900,250	\$648,225	\$2,965,156
Total	\$13,403,062	\$1,333,025	\$2,987,249

Totals spent to date do not include reimbursable expenses for DES231.

Capital Projects Review

Active Capital Projects – General & Marketing

- DES 217: DES Service to Auto Nashville Hotel, LLC (8th and Demonbreun)
 - Routing design at 90%; development delayed with no firm construction start date; 1,300 tons chilled water contract capacity with no steam (budget = \$3.2M; schedule to accommodate customer; 2027)
- DES 243: Service to 414 Union
 - Executed CSA; service connection design underway; staged capacity up to 950 tons, 18,562 pph (budget = \$810K; service anticipated late Q1FY27)
- DES 244: Service to NFD HQ
 - Preliminary evaluation to provide steam and chilled water service to a proposed new Nashville Fire Department HQ; preliminary capacities at 390 tons and 2,000 pph; awaiting project development (budget = \$3.3M; schedule to accommodate customer; 2028)

Capital Projects Review

Active Capital Projects – General & Marketing

- DES 222: EDS Valve Identification and Tagging
 - Project established to identify EDS manhole and tunnel valves to assist with maintenance scheduling; manhole and tunnel drawings completed identifying each valve; DEAO's tagging is complete and has delivered mark-ups of valve identification drawings to TEG. TEG has reviewed mark-ups and is in process of presenting questions, updating drawings and updating tag list. (budget = \$44,000; schedule is ongoing)
- DES 246: Boring Company Coordination
 - TEG communications and monitoring of Boring Company tunnel work as it may impact DES
- DES 247: FVB Evaluation
 - Evaluation of options for DES by FVB Energy, Inc.
- DES 249: Nissan Stadium Termination Plan
 - Demolition plan development and coordination with Stadium contractor and other utilities on East Bank

Capital Projects Review

Active Capital Projects – Repairs/Modifications

- DES 213: 4th, 7th & Broadway Tunnel Piping Slide Support Repairs
 - Repair and replacement of pipe slides; pre-bid mtg was held in Dec with T&M NTE bids due in early Jan. Project awarded; work underway (budget = \$321,500 this phase; schedule completion this phase Q4FY26)
- DES 236: 3rd Ave North Condensate Piping Replacement
 - Project initiated due to condition of piping discovered in DES 235; Scope includes replacement of piping from ~75 feet north of JRP to Deaderick St (~480 ft); Bid in August '25; bidders schedules were not acceptable so decided to delay until spring '26; Discovered leak in JRP intersection so piping through intersection was replaced; then discovered leak south of JRP so an additional ~50 ft of piping replaced; Remainder of project bid and awarded (budget = \$500,000; schedule completion Q1FY27)

Capital Projects Review

Active Capital Projects – Repairs/Modifications

- DES 240: Viridian Manhole Platform
 - Platform needed to access valves (budget = \$40,000; bid Q4FY26; completion Q4FY26 or Q1FY27)
- DES 241: MH D3 Electrical Component Modifications
 - Due to water infiltration from an irrigation system, watertight elec. components need to be installed; some corroded attachments require replacement (budget = \$50,000; bid Q3FY26; awaiting contract execution by vendor; completion Q4FY26/Q1FY27)
- DES 242: Woodland St Bridge CHW Piping Insulation Repair
 - CHW piping casing and insulation repairs are needed; corroded pipe bracing needs to be replaced (on the east side of river) (budget = \$50,000; bid Q4FY26; completion Q1FY27)

Capital Projects Review

Active Capital Projects – Repairs/Modifications

- DES 245: MH 23 Concrete Anchor Pedestal Repair
 - Repair is needed for spalled concrete anchor (budget = \$50,000; completion Q4FY26)
 - Scope to be expanded to include ceiling leakage repair and 7th Ave Tunnel shotcrete repairs
 - Awaiting response from contractor to questions
 - Execution 4QFY26 or 1QFY27
- DES 248: EDS Valve Maintenance Plan
 - TEG has directed DEAO to identify all valves in EDS that do not function properly or do not seal adequately. (budget not established yet)
 - DEAO is developing a plan to identify CHW valves
 - Project will be ongoing

Capital Projects Review

Closed Capital Projects

- DES 230: Manhole 6A Investigation – closed
- DES 231: Tennessee Tower Service Piping Relocation – in close out
- DES 233: Manhole 12 to Manhole 15 Hot Spot Repair – in close out

12. System Operator Update

By System Operator's Service Manager



DE Asset Operations, LLC

13. Special Topics

- Continuing to track and evaluate plant performance and available capacities

14. Other Board Member Items

15. Adjourn

*Customer Meeting June 4th 11 a.m. to 1 p.m.
150 4th Ave N (Downtown Partnership)
Lunch will be provided*

- *Advisory Board Meeting Schedule*
- FY26 – 4th Quarter Meeting – August 20, 2026
- FY27 – 1st Quarter Meeting – November 19, 2026
- FY27 – 2nd Quarter Meeting – February 18, 2027
- FY27 – 3rd Quarter Meeting – May 20, 2027