



Metro Nashville

DISTRICT ENERGY SYSTEM

DES Advisory Board Meeting
Fourth Quarter FY25
August 21, 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. Customer Sales
5. Marketing
6. Review of DES Contractor Performance
7. Natural Gas Purchasing Update
8. FY25 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*

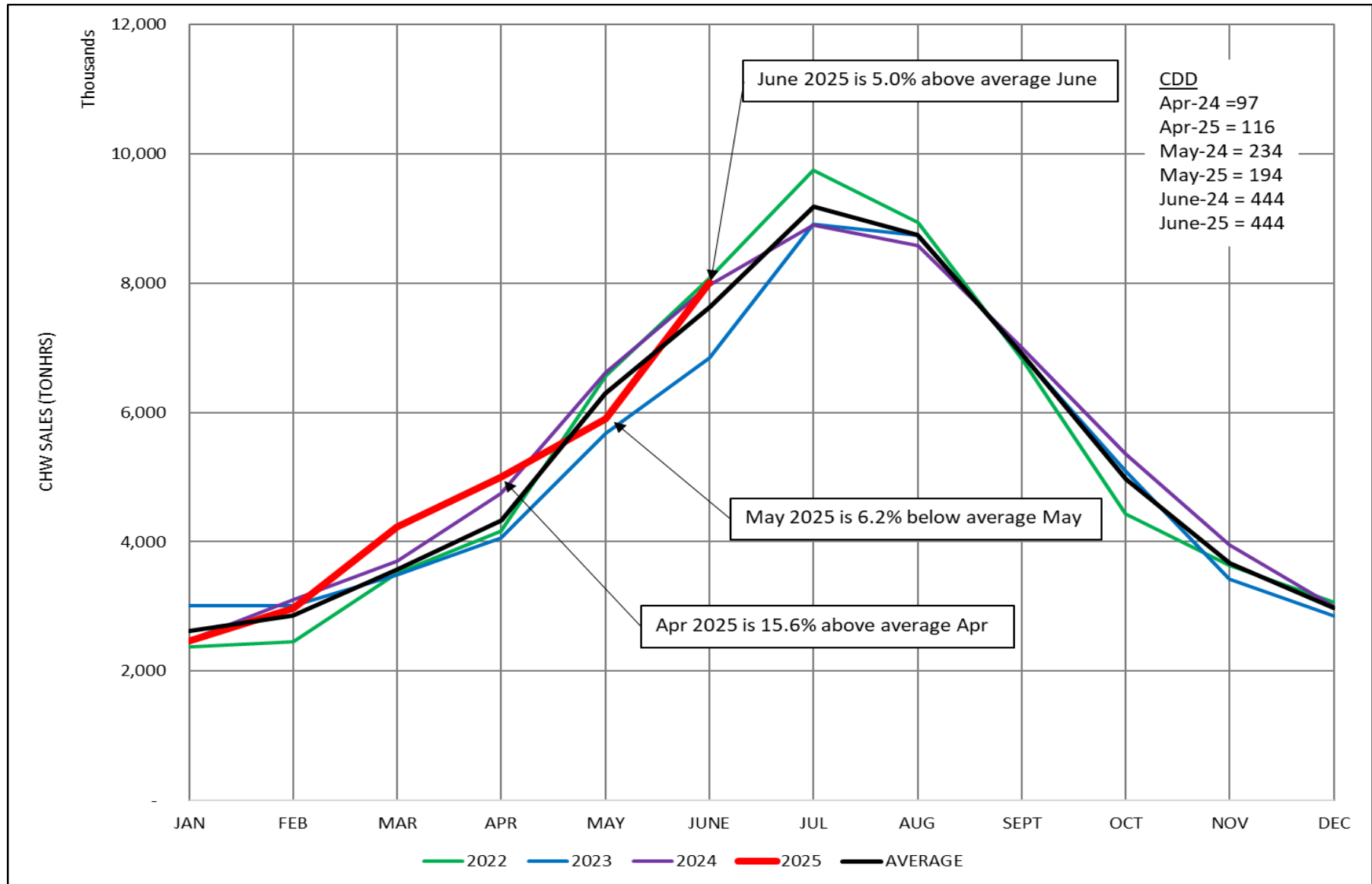
- ❖ There is 1 customer in arrears more than 30 days
- ❖ Table 4: Customer Cost Comparison for the Previous 12 Months
- ❖ Figure 4A: Historic Chilled Water Sales
- ❖ Figure 4B: Historic Steam Sales
- ❖ Figure 4C: Chilled Water Peak Day
- ❖ Figure 4D: Steam Peak Day

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

		Steam - Rolling 12 Month			Chilled Water - Rolling 12 Month		
		July 2023- June 2024	July 2024- June 2025	% Diff.	July 2023- June 2024	July 2024- June 2025	% Diff.
Private	Cost	\$ 1,678,075	\$ 1,644,676	-1.99%	\$ 4,507,609	\$ 4,714,045	4.58%
	Usage (lbs or tonhrs)	95,838,260	99,941,448	4.28%	22,605,275	23,080,934	2.10%
State	Cost	\$ 2,071,302	\$ 2,005,461	-3.18%	\$ 3,518,462	\$ 3,619,363	2.87%
	Usage (lbs or tonhrs)	105,059,057	114,104,131	8.61%	13,235,417	13,895,340	4.99%
Metro	Cost	\$ 2,050,010	\$ 1,996,036	-2.63%	\$ 5,210,904	\$ 5,375,689	3.16%
	Usage (lbs or tonhrs)	133,921,586	143,095,380	6.85%	28,685,856	28,408,337	-0.97%
Aggregate	Cost	\$ 5,799,387	\$ 5,646,172	-2.64%	\$13,236,975	\$13,709,097	3.57%
	Usage (lbs or tonhrs)	334,818,903	357,140,959	6.67%	64,526,548	65,384,611	1.33%
	Unit Cost	\$ 17.32	\$ 15.81	-8.7%	\$ 0.205	\$ 0.210	2.21%

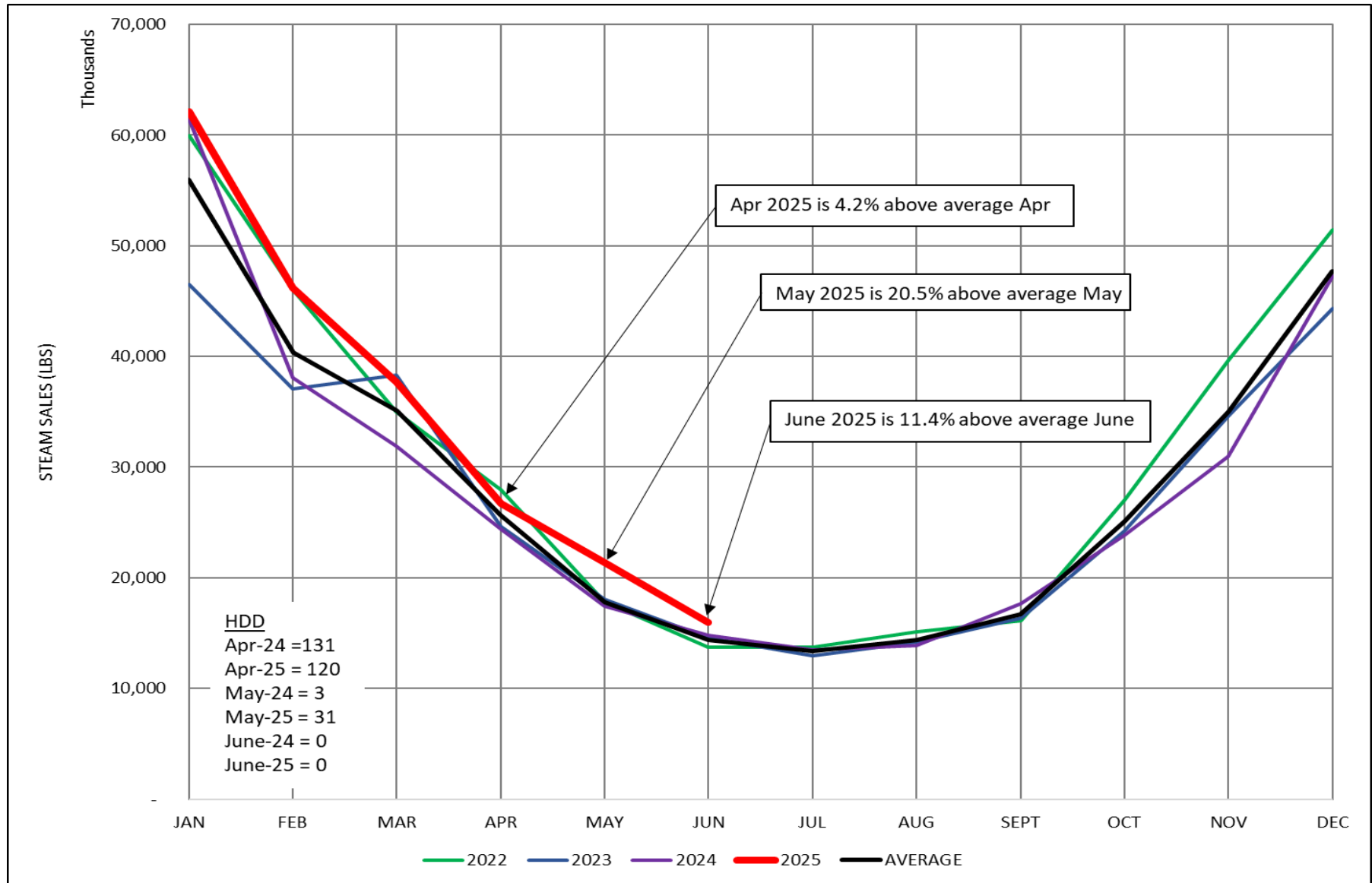
MFA, True-up, late fees and misc. are not included in values shown

Figure 4A. Historic Chilled Water Sales



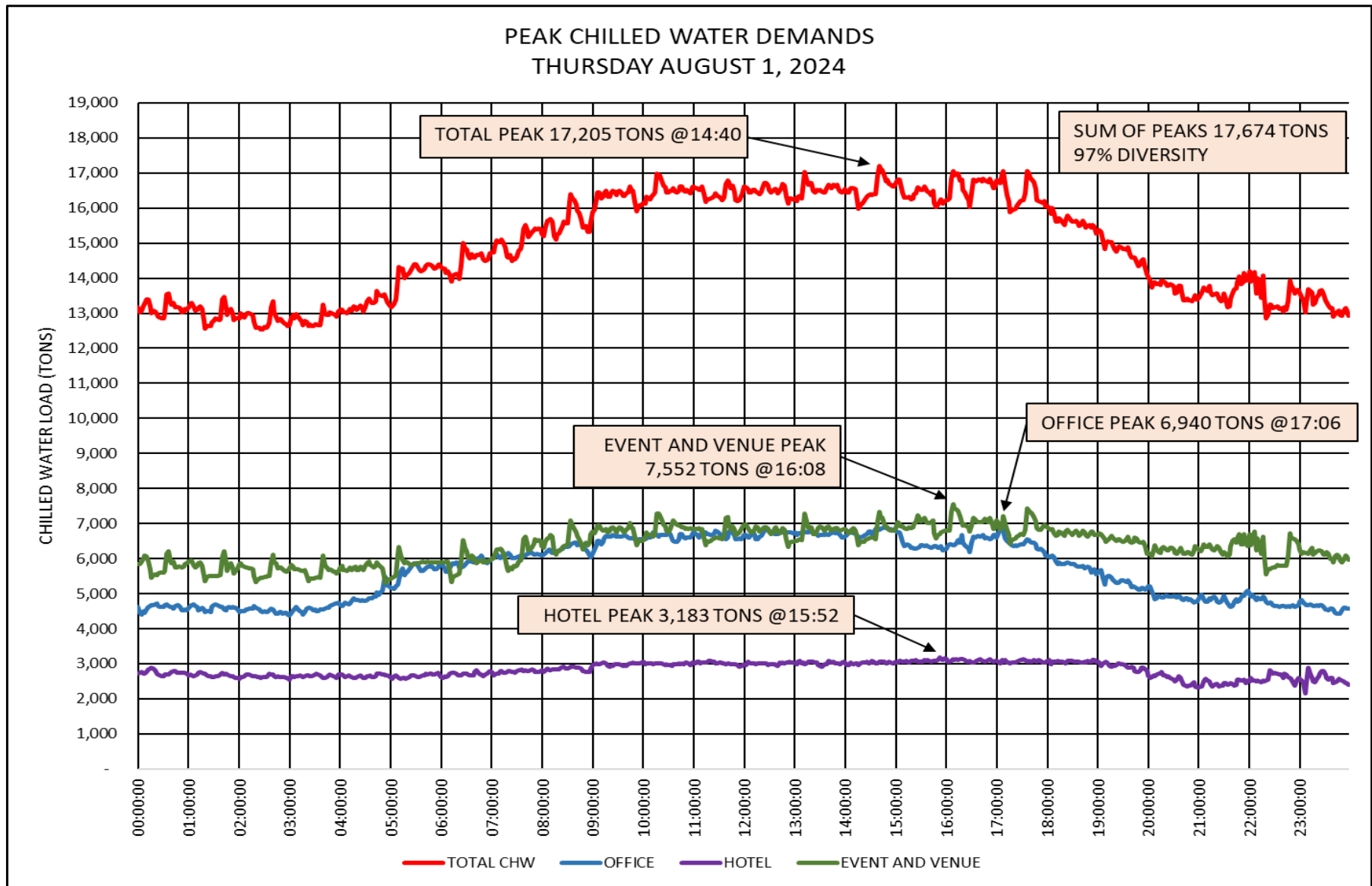
Averages include the years 2022, 2023, and 2024.

Figure 4B. Historic Steam Sales



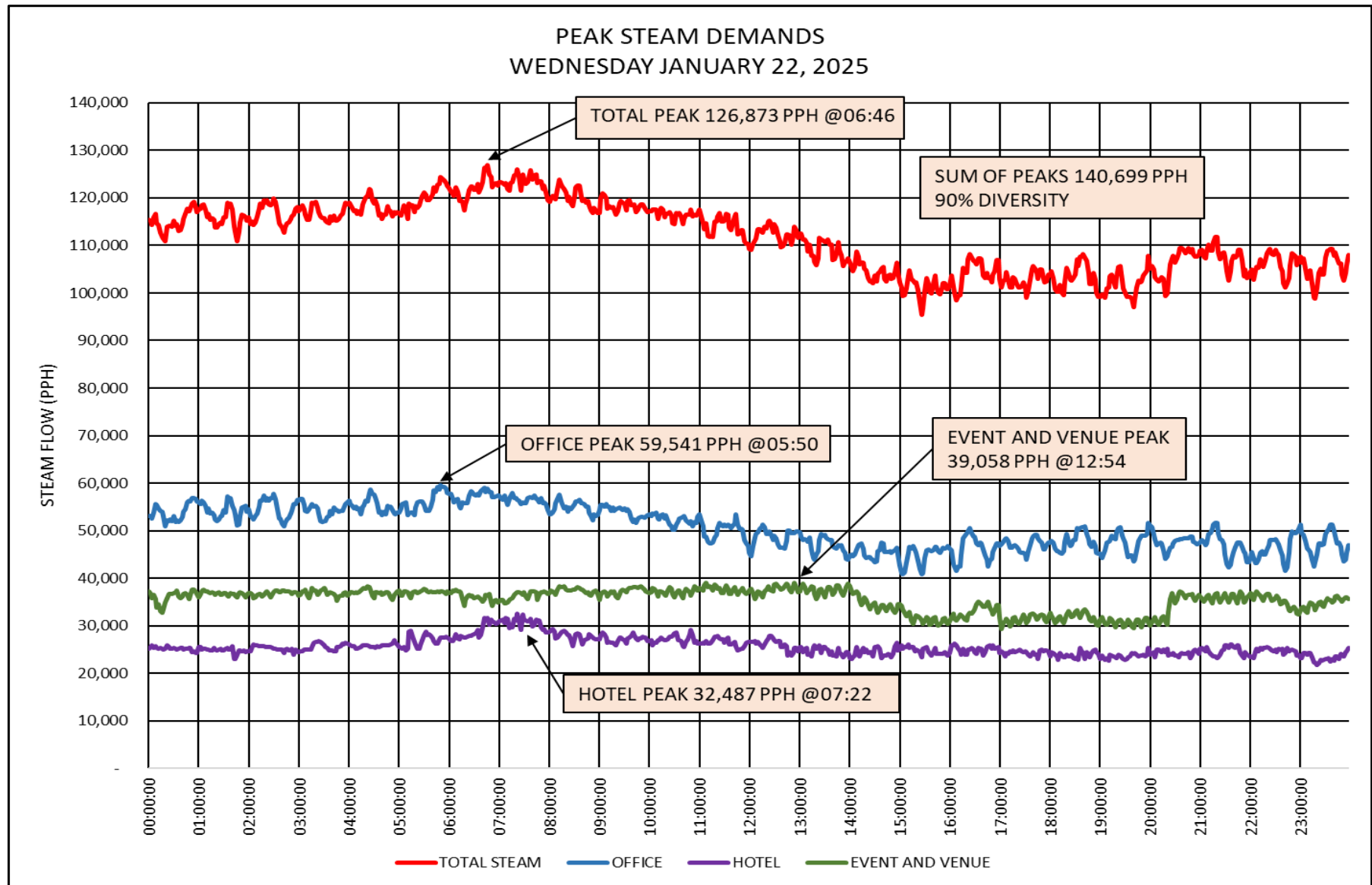
Averages include the years 2022, 2023, and 2024.

Figure 4C. Chilled Water Peak Day



Assumes DDC is a hotel, and Hume Fogg is an office building. No customer peaked at same time as total.

Figure 4D. Steam Peak Day



Assumes DDC is a hotel, and Hume Fogg is an office building. No customer peaked at same time as total.

5. *Marketing*

- Remaining Capacity for Sale (approximate)
 - 1,400 tons of chilled water
 - 35,105 pph of steam
- Potential New Customer Interest
 - ~5,000 tons
 - ~87,000 pph (or equivalent)
- Decoupling Existing Customers
- Existing Building Renovations

Marketing (con't)

- Peabody St Development
 - 1st and KVB
 - Development on hold
 - 4th and Lea Ave
 - Re-evaluating development; on hold
- Lafayette St
 - A few developments have shown interest; all in preliminary design

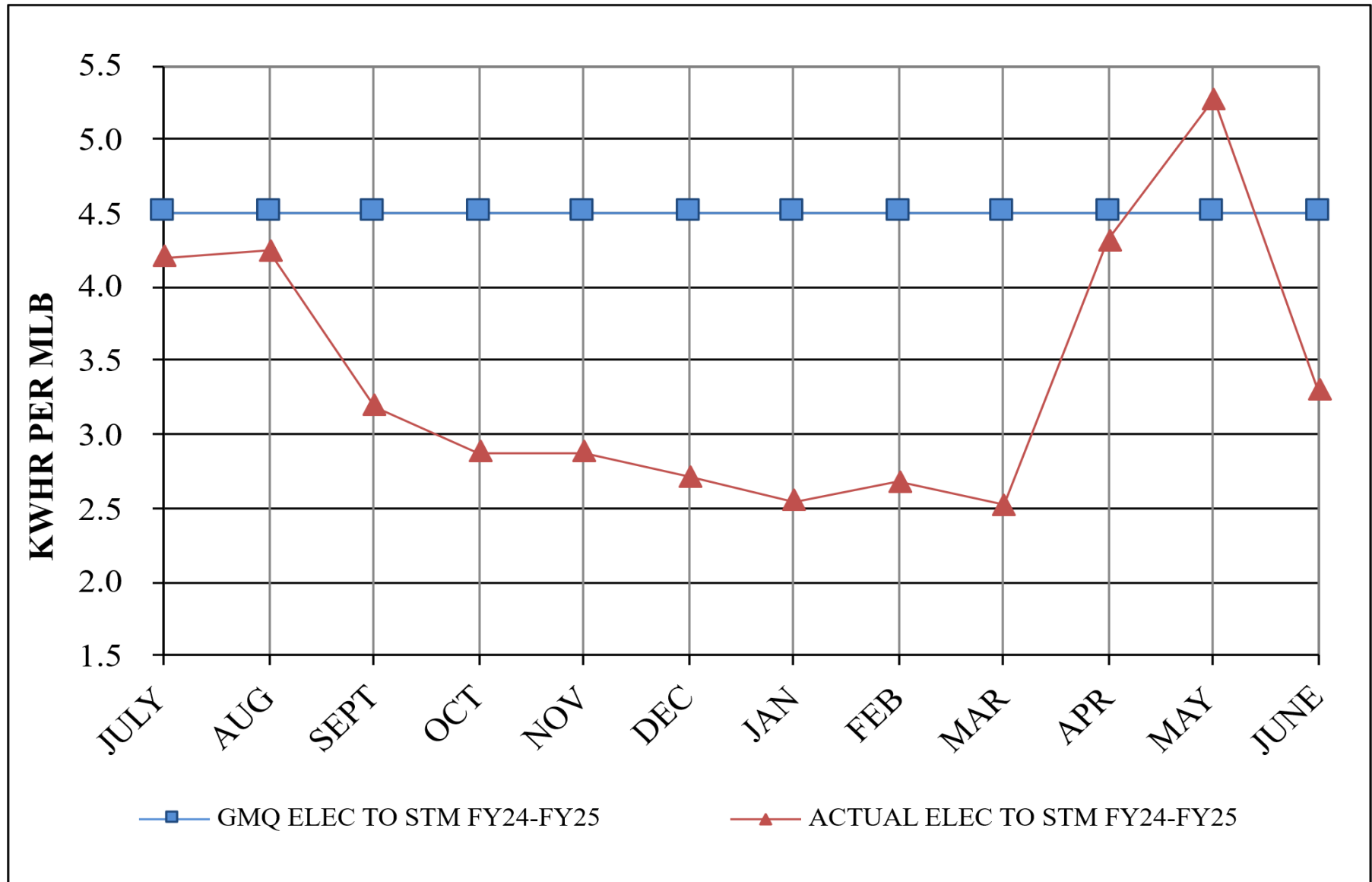
Marketing (con't)

- New Developments North of KVB
 - Printer's and Banker's Alley (DES203)
 - Development on hold; design includes chilled water
 - 333 Union
 - Development; current 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

6. *Review of DES Contractor Performance*

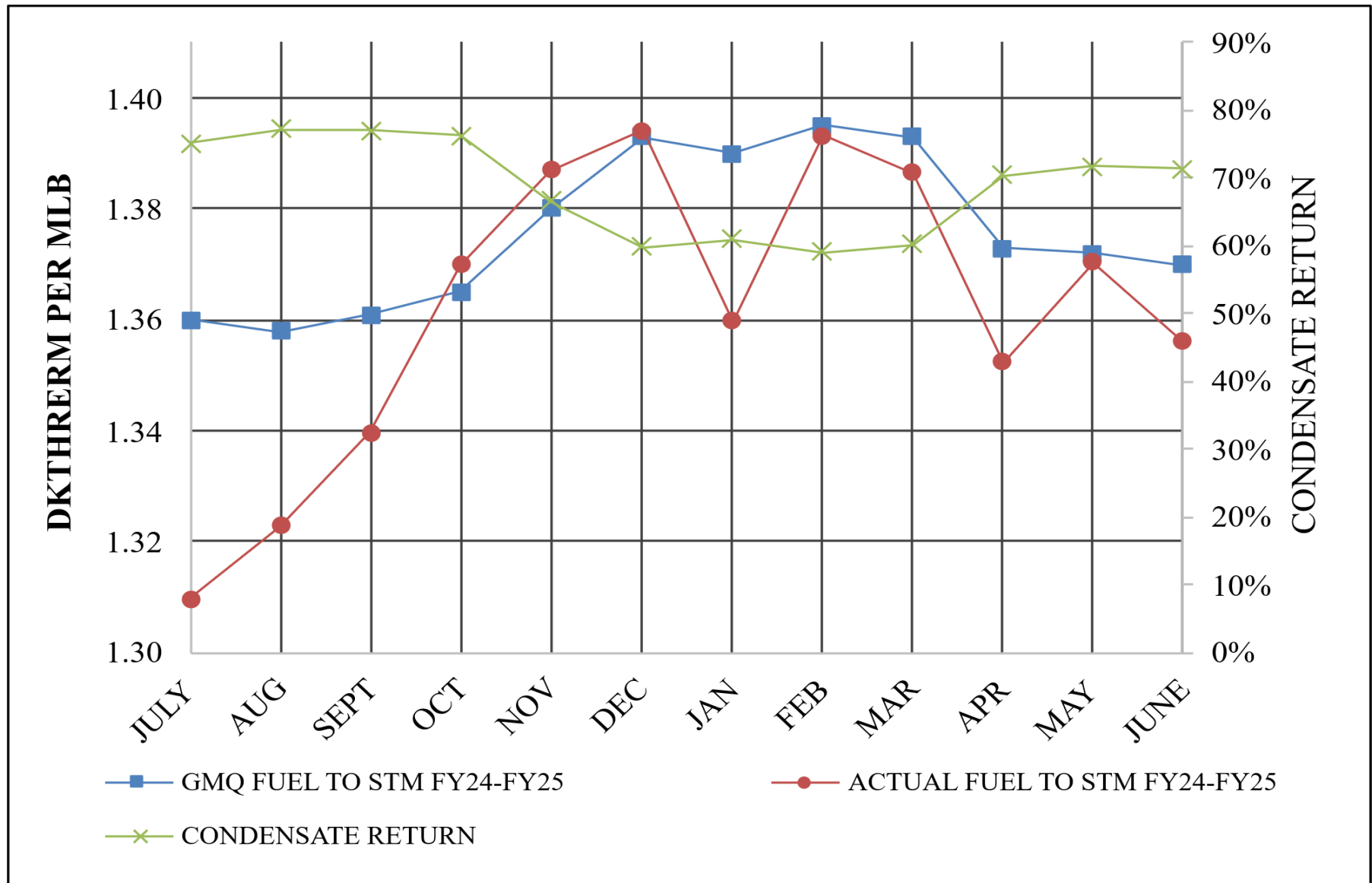
DEAO has made improvements in FY25 and has met most performance metrics for Q4. DEAO continues to address the system energy usage.

Performance Measurement FY25: Steam Electric



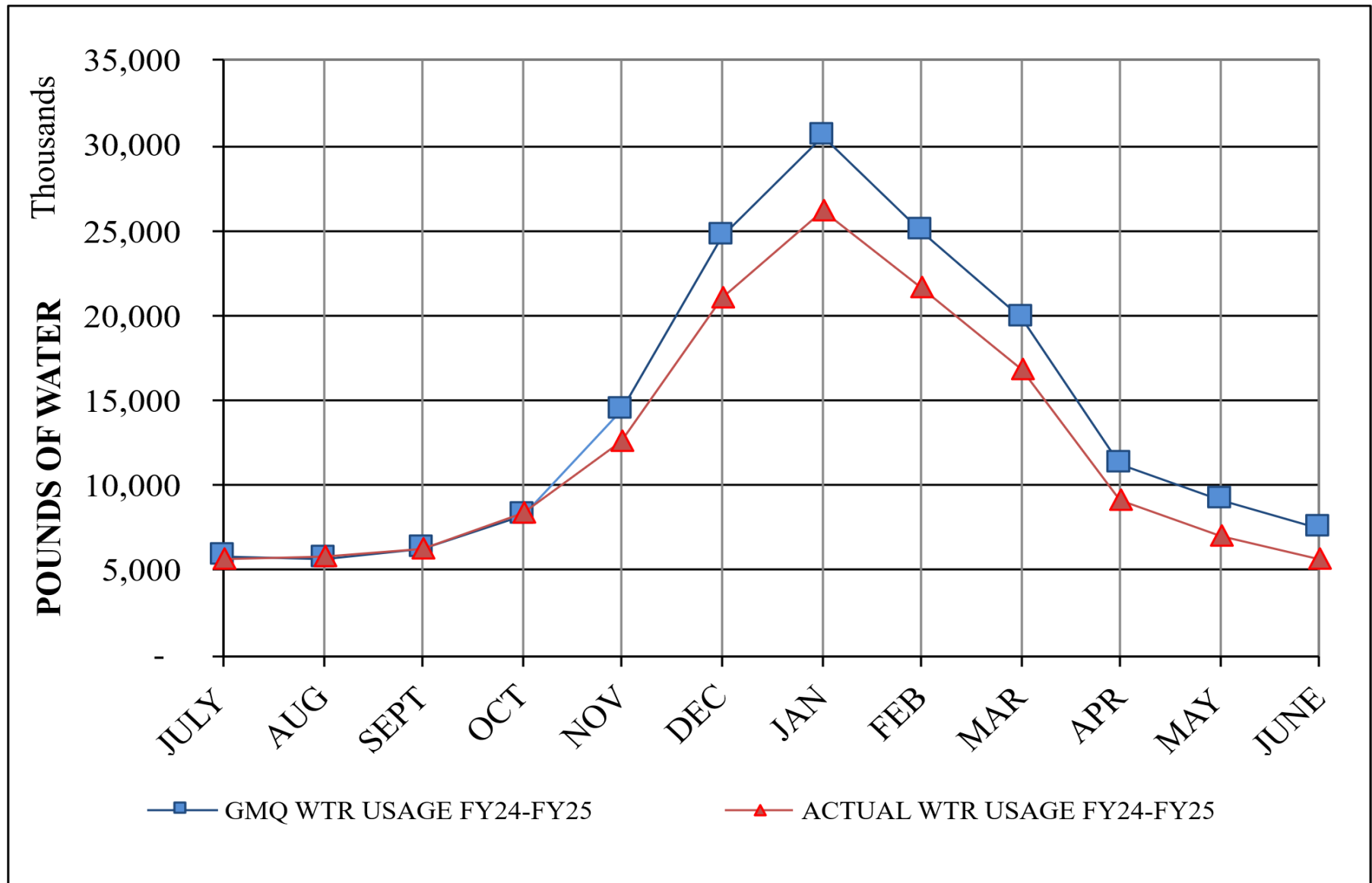
GMQ not met in May.

Performance Measurement FY25: Steam Plant Eff



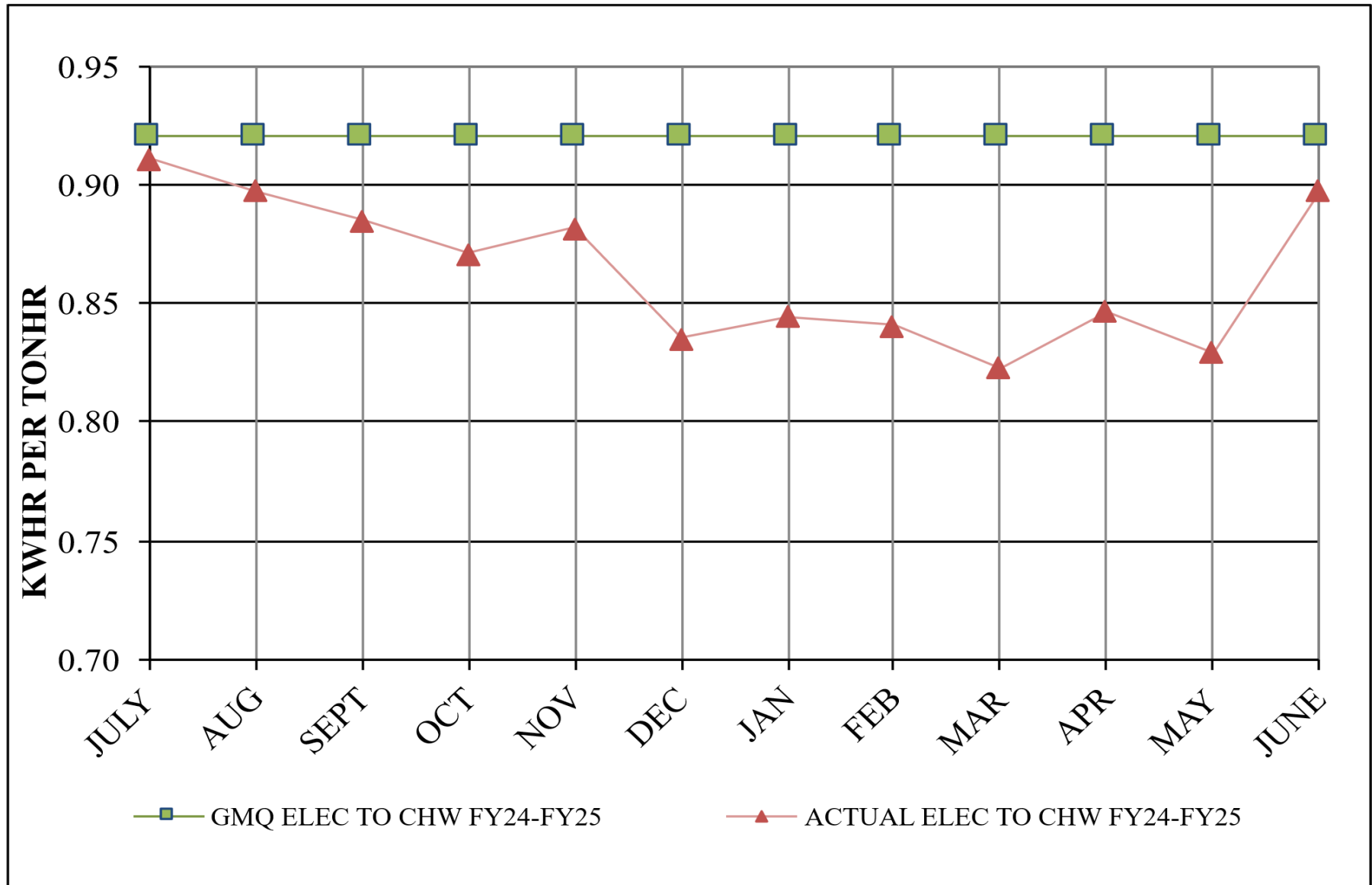
GMQ not met Oct, Nov, and Dec.

Performance Measurement FY25: Steam Water



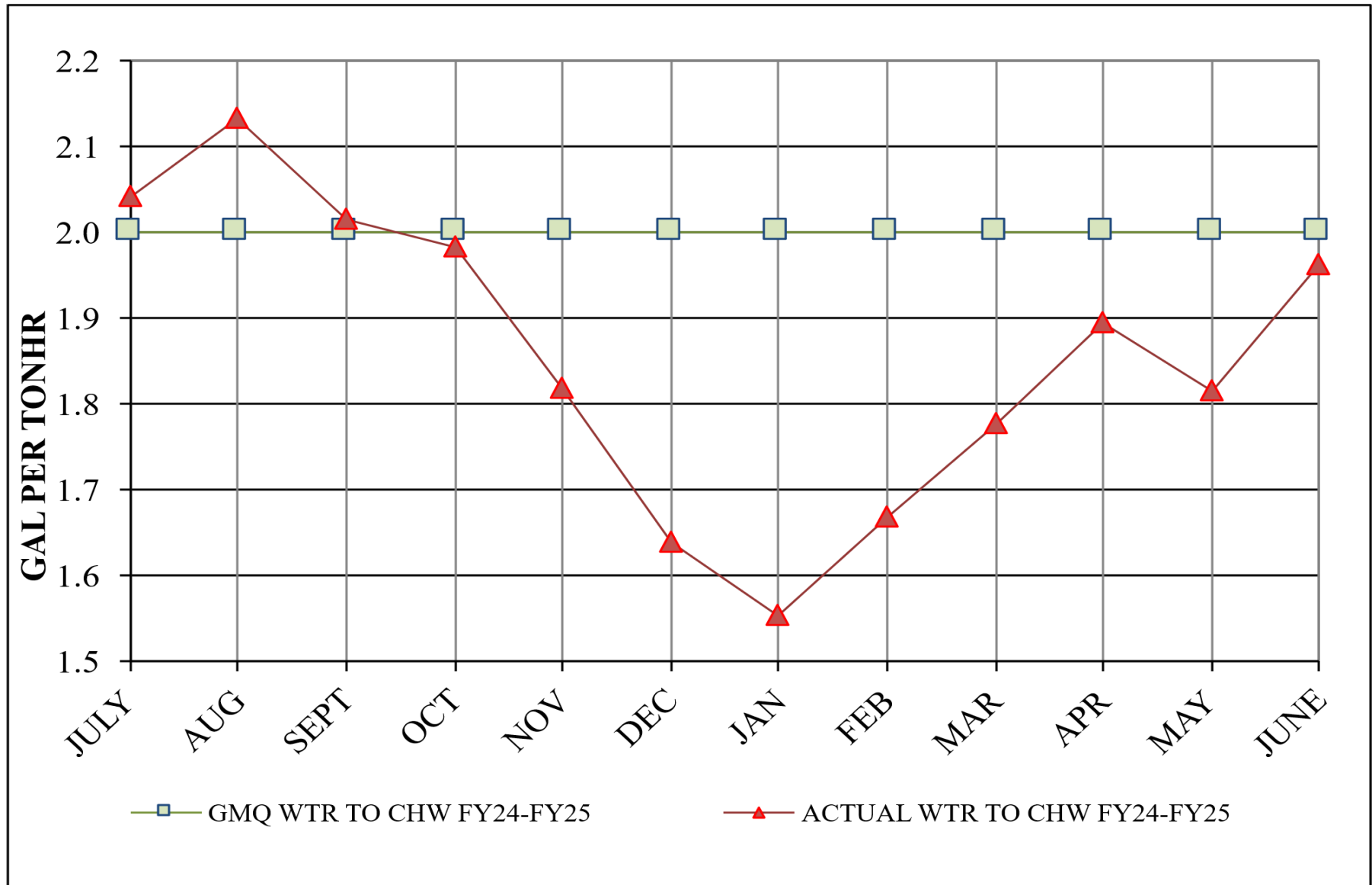
GMQ not met in Aug and Oct.

Performance Measurement FY25: CHW Electric



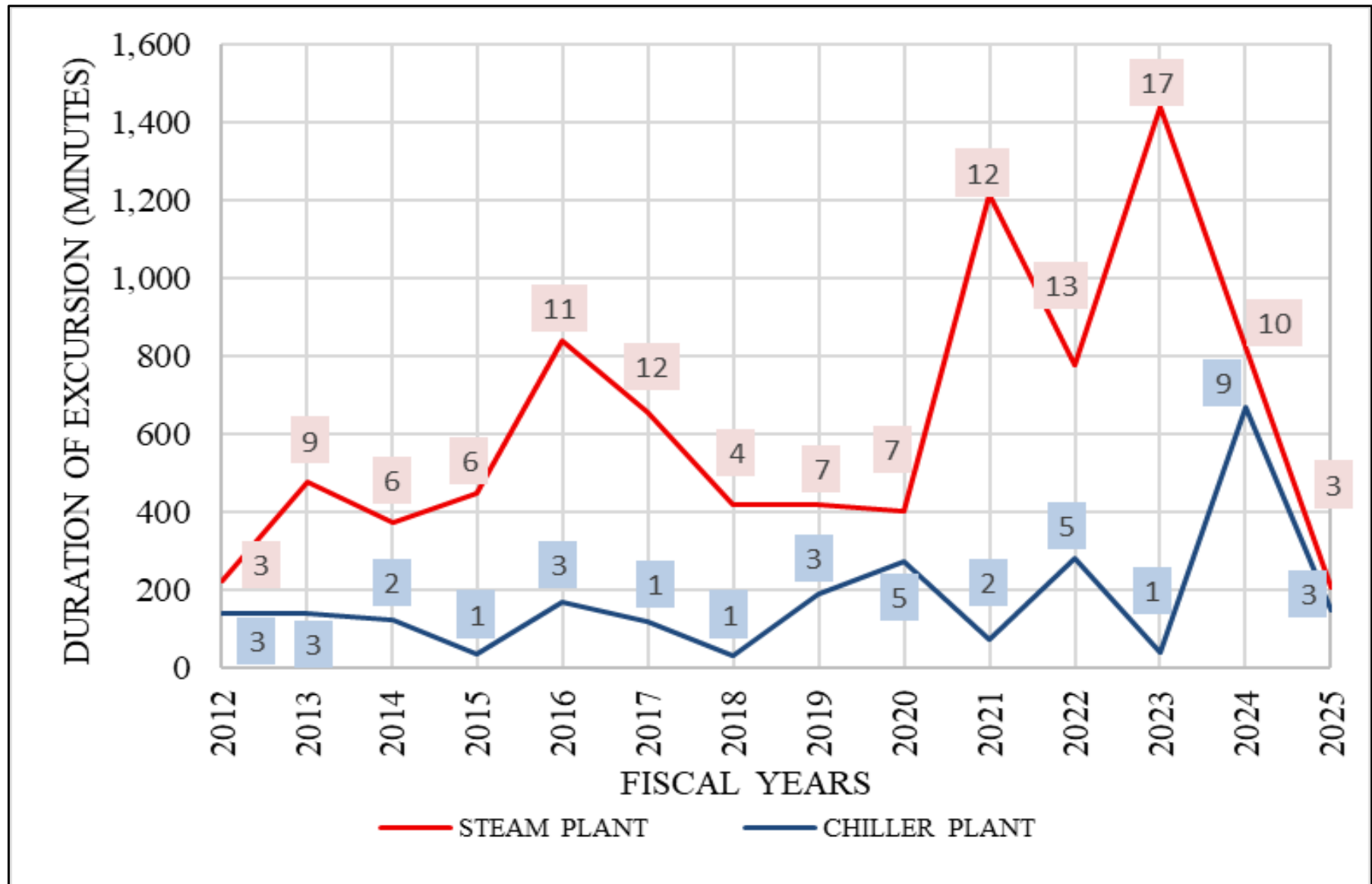
GMQ met in all months shown.

Performance Measurement FY25: CHW Water



GMQ not met July, Aug, and Sept.

Historic EGF Trips and Excursions

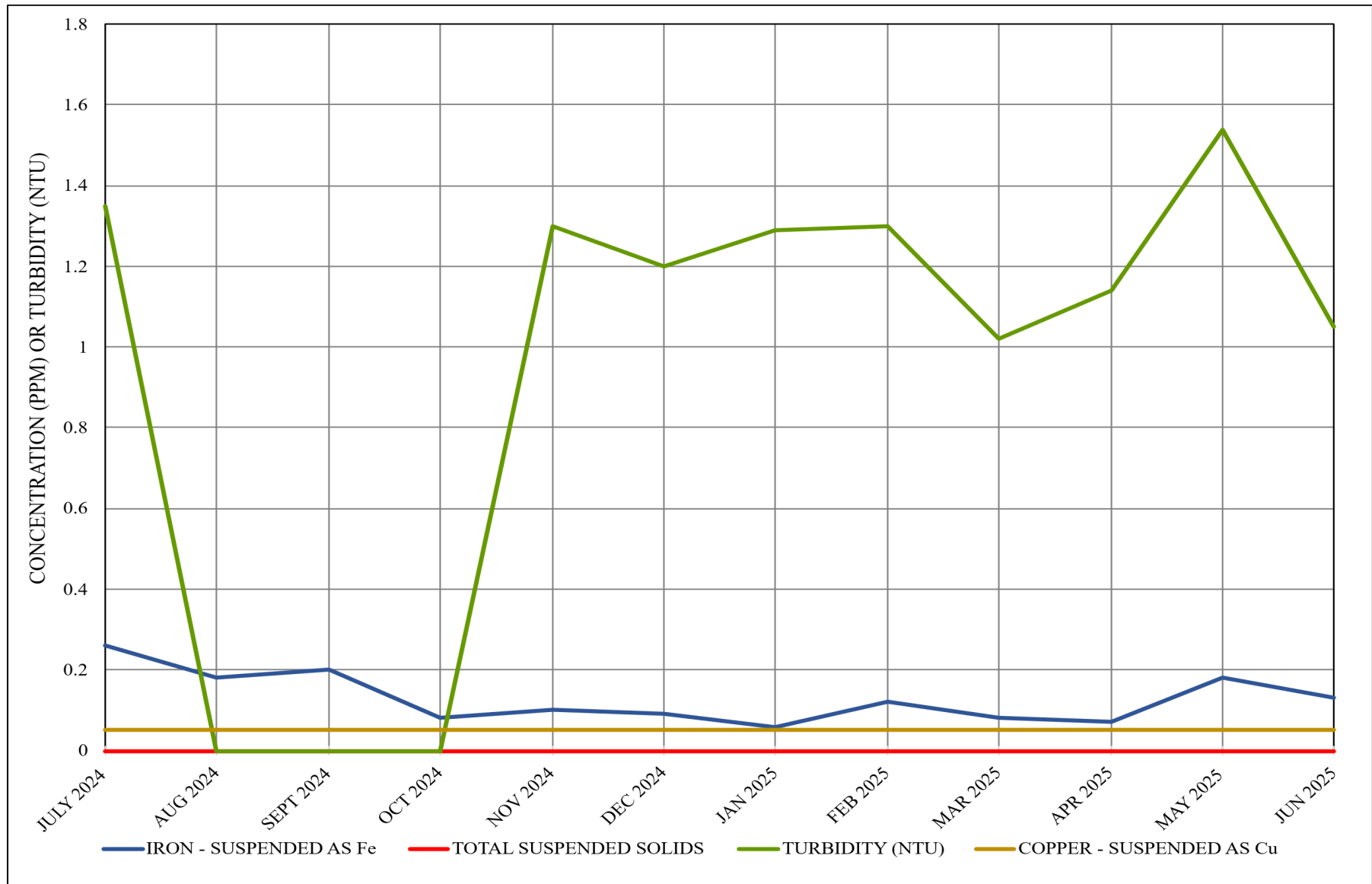


Excludes: Planned outages, cust-related issues, tuning, equip inspections, and utility service issues.

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

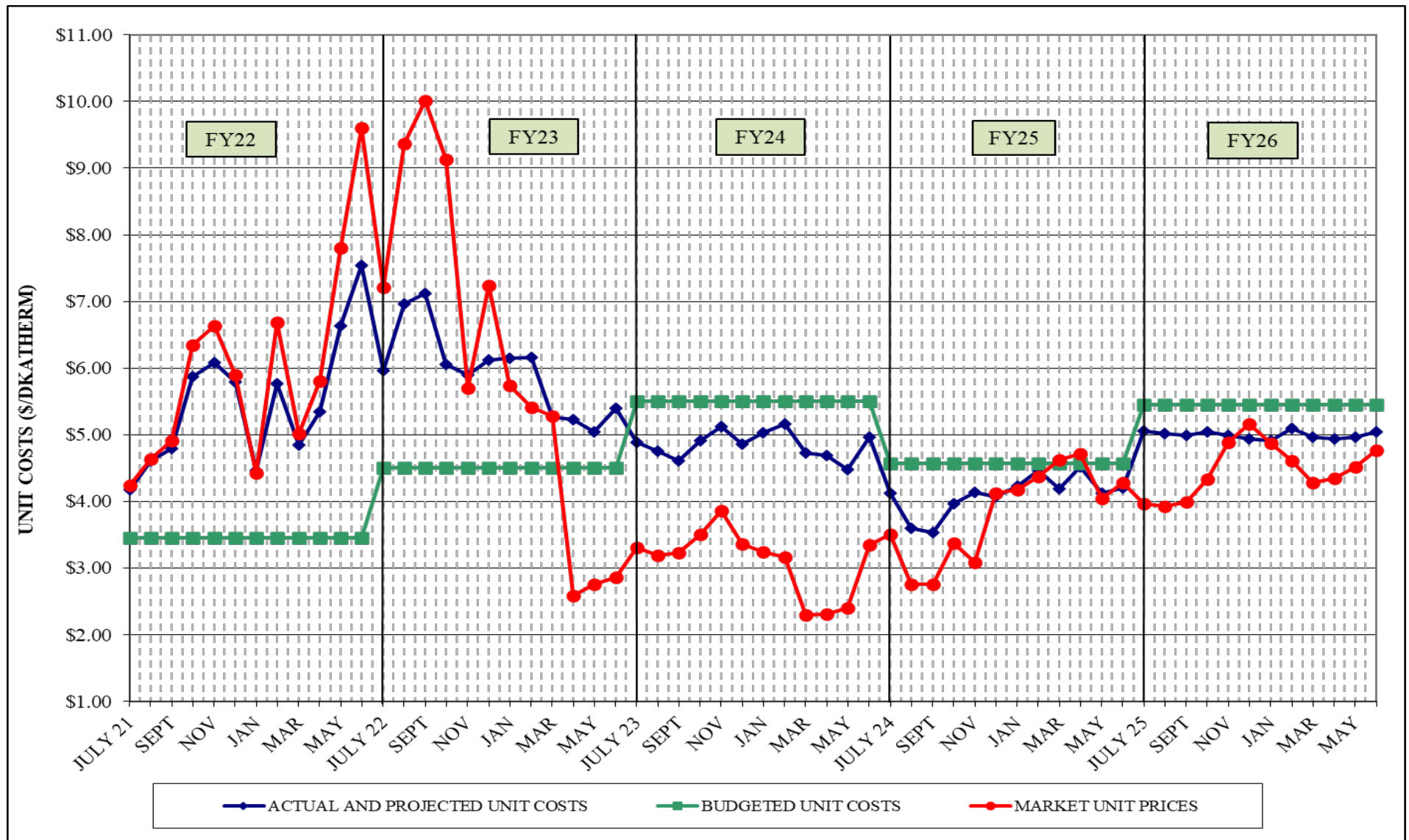
- ❖ Natural Gas Purchasing Review
 - ❖ Table 7: FY25 Gas Spending & Budget Comparison
 - ❖ Figure 7: Actual and Projected Fuel Cost Comparison

Table 7: FY25 Gas Spending & Budget Comparison

	Actual FY25 To June 30	Budget FY25	Percent Difference
Steam Sendout (Mlbs)	416,647	423,858	-1.7%
Fuel Use (Dth) (includes propane)	570,135	607,389	-6.1%
Plant Eff (Dth/Mlb)	1.368	1.433	-4.5%
Total Gas Cost (includes propane)	\$2,363,933	\$3,287,216	-28.1%
Unit Cost of Fuel (\$/Dth)	\$4.146	\$5.412	-23.4%

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 7. Actual and Projected Fuel Cost Comparison



Currently hedging 37% on natural gas through end of FY26; transportation costs included.

8. FY25 Costs to Date

Item	FY24 Budget	FY25 Budget	FY25 Actual to date	Percent of FY25 Budget
FOC's	\$ 4,127,000	\$ 4,250,800	\$ 4,250,834	100.00%
Pass Throughs				
Administrative Costs	\$ 638,300	\$ 752,500	\$ 663,987	88.24%
Chemicals	\$ 331,200	\$ 379,300	\$ 321,085	84.65%
R&I Fund Transfers	\$ 312,900	\$ 322,200	\$ 322,200	100.00%
Water/Sewer	\$ 1,152,000	\$ 1,187,300	\$ 1,051,662	88.58%
Fuel Base	\$ 3,422,700	\$ 2,631,171	\$ 2,501,629	95.08%
Fuel Contingency	\$ 764,200	\$ 795,729	\$ -	0.00%
Electricity	\$ 6,476,700	\$ 6,801,900	\$ 5,845,889	85.94%
ORF Deposit	\$ 188,200	\$ -	\$ -	0.00%
Debt Service	\$ 4,774,000	\$ 5,385,300	\$ 5,369,350	99.70%
Total Expenses	\$ 22,187,200	\$ 22,506,200	\$ 20,326,636	90.32%
Total Revenues	\$ 21,802,800	\$ 22,121,200	\$ 20,056,539	90.67%
Metro Funding	\$ 384,400	\$ 385,000	\$ 385,000	100.00%

Actual Costs and Revenues to Date include FY24 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 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
- Operations
- Electrical
- Housekeeping
- Building Structure
 - Roof repairs
- Building Exterior and Grounds

EDS Walkthroughs

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

10. *Capital Expenditure Update*

	Spent to End of FY24	FY25 Spending	Balance to Date (06/30/25)
R&I Projects	\$5,158,425	\$344,387	\$55,337
49116-DES Infrastructure Fund	\$6,461,760	\$1,438,490	\$2,801,023
Total	\$11,620,185	\$1,782,877	\$2,856,359

Capital Projects Review

Active Capital Projects – General & Marketing

- DES 163: Peabody Union
 - Working with developer on Guthrie St. impact to DES; punchlist.
- DES 202: 7th and Commerce Hotel
 - Development progressing; 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)
 - Survey complete; 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 for 1st Qtr FY26
- DES 221: War Memorial and Legislative Plaza Renovation
 - Steam and CHW service restored; project in close-out
- DES 223: MH 18 Electrical Repairs
 - Work complete; project in close-out
- DES 226: State PRV Replacement
 - Replacement PRV installed and operational; project in close-out

Capital Projects Review

Active Capital Projects – Repairs/Modifications

- DES 227: Manhole 16 Condensate Piping Repair
 - Project complete; project in close-out
- DES 228: Manhole B2 and B3 Dripleg Modifications
 - Existing driplegs close to manhole floors; groundwater accumulation causing corrosion on drain piping; driplegs to be “shortened” to raise drain piping; Manhole B3 was modified during partial isolation to repair steam leak in Hyatt Place; Manhole B2 to be addressed during planned system outage on August 10, 2025
 - Outage work includes modifications/repairs in several additional manholes
- DES 229: Misc Manhole Insulation Repairs
 - Addresses various manhole insulation needs from quarterly reviews; work expected to be completed during 1st 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 is corroded and scheduled for replacement 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 Sept 5-7; CHW isolation 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 Robertson Pkwy. to Deaderick St; ~ 480 feet
 - Bid in August; plan to begin work in October
- 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

12. System Operator Update

By System Operator's Service Manager



DE Asset Operations, LLC

13. Special Topics

14. Other Board Member Items

Customer meeting held May 29th with good turn-out

15. Adjourn

- *Advisory Board Meeting Schedule*
- FY26 – 1st Quarter Meeting – November 20, 2025
- FY26 – 2nd Quarter Meeting – February 19, 2026
- FY26 – 3rd Quarter Meeting – May 21, 2026
- FY26 – 4th Quarter Meeting – August 20, 2026