



Metro Nashville
DISTRICT ENERGY SYSTEM

DES Advisory Board Meeting
First Quarter FY26
November 20, 2025



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. New Board Member Introductions
5. Customer Sales
6. Marketing
7. Review of DES Contractor Performance
8. Natural Gas Purchasing Update
9. FY26 Costs to Date
10. FY26 Budget
11. Review of EGF and EDS
12. Capital Projects Review & Status
13. System Operator Update
14. Special Topics
15. Other Board Member Items
16. Adjourn

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

4. New Board Member Introductions

- ❖ Philip Sackett with Renaissance Hotel - New Representative for the Private ISC's
- ❖ Blake Raney with Hyatt Centric Hotel – New Representative for the Private “New” Customers

5. *Customer Sales*

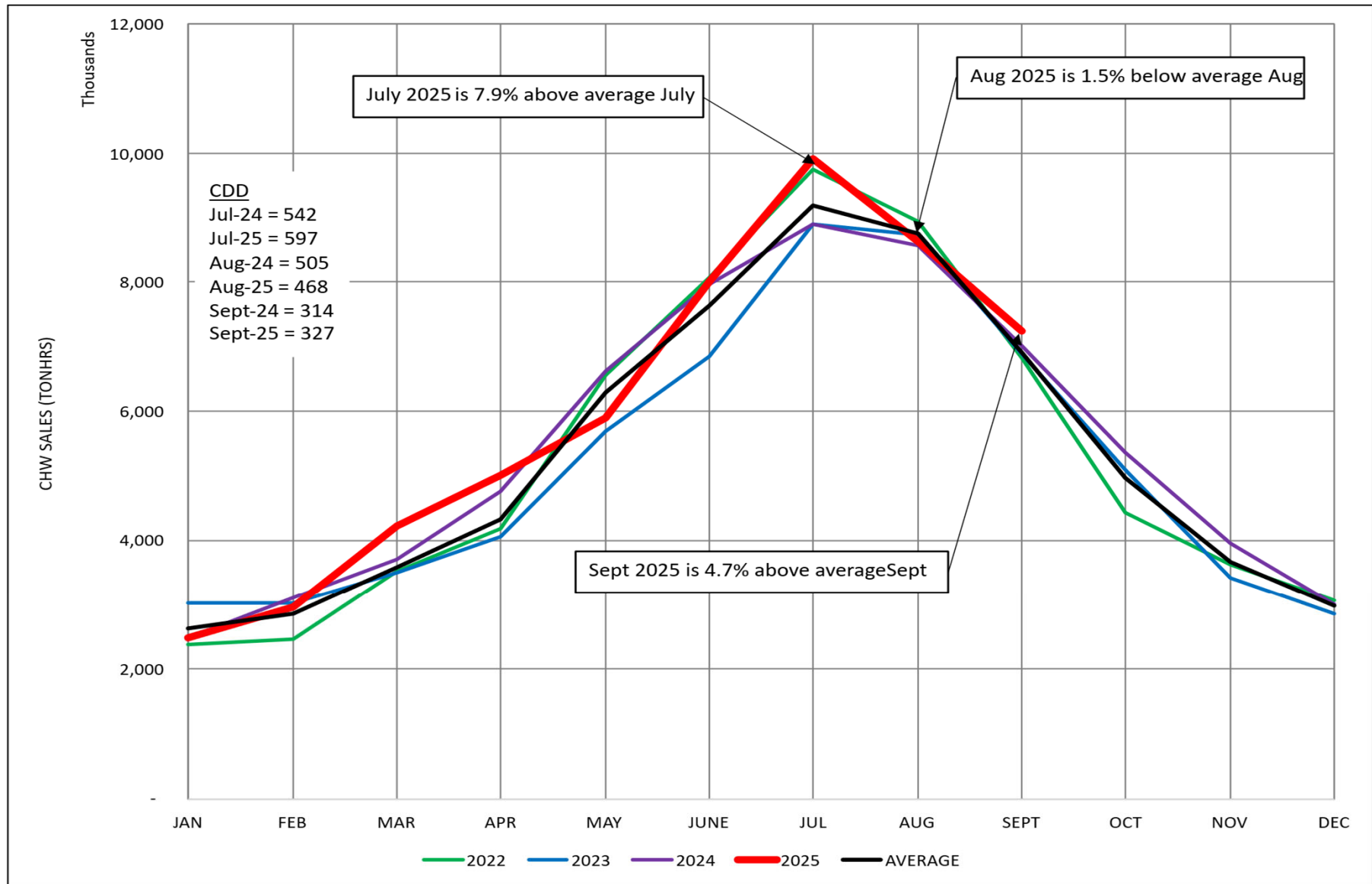
- ❖ There is 1 customer in arrears more than 30 days
- ❖ Table 5: Customer Cost Comparison for the Previous 12 Months
- ❖ Figure 5A: Historic Chilled Water Sales
- ❖ Figure 5B: Historic Steam Sales

Summary Table 5: Customer Cost Comparison for the Previous 12 Months

		Steam - Rolling 12 Month			Chilled Water - Rolling 12 Month		
		Oct 2023- Sept 2024	Oct 2024- Sept 2025	% Diff.	Oct 2023- Sept 2024	Oct 2024- Sept 2025	% Diff.
Private	Cost	\$ 1,669,020	\$ 1,677,398	0.50%	\$ 4,500,194	\$ 4,797,226	6.60%
	Usage (lbs or tonhrs)	95,427,133	101,069,875	5.91%	22,666,535	23,423,424	3.34%
State	Cost	\$ 2,070,968	\$ 2,037,337	-1.62%	\$ 3,469,605	\$ 3,623,626	4.44%
	Usage (lbs or tonhrs)	106,715,614	117,806,263	10.39%	12,908,990	14,493,321	12.27%
Metro	Cost	\$ 2,038,754	\$ 2,052,449	0.67%	\$ 5,225,703	\$ 5,439,984	4.10%
	Usage (lbs or tonhrs)	134,168,658	146,086,356	8.88%	28,884,000	28,762,275	-0.42%
Aggregate	Cost	\$ 5,778,743	\$ 5,767,184	-0.20%	\$13,195,502	\$13,860,836	5.04%
	Usage (lbs or tonhrs)	336,311,405	364,962,494	8.52%	64,459,525	66,679,020	3.44%
	Unit Cost	\$ 17.18	\$ 15.80	-8.0%	\$ 0.205	\$ 0.208	1.55%

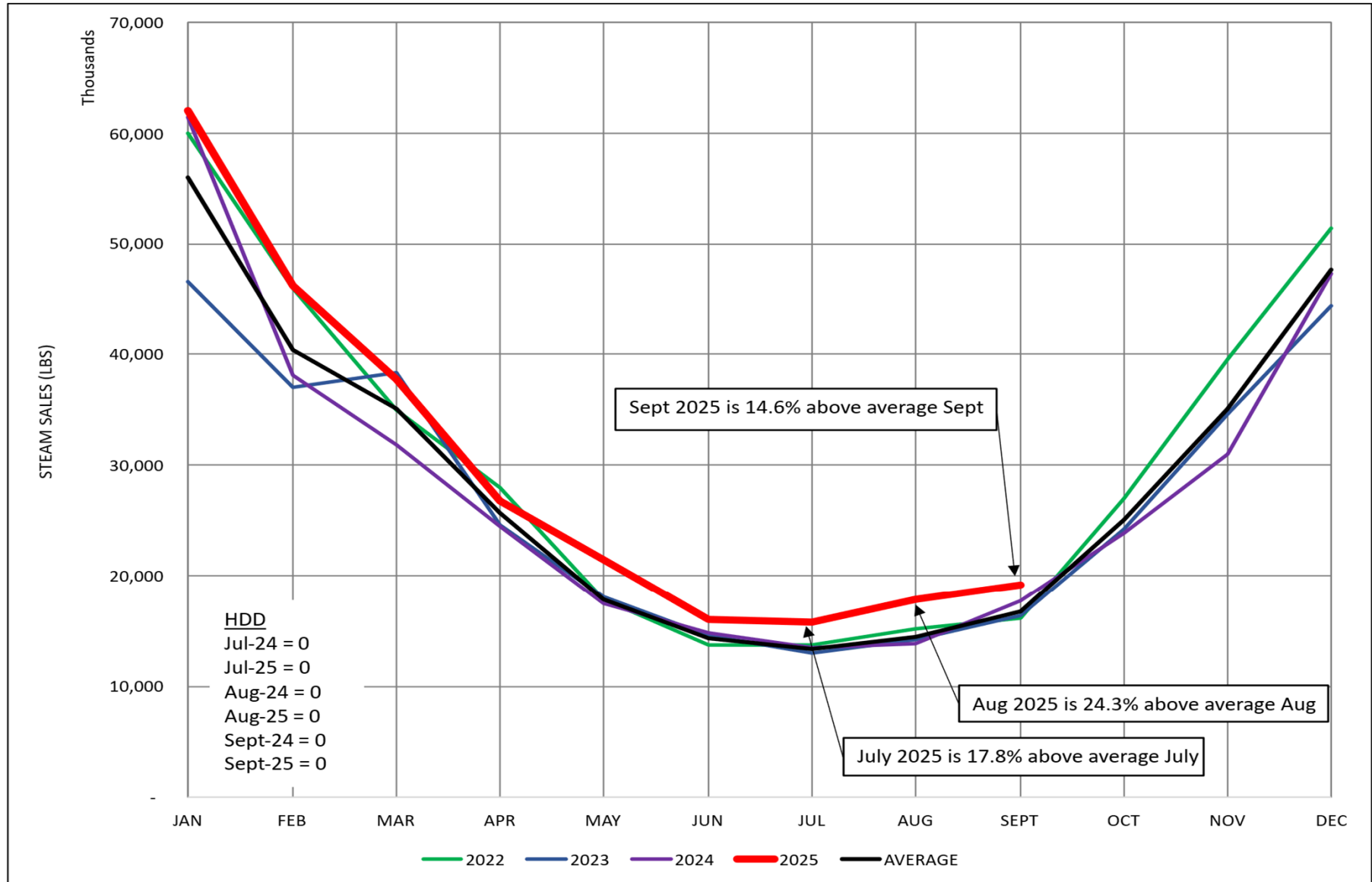
MFA, True-up, late fees and misc. are not included in values shown

Figure 5A. Historic Chilled Water Sales



Averages include the years 2022, 2023, and 2024.

Figure 5B. Historic Steam Sales



Averages include the years 2022, 2023, and 2024.

6. *Marketing*

- Remaining Capacity for Sale (approximate)
 - 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 – New Contracts
 - Parkway Towers – Converting to Hotel
 - Mourya Hotel – Converting to Hotel
- TN Engineer's Conference Presentation on the Use of DES Steam for Domestic Water Heating
- IDEA Article on District Energy for Museums/Symphony

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

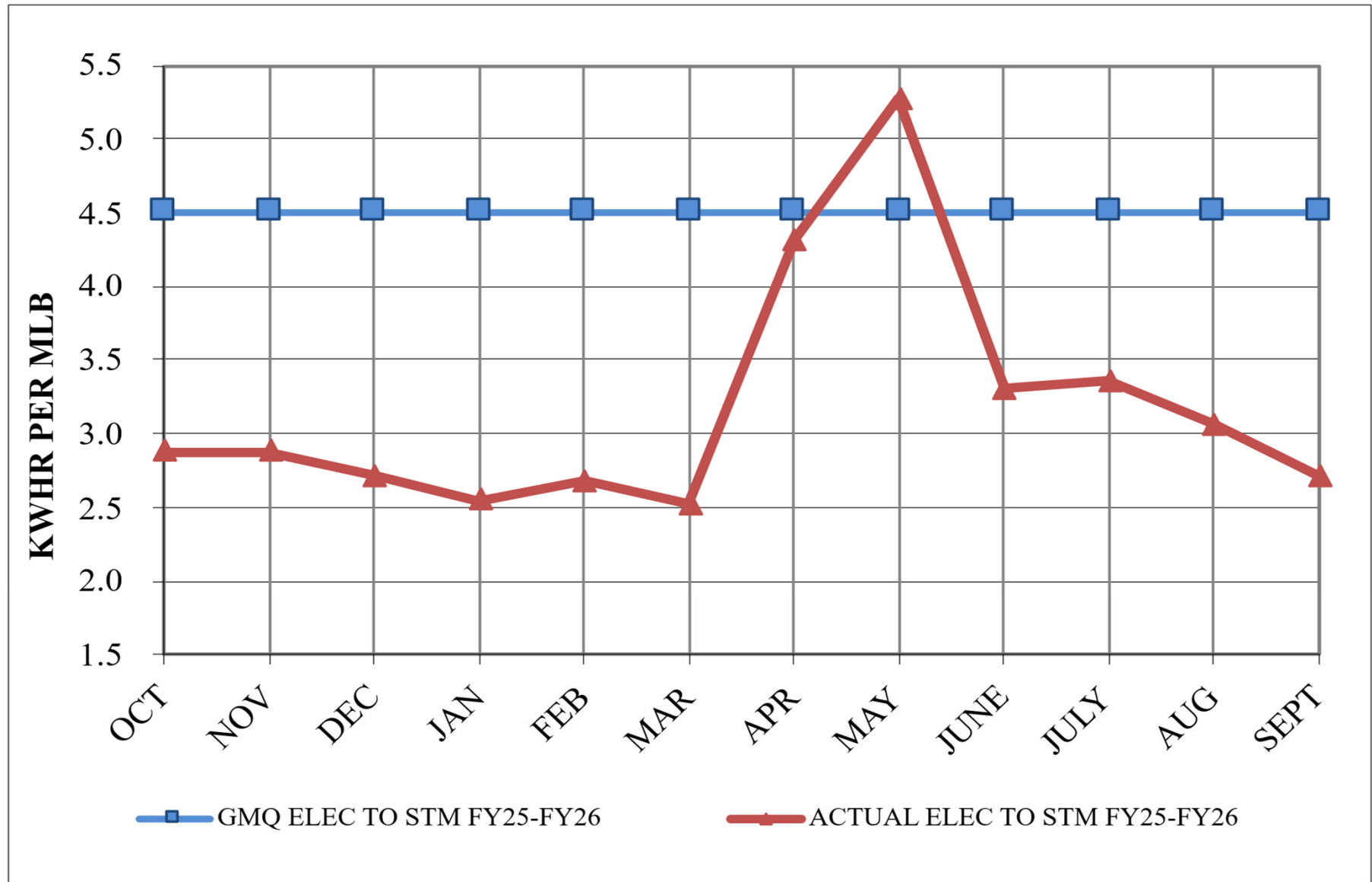
Marketing (con't)

- New Developments North of KVB
 - Printer's and Banker's Alley (DES203)
 - Development on hold; design includes chilled water
 - 7th and Commerce (DES202)
 - Development progressing; current design includes steam and chilled water
 - Washington Square
 - Anticipate replacing existing chiller with DES
- Two Existing Buildings Considering DES with Their Renovations
- Two New Buildings Considering DES in Preliminary Design
- 15 Contacts with Potential Customers in Past Year
- Updated the System Hydraulic Model

7. Review of DES Contractor Performance

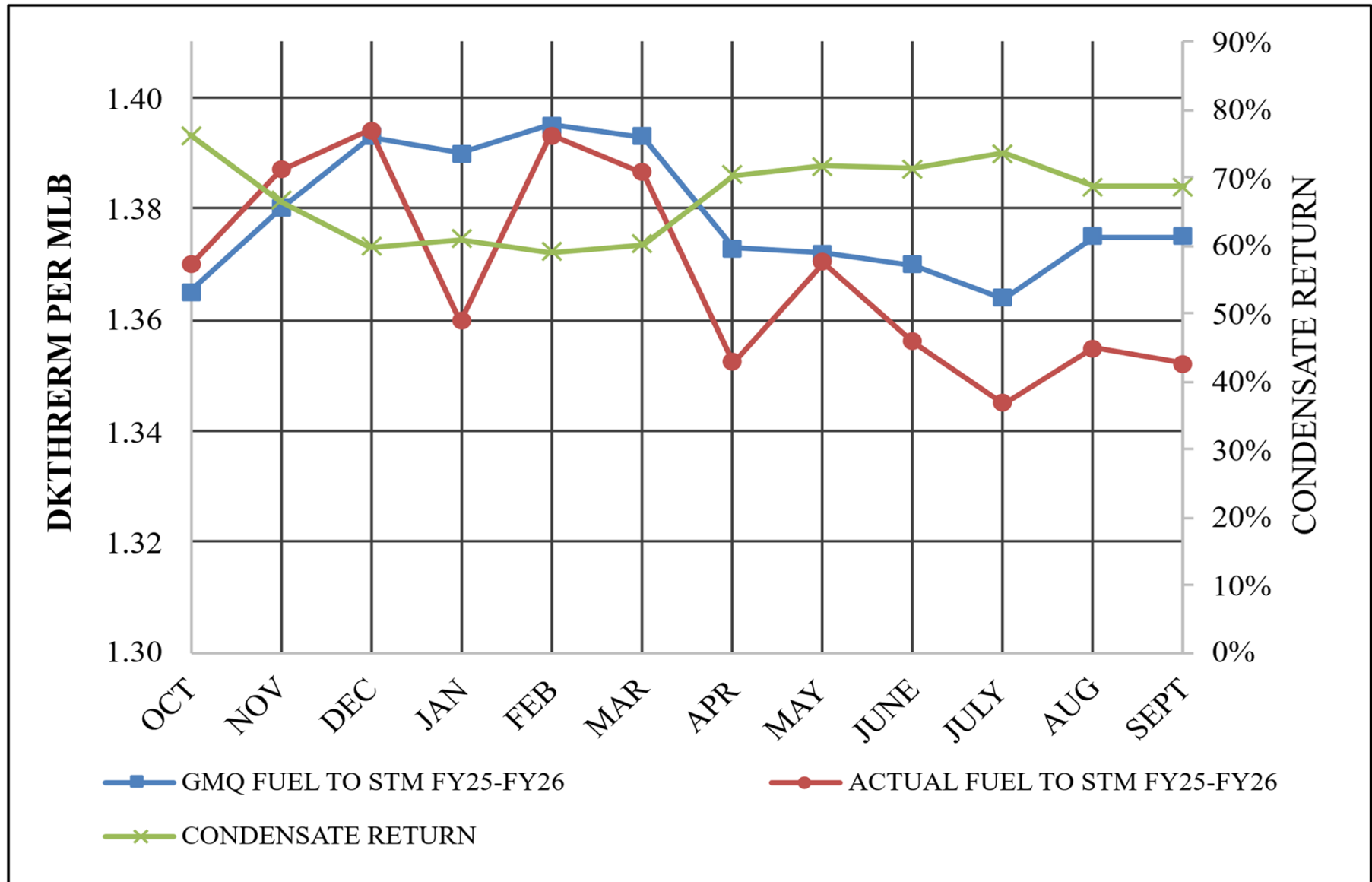
DEAO failed to meet several performance metrics during the quarter. DEAO continues to address the system energy usage.

Performance Measurement FY26: Steam Electric



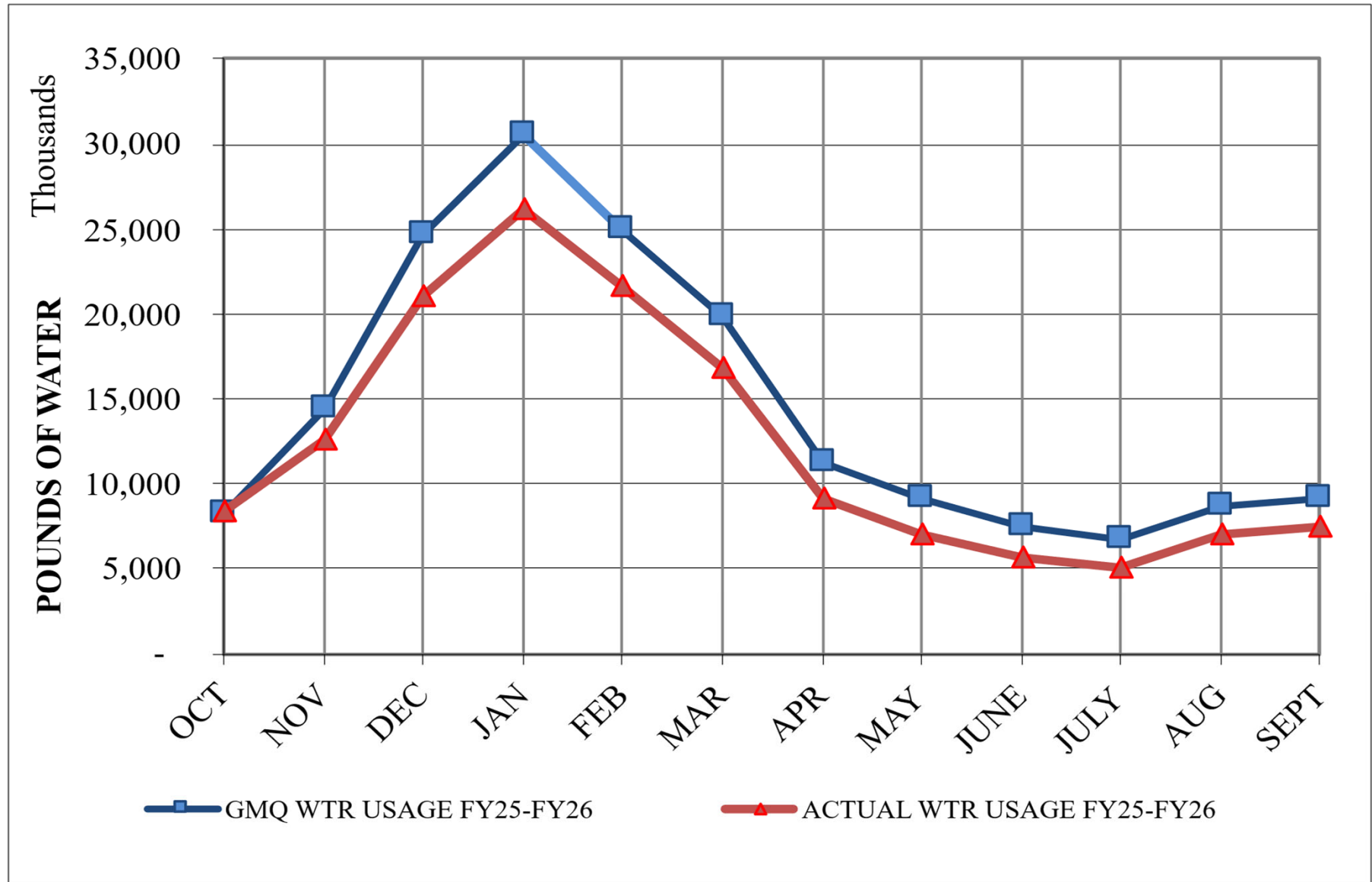
GMQ not met in May.

Performance Measurement FY26: Steam Plant Eff



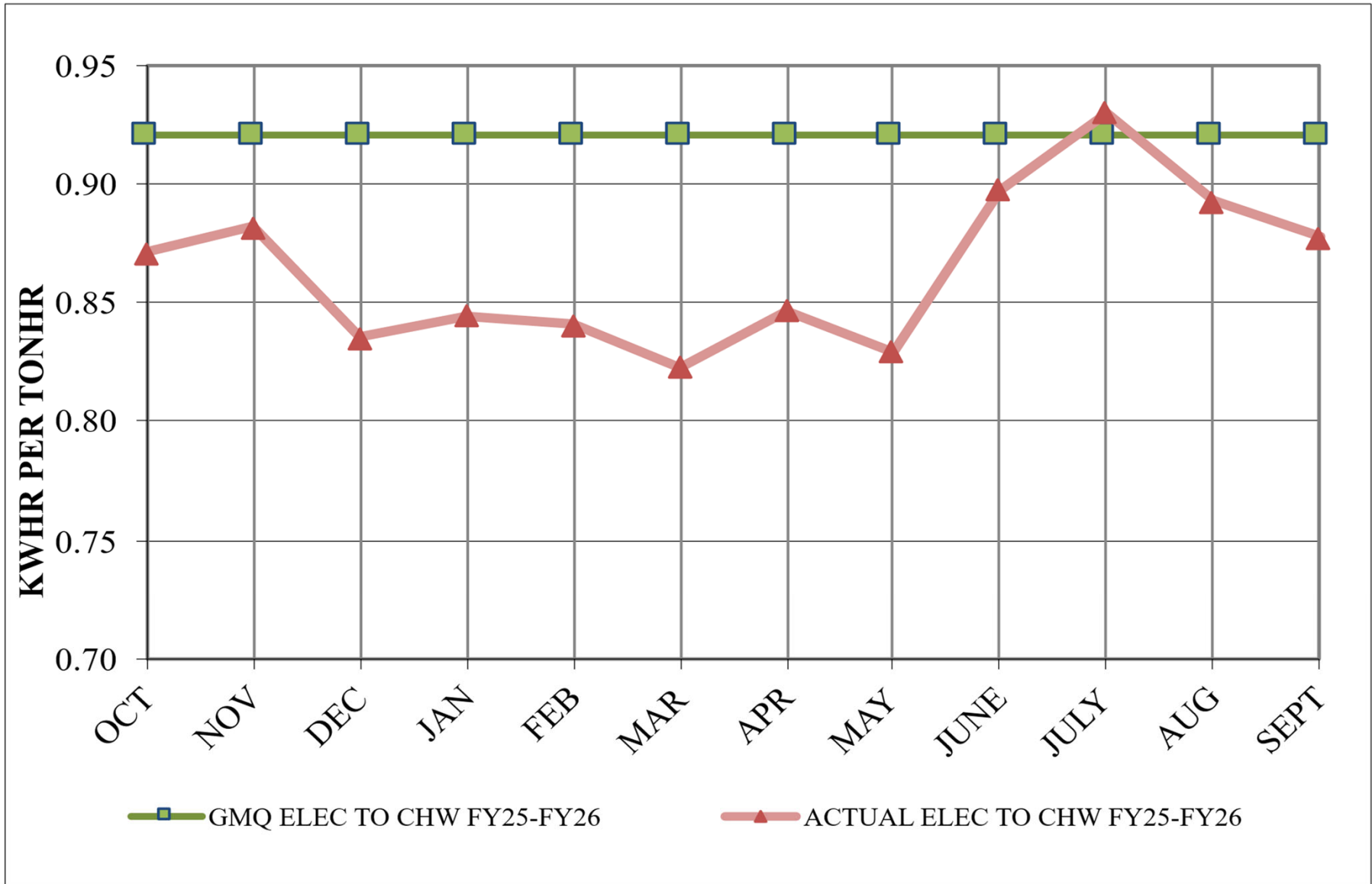
GMQ not met Oct, Nov, and Dec.

Performance Measurement FY26: Steam Water



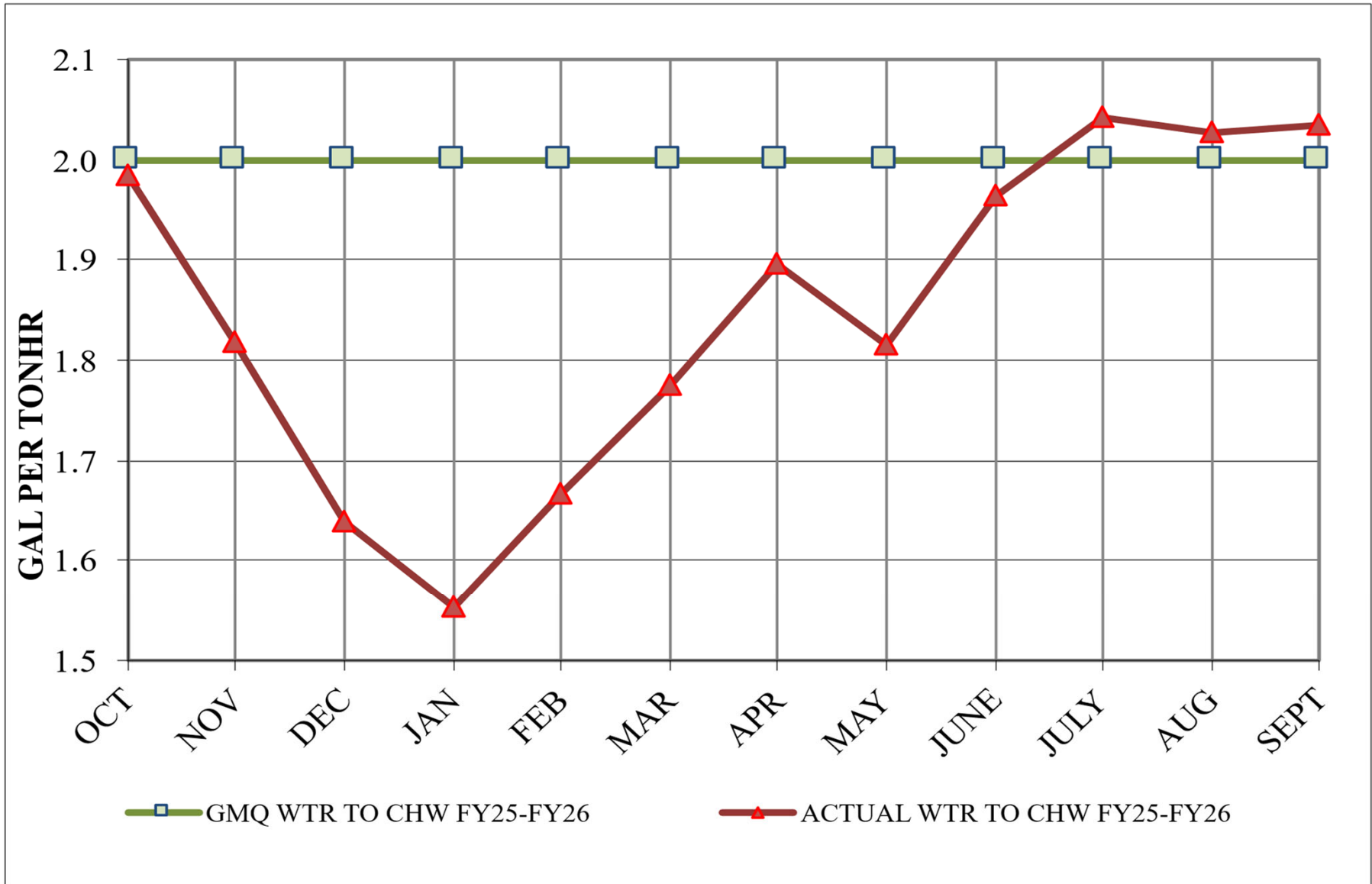
GMQ not met in Oct.

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

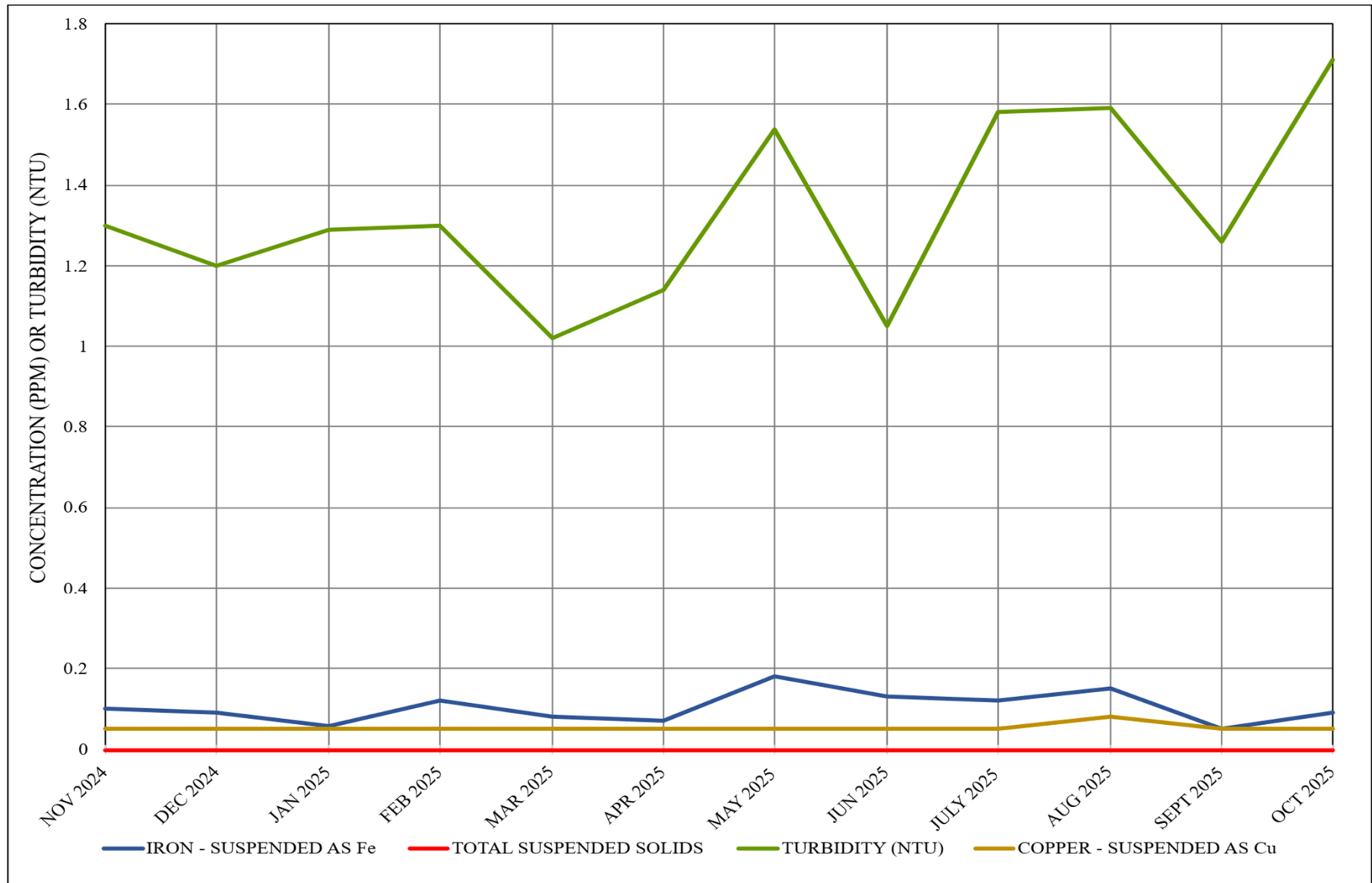
❖ Condensing Water

- ❖ Conductivity
- ❖ Biologicals

❖ Chilled Water

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

Side Stream Filter Performance



8. *Natural Gas Purchasing*

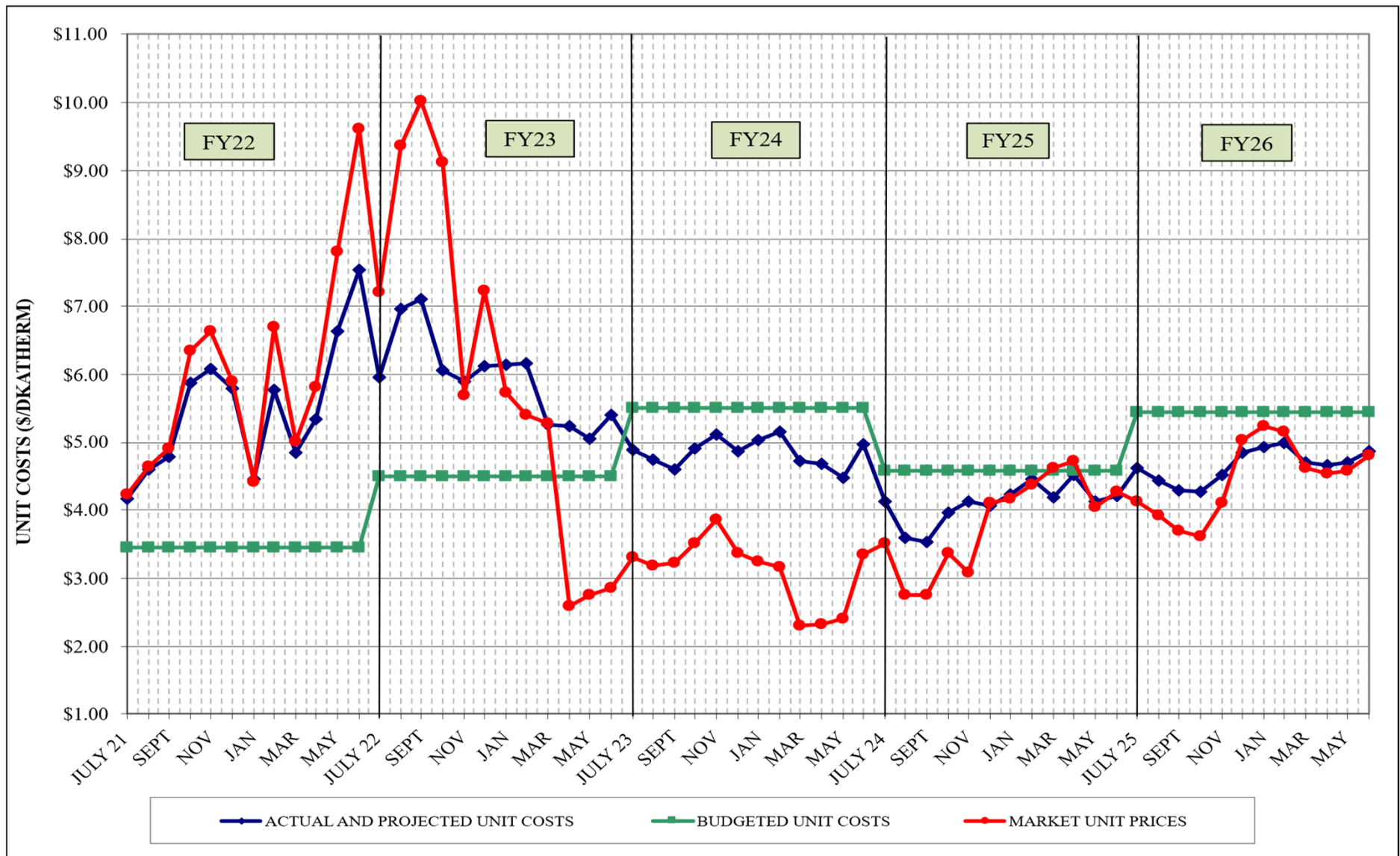
- ❖ Natural Gas Purchasing Review
 - ❖ Table 8: FY26 Gas Spending & Budget Comparison
 - ❖ Figure 8: Actual and Projected Fuel Cost Comparison

Table 8: FY26 Gas Spending & Budget Comparison

	Actual FY26 To Sept 30	Budget FY26	Percent Difference
Steam Sendout (Mlbs)	69,126	68,465	1.0%
Fuel Use (Dth) (includes propane)	93,376	98,110	-4.8%
Plant Eff (Dth/Mlb)	1.351	1.433	-5.7%
Total Gas Cost (includes propane)	\$414,796	\$534,543	-22.4%
Unit Cost of Fuel (\$/Dth)	\$4.442	\$5.448	-18.5%

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.

Figure 8. Actual and Projected Fuel Cost Comparison



Currently hedging 49% on natural gas through end of FY26; transportation costs included.

9. 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	\$ 1,082,900	24.73%
Pass Throughs				
Administrative Costs	\$ 752,500	\$ 753,200	\$ 182,390	24.22%
Chemicals	\$ 379,300	\$ 330,300	\$ 91,695	27.76%
R&I Fund Transfers	\$ 322,200	\$ 763,600	\$ 190,900	25.00%
Water/Sewer	\$ 1,187,300	\$ 1,267,800	\$ 428,891	33.83%
Fuel Base	\$ 2,631,171	\$ 2,833,109	\$ 531,316	18.75%
Fuel Contingency	\$ 795,729	\$ 1,044,791	\$ -	0.00%
Electricity	\$ 6,801,900	\$ 6,212,900	\$ 2,187,133	35.20%
ORF Deposit	\$ -	\$ -	\$ -	0.00%
Debt Service	\$ 5,385,300	\$ 4,786,400	\$ 1,232,216	25.74%
Total Expenses	\$ 22,506,200	\$ 22,370,400	\$ 5,927,442	26.50%
Total Revenues	\$ 22,121,200	\$ 21,985,400	\$ 5,697,569	25.92%
Metro Funding	\$ 385,000	\$ 385,000	\$ 96,250	25.00%

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



10. 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.

11. 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 defined in the quarterly EDS reports.
- As identified in one or more EDS and EGF quarterly reports, there are several outstanding maintenance items that remain unaddressed.

EGF Walkthrough

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

EDS Walkthroughs

- **Piping**
 - Valve condition/operation being evaluated
 - CND replacement in 3rd Ave
 - CND repair in Printers Alley
- **Insulation**
 - Capital Project for various manhole repairs wrapping up
 - Tunnels
- **Water Infiltration**
 - Runoff through manways – various manholes
 - 7th Ave Tunnel infiltration
- **Corrosion**
 - State Tunnel
 - Main Tunnels
- **Housekeeping**
- **Safety**
- **Action Items**
 - Several repeat items

12. *Capital Expenditure Update*

	Spent to End of FY25	FY26 Spending	Balance to Date (10/31/25)
R&I Projects	\$5,502,812	\$256,011	\$53,859
49116-DES Infrastructure Fund	\$7,900,250	\$77,516	\$4,288,696
Total	\$13,403,062	\$333,527	\$4,342,555

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

Capital Projects Review

Active Capital Projects – General & Marketing

- DES 163: Peabody Union
 - NDOT and Guthrie St. impact to DES;
 - Contractor punchlist completion expected in November;
- DES 202: 7th and Commerce Hotel
 - Development delayed; intends to use DES CHW and STM.
- DES 203: Printer's and Banker's Alley Building
 - Building development on hold; intends to use DES CHW.
- DES 217: DES Service to Auto Nashville Hotel, LLC (8th and Demonbreun)
 - Routing design in progress; development delayed; DES construction in mid-2026; 1,300 tons chilled water contract capacity with no steam

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; project ongoing until all valves are tagged; DEAO nearing completion of tagging

Capital Projects Review

Active Capital Projects – Repairs/Modifications

- DES 213: 4th, 7th & Broadway Tunnel Piping Slide Support Repairs
 - Repair and replacement of pipe slides; delayed due to higher priority items; pre-bid mtg to be scheduled.
- DES 228: Manhole B2 and B3 Dripleg Modifications
 - Modification of driplegs in Manholes B2 and B3; Manhole B3 was modified during partial isolation to repair steam leak in Hyatt Place; Manhole B2 was addressed during planned system outage on August 10, 2025
 - Outage work includes modifications/repairs in several additional manholes; outage completed successfully
- DES 229: Misc Manhole Insulation Repairs
 - Addresses various manhole insulation needs from quarterly reviews; work was completed during 1st Qtr FY26; Manhole 6 was added to scope which will be completed during 2nd Qtr FY26

Capital Projects Review

Active Capital Projects – Repairs/Modifications

- DES 230: Manhole 6A Investigation
 - Manhole 6A consists of two separate manholes (steam/condensate and CHW) for Hermitage Hotel service piping valves; steam valve is inoperable
 - DEAO to modify valves inside hotel
 - Isolation for hotel can be provided from Manhole 6 and Manhole 23; Manhole 6 CND valve was corroded and was replaced in August
 - Investigating need for Manhole 6A.
- DES 231: Tennessee Tower Service Piping Relocation
 - State unknowingly placed emergency generator “on top of” buried DES service piping; project involves relocation of a portion of these lines
 - Work will begin late July; steam isolation executed Sept 5-7; CHW isolation scheduled for Oct 31-Nov 2

Capital Projects Review

Active Capital Projects – Repairs/Modifications

- DES 233: Manhole 12 to Manhole 15 Hot Spot Repair
 - Project complete; in close-out
- DES 236: 3rd Ave North Condensate Piping Replacement
 - Project initiated due to condition of piping discovered in DES 235
 - Replacement of piping from ~75 feet north of James Robt. Pkwy. to Deaderick St; ~ 480 feet
 - Bid in August; bidders schedules were not acceptable so decided to delay until spring '26
 - Discovered leak in Jas. Robt. Intersection; replaced piping through intersection
 - Remainder of project to be re-bid in January/February 2026

Capital Projects Review

Active Capital Projects – Repairs/Modifications

- DES 237: Chilled Water Leak in 3rd Ave
 - Large leak discovered in 3rd Ave beside Manhole D
 - Additional isolation valves had to be installed to isolate leak for repair
 - Project in close-out
- DES 238: Leak at Indigo Hotel
 - Hot water leaking into basement at wall penetration
 - From investigation, determined that it was condensate
 - Excavation in Printers Alley began first part of 2nd Qtr FY26
- DES 239: Manhole S4A Steam Leak
 - Steam leak discovered on trap piping
 - Solution developed; work began late 1st Qtr; expected completion early 2nd Qtr

13. System Operator Update

By System Operator's Service Manager



DE Asset Operations, LLC

14. Special Topics

- Continuing to track and evaluate plant performance and available capacities
- Update of hydraulic model
- Updating Business Plan from 2020 with Board presentation in Spring 2026 (date TBD)

15. Other Board Member Items

16. Adjourn

- *Advisory Board Meeting Schedule*
- FY26 – 2nd Quarter Meeting – February 19, 2026
- FY26 – 3rd Quarter Meeting – May 21, 2026
- FY26 – 4th Quarter Meeting – August 20, 2026
- FY27 – 1st Quarter Meeting – November 19, 2026