Fiscal Year
2024-2025

Annual Report

for the

Metro Nashville
DISTRICT ENERGY SYSTEM

Final

Constellation.

Contents

Executive Summary

October 6, 2025

On behalf of DE Asset Operations, a subsidiary of Constellation Energy Solutions, LLC
I am pleased to present the twenty second "*Annual Report"* to the Metropolitan Government of Nashville and Davidson County, Tennessee (Metro). The Metro Nashville District Energy System (MNDES) is made up of two basic parts, the Energy Generation Facility (EGF) and the Energy Distribution System (EDS). This report summarizes activities related to the performance of the MNDES for the period July 1, 2024, through June 30, 2025.

DEAO's experienced work force continues to operate and maintain the MNDES in a manner that produces outstanding results. Both steam and chilled water availability and reliability were greater than 99%. The safety record was 100%, as there were no accidents in the past 12 months. DEAO's environmental record remains intact with zero excursions, violations, or fines. All data, records, reporting requirements, and submittals are kept up to date and in order.

DEAO remains committed to providing the best service possible to Metro, State, and private MNDES customers. I would like to thank DEAO personnel for their continued dedication toward achieving these objectives and Metro Water Services and Thermal Engineering Group (TEG) for their partnership with Constellation in this system.

Sincerely,

Mike Winters
General Manager
DE Asset Operations, a subsidiary of Constellation Energy Solutions, LLC
Metro Nashville District Energy System

Monthly Operations Report Summary

DE Asset Operations, a subsidiary of Constellation Energy Solutions, LLC (DEAO), submits a written report to the Metro Nashville District Energy System (MNDES) team on or about the 10th day of each month to convey the operational activities of the prior month. These reports are broken into four major sections. The first item included in each report is the "Summary". This section gives an overview of the entire report and addresses notable news, events, and other business activities. The next section is "Operations", which includes plant reliability and efficiency data, environmental, health & safety data, personnel information, and training participation by DEAO team members. The third section of the report lists and discusses all maintenance activities in and around the Energy Generation Facility (EGF). The items covered in this section include building and grounds, warranty issues, preventive and predictive maintenance, and construction projects. The final section of the report is about the Energy Distribution System (EDS). Items discussed in this section are customer issues, Metro sales and marketing, system maintenance and repairs, and distribution system project updates.

Operations Summary

The EGF continued to provide reliable steam and chilled water service to the MNDES customers over the past twelve months. There were no system wide scheduled chilled water or steam outages for FY 24-25.

Some MNDES customers requested service interruptions so they could make repairs in their respective buildings, and some sections of the EDS were isolated to make steam and chilled water repairs or execute project work. There were no system wide service interruptions in FY25. There were certain instances where maintenance was required that impacted one or more customers for a prescribed amount of time. Most notably, there was a chilled water leak that was identified on 3rd Avenue North that impacted six customers for approximately (60) hours. This is further discussed as part of the DES projects section under DES-237. Other impacts on customer operations are listed in the next section.

The plant is staffed with an outstanding work force. There were zero reportable incidents and zero lost time accidents for the year. Training classes were conducted online through our Learning Management System as well as in person. Employees also received training related to plant systems, equipment, CPR/first aid, and corporate programs and requirements. For the twenty-second consecutive year, there were no environmental excursions or violations.

Maintenance activities were performed as scheduled in the EGF and in the EDS. A great deal of planning and coordination go into the project work both in the plant and in the distribution system. Communications with the MNDES customers are performed on a routine and as needed basis. Any customer issues that exist are dealt with courteously and expeditiously.

Customer Steam and Chilled Water Impacts

- On July 10th a steam leak was identified at the Nashville Symphony. The service was isolated and allowed to cool overnight. On July 11th, the leak was repaired and service restored. Customer steam was isolated for approximately (18) hours.
- On August 2nd, as part of DES-221, steam service was isolated to the state tunnel to replace valves isolating the War Memorial Building. Service was restored on August 3rd. State steam service was isolated for approximately (24) hours.
- On September 26th, Nashville Public Library Steam Service was isolated as part of DES-219. The work to reroute service lines was completed in the DES Tunnel and service restored on September 28th. The steam service was isolated for approximately (48) hours.
- On October 25th, steam service on Molloy Street was isolated in MH-B2 to make a repair on a steam bypass line at the Hyatt Place Hotel. During this time, it was also scheduled to make a dripleg modification in MH-B3. This work impacted the Hyatt Place, Music City Center, and the Nashville Symphony. The steam at these customer locations was isolated for approximately (11) hours.
- On November 22nd, chilled water service was isolated to the Nashville Symphony. This work was to replace the Chilled Water instrumentation as well as the block valves upstream of the instrumentation. Chilled water services were isolated for approximately two hours.
- On January 4th, there were multiple issues at the Andrew Jackson building that interrupted the State steam service. A plugged moisture separator on the air compressor serving the pressure reducing valve was identified initially as the cause of the system failure. Several hours later, the system tripped again due to a failed solenoid on the controller. A spare was placed in the controller and service restored. The state steam system was unavailable for approximately six hours.
- On January 9th, a steam leak appeared in MH-B3, where work was previously executed on October 25th. It was determined that incorrect material was placed in service on a strainer and failed. The system was isolated in MH-B2 impacting the Hyatt Place, Music City Center, and the Nashville Symphony so repairs could be made. Steam service was isolated for approximately two hours.
- On March 15th, a scheduled repair was made on chilled water drain lines that had started leaking which serve the Andrew Jackson building. The chilled water service was isolated for approximately ten hours.
- On April 9th, a chilled water leak which was being actively monitored by DEAO, started to impact the plant's ability to operate. In the interest of preserving most of the customers' services, the chilled water in this area was isolated in MH-K. Customers in this area were isolated from chilled water services for approximately (58) hours while an excavation and repair plan took place. Further details are discussed as part of DES-237. Impacted customers include the Fairlane Hotel, the Bobby Hotel, Parkway Towers, Metro Courthouse, The Downtown Detention Center, and the AA Birch/Ben West buildings.
- On June 6th, the State steam service was isolated to test the isolation valve in MH-10. This test was in preparation for execution of DES-226. The valve was verified and steam service restored. Steam service was isolated for approximately three hours.
- On June 21st, the State Steam Service was isolated to execute the PRV in the AJ Building. Details are provided as part of DES-226. The scheduled steam outage was approximately (48) hours.
- On June 21st, while onsite for the work on DES-226, DEAO coordinated a steam valve test for the TN Tower. The valve was verified as operational and service restored. Steam was isolated for approximately three hours.

News, Events, and Other Business

Routine business activities such as the Monthly Operations Meeting and Natural Gas Purchasing TEAMS Calls were conducted as scheduled each month. Other news and events include the following:

- The MNDES Advisory Board Meetings were held in person and online on the third Thursday of each quarter. This fiscal year included meetings in August 2024, November 2024, February 2025, and May 2025.
- DEAO issued a draft copy of the FY24 Annual Report to Metro on July 26, 2024.
- The Monthly DEAO/DES Operations Meeting and Monthly Report review was held, via TEAMS Call on July 17, 2024.
- The Monthly DEAO/DES Operations Meeting and Monthly Report review was held, via TEAMS Call on August 21, 2024.
- The Monthly DEAO /DES Operations Meeting and Monthly Report review was held, via TEAMS Call on September 18, 2024.
- The Monthly DEAO /DES Operations Meeting and Monthly Report review was held, via TEAMS Call on October 16, 2024.
- The Monthly DEAO /DES Operations Meeting and Monthly Report review was held, via TEAMS Call on November 20, 2024.
- The Monthly DEAO /DES Operations Meeting and Monthly Report review was held, via TEAMS Call on December 18, 2024.
- The Monthly DEAO /DES Operations Meeting and Monthly Report review was held via TEAMS Call on January 15, 2025.
- The Monthly DEAO /DES Operations Meeting and Monthly Report review was held via TEAMS Call on February 19, 2025, due to weather related events.
- The Monthly DEAO /DES Operations Meeting and Monthly Report review was held via TEAMS Call on March 20, 2025.
- The Monthly DEAO /DES Operations Meeting and Monthly Report review was held via TEAMS Call on April 17, 2024.
- The Monthly DEAO /DES Operations Meeting and Monthly Report review was held via TEAMS Call on May 15, 2024.
- The annual customer meeting was held on May 29, 2025, at the Downtown Partnership and was hosted by Thermal Engineering Group (TEG).
- The Monthly DEAO /DES Operations Meeting and Monthly Report review was held via TEAMS Call on June 18, 2025.

Plant Performance

Plant Reliability

The EGF continued to provide reliable service to MNDES customers. Except for uncontrollable circumstances, the guarantees are to maintain 150 psig of export steam pressure leaving the EGF and deliver 43.3-degree F chilled water to each customer. The following items describe minor incidents when the EGF experienced that caused an excursion outside parameters of the performance guarantees:

- On July 6, 2024, Boiler #4 tripped and was attempted to re-start. The Boiler did not immediately re-start and Boiler #2 was placed in service. The trip was investigated and could not be replicated. The Boiler was placed back in service and continued to run throughout the month without incident. The system was below 150 psi for 60 minutes and the low pressure during that event was 122.5 psi.

- On January 20, 2025, Condenser Water Pump Motor (CWP) #4 tripped due to a voltage imbalance, which in turn caused the two chillers that were online to stop due to lack of flow. Another CWP and the two chillers were immediately restarted. This was a morning of extremely low temperatures with wind chills below zero. The chillers took longer than normal to come up due to a lack of load on the system. The chilled water was above the guarantee of 43.3°F for 58 minutes with a high temperature of 43.9°F.

- On April 3, 2025, Switchgear 1B tripped for an unknown reason. This caused the boilers and chillers to have to be re-started. The steam pressure was below the guarantee for 105 minutes with a low pressure of 109 psi. The chilled water was above the guarantee for 42 minutes with a peak of 48.1°F. It was later determined that water infiltration caused a fault in Switchgear 1B. Switchgear 1B was completely dissasembled and rebuilt. Any parts that were of questionable state were replaced with new.

- On April 22, 2025, while rotating chillers to allow Trane to perform the Annual Chiller Electrical Maintenance, the chilled water was above the guarantee for 48 minutes reaching a peak of 44.9°F

- On May 9, 2025, in the process of starting up Switchgear 6B following Switchgear 1B repairs, the plant lost power momentarily. The boiler that was online tripped and was restarted. The system pressure dropped to a low of 129 psi and was below 150 psi for approximately 45 minutes.

Constellation is required to report upsets that last longer than thirty minutes. The following table includes every minute the plant was outside the contractual service delivery parameters. Reliability does not include scheduled outages allowed per the Amended and Restated Management Agreement (ARMA).

	Outside Delivery Parameters		Availability	Reliability
	Scheduled	**Unscheduled**		
Boilers	0 minutes	210 minutes	99.960%	99.960%
Chillers	0 minutes	148 minutes	99.971%	99.971%

Plant Efficiency

When the annual boiler inspections were completed at the end of July 2024, two boilers were placed in wet lay-up, one in stand-by, and one de-aerator tank was isolated due to the reduced steam demand during the summer months. One boiler and one de-aerator were left online. This equipment is rotated monthly. This is done to increase steam efficiency during the cooling season. Stand-by boilers were taken out of wet lay-up and were put back in service during the month of November 2024 in preparation for the heating season. At this same time, the propane vaporizer was placed back into standby service.

Constellation and Metro agreed upon the final version of the Metro MNDES annual reconciliation for FY25 on October 1, 2025. The annual reconciliation for this time consisted of a true-up reflecting actual costs in several categories between Metro and DEAO, as well as Metro and the MNDES Customers. For reference, the annual reconciliation is included in Appendix 4 of this report.

Constellation Energy's efficiency guarantees consist of five key conversion rates:

1. Electric-to-Steam (kWh per klb-sold)
2. Fuel-to-Steam (Dekatherm per klb-send-out)
3. Water-to-Steam (lbs)
4. Electric-to-Chilled Water (kWh per ton hr-sold)
5. Water-to-Chilled Water (gallon per ton hr-sold)

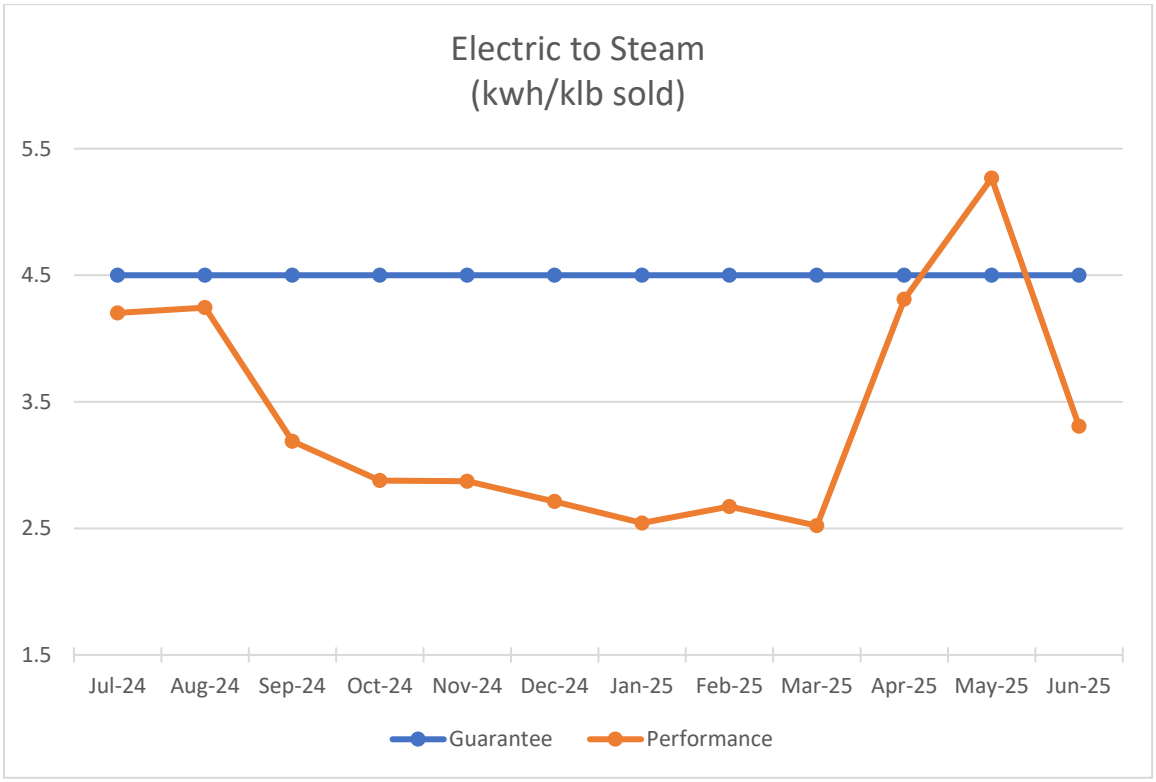
Efficiency for the fiscal year 2024-2025:

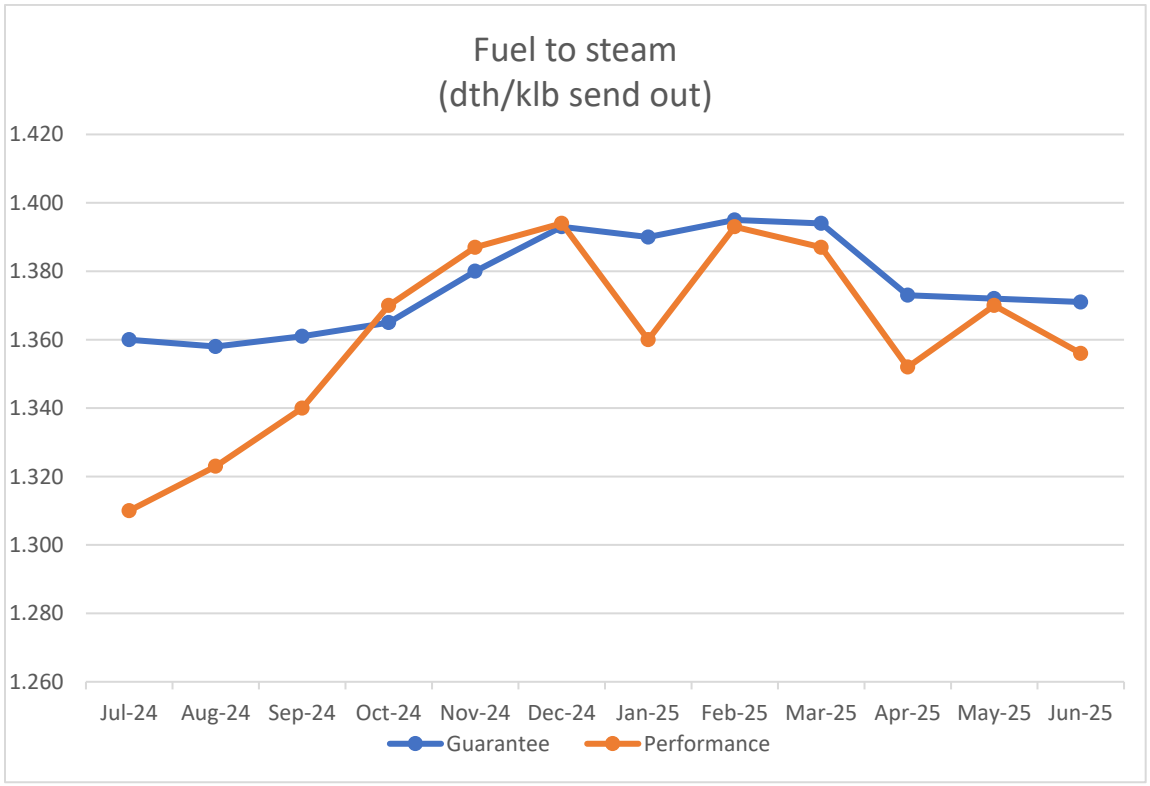
	Units	Guarantee	Actual Rate
Electric-to-Steam	kWh/klb-sold	4.500	3.191
Fuel-to-Steam	Dth/klb-sent out	1.381	1.368
Water-to-Steam	lbs	167,946,827	146,123,811
Electric-to-Chilled Water	kWh/ton hr-sold	0.920	0.887
Water-to-Chilled Water	gallons/ton hr-sold	2.000	1.920

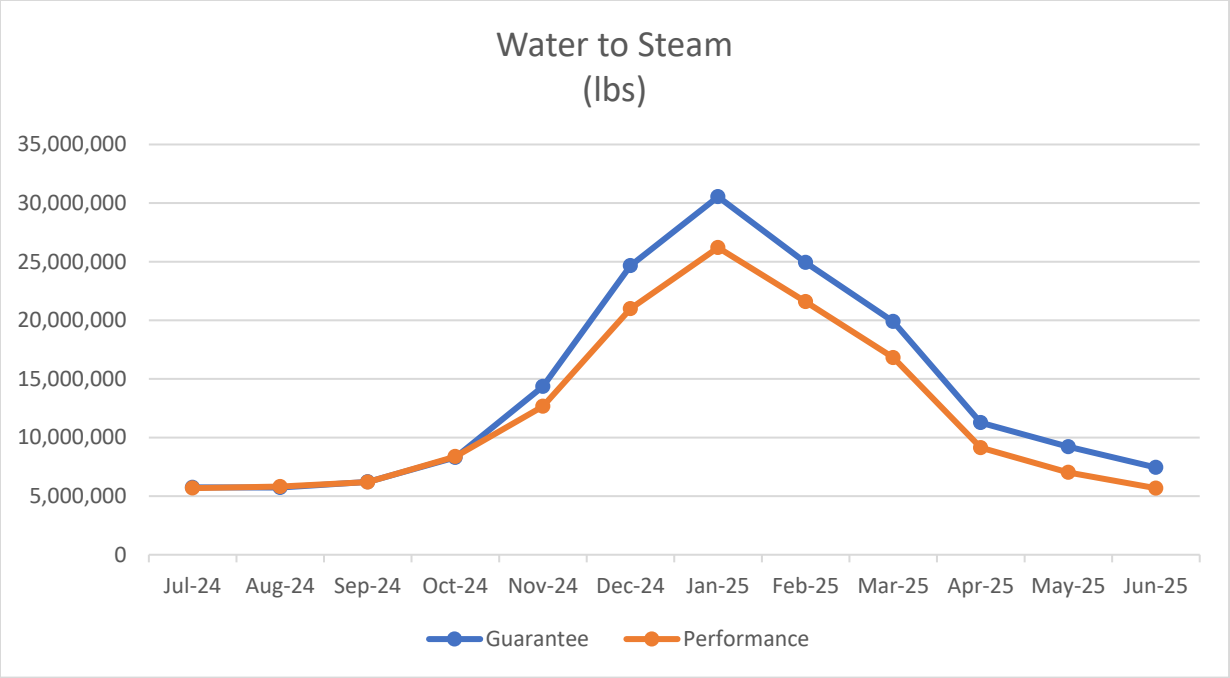
For FY2025, the performance guarantees from Amendment 2 were updated to reflect the current system operations contract, Amendment 3.

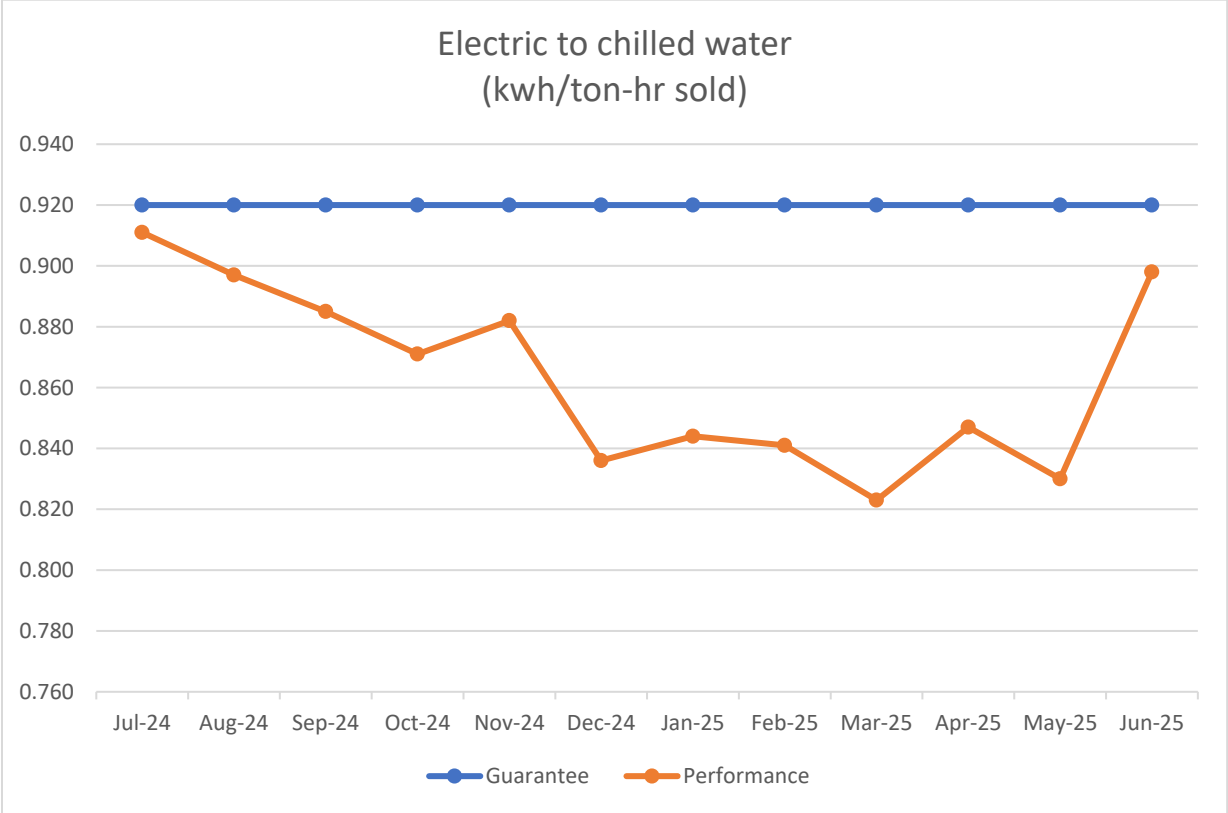
For Amendment 3, the water-to-steam guarantee is now represented in pounds; in previous years it was shown in gallons. Additionally, the Electric-to-Chilled Water guarantee was reduced from (0.930) to (0.920) kwh/ton-hr sold. Finally, though the water-to-chilled water guarantee is (2.000) gallons/ton-hr sold, DEAO's obligation for distribution system chilled water loss was reduced from (30,000) to (20,000) gallons.

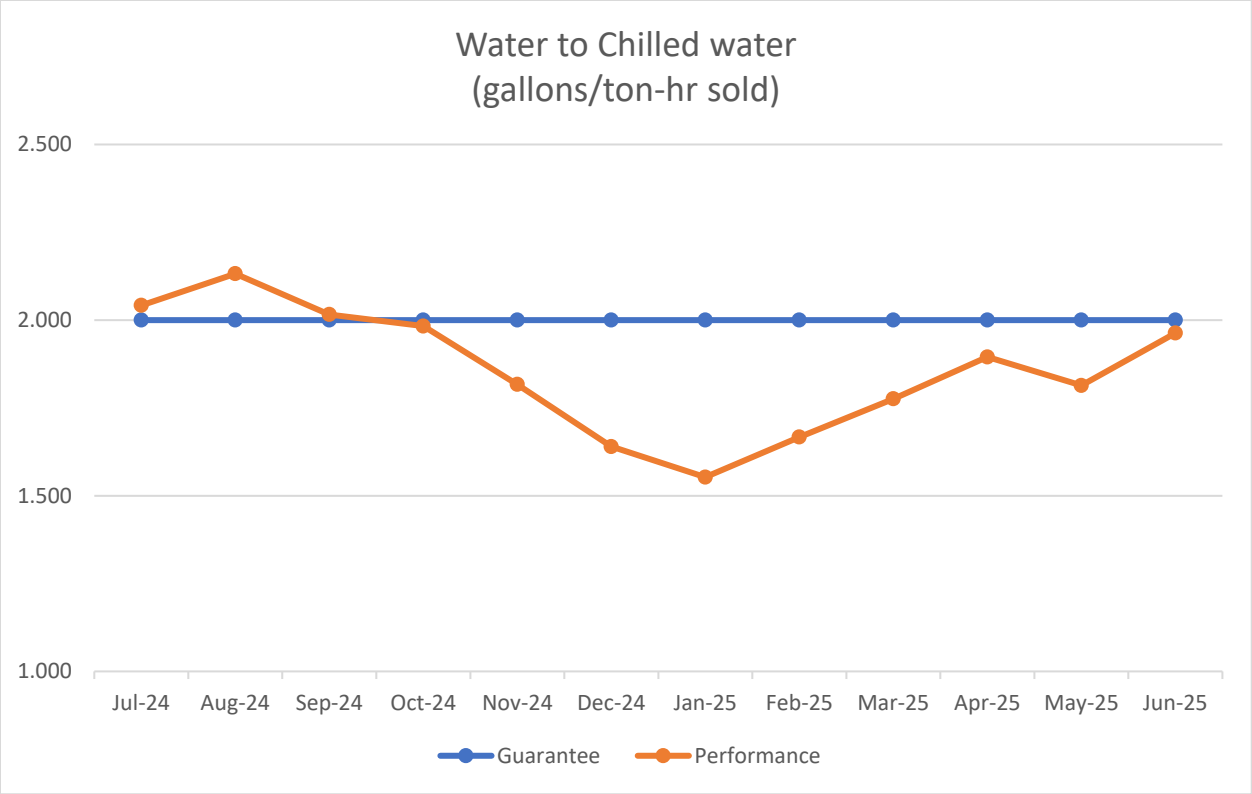
The following graphs represent the efficiency guarantee results from July 2024 through June 2025 monthly:






Water to Steam
(lbs)
35,000,000
30,000,000
25,000,000
20,000,000
15,000,000
10,000,000
5,000,000
0
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Feb-25
Mar-25
Apr-25
May-25
Jun-25
Guarantee
Performance


Electric to chilled water
(kwh/ton-hr sold)
0.940
0.920
0.900
0.880
0.860
0.840
0.820
0.800
0.780
0.760
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Feb-25
Mar-25
Apr-25
May-25
Jun-25
Guarantee
Performance



DEAO did not meet, nor did they exceed every single guarantee each month during the past year. Each of the performance guarantees was met for the aggregate of the fiscal year 2025. When DEAO exceeds a performance guarantee, they are responsible for 100% of the financial overage. When they outperform the guaranteed value, they receive a 25% bonus, allowing the additional 75% to be returned to customers as a savings. DEAO received a net bonus of $76,636.43 for FY25.

Environmental, Health, and Safety

Environmental

There have been no environmental violations since the plant began commercial operations in December 2003.

Storm water samples were collected, inspections conducted, and a report was generated quarterly. Storm Water Pollution Prevention Plan (SWPPP) and Spill Prevention Controls and Countermeasures (SPCC) training was conducted online.

Regulatory Compliance

Required reporting activities were submitted as follows:

- The Semi-Annual Emissions Reports were sent to the Metro Health Department on July 12, 2024, and January 23, 2025.
- The Tier II Report was sent out on January 14, 2025.
- The Title V Certification of Compliance form was sent to the U.S. EPA and Metro Health Department on January 23, 2025.
- The Annual Greenhouse Gas Report was completed online on March 17, 2025, and sent to the EPA.
- The Annual Emissions Report was delivered to Metro Health Department on March 5, 2025.

Health

There are no complications or health issues to report.

Safety

DEAO plant personnel continue to conduct themselves in a safe manner. There were no reportable accidents in the past year. DEAO has operated 1,796 days without an accident.

Monthly safety meetings were coordinated and scheduled by DEAO's site Safety Officer. Training classes were also conducted online through Constellation corporate requirements. Safety and accident reports are issued and posted each month.

The refrigerant alarm and gas monitors are checked weekly. Preventative maintenance and calibrations are performed monthly on the portable gas monitors used in the EDS. Fire extinguishers are also checked monthly.

Per OSHA, the NEC and NFPA 70E 1910 Subpart S, arc flash Personal Protective Equipment were sent out for inspection and recertification as required.

Accident Report

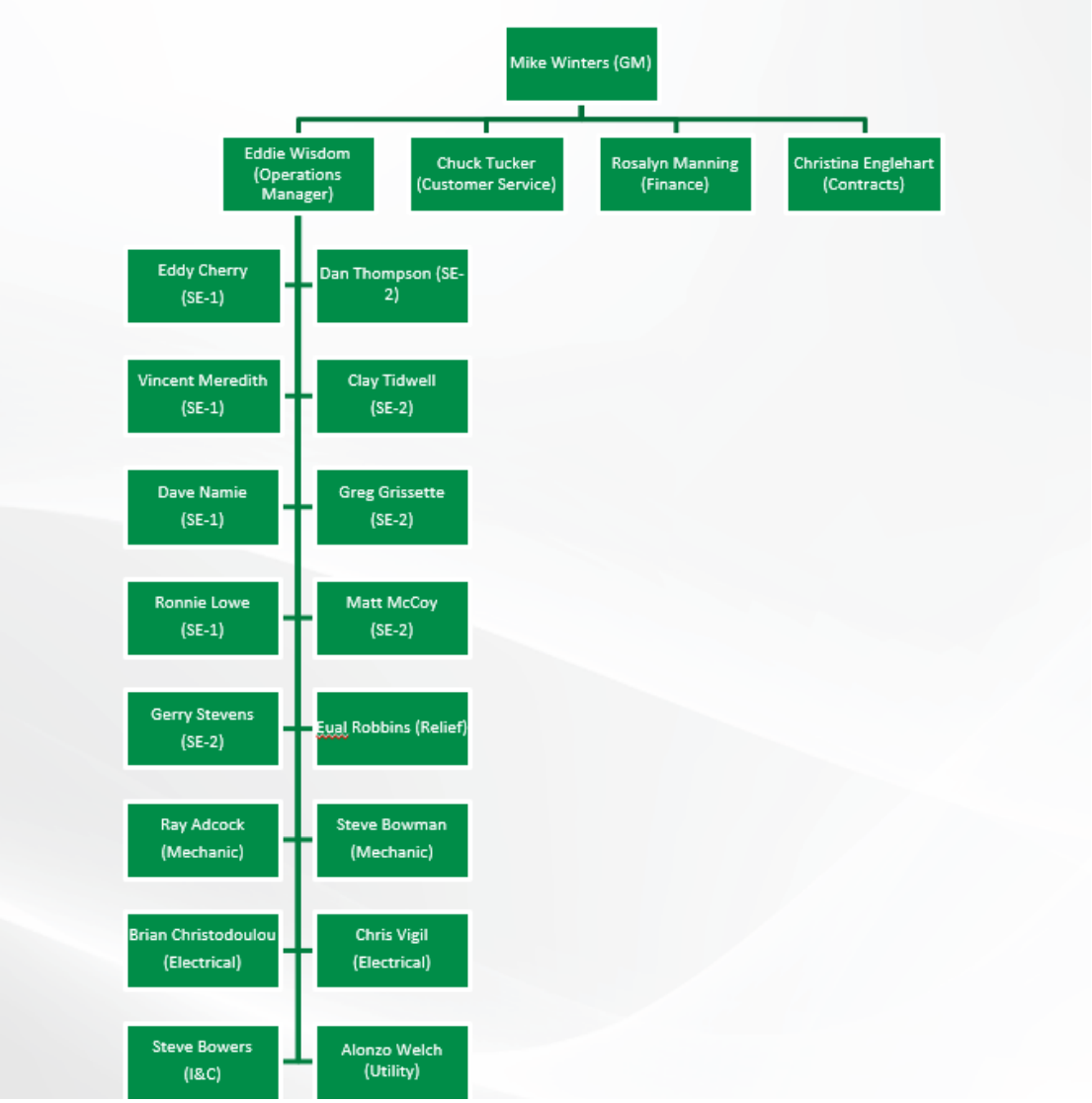
	Total Accidents	OSHA Reportable	Lost Time Accidents	Total Lost Days
July 2024	0	0	0	0
August	0	0	0	0
September	0	0	0	0
October	0	0	0	0
November	0	0	0	0
December	0	0	0	0
January 2025	0	0	0	0
February	0	0	0	0
March	0	0	0	0
April	0	0	0	0
May	0	0	0	0
June	0	0	0	0
Total	**0**	**0**	**0**	**0**

System Assessment and Status

Personnel

The plant is fully staffed with an exceptional workforce of nineteen full-time employees, one shared employee, and one remote part-time employee. DEAO prides itself on keeping employees engaged, which results in a very low turnover rate.

Andy Street, Senior Electrician, retired on January 20, 2025, and was backfilled by Brian Christodoulou. Brian started as DEAO's new senior electrician on February 10, 2025.



Training

To maintain and operate the facility safely, reliably, and efficiently, a significant amount of employee training is required. The following demonstrates some of the training that was conducted throughout the year:

- Employees completed Constellation Retail Electric and Natural Gas compliance training.
- Employees completed corporate on-line security training, FERC Training, IT and Phishing Awareness Training.

Online Training classes were held throughout the year. The following safety classes were completed by DEAO personnel online using the LMS (Learning Management System):

- Fire Safety
- Accident Investigation, Reporting & Record Keeping
- Tool & Equipment Safety
- Compressed Gas Cylinder Safety & Hot Work
- Confined Space Entry
- Storm Water Pollution Prevention Plan & Spill Prevention, Controls & Countermeasures
- Bloodborne Pathogens, Heat Stress & Cold Stress
- Steam Safety & Refrigerant Safety
- Lock Out/Tag Out (LOTO)
- Safe Work Practices
- Elevated Work & Vehicle Safety
- Personal Protective Equipment
- Chemical Safety & Hazard Communications
- Arc Flash and Electrical Safety Training

Customer Service

DEAO personnel routinely communicate with the customers each month through e-mails, phone calls or visits. When customers have heating or cooling issues inside their buildings, DEAO assists them with troubleshooting and attempts to resolve their problems. When a service interruption is required, whether it is project related or an emergency, activities are coordinated closely with the customers to minimize impact within their facilities.

The annual MNDES Customer Meeting was hosted by TEG on May 29, 2025, and additional required meetings with customers were conducted throughout the year. These activities build relationships and help foster a positive image of the MNDES in the community.

DEAO's Customer Service Representative reviews each customer's meter readings monthly. For those who do not meet their contractual chilled water return temperature requirements, a Thermal- Inefficiency-Fuel-Surcharge (TIFS) is assessed. The TIFS is added directly to customer invoices by their customer service agreement with Metro.

When a customer exceeds their contractual demand capacity multiple times, the meter data is sent to the MNDES Project Administrator, TEG, for review and evaluation. The reason for the excursion is investigated and suggestions are made to keep it from occurring again. If a capacity adjustment is deemed appropriate, a letter is sent to the customer with an explanation of the adjustment and its duration.

Energy Generating Facility (EGF)

During normal operation, preventive, predictive, and routine maintenance items must be scheduled and completed. During the summer months the lawn is mowed weekly, and the landscape is routinely manicured. This includes trimming trees and shrubs, maintaining the irrigation system, and removing dead plants. The building and grounds are policed daily, and the lighting is maintained year-round. The carpeting is shampooed in the office areas and the tile floors are stripped, waxed, and sealed annually.

EGF Preventive and Predictive Maintenance

The following items were accomplished to increase equipment life, reliability, efficiency, and safety:

DEAO personnel perform daily equipment inspections, check bearing temperatures, oil levels, belt tensions, etc. In addition, preventive maintenance is performed on the following equipment monthly: HVAC units, cooling towers, condenser water pumps, chilled water pumps, boiler feed water pumps, condensate pumps, motors, instrument air compressors and driers. The roof surface is inspected and cleaned. The propane system is also test fired and leak checked monthly.

Annual pressure vessel inspections are scheduled to be completed during the cooling season. The inspections are conducted by F. M. Global. They are State Certified Boiler Inspectors, working as a subcontractor to our insurance carrier. These inspections are required to renew our operating permits. Boiler inspections consist of a visual examination of the mud drum, steam drum, economizer, tubes, and fire box. Boilers #2 and #4 and #2 de-aerator tank were inspected in August 2024. Boilers #1 and #3 and de-aerator tank #1 are scheduled to be inspected in July 2025.All inspected boilers received a passing grade, and their respective permits have been renewed. Boilers #2 and #4 and de-aerator #2 are scheduled to be re-inspected in August 2025.

Boiler inspections were witnessed by our chemical vendor's representative and plant personnel. When units are offline for inspection, preventive maintenance is performed on the forced draft fans, low water cut out switches, and other associated equipment.

Annual chiller inspections are scheduled and executed during the heating season as good maintenance practice. These inspections include opening the condensers and cleaning the tubes, performing vibration analysis, and performing oil sample analysis on each chiller. Eddy current testing was conducted on the evaporators and condensers on Chillers #5, #7 and #8. Controls and purge units were also checked for proper operation.

As part of the Preventive and Predictive maintenance program DEAO had a contractor take alignment and vibration readings on all pumps, fans, and motors. These readings are compared to the previous year's readings. All equipment readings were within acceptable limits.

Infrared testing was conducted on all electrical switchgear and starters. No problems were found during these tests.

The high-voltage switchgear preventive maintenance was scheduled and executed during the fall of 2024. Maintenance on transformers, vacuum breakers, relays, LV breakers, and load break switches was completed, and infrared inspections and oil sample analysis were also executed.

Annual maintenance costs for these activities: $ 270,378.30 (excludes salaried personnel & corporate overhead).

Repairs and Replacements

The following are routine maintenance items performed daily or weekly:

- Office Janitorial Services & equipment room clean up
- Picked up debris around the exterior of EGF
- Mowed and landscaped lawn
- Checked & repaired plant computers & servers
- Repaired plant lighting and electrical
- Checked & adjusted packing on all pumps

From time-to-time repairs and replacements must be made. The following are examples of repairs that have been carried out in the EGF in the past 12 months:

July 2024

- Repaired Deaerator #2 (Welding Repairs and re-test)
- Repaired/Replaced Insulation on Chillers
- Repaired 18011 Chemical Line Leaks
- Repacked CWP #5
- Repacked BFWP #1
- Replaced conductivity probe on # 4 Boiler
- Assisted Contractor (Koorsen) with Door Keycard Reader Replacement
- Replaced solenoid valve on Air Dryer

August 2024

- Repaired Control Air Compressor and Air drier
- Sealed Floor seams around softeners
- Repaired leak on Boiler #3 Feedwater Line
- Replaced Water Heater
- Replaced Chiller #4 Control Panel

September 2024

- Installed new Control Air dryer
- Set up auxiliary power feed for Vaporizer
- Rebuilt Deaerator #2 Level Controller
- Replaced piping on blowdown recovery system
- Replaced Transformer Cooling Fan Motor
- Replaced Chiller #4 Purge Unit
- Repaired Air Curtain Steam Control Valve

October 2024

- Repaired potential leak areas in roof membrane.
- Replaced actuator on in house steam heater
- Replaced door access control system
- Replaced sight glass on Deaerator #2
- Repaired actuator on Chiller #2 Condenser Valve
- Replaced Chiller #7 Purge Unit
- Rewound CWP #4 Motor

November 2024

- Rebuilt 1st and 2nd Stage Guide Vanes on Chiller #3A
- Replaced BFWP #4 Bearings and Seals
- Replaced Boiler #2 Submaster Controller
- Replaced Control Air Compressor Check Valves and Motor
- Performed Irrigation Winterization
- Replaced Steam Trap on Air Curtain #4
- Install Auxiliary Power Feeds for Vaporizer and Chilled Water Makeup Pumps
- Replaced Boiler #4 Maxon Valve

December 2024

- Replaced 1st Stage Operator on Chiller #3A
- Replaced BFWP #2 Bearings and Seals
- Replaced Control Air Compressor Check Valves and Motor
- Completed Auxiliary Power Feeds for Vaporizer and Chilled Water Makeup Pumps
- Replaced Cooling Tower Makeup Valve
- Replaced refrigerant exhaust damper actuators
- Repaired plant unit heater fan blade
- Replaced Oil Heater on Chiller #3B
- Winterization (Fuel and additional heaters)

January 2025

- Repaired Roof Lights
- Winterization (Fuel and additional heaters)
- Onsite Motor Testing

February 2025

- Replaced fill in Cooling Tower #6
- Winterization (Fuel and additional heaters)
- Forklift/Genie Lift Repairs

March 2025

- Repaired Oil Pump Relay/Leak Check Chiller #8B
- Repaired Backflow Preventer
- Insulation repairs and replacement
- CHWP Packing Gland Repairs

April 2025

- Switchgear 1B Repairs
- Repaired Boiler #2 Controller
- Replaced Chiller #6B Oil Regulator
- Replaced Purge Unit on Chiller #9A
- Replaced Belt on Cooling Tower #8
- Repaired Boiler Water Softener #2 Valve

May 2025

- Switchgear 1B Repairs (Completed in May)
- Repaired Insulation on CHWP's 1,2, and 3
- Irrigation repairs
- Replaced Purge Unit on Chiller #5A
- Repaired Boiler Water Softener #1 Valve

June 2025

- Installed traffic signs at entrances to Parking Lot
- Replaced insulation on plant condensate lines at Air Curtains
- Replaced Chiller #1B high pressure switch
- Repaired plant air compressor blowdown line
- Replaced Purge Drain Line on Chiller #5A
- Replaced Oil Regulator on Chiller #6B
- Replaced electric meter on MCC #4

Annual maintenance costs for these activities: $840,525.50 (excludes salaried personnel & corporate overhead).

- Administrative functions include reports, purchase orders, material acquisition et.

Annual costs for these items and activities: $238,494.20 (excludes salaried personnel & corporate overhead).

Information Technology System Program

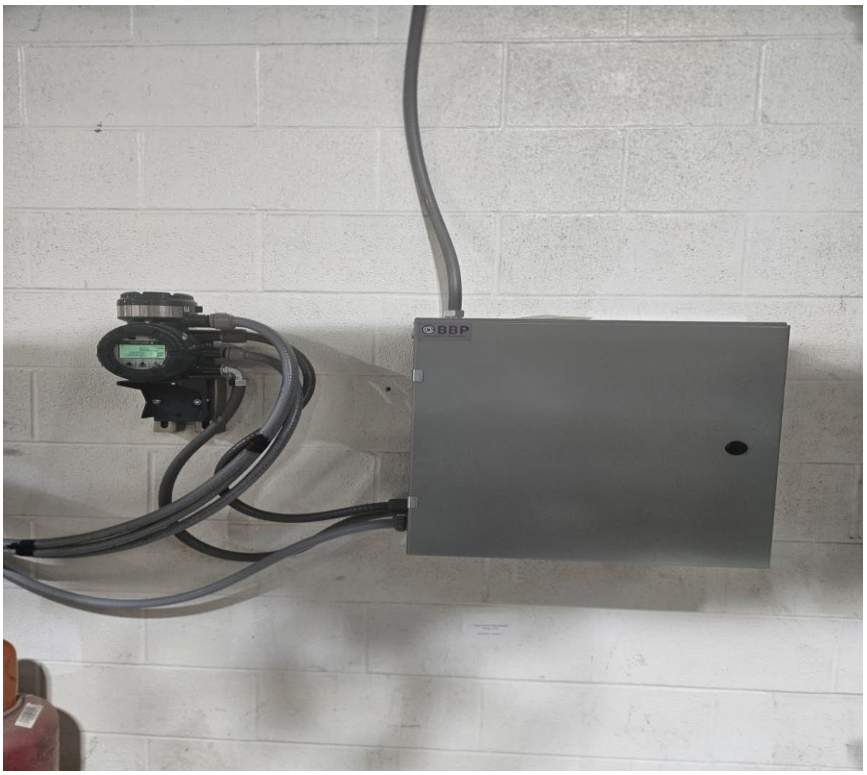
The Information Technology System Program is reviewed with Metro annually. The last review was conducted as part of the year-end report effort in September of 2025. Any changes are included in the copy of the program located in Exhibit 2 of this report.

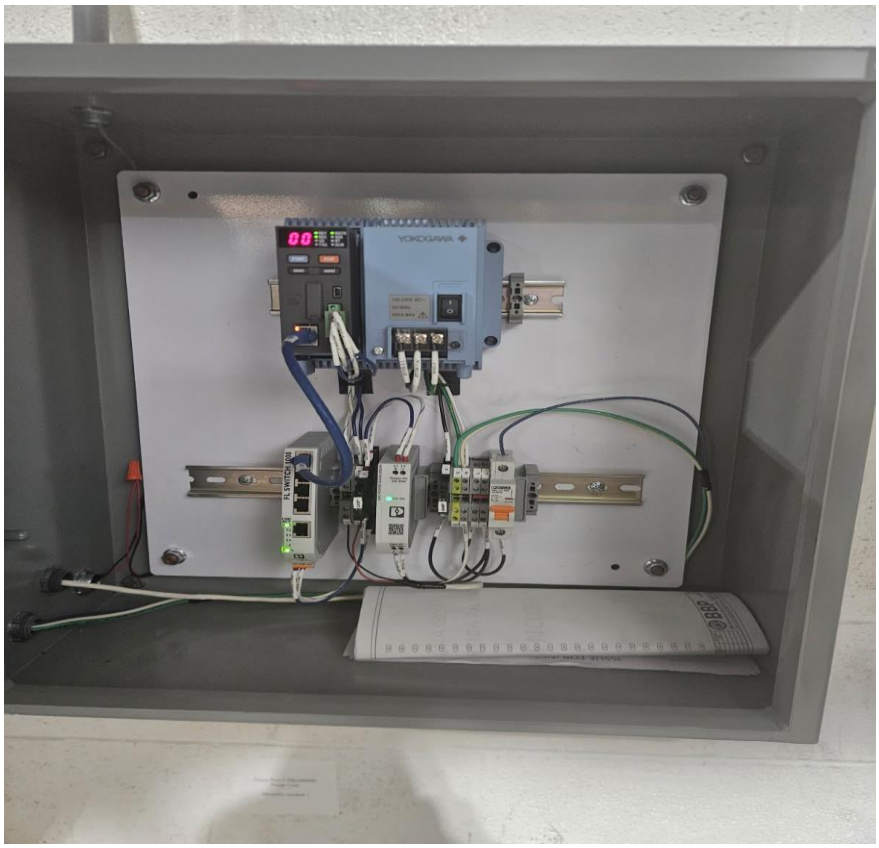
Modifications and Improvements

The following are improvements that were made in and around the Energy Generation Facility. The Distribution System improvements are detailed in the DES Projects section later in the report.

Chiller Alley Lighting

Lighting around Condensate Tank and Shop





Plant Condensate Meter Panel Upgrade

Energy Distribution System (EDS)

EDS Preventive and Predictive Maintenance

All the direct buried portions of the EDS are checked monthly by means of thermographic imaging. When a hot spot is detected, it indicates a possible piping leak or damaged insulation. Depending on the severity of the thermal temperature variance from the surrounding area, a determination is made by Metro whether to excavate the affected area.

DEAO maintenance personnel perform monthly inspections of EDS tunnels, as well as the State steam tunnel and the A. A. Birch (AAB) building tunnel. Monthly manhole inspections are also conducted. The condition of the structures, piping, supports, insulation, seals, lighting, and ventilation is documented. Any deficiencies noted are prioritized and scheduled for repair accordingly.

DEAO personnel have been very diligent in monitoring condensate return quality. When unacceptable levels of iron and hardness contamination are discovered, the condensate return is placed to drain either in the customers building or in the EDS tunnel. This water is not suitable for use in the boilers. Since DEAO has limited control over what the MNDES customers return, alternative remedies continue to be explored when problems arise.

When the customer meter readings are taken for the preceding month, the readings are reviewed. If they vary 30% high or low, from their three-year average, instrumentation personnel check the questionable metering devices for calibration as required in the customer buildings. Instrumentation personnel may also review customers that have unusual usage when compared to other buildings within the system. For example, if most of the customers have higher than previous year's chilled water usage, and there are more cooling degree days for the month, but one building used fewer ton-hrs, that customer's instruments are checked for accuracy.

The air compressor in the Andrew Jackson Building mechanical room, which operates the Pressure Reducing Valve on the State steam loop, is inspected monthly and maintenance is performed as required. An alarm on this air compressor is tested on a regular basis. Sump pump alarms in Manhole D, Manhole 18 and in the AAB Tunnel are also tested periodically. Tempering Stations on the condensate return system in the Fairlane Hotel and in the Municipal Auditorium are inspected for proper operation monthly.

The chilled water loop remains treated with a biocide to kill localized bacteria at customer interfaces. Bacteria levels remain below the acceptable limits.

Repairs and Replacements

Some repairs can be made without disrupting service to the customers while others require sections of the system to be shut down. When possible, DEAO will hire an on-line leak repair contractor to facilitate steam leak repairs without interrupting service to the MNDES customers. Several expansion joints, valves and flanges were repaired throughout the system during the past year using this technique.

Most jobs performed in the EDS require professional security to perform security functions and traffic control. The following are examples of the routine maintenance and emergency repairs that were performed on the EDS in FY24-25.

July 2024

- Checked sump pumps & pumped out steaming manholes.
- Assisted with Project Work
- Made tunnel Electrical Repairs
- Made insulation Repairs
- Manhole A Steam Trap Replacement

August 2024

- Checked sump pumps & pumped out steaming manholes.
- Assisted with Project Work
- Made tunnel Electrical Repairs
- Replaced float in Manhole B2
- Sealed top of Manhole K
- Replaced steam trap in Manhole S4A

September 2024

- Checked sump pumps & pumped out steaming manholes.
- Assisted with Project Work
- Tunnel Electrical Repairs
- Installed ladder in Manhole C

October 2024

- Checked sump pumps & pumped out steaming manholes.
- Assisted with Project Work
- Replaced float in Manhole 10
- Replaced sump pump in Manhole D

November 2024

- Checked sump pumps & pumped out steaming manholes.
- Assisted with Project Work
- Installed Auxiliary Power for EDS Tunnel Sump Pumps

December 2024

- Checked sump pumps & pumped out steaming manholes.
- Assisted with Project Work
- Replaced Trap in Manhole D3
- Replaced sump pump in A.A. Birch Tunnel (MH-D3)

January 2025

- Checked sump pumps & pumped out steaming manholes.
- Assisted with Project Work
- Repaired "Four-Gas Monitors" for Manholes
- Replaced Moisture Trap, Solenoid, etc. on AJ Air Compressor
- Replaced Trap in Manhole B3

February 2025

- Checked sump pumps & pumped out manholes.
- Assisted with Project Work
- Repaired Multiple Lights and Emergency Lights in Tunnel

March 2025

- Checked sump pumps & pumped out manholes.
- Assisted with Project Work
- Replaced Trap in Manhole M

April 2025

- Checked sump pumps & pumped out manholes.
- Assisted with Project Work
- Replaced Trap in Manhole B6
- Replaced Multiple Lights in Tunnel

May 2025

- Checked sump pumps & pumped out manholes.
- Assisted with Project Work
- Replaced Tunnel Radio
- Replaced Multiple Lights in Tunnel

June 2025

- Installed traffic signs at entrances to Parking Lot
- Replaced insulation on plant condensate lines at Air Curtains
- Replaced Chiller 1B high pressure switch
- Repaired plant air compressor blowdown line
- Replaced Purge Drain Line on Chiller 5A
- Replaced Oil Regulator on Chiller 6B
- Replaced electric meter on MCC 4

Annual maintenance costs for EDS activities: $375,494.60 (excludes salaried personnel & corporate overhead).

Below is a brief description of the MNDES projects performed during FY24-25 in various stages of completion.

DES-211 **Enecon – AA Birch and MH-D Repairs**

TEG approved DEAO's proposal to have Enecon perform coating repairs in these locations on March 22, 2024. The quote was based on drawings prepared by TEG. Work began mid-May 2024 and a work completion walkthrough was held on June 20, 2024. There were a couple of punch list items outstanding that were completed mid-July 2024. DEAO has billed Metro for this project.

DES-219 **7th Avenue ProShot Repairs and Piping Relocations**

ProShot visited the job site location in the 7th avenue section of tunnel to provide options and pricing for work to address water infiltration. It was determined that relocating steam lines would allow for better coverage by ProShot and include a reduced price for the work. TEG issued a bid drawing package for Phase 1 of this work which will include the relocation of the steam lines by a mechanical contractor. The pre-bid meeting was held on May 23, 2024, and a walkthrough was also conducted. Bids were received on June 10, 2024, and were evaluated by TEG. TEG recommended that Superior's bid be used for this project with a T&M Not to Exceed value.
All submittals were approved, and the preliminary work began on September 24, 2024. The steam was shut off on 7th Avenue and the removal of the old piping and installation of the new piping and valves began on September 26, 2024. The new portion of the piping was completed on September 28, 2024 and steam service was restored on 7th Avenue. The coating of the support columns was completed in early October 2024. The insulation was completed in November 2024 following several emails between the Contractor and TEG regarding material applications in matching multiple types of insulation. The final billing for this work was issued on August 22,2025. This project is closed.

DES-221 **War Memorial Service Modifications**

A partial system shutdown was coordinated for April 26-27, 2024, in order to replace the steam valve in the State Tunnel which isolates the War Memorial and chilled water valves in the War Memorial Building. This partial shutdown only impacted customers on the State Steam loop and those fed from MH-23 on chilled water (Supreme Court, Library and Archives, State Capitol). The chilled water was isolated so that eight-inch supply and return chilled water valves could be replaced within the building by the building contractors. The valves were supplied by MNDES. The drain point for the chilled water was in the old Library and Archives Building using the drain valves installed by Superior Mechanical.
The outage was completed within the scheduled timeframe, impacting only State of TN MNDES customers.

Representatives from both Thermal Engineering and DEAO met with Skanska and Comfort Group on April 29, 2024, to identify steam and condensate lines to be replaced as part of the construction process.
TEG met with building representatives on July 29, 2024, to discuss engineering plans to add a dripleg and trap on the building side of the system. TEG made recommendations about where that equipment should be located.

Work was performed to cap lines and replace the bypass valve in Manholes S4 and S4A on August 3, 2024.

The instrumentation was delivered to Skanska on December 2, 2024.

Representatives from DEAO, TEG and Comfort Group met to confirm the location of the metering devices and control panel for the War Memorial and Legislative Plaza on January 30, 2025. TEG provided comments following this meeting with respect to deficiencies of the installation of MNDES equipment by the contractors.

Representatives from DEAO, TEG and Comfort Group met to confirm the proper installation of the metering devices and control panel for the War Memorial and Legislative Plaza on February 21, 2025. DEAO personnel brought back and rebuilt the pressure "trees" for the steam and chilled water. These, along with the remaining two RTD's, were delivered to the Comfort Group on February 24, 2025.

An additional meeting was held on March 7, 2025, to review instrumentation installation with the Electrical Contractor. Reps from TEG and DEAO visited the site on April 29th. Site electrical was not completed on the agreed upon schedule after the onsite review with reps from TEG and DEAO and the onsite team. When C-Tech arrived on site May 1, 2025, they had to work with the site contractors to pull flex and cables to the proper locations. The incomplete work required a follow up trip by C-Tech take place on May 8, 2025, for final terminations and panel programming.
Chilled water was re-energized on May 13, 2025. Steam was re-energized on June 12, 2025. DEAO has billed for all work and this project is completed.

DES-222 EDS Valve Program

DEAO received the valve tag materials and tools and put together a plan to attach new valve tags during monthly inspections. As of the writing of this report, a majority of the tags have been installed. A few manholes remain and will be tagged after the summer months where heat is a concern for the install team.

DES-223 MH-18 Electrical Project

DEAO and TEG personnel reviewed the scope to replace the sump controller, a double throw switch, and various conduit runs within MH-18 to ensure reliability of the sump pump system. After working directly with the contractor to develop the replacement scope it was determined that Superior Electric should execute the work. TEG approved DEAO's proposal and Superior Electric signed the purchase order in August 2024.
Superior Electric's submittals were approved, and materials have been ordered, and a schedule will be developed upon delivery. Superior's suppliers have had difficulty providing some of the items approved in 316 SS after initially indicating they were available. This delayed the project start date until April 14, 2025. The project was completed on May 6, 2025. A small punch list was compiled and completed by the Contractor the same day. The certificate of substantial completion was issued on May 8th, 2025. DEAO has billed for all work and the project is complete.

DES-224 EGF Optimization

DEAO Personnel met with representatives of TEG and Optimum Energy to discuss a study that would be executed on the chilled water system within the EGF. The purchase order has been written to Optimum through TEG.

The onsite portion of the study began on August 5, 2024. DEAO Team provided preliminary requested data on August 16, 2024. Optimum's team draft report was issued to DEAO on January 14, 2025. The final report was issued to Metro, and the project was completed in Q3 2025.

DES-225 1st and Molloy Exploratory Excavation

During the monthly preventative IR scanning performed in the EDS, the contractor and DEAO personnel identified a new hot spot at the corner of 1st Ave S and Molloy Street near MNDES service lines. The contractor returned to do a follow up scan on August 1, 2025, and found no change.

TEG And DEAO representatives worked to come up with an exploratory excavation plan and began excavation on August 24, 2024. It was determined to be primarily ground water or water from an underground spring making contact with MNDES steam lines. In addition, a Metro Water Valve was identified in the same location that was weeping.

MNDES Team worked with several contractors to install a sump pump manhole to manage the water infiltration at this location. A new electrical scheme to support constant power to an existing Manhole (B1). Additional pump controllers and electrical infrastructure were installed in B1 and the new manhole, B1A, to accomplish the water evacuation into the storm water system.

The vault was poured around the corrugated material on September 26, 2024, and the backfilling began on September 30, 2024. The ladder, electrical and piping were completed by the end of November 2024.

The backup documentation from the installation contractor for all invoices was reviewed and approved by TEG. The invoice was sent to Metro in early March 2025.

DES-226 State PRV Replacement

DEAO ordered the specified material by Thermal Engineering Group on August 6, 2024. There was a 12–13-week lead time on the new valve.

TEG supplied a preliminary drawing on November 1, 2024. A preliminary proposal was provided by Superior Mechanical after a site visit and comments provided by TEG on November 20, 2024. On November 22, 2024, Superior provided a revised proposal, and TEG did not have any further comments.

All items necessary for installation were picked up by the Contractor on February 19, 2025. All items necessary for installation were set up onsite on April 30, 2025.

The isolation valve upstream of the PRV was verified to be fully operational on June 6, 2025. The installation was substantially completed on June 21, 2025, with additional set up of the valve completed on June 24, 2025. Final billing and project completion is expected in Q1 FY2026.

DES-227 MH-16 Condensate Pipe Replacement

A high temperature hose was suggested by TEG as a replacement for the deteriorated piping in the vertical shaft. The installation contractor, Superior Mechanical, ordered the correct material but in too long of a length. The additional length created low points where condensate could potentially pool. TEG reviewed and asked the Contractor to shorten the hose and re-install. The hose was removed, shortened and re-installed on October 30, 2024. TEG reviewed the project on November 1, 2024, and a punch list was delivered on November 7, 2024. The contractor completed these items by mid December 2024. Additional insulation was completed in February 2025 following Proshot Concrete's work in this area and the final punch list item was completed in May 2025.

DES-228 MH-B2 and MH-B3 Drip Leg Modifications + 2025 Steam Outage

Because MNDES required a steam outage in July 2024 to address a steam leak on the dripleg in MH-B, it was discussed and agreed that preparation should be made should a similar situation happen in either MH-B2 or MH-B3.

Drawings were provided by TEG to DEAO and Superior Mechanical. Superior procured and shop welded as much of the material as possible to be prepared in the event of an unplanned outage.

The installation of the dripleg in Manhole B3 occurred on October 25, 2024, during the steam repairs made at the Hyatt Place Hotel since the steam was already isolated on this section of piping.

A steam outage for preventive work has been scheduled with customers on August 10, 2025. DEAO has a preliminary work list to execute during that outage and is in coordination with contractors to be available for the scheduled time.

DES-229 EDS Insulation

Warren Insulation was brought in to provide estimates in addressing all insulation requests that are part of the quarterly EDS review reports.

DEAO's proposal was approved by Metro and a contract was signed between Warren Insulation and DEAO in early December 2024. The project began on January 6, 2025. The project is in progress with several manholes being completed and approved by TEG. The remainder of work requires insulation blankets which are in production at the time of this report.

DES-230 MH-6 and Hermitage Service

An initial IFC set of drawings was issued by TEG to replace a condensate valve in MH-6 on March 26, 2025. A site visit took place to review the project with Superior Mechanical. The bid from Superior was determined to be too costly and thus a pre-bid meeting for a broader group of mechanical contractors took place on May 20, 2025. The bids were received, and the project was awarded to Superior Mechanical. The valve and associated piping are scheduled to be replaced in July 2025.

Additionally, representatives from TEG and DEAO made a site visit with hotel staff to discuss safety and access issues within the facility. An additional visit was held on April 11, 2025, with hotel leadership. The Hotel team agreed to clean up some of the areas discussed and DEAO and TEG revisited the site on May 23, 2025, to review the initial work and make recommendations for safe access. As of this report, the hotel has agreed to make the changes to improve MNDES access to equipment. A subsequent review will take place when completed. Additionally, DEAO will explore modifying the chilled water valve gear box location configuration during Q2 FY26.

DES-231 TN Tower Service Modifications

Due to a generator and associated pad being installed on the TN Tower grounds to service the War Memorial Bldg., MNDES is building a plan to modify the service lines to the TN Tower Bldg. An onsite coordination meeting took place on December 11, 2024, to begin the process of potholing to identify locations. Representatives from DEAO, TEG, MTI and Skanska attended and set up a schedule. The potholing began on December 19, 2024, and was completed the following day.
A Pre-bid meeting was held on February 12, 2025, to review Bid Documents, Proposal Form and walkthrough of the project area with the Contractors. The bids were received on March 19, 2025.
Following TEG's review, a recommendation was made to award the project to MTI. DEAO has issued a purchase order for the pipe and a contract to MTI.

There was a meeting held on May 20,2025 between TEG, DEAO and MTI to discuss the logistics of the project and to finalize plans prior to a meeting with the State and Skanska.

There was an additional meeting held on May 29, 2025, to discuss the coordination of this project between all parties (State, DEAO, TEG, MTI and Skanska).
A meeting was held at TN Tower on June 30, 2025, with all parties to discuss logistics and to finalize a tie in date for the steam system.

DES-232 **4th Avenue Proshot Repairs**

While onsite to make repairs for DES-219, TEG requested quotes from Proshot for repairs in the 4th Avenue Tunnel. The work was quoted, accepted and contracts and proposal agreed to in December 2024. The project began on December 18, 2024, and was completed on December 31, 2024. A walkthrough was conducted on January 6, 2025, and a punch list was generated. The punch list was completed on February 24, 2025, and reviewed by TEG on February 25, 2025, with all outstanding items satisfied. Certificate of substantial completion was issued on March 12, 2025. DEAO has invoiced Metro and this project has been completed.

DES-233 **Manhole 15 Exploratory Excavation and Condensate Line Repair**

During the month of November 2024, the condensate percentage returning to the Plant dropped approximately 10 percent. Concurrently additional warm water was noted entering the 4th Avenue Tunnel near Manhole 15. The thermographic survey for the month confirmed a "hot spot" in this area. An exploratory excavation was performed between Manholes 12 and 15 on December 9-10, 2024, and confirmed multiple leaks on the condensate piping.

TEG developed a repair plan, and the piping was replaced on January 7-8, 2025, and service was restored on January 9, 2025. The insulation and backfill along with paving for this project was completed in early March 2025. The link seal in Manhole 12 was installed March 19, 2025. The Prime Flex Sealant around the condensate return line in Manhole 15 was completed during the month of April.

Garney has submitted backup documentation for this project to TEG for review. TEG has sent back follow-up questions. Once this is completed and approved DEAO will invoice Metro.

DES-234 **Enecon Repairs in Manholes 9 and 18**

Enecon was asked to provide quotes for coating issues in Manholes 9 and 18 from the EDS Quarterly Reviews. The quotes were reviewed, proposals accepted, and contracts concluded in December 2024. Manhole 9 work was completed on December 17, 2024. Manhole 9 was reviewed on February 25, 2025, with no punch list items noted within this scope of work. There is a small amount of insulation that has to be replaced under R&I. DEAO invoiced Metro.

To perform the repairs in Manhole 18 a scaffolding had to be erected to access the beam to be coated. The scaffold was in place on December 19, 2024, and the work began on December 31, 2024. This project was completed in early January 2025, and a walkthrough was conducted on January 8, 2025. There was one punch list item that was completed on January 17, 2025. As of the writing of this report, the subcontractor had not provided the cost substantiation backup. DEAO will invoice Metro in early FY2026 when all costs have been approved. This project remains open only for final billing purposes.

DES-235 **Condensate Leak at CJC**

While performing monthly manhole inspections DEAO Maintenance personnel Observed a depression and small hole in the pavement south of Manhole D on January 10, 2025. The area was barricaded and an excavation beginning on January 13, 2025, revealed a condensate leak. The leak was repaired, and several other leaks were found both north and south of the original leak. A decision was made to excavate from the manhole approximately 90 feet south. This resulted in the discovery of several other leaks and deteriorating pipe near the anchor block.

TEG issued sketches and the Contractor began demolition on February 3, 2025. Approximately 84 feet of pipe was replaced, a new anchor was installed, all of this pipe was insulated and backfilled by February 7, 2025. Paving was completed on February 18, 2025. The backup documentation was sent to TEG for review and approved.

An additional leak was found on the north side of Manhole D on March 6, 2025. Excavation began on March 13, 2025, and the repairs were completed on March 17, 2025. Service was restored on March 17, 2025. The insulation and conduit repairs were completed on March 28, 2025, and reviewed by TEG the same day. Backfill was completed the week of March 31, 2025. Preliminary paving work has been completed and any additional paving required by NDOT will be included in DES-237. The final invoice for this project was provided on June 20, 2025. This project is complete.

DES-236 **3rd Ave Condensate Line Replacement**

TEG has requested quotations for pre-insulated pipe to make replacements down 3rd Avenue moving southward toward MH-13.

Work is expected to be started in Summer 2025.

DES-237 **CJC Area Chilled Water Leak**

On Friday April 4, 2025, a progressive increase in Chilled Water makeup volumes began. DEAO team watched the makeup progress until it became apparent there was a sizeable leak in the system. At that point, dye was added to the chilled water loop and ultimately the leak was identified around MH-D and the CJC.

Due to the increasing leak size and potential for this to impact the entire chilled water system, DEAO determined it was in the best interest to isolate that area from MH-K overnight on April 9, 2025.

Excavation began in this area on April 10, 2025, and the leak location was ultimately identified. Insertion valves were added overnight between April 11-12, 2025, restoring chilled water to the area.

An additional insertion valve was installed on April 17, 2025. The backfilling was completed. Preliminary paving work has been completed and following a meeting with NDOT, there are additional areas that will need to be repaved. This work is expected to be completed in early August 2025.

Backup documentation has been reviewed and approved except for the insertion valves and the additional paving mentioned earlier. TEG is working with Hayes pipe on backup documentation for the insertion valves.

EDS Emergency Repair Projects

There were zero Emergency Repair Projects.

Outstanding Issues and Recommendations

Each year DEAO meets with Metro representatives in their monthly meetings. As part of this, they discuss outstanding issues and project recommendations. Below is a list of those items.

Outstanding Issues

- State of Tennessee to complete repairs to their steam tunnel.

Recommendations

- Add expansion loops to steam and condensate lines in Broadway tunnel to allow better access to the DES tunnel from 5th & Broadway parking garage.
- Upgrade DES Tunnel Radio System due to obsolescence.

- **Potential projects that Metro should consider for the EGF:**
  - Automated Oxygen Trim on Boilers

Sales and Marketing

Marketing for MNDES services is performed by Metro and TEG to new developments within the areas serviced by the system.

The following table, furnished by Thermal Engineering Group, Inc. on March 6, 2023, and validated on March 10, 2025, indicates the remaining current system capacity which may be sold.

System Capacity		
Diversity Factor	**66.54%**	**72.29%**
	Chilled Water (tons)	Steam (pph)
Installed capacity including redundant equipment	23,400	260,000
Installed capacity	20,800	195,000
Distribution losses	600	10,948
In-Plant losses (DA,etc.)	-	17,540
Max Allowable Customer Load	20,200	166,512
Maximum System Peaks	18,584	141,135
Net Undiversified Capacity Available for Sale	1,616	25,377
Net Diversified Capacity Available for Sale	**2,429**	**35,105**
Diversified Potential for Contract Capacities	34,328	352,798
Contract Capacity for Existing Customers	30,359	284,616
Potential Contract Capacity for Sale	3,969	68,182

Ongoing activities include the following:

- A Sales and Marketing Report is included in the Monthly Operations Report.
- DEAO participates in meetings and social events with business groups, engineers, and developers throughout the year.
- DEAO provided a significant number of facility tours to real estate developers, local sustainability experts, the Nashville Chamber of Commerce, area Universities and Metro Council Members. Many of these tours included guided tunnel tours which were approved by DEAO and Metro safety teams.

Utilities and Fuel Procurement

Natural Gas and Propane

During FY 2024-2025, DEAO provided proactive support to Metro in the areas of fuel procurement and risk management. Metro, in a collaborative effort with DEAO, Insight Sourcing Group, and International FC Stone Financial Inc., made natural gas and propane procurement recommendations. Procurement decisions were made based upon a matrix of pricing and consumption factors including but not limited to then-current pricing conditions, future pricing conditions, technical and fundamental pricing trends, consumption variances as a function of incremental demand and conservation and budgetary considerations.

Natural gas supply was procured from Constellation NewEnergy-Gas Division, LLC ("CNEG") under the terms and conditions of an agreement between DEAO and CNEG for a service period extending through June 2025. The term of the existing agreement was extended during the fiscal year to match the existing term of DEAO's contract which runs through June 2028. The below costs include the amount paid to CNEG for the cost of gas less any late fees, Piedmont for the cost of transportation from the city gate to the plant, and the risk management fees, but it does not include the Fuel Efficiency Adjustment.

The following is a report of the natural gas and propane purchased in FY2024-2025:

CNEG+Piedmont+ARFA			
Month	***Quantity (Dth)***	***Unit Cost***	***Amount***
Jul-24	25,180.00	$4.29298	$108,097.26
Aug-24	27,601.00	$3.80601	$105,049.61
Sep-24	30,174.00	$3.70759	$111,872.89
Oct-24	39,891.00	$4.09808	$163,476.69
Nov-24	49,749.50	$4.24553	$211,212.85
Dec-24	71,165.70	$4.15248	$295,513.84
Jan-25	88,564.50	$4.28065	$379,113.20
Feb-25	70,608.90	$4.39477	$310,309.79
Mar-25	57,789.40	$4.28557	$247,660.61
Apr-25	42,777.40	$4.64786	$198,823.23
May-25	37,280.40	$4.27336	$159,312.42
Jun-25	29,330.40	$4.38878	$128,724.76
Total	**570,112.20**	**$4.24332**	**$2,419,167.15**

On September 3, 2025, 100,000 gallons of propane were purchased for placement in TARGA's storage facility in the event of a natural gas curtailment due to extreme winter temperatures. This propane was purchased for use in FY2025.

The primary usage during the winter was while the vaporizer was in standby and was maintaining temperature per the thermostat.

100,000 Gallons of propane that was in storage and unused was sold back to the supplier, TARGA. The credit memo issued by DEAO was dated April 21, 2025.

The following is a report on propane used during the fiscal year:

Month	*Quantity (Dth)*	*Unit Cost*	*Amount*
Jul-24	0.00	$0.00000	$0.00
Aug-24	0.00	$0.00000	$0.00
Sep-24	0.00	$0.00000	$0.00
Oct-24	0.00	$0.00000	$0.00
Nov-24	16.50	$15.33743	$253.07
Dec-24	8.00	$15.33743	$122.70
Jan-25	16.50	$15.33743	$253.07
Feb-25	24.70	$15.33743	$378.83
Mar-25	0.00	$0.00000	$0.00
Apr-25	0.00	$0.00000	$0.00
May-25	0.00	$0.00000	$0.00
Jun-25	0.00	$0.00000	$0.00
Total	**65.70**	**$15.33743**	**$1,007.67**

Electricity

During FY 24 – 25, electricity was purchased each month based on the Nashville Electric Service rate schedule. Quantities reported in the Monthly Reports are taken from plant meters. The difference between the plant meter readings and billed quantities has been reconciled as part of the true up process in Appendix 4 and Exhibit I of this report. No late fees are factored into the unit cost calculations.

Electricity (NES)			
Month	***Quantity (kWh)***	***Unit Cost***	***Amount***
Jul-24	8,256,640.00	$0.08723	$720,254.79
Aug-24	7,821,436.00	$0.09114	$712,842.96
Sep-24	6,332,088.00	$0.09158	$579,898.24
Oct-24	4,816,084.00	$0.09588	$461,753.56
Nov-24	3,655,316.00	$0.10021	$366,288.15
Dec-24	2,734,088.00	$0.10053	$274,862.74
Jan-25	2,340,744.00	$0.10641	$249,082.62
Feb-25	2,711,576.00	$0.10837	$293,862.22
Mar-25	3,659,376.00	$0.09762	$357,224.11
Apr-25	4,405,772.00	$0.10364	$456,625.62
May-25	5,065,172.00	$0.09444	$478,368.26
Jun-25	7,329,924.00	$0.09967	$730,567.66
Total	**59,128,216.00**	**$0.09609**	**$5,681,630.93**

Water & Sewer

The following table indicates the water purchased during FY24 -25 based on the Metro Water Services rate schedule. The quantities in this table are from the actual water bills. They differ from those reported in the Monthly Reports because the Water Department's billing cycle is not based on the calendar month.

Water and Sewer (MWS)			
Month	***Quantity (Gallon)***	***Unit Cost***	***Amount***
Jul-24	18,128,528.00	$0.00713	$129,173.33
Aug-24	21,549,880.00	$0.00710	$152,915.43
Sep-24	18,691,772.00	$0.00710	$132,633.95
Oct-24	10,199,728.00	$0.00714	$72,870.55
Nov-24	9,468,184.00	$0.00714	$67,591.87
Dec-24	9,630,500.00	$0.00714	$68,726.40
Jan-25	8,795,732.00	$0.00714	$62,813.95
Feb-25	7,443,348.00	$0.00734	$54,664.93
Mar-25	7,319,928.00	$0.00736	$53,885.41
Apr-25	10,590,932.00	$0.00731	$77,436.98
May-25	11,873,004.00	$0.00732	$86,941.74
Jun-25	12,117,600.00	$0.00730	$88,438.59
Total	**145,809,136.00**	**$0.00719**	**$1,048,093.13**

Financial Report

The following is an explanation of the Appendices associated with this financial report.

Appendix 1 – Customer List

This chart lists the number of customers served by the District Energy System (MNDES). The customers are sorted according to three categories:

- Private Customers
- State of Tennessee Customers
- Metropolitan Nashville (Metro) Customers

Appendix 2 – Revenues

This chart summarizes the revenues charged per month by MNDES to each customer for FY24-25. (This appendix will no longer be published as part of this report, but the data is available to individual customers upon request.)

Appendix 3 – Customer Rate Reconciliation (This appendix will no longer be published as part of this report, but the data is available to individual customers upon request.)

The final chart, available upon request, is a Summary Reconciliation table for FY24-25. These tables detail the amount allocable to customers to the amount allocated to customers. The difference in the allocable amount and the amount allocated to customers is paid by Metro and is called the Metro Funding Amount (MFA).

- **Capacity Charge** – Associated with each customer and their agreed upon contracted capacity amount for chilled water and steam services.
- **System Operator Charge** – Includes the system operator's fee which is most of the operations and maintenance costs of the system.
- **EDS Improvements Charge** – FY24-25 for the annual repair and replacement fund.
- **Metro Incremental Administrative Charge** – Per the customer service agreement, these charges are the "actual, reasonable, and necessary" cost over and above current Metro operating costs to manage the MNDES system and operations scope.
- **Pass Through Charges**
    - **Water Treatment & Chemicals** – actual costs of chemical vendor services and chemicals to treat water.
    - **Engineering** – The engineering costs required for any non-capital projects, customer related issues, meetings, etc.
    - **Insurance** – The cost to maintain all-risk property insurance and business insurance policies.
    - **EDS Electricity** – The cost of electricity for tunnel lights, pumps, and safety equipment.
    - **EDS Surcharge** – Surcharge to private initial system customers only to cap their annual cost of any EDS repairs made by Metro.
    - **Water and Sewer** – Actual costs charged by Metro Water Services

- **Energy Charges**
  - **Electricity**
  - **Natural Gas**
  - **Propane**

Appendix 4 – DEAO Invoice Reconciliation (FEA)

Exhibit 1 – Performance Guarantee Calculation
Exhibit 2 – Information Technology System Program
Exhibit 3 – DEAO Asset List
Exhibit 4 – Spare Parts Inventory

Appendix 1 – Customer List

Metro Nashville District Energy System Customers					
Private		**State**		**Metro**	
1	Bobby Hotel (fka Wells Fargo)	20	Andrew Jackson	33	Ben West
2	Parkway Tower	21	Cordell Hull	34	A. A. Birch
3	Sheraton Hotel	22	John Sevier	35	Metro Courthouse
4	Hermitage Hotel	23	War Memorial	36	Municipal Auditorium
5	501 Union Building	24	Library & Archives	37	Downtown Detention Center (fka CJC)
6	4th & Church Building	25	Supreme Court	38	Bridgestone Arena
7	Fifth-Third Financial Center	26	State Capitol	39	Nissan Stadium
8	Renaissance Hotel	27	James K. Polk/TPAC	40	Hume-Fogg High School
9	City Space (fka Ren. Office Tower)	28	Citizens Plaza (*Future Mourya Hotel)	41	Nashville Public Library
10	St. Mary's Catholic Church	29	Tennessee Tower	42	Music City Center
11	Nashville City Center	30	Tennessee State University		
12	Wildhorse Saloon	31	Legislative Plaza		
13	Ryman Auditorium	32	Rachael Jackson		
14	Schermerhorn Symphony Center				
15	Viridian Residential Tower				
16	Hyatt Place Hotel				
17	Fairlane Hotel (fka 401 Union)				
18	5th & Broadway (fka Nash Conv Ctr)				
19	Hyatt Centric Hotel				

*fka = formally known as

Appendix 2 – Consumption & Revenues

Available to individual customers upon request.

Appendix 3 – Customer Rate Reconciliation

Available to individual customers upon request.

Constellation

Appendix 4 – CES Invoice Reconciliation (FEA)

Constellation

REV: 1
DATE: 08/19/25

NASHVILLE, TENNESSEE

DEAO INVOICE RECONCILIATION - FY 2024 - 2025

SALES SUMMARY FROM CUSTOMER METER READS									1	2	3	4	5	6		
MONTH			7	8	9	10	11	12	1	2	3	4	5	6		TOTAL
STEAM SALES	Previously invoiced, lbs		13,469,912	13,841,587	17,673,155	23,851,339	30,949,003	47,257,677	62,085,465	46,179,218	37,728,754	26,735,604	21,397,290	15,991,235		357,160,239
	Reconciled, lbs		13,469,912	13,841,587	17,673,155	23,851,339	30,949,003	47,257,677	62,085,465	46,179,218	37,728,754	26,735,604	21,397,290	15,991,235		357,160,239
CHW SALES	Previously invoiced, ton-hrs		8,894,261	8,575,131	7,006,566	5,361,143	3,950,211	2,999,567	2,472,518	2,965,074	4,229,456	5,003,137	5,895,677	8,009,444		65,362,185
	Reconciled, ton-hrs		8,894,261	8,575,131	7,006,566	5,361,143	3,950,211	2,999,567	2,472,518	2,965,074	4,229,456	5,003,137	5,895,677	8,009,444		65,362,185
SUMMARY FROM CUSTOMER METER READS from INVOICES																
START DATE			07/01/24	08/01/24	09/01/24	10/01/24	11/01/24	12/01/24	01/01/25	02/01/25	03/01/25	04/01/25	05/01/25	06/01/25		07/01/24
END DATE			07/31/24	08/31/24	09/30/24	10/31/24	11/30/24	12/31/24	01/31/25	02/28/25	03/31/25	04/30/25	05/31/25	06/30/25		06/30/25
CHW SALES	ton-hrs		8,894,261	8,575,131	7,006,566	5,361,143	3,950,211	2,999,567	2,472,518	2,965,074	4,229,456	5,003,137	5,895,677	8,009,444		65,362,185
CHW SENDOUT	ton-hrs		9,315,800	9,038,100	7,299,500	5,604,200	4,210,500	3,081,900	2,576,200	3,067,600	4,358,900	5,264,600	6,043,200	8,431,900		68,292,400
CHW ELECTRIC	kWh		8,100,964	7,694,298	6,200,886	4,669,202	3,483,611	2,506,426	2,087,812	2,492,509	3,479,398	4,237,399	4,890,645	7,190,801		57,033,951
CHW MUW	galls		17,761,000	17,786,000	13,739,000	10,284,000	6,901,000	4,621,000	3,658,000	4,763,000	7,385,000	8,271,317	10,609,438	15,540,867		121,319,622
STEAM SALES	mlbs		13,470	13,842	17,673	23,851	30,949	47,258	62,085	46,179	37,729	26,736	21,397	15,991		357,160
STEAM SENDOUT	mlbs		19,227	20,866	22,523	29,122	35,879	51,061	65,143	50,696	41,677	31,629	27,205	21,629		416,657
STEAM PRODUCTION	mlbs		20,427	22,131	24,162	31,624	39,595	57,033	72,389	56,481	46,234	34,530	29,582	23,344		457,532
NATURAL GAS	mmBtu		25,180	27,601	30,174	39,891	49,750	71,166	88,564	70,609	57,789	42,777	37,280	29,330		570,112
PROPANE	galls		0	0	0	0	180	90	180	270	0	0	0	0		720
STEAM ELECTRIC	kWh		56,601	58,746	56,346	68,648	88,892	128,150	157,797	123,398	95,117	115,219	112,694	52,866		1,114,474
CONDENSATE RETURN	lbs		14,570,875	16,238,036	17,340,987	22,207,954	23,919,912	30,510,319	39,695,778	29,919,727	25,100,892	22,238,530	19,530,078	15,428,223		276,701,311
	°F		186 °F	186 °F	183 °F	180 °F	179 °F	175 °F	177 °F	174 °F	174 °F	181 °F	179 °F	182 °F		179.6666667
STEAM MUW	galls		681,520	696,430	742,910	1,003,570	1,516,870	2,516,110	3,140,480	2,587,260	2,015,290	1,094,380	841,540	680,280		17,516,640
	mlbs		5,687	5,812	6,200	8,375	12,659	20,998	26,208	21,591	16,818	9,133	7,023	5,677		146,182
Days in Service			31	31	30	31	30	31	31	28	31	30	31	30		365
Efficiency - Cooling	kWh/ton-hr-Sold		0.911	0.897	0.885	0.871	0.882	0.836	0.844	0.841	0.823	0.847	0.830	0.898		0.87258330
Efficiency - Heating	Dth/klb-Sendout		1.310	1.323	1.340	1.370	1.392	1.396	1.362	1.398	1.387	1.352	1.370	1.356		1.37002954

Constellation

Constellation

REV: 1
DATE: 08/21/25

NASHVILLE, TENNESSEE

DEAO INVOICE RECONCILIATION - FY 2024 - 2025

UTILITY INVOICES (Paste Link)														
Month of Service		**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**	**4**	**5**	**6**	**TOTAL**
ELECTRIC SERVICE (NES)														
Service Dates	From	6/30/2024	7/31/2024	8/31/2024	9/30/2024	10/31/2024	11/30/2024	12/31/2024	1/31/2025	3/1/2025	4/1/2025	4/30/2025	5/31/2025	6/30/2024
	To	7/31/2024	8/31/2024	9/30/2024	10/31/2024	11/30/2024	12/31/2024	1/31/2025	2/28/2025	3/31/2025	4/30/2025	5/31/2025	6/30/2025	6/30/2025
PEAK Demand	kW	16,352	16,464	13,496	11,928	8,848	6,460	6,460	7,280	7,560	11,424	11,704	15,456	16,464
Service Period Use	kWh	8,256,640	7,821,436	6,332,088	4,816,084	3,655,316	2,734,088	2,340,744	2,711,576	3,659,376	4,405,772	5,065,172	7,329,924	59,128,216
Service Period Charge	$	$ 720,254.79	$ 712,842.96	$ 579,898.24	$ 455,944.58	$ 366,288.15	$ 274,862.74	$ 249,082.62	$ 293,862.22	$ 357,224.09	$ 456,625.62	$ 478,368.26	$ 730,567.66	$ 5,675,821.93
Average Charge	$/kWh	$ 0.087200	$ 0.091100	$ 0.091600	$ 0.094700	$ 0.100200	$ 0.100500	$ 0.106400	$ 0.108400	$ 0.097600	$ 0.103600	$ 0.094400	$ 0.099700	$ 0.095992
NATURAL GAS SERVICE														
Service Dates	From	7/1/2024	8/1/2024	9/1/2024	10/1/2024	11/1/2024	12/1/2024	1/1/2025	2/1/2025	3/1/2025	4/1/2025	5/1/2025	6/1/2025	7/1/2024
	To	7/31/2024	8/31/2024	9/30/2024	10/31/2024	11/30/2024	12/31/2024	1/31/2025	2/28/2025	3/31/2025	4/30/2025	5/31/2025	6/30/2025	6/30/2025
UTILITY LDC INVOICE DATA	Start	1,585,326	1,608,935	1,634,814	1,663,094	1,700,470	1,747,076	1,813,754	1,896,778	1,962,986	2,017,167	2,057,286	2,092,245	
	Ending	1,608,935	1,634,814	1,663,094	1,700,470	1,747,076	1,813,754	1,896,778	1,962,986	2,017,167	2,057,286	2,092,245	2,119,729	
UTILITY METER Multiplier		10	10	10	10	10	10	10	10	10	10	10	10	
HEAT FACTOR		1.067	1.067	1.067	1.067	1.067	1.067	1.067	1.066	1.067	1.066	1.066	1.067	
Service Period Use	CCF	236,090	258,790	282,800	373,760	466,060	666,780	830,240	662,080	541,810	401,190	349,590	274,840	5,344,030
	Dth	25,180.3	27,600.5	30,174.3	39,891.2	49,749.5	71,165.7	88,564.4	70,608.8	57,789.4	42,777.4	37,280.4	29,330.4	570,112.3
Service Period Charges														
CONSULTANTS	$	$5,571.27	$5,571.27	$5,571.27	$5,571.27	$5,571.27	$5,571.27	$5,571.27	$5,571.27	$5,571.27	$5,571.27	$5,571.27	$5,571.27	66,855.24
NASHVILLE LDC	$	$ 20,805.45	$ 23,414.50	$ 24,817.32	$ 31,374.81	$ 36,880.98	$ 48,842.61	$ 58,560.33	$ 48,531.61	$ 41,371.52	$ 32,945.80	$ 29,880.83	$ 25,591.38	423,017.14
CNEG	$	$ 81,720.54	$ 76,063.84	$ 81,484.30	$ 126,530.61	$ 168,760.60	$ 241,099.96	$ 314,981.60	$ 256,206.91	$ 200,717.82	$ 160,306.16	$ 123,860.32	$ 97,562.11	1,929,294.77
TOTAL	$	$ 108,097.26	$105,049.61	$ 111,872.89	$ 163,476.69	$ 211,212.85	$ 295,513.84	$ 379,113.20	$ 310,309.79	$ 247,660.61	$ 198,823.23	$ 159,312.42	$ 128,724.76	$ 2,419,167.15
Average Charge	$/Dth	$ 4.0717	$ 3.6042	$ 3.5229	$ 3.9584	$ 4.1335	$ 4.0742	$ 4.2177	$ 4.3159	$ 4.1892	$ 4.5176	$ 4.1239	$ 4.1988	$ 4.24330
WATER SERVICE (DOMESTIC AND PLANT)														
Service Dates	From	6/30/2024	7/31/2024	8/31/2024	9/30/2024	10/31/2024	11/30/2024	12/31/2024	1/31/2025	3/1/2025	4/1/2025	4/30/2025	5/31/2025	6/30/2024
	To	7/31/2024	8/31/2024	9/30/2024	10/31/2024	11/30/2024	12/31/2024	1/31/2025	2/28/2025	3/31/2025	4/30/2025	5/31/2025	6/30/2025	6/30/2025
UTILITY CEPS INVOICE DATA ENTRY														
DOMESTIC	Start													
	Ending													
PLANT METER #1	Start													
	Ending													
PLANT METER #2	Start													
	Ending													
Service Period Use														
DOMESTIC	CCF	70	37	23	28	12	16	13	15	25	18	17	15	289
PLANT METER #1	CCF	24,236	28,810	24,989	13,636	12,658	12,875	11,759	9,951	9,786	14,159	15,873	16,200	194,932
PLANT METER #2	CCF													0
TOTAL	CCF	24,306	28,847	25,012	13,664	12,670	12,891	11,772	9,966	9,811	14,177	15,890	16,215	195,221
PLANT ONLY	CCF	24,236	28,810	24,989	13,636	12,658	12,875	11,759	9,951	9,786	14,159	15,873	16,200	194,932
	GALLONS	18,128,528	21,549,880	18,691,772	10,199,728	9,468,184	9,630,500	8,795,732	7,443,348	7,319,928	10,590,932	11,873,004	12,117,600	145,809,136
Service Period Charges														
DOMESTIC	WATER $	$ 262.18	$ 158.89	$ 115.07	$ 130.72	$ 80.64	$ 93.16	$ 83.77	$ 92.35	$ 124.45	$ 101.98	$ 98.77	$ 92.35	$ 1,434.33
	SEWER $	$ 609.56	$ 390.44	$ 297.48	$ 330.68	$ 224.44	$ 251.00	$ 231.06	$ 250.67	$ 318.77	$ 271.10	$ 264.29	$ 250.67	$ 3,690.18
PLANT	WATER $	$ 76,054.07	$ 90,370.69	$ 78,410.96	$ 42,876.07	$ 39,814.93	$ 40,494.14	$ 37,001.06	$ 32,143.18	$ 31,613.53	$ 45,650.86	$ 51,152.80	$ 52,202.47	$ 617,784.76
	SEWER $	$ 40,231.76	$ 47,821.28	$ 41,480.08	$ 22,635.76	$ 21,008.96	$ 21,367.52	$ 19,514.96	$ 16,936.47	$ 16,657.26	$ 24,100.59	$ 27,022.08	$ 27,580.50	$ 326,357.22
STATE FEE @ 10%		$ 12,015.76	$ 14,174.13	$ 12,330.36	$ 6,897.32	$ 6,462.90	$ 6,520.58	$ 5,983.08	$ 7,442.26	$ 5,171.40	$ 7,312.45	$ 8,403.80	$ 8,312.60	$ 101,026.64
TOTAL		$ 129,173.33	$ 152,915.43	$ 132,633.95	$ 72,870.55	$ 67,591.87	$ 68,726.40	$ 62,813.95	$ 56,864.93	$ 53,885.41	$ 77,436.98	$ 86,941.74	$ 88,436.59	$ 1,050,293.13
PLANT, WATER ONLY	$	$ 76,054.07	$ 90,370.69	$ 78,410.96	$ 42,876.07	$ 39,814.93	$ 40,494.14	$ 37,001.06	$ 32,143.18	$ 31,613.53	$ 45,650.86	$ 51,152.80	$ 52,202.47	$ 617,784.76
Average Charge	$/kGall	$ 4.1953	$ 4.1936	$ 4.1949	$ 4.2036	$ 4.2051	$ 4.2048	$ 4.2067	$ 4.3184	$ 4.3188	$ 4.3104	$ 4.3083	$ 4.3080	$ 4.2369

MONTHLY FEAs			0	0	0	0	0	0	0	0	0	0	0	0	0
Service Dates		From	7/1/2024	8/1/2024	9/1/2024	10/1/2024	11/1/2024	12/1/2024	1/1/2025	2/1/2025	3/1/2025	4/1/2025	5/1/2025	6/1/2025	7/1/2024
		To	7/31/2024	8/31/2024	9/30/2024	10/31/2024	11/30/2024	12/31/2024	1/31/2025	2/28/2025	3/31/2025	4/30/2025	5/31/2025	6/30/2025	6/30/2025
STEAM	ELECTRIC		$87.50	$80.69	$530.98	$915.91	$1,262.14	$2,122.99	$3,233.58	$2,287.67	$1,821.83	$131.57	-$1,549.29	$475.92	$11,401.49
	FUEL GAS		$1,024.90	$664.88	$422.65	-$603.76	-$1,073.13	-$212.84	$2,099.96	$111.56	$314.72	$777.33	$58.23	$359.60	$3,944.10
	WATER		$31.21	-$38.82	$2.66	-$39.08	$213.90	$462.65	$547.00	$433.37	$398.61	$276.34	$282.74	$228.01	$2,798.58
CHW	ELECTRIC		$1,745.05	$4,491.87	$5,615.77	$6,219.33	$3,760.20	$6,330.60	$4,998.43	$6,347.93	$10,010.27	$9,459.43	$12,522.42	$4,391.99	$75,893.29
	FUEL GAS		$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
	WATER		-$1,567.19	-$4,746.81	-$470.27	$95.78	$759.96	$1,135.13	$1,162.33	$1,065.96	$1,018.34	$566.10	$1,181.12	$319.17	$519.62
			$ 1,321.47	$ 451.81	$ 6,101.79	$ 6,588.18	$ 4,923.07	$ 9,838.53	$ 12,041.30	$ 10,246.49	$ 13,563.77	$ 11,210.77	$ 12,495.22	$ 5,774.69	$94,557.08

Constellation

Constellation

REV: 1
DATE: 08/21/25

NASHVILLE, TENNESSEE

DEAO INVOICE RECONCILIATION - FY 2024 - 2025

FINALIZE FUEL EFFICIENCY ADJUSTMENTS

SUMMARY	ELECTRIC FEA	FUEL GAS FEA	WATER FEA	System TOTAL
STEAM SYSTEM	$11,217.82	$5,587.77	$2,834.22	$19,639.81
CHILLED WATER SYSTEM	$51,470.12	$0.00	$5,526.50	$56,996.62
TOTAL	$62,687.94	$5,587.77	$8,360.72	$76,636.43

Include FEA in INVOICE (YES/NO)
YES

ELECTRICITY-TO-STEAM CONVERSION

			CNE PENALTY/BONUS CALCULATION		PENALTY	BONUS
CONTRACTUAL GUARANTEE	4.500	kWh per mlb sold	RATE VARIANCE	kWh per mlb sold	0.000	1.308791
Metering Inaccuracy Buffer	0%		STEAM SOLD	357,160.239 mlb		
GUARANTEED MAX QUANTITY	4.500000	kWh per mlb sold	VARIANCE in kWh = RATE VARIANCE x STEAM SOLD		0	467,448
CEPS FUEL EFFICIENCY ADJUSTME	4.500000	kWh per mlb sold	AVERAGE ELECTRIC PRICE	$0.095992 / kWh		
CEPS ACTUAL CONVERSION RATE	3.191209	kWh per mlb sold	CEPS PENALTY / BONUS		$0.00	$11,217.82
			NOTE: Penalty at 100% of variance and Bonus at 25% of variance			

FUEL GAS-TO-STEAM CONVERSION

CONTRACTUAL GUARANTEE (varies by Condensate Return, see below)			CNE PENALTY/BONUS CALCULATION		PENALTY	BONUS
Given Condensate Return at	66%	of Send-out	RATE VARIANCE	Dth. per mlb sold	0.000	0.013
	179 °F	avg. Temp.	STEAM SEND-OUT	416,657 mlb		
GUARANTEED MAX QUANTITY	1.381000	Dth.per mlb sold	VARIANCE in Dth. = RATE VARIANCE x STEAM SOLD		0	5,417
CEPS FUEL EFFICIENCY ADJUSTME	1.381000	Dth.per mlb sold	AVERAGE FUEL PRICE	$4.12610 / Dth.		
CEPS ACTUAL CONVERSION RATE	1.368000	Dth.per mlb sold	CEPS PENALTY / BONUS		$0.00	$5,587.77
			NOTE: Penalty at 100% of variance and Bonus at 25% of variance			

WATER-TO-STEAM CONVERSION

CONTRACTUAL GUARANTEE (varies by Plant Send-out, see below))			CNE PENALTY/BONUS CALCULATION		PENALTY	BONUS
PLANT LOSSES	20%		VARIANCE in gallons = GMQ - CES ACTUAL USE		0	2,675,750
VOLUMETRIC CONVERSION	7.4805	gallons per cft	AVERAGE WATER PRICE	$4.2369 / kGall		
CONDENSATE RETURN SPEC. VOL	8.15585	gall per lb	CEPS PENALTY / BONUS		$0.00	$2,834.22
GUARANTEED MAX QUANTITY	167,946,827	lbs	*Average water pice excludes sewer.*			
CEPS ACTUAL USE	146,123,811	lbs				
			NOTE: Penalty at 100% of variance and Bonus at 25% of variance			

ELECTRICITY-TO-CHILLED WATER CONVERSION

			CNE PENALTY/BONUS CALCULATION		PENALTY	BONUS
CONTRACTUAL GUARANTEE	0.920	kWh per ton-hr sold	RATE VARIANCE	kWh per ton-hr sold	0.000	0.03281358
Metering Inaccuracy Buffer	0%		CHILLED WATER SOLD	65,362,185 ton-hrs		
GUARANTEED MAX QUANTITY	0.92000000	kWh per ton-hr sold	VARIANCE in kWh = RATE VARIANCE x CHW SOLD		0	2,144,767
CEPS FUEL EFFICIENCY ADJUSTME	0.92000000	kWh per ton-hr sold	AVERAGE ELECTRIC PRICE	$0.095992 / kWh		
CEPS ACTUAL CONVERSION RATE	0.88718642	kWh per ton-hr sold	CEPS PENALTY / BONUS		$0.00	$51,470.12
			NOTE: Penalty at 100% of variance and Bonus at 25% of variance			

WATER-TO-CHILLED WATER CONVERSION

			CNE PENALTY/BONUS CALCULATION		PENALTY	BONUS
CONTRACTUAL GUARANTEE	2.000	gall per ton-hr sold	RATE VARIANCE	gall per ton-hr sold	0.000000	0.080
Metering Inaccuracy Buffer	0%		CHILLED WATER SOLD	65,362,185 ton-hrs		
GUARANTEED MAX QUANTITY	2.000000	gall per ton-hr sold	VARIANCE in gallons = RATE VARIANCE x CHW SOLD		0	5,217,497
CEPS FUEL EFFICIENCY ADJUSTME	2.000000	gall per ton-hr sold	AVERAGE WATER PRICE	$4.2369 / kGall		
CEPS ACTUAL CONVERSION RATE	1.920176	gall per ton-hr sold	CEPS PENALTY / BONUS		$0.00	$5,526.50
			NOTE: Penalty at 100% of variance and Bonus at 25% of variance			

COMPARISON PREVIOUSLY BILLED VS. RECONCILED AMOUNTS

STEAM SYSTEM	CALCULATED	RECONCILED	VARIANCE
ELECTRIC	$11,401.49	$11,217.82	($183.67)
FUEL GAS	$3,944.10	$5,587.77	$1,643.67
WATER	$2,798.58	$2,834.22	$35.64
TOTAL	$18,144.17	$19,639.81	$1,495.64

CHILLED WATER SYSTEM	CALCULATED	RECONCILED	VARIANCE
ELECTRIC	$75,893.29	$51,470.12	($24,423.17)
FUEL GAS	$0.00	$0.00	$0.00
WATER	$519.62	$5,526.50	$5,006.88
TOTAL	$76,412.91	$56,996.62	($19,416.29)

COMPARISON AMOUNT COLLECTED BY METRO VS 97-13 CAP

	FEA COLLECTED BY METRO			FEA RECONCILED	METRO OWES	CUSTOMER OWES
	STEAM	CHILLED WATER	TOTAL	CNE	CNE *	METRO
ELECTRIC	$11,401.49	$75,893.29	$87,294.78	$62,687.94	($24,606.84)	($24,606.84)
FUEL GAS	$3,944.10	$0.00	$3,944.10	$5,587.77	$1,643.67	$1,643.67
WATER	$2,798.58	$519.62	$3,318.20	$8,360.72	$5,042.52	$5,042.52
TOTAL	$18,144.17	$76,412.91	$94,557.08	$76,636.43	($17,920.65)	($17,920.65)

PLANT READINGS (Paste Link)																	
Month			7	8	9	10	11	12	1	2	3	4	5	6		TOTAL
DATE OF READINGS	From		7/1/2024	8/1/2024	9/1/2024	10/1/2024	11/1/2024	12/1/2024	1/1/2025	2/1/2025	3/1/2025	4/1/2025	5/1/2025	6/1/2025		7/1/2024
(coincides with Customer Dates)	To		7/31/2024	8/31/2024	9/30/2024	10/31/2024	11/30/2024	12/31/2024	1/31/2025	2/28/2025	3/31/2025	4/30/2025	5/31/2025	6/30/2025		6/30/2025
ELECTRIC METERS																
SWG-2A	Start Reading		73,269.93	74,781.89	76,375.80	77,564.93	78,902.81	79,771.01	80,604.18	81,327.18	81,635.50	81,891.67	83,519.24	84,287.18		
	End Reading		74,781.89	76,375.80	77,564.93	78,902.81	79,771.01	80,604.18	81,327.18	81,635.50	81,891.67	83,519.24	84,287.18	85,292.60		
Period Use in units =	1,000 x kWh		1,511,960	1,593,910	1,189,130	1,337,880	868,200	833,170	723,000	308,320	256,170	1,627,570	767,940	1,005,420		12,022,670
SWG-2B	Start Reading		148,789.19	150,313.06	151,472.84	152,683.93	153,765.75	154,342.40	155,391.48	156,032.12	157,496.17	158,316.27	158,386.90	159,531.85		
	End Reading		150,313.06	151,472.84	152,683.93	153,765.75	154,342.40	155,391.48	156,032.12	157,496.17	158,316.27	158,386.90	159,531.85	161,555.60		
Period Use in units =	1,000 x kWh		1,523,870	1,159,780	1,211,090	1,081,820	576,650	1,049,080	640,640	1,464,050	820,100	70,630	1,144,950	2,023,750		12,766,410
SWG-3A	Start Reading		122,055.60	123,971.00	126,112.61	127,912.95	128,477.32	129,557.13	129,557.13	129,737.83	129,825.53	130,683.52	132,199.51	133,171.99		
	End Reading		123,971.00	126,112.61	127,912.95	128,477.32	129,557.13	129,557.13	129,737.83	129,825.53	130,683.52	132,199.51	133,171.99	134,574.75		
Period Use in units =	1,000 x kWh		1,915,400	2,141,610	1,800,340	564,370	1,079,810	0	180,700	87,700	857,990	1,515,990	972,480	1,402,760		12,519,150
SWG-3B	Start Reading		23,076.00	24,484.75	25,607.46	26,190.87	26,739.66	26,825.94	26,825.94	26,828.20	26,862.36	27,594.74	27,663.54	28,551.81		
	End Reading		24,484.75	25,607.46	26,190.87	26,739.66	26,825.94	26,825.94	26,828.20	26,862.36	27,594.74	27,663.54	28,551.81	29,786.94		
Period Use in units =	1,000 x kWh		1,408,750	1,122,710	583,410	548,790	86,280	0	2,260	34,160	732,380	68,800	888,270	1,235,130		6,710,940
SWG-4A	Start Reading		32,639,838.00	33,271,958.00	33,870,366.00	34,401,221.00	34,860,366.00	35,045,174.00	35,045,174.00	35,045,174.00	35,090,314.00	35,215,822.00	35,579,775.00	35,760,172.00		
	End Reading		33,271,958.00	33,870,366.00	34,401,221.00	34,860,366.00	35,045,174.00	35,045,174.00	35,045,174.00	35,090,314.00	35,215,822.00	35,579,775.00	35,760,172.00	36,076,849.00		
Period Use in units =	1 x kWh		632,120	598,408	530,855	459,145	184,808	0	0	45,140	125,508	363,953	180,397	316,677		3,437,011
SWG-4B	Start Reading		14,022,972.00	14,108,267.00	14,179,145.00	14,183,759.00	14,183,759.00	14,355,202.00	14,614,199.00	14,836,845.00	15,035,058.00	15,239,031.00	15,245,275.00	15,463,268.00		
	End Reading		14,108,267.00	14,179,145.00	14,183,759.00	14,183,759.00	14,355,202.00	14,614,199.00	14,836,845.00	15,035,058.00	15,239,031.00	15,245,275.00	15,463,268.00	15,685,479.00		
Period Use in units =	1 x kWh		85,295	70,878	4,614	0	171,443	258,997	222,646	198,213	203,973	6,244	217,993	222,211		1,662,507
SWG-5A	Start Reading		19,014,268.00	19,117,870.00	19,246,016.00	19,427,139.00	19,586,991.00	19,659,577.00	19,659,577.00	19,732,549.00	19,771,751.00	19,839,478.00	20,110,507.00	20,429,102.00		
	End Reading		19,117,870.00	19,246,016.00	19,427,139.00	19,586,991.00	19,659,577.00	19,659,577.00	19,732,549.00	19,771,751.00	19,839,478.00	20,110,507.00	20,429,102.00	20,641,459.00		
Period Use in units =	1 x kWh		103,602	128,146	181,123	159,852	72,586	0	72,972	39,202	67,727	271,029	318,595	212,357		1,627,191
SWG-5B	Start Reading		3,654,506.00	3,979,577.00	4,273,758.00	4,442,520.00	4,572,989.00	4,736,966.00	4,932,500.00	5,049,043.00	5,201,732.00	5,378,070.00	5,388,428.00	5,388,428.00		
	End Reading		3,979,577.00	4,273,758.00	4,442,520.00	4,572,989.00	4,736,966.00	4,932,500.00	5,049,043.00	5,201,732.00	5,378,070.00	5,388,428.00	5,388,428.00	5,588,042.00		
Period Use in units =	1 x kWh		325,071	294,181	168,762	130,469	163,977	195,534	116,543	152,689	176,338	10,358	0	199,614		1,933,536
MCC-1	Start Reading		5,378,815.00	5,667,503.00	5,942,191.00	6,192,012.00	6,377,026.00	6,498,422.00	6,564,349.00	6,607,980.00	6,662,159.00	6,766,791.00	6,929,656.00	7,130,658.00		
	End Reading		5,667,503.00	5,942,191.00	6,192,012.00	6,377,026.00	6,498,422.00	6,564,349.00	6,607,980.00	6,662,159.00	6,766,791.00	6,929,656.00	7,130,658.00	7,404,546.00		
Period Use in units =	1 x kWh		288,688	274,688	249,821	185,014	121,396	65,927	43,631	54,179	104,632	162,865	201,002	273,888		2,025,731
MCC-2	Start Reading		63,853.60	24,676.80	88,964.30	27,626.90	84,550.00	99,866.50	60,244.10	1,919.00	70,746.80	61,673.00	1,632.70	2,605.90		
	End Reading		324,676.80	288,964.30	327,626.90	184,550.00	199,866.50	160,244.10	101,919.00	70,746.80	161,673.00	201,632.70	202,605.90	261,415.10		
Period Use in units =	1 x kWh		260,823	264,288	238,663	156,923	115,317	60,378	41,675	68,828	90,926	139,960	200,973	258,809		1,897,562
MCC-3	Start Reading		45,756.30	46,980.10	47,765.70	47,795.80	50,695.30	87,869.50	25,592.00	99,388.00	29,728.00	50,253.50	67,436.70	87,782.00		
	End Reading		46,980.10	47,765.70	47,795.80	50,695.30	87,869.50	125,592.00	99,388.00	129,728.00	50,253.50	67,436.70	87,782.00	92,174.20		
Period Use in units =	1 x kWh		1,224	786	30	2,900	37,174	37,723	73,796	30,340	20,526	17,183	20,345	4,392		246,419
MCC-4	Start Reading		19,699.90	74,761.90	32,375.10	88,301.80	53,395.60	4,026.20	92,277.00	73,044.80	64,154.00	37,566.80	135,603.00	0.00		
	End Reading		74,761.90	132,375.10	88,301.80	153,395.60	104,026.20	92,277.00	173,044.80	164,154.00	137,566.80	135,603.00	227,996.50	48,180.00		
Period Use in units =	1 x kWh		55,062	57,613	55,927	65,094	50,631	88,251	80,768	91,109	73,413	98,036	92,394	48,180		856,478

OTHER METERS (Paste Link)																
FT_6120: Propane Gas	Available for Use		12,240.00	12,240.00	12,240.00	12,240.00	12,240.00	12,420.00	12,510.00	12,690.00	12,960.00	12,960.00	12,960.00	12,960.00		
	Ending Inventory		12,240.00	12,240.00	12,240.00	12,240.00	12,420.00	12,510.00	12,690.00	12,960.00	12,960.00	12,960.00	12,960.00	12,960.00		
Period Use in units =	Gallons		0.00	0.00	0.00	0.00	180.00	90.00	180.00	270.00	0.00	0.00	0.00	0.00		720
Period Use in units =	Gallons Per DT		10.989	10.989	10.989	10.989	10.989	10.989	10.989	10.989	10.989	10.989	10.989	10.989		
FIQY_3000: Stm Sendout	Start Reading		1,562,956	1,582,183	1,603,049	1,625,572	1,654,694	1,690,573	741,634	806,777	857,473	899,150	1,930,779	1,957,984		
	End Reading		1,582,183	1,603,049	1,625,572	1,654,694	1,690,573	1,741,634	806,777	857,473	899,150	930,779	1,957,984	1,979,613		
Period Use in units =	1 x MLB		19,227	20,866	22,523	29,122	35,879	51,061	65,143	50,696	41,677	31,629	27,205	21,629		416,657
WQ_1800: CHW Sendout	Start Reading		361,646	454,804	545,185	618,180	674,222	716,327	747,146	772,908	803,584	847,173	899,819	960,251		
	End Reading		454,804	545,185	618,180	674,222	716,327	747,146	772,908	803,584	847,173	899,819	960,251	1,044,570		
Period Use in units =	1 x TON-HRS		9,315,800	9,038,100	7,299,500	5,604,200	4,210,500	3,081,900	2,576,200	3,067,600	4,358,900	5,264,600	6,043,200	8,431,900		68,292,400
FT_8100: Cond. Return	Start Reading		96,154,816	97,941,371	99,932,339	2,076,060	4,818,426	9,891,903	40,402,222	80,098,000	10,017,727	35,118,619	57,357,149	76,887,227		
	End Reading		97,941,371	99,932,339	102,076,060	4,818,426	7,770,819	40,402,222	80,098,000	110,017,727	35,118,619	57,357,149	76,887,227	92,315,450		
Period Use in units =	1x lbs		14,570,875	16,238,036	17,340,987	22,207,954	23,919,912	30,510,319	39,695,778	29,919,727	25,100,892	22,238,530	19,530,078	15,428,223		276,701,311
WQ_8100: Cond. Return	Start Reading		146,506	148,753	151,246	153,862	157,147	160,660	165,045	170,345	170,345	170,345	170,345	170,345		
	End Reading		148,753	151,246	153,862	157,147	160,660	160,660	170,345	170,345	170,345	170,345	170,345	170,345		
Period Use in units =	1 x mmBtu		2,247	2,493	2,616	3,285	3,533	0	0	0	0	0	0	0		14,174
Condensate Return Temp			186 °F	186 °F	183 °F	180 °F	179 °F	175 °F	177 °F	174 °F	174 °F	181 °F	179 °F	182 °F		179 °F
FT_4500: MUW, Stm.	Start Reading		2,677,150	3,358,670	4,055,100	4,798,010	5,801,580	7,318,450	9,834,560	2,975,040	5,562,300	7,577,590	8,671,970	9,513,510		
	End Reading		3,358,670	4,055,100	4,798,010	5,801,580	7,318,450	9,834,560	12,975,040	5,562,300	7,577,590	8,671,970	9,513,510	10,193,790		
Period Use in units =	1 x GALL		681,520	696,430	742,910	1,003,570	1,516,870	2,516,110	3,140,480	2,587,260	2,015,290	1,094,380	841,540	680,280		17,516,640
FT_4200: MUW, CW.	Start Reading		11,836,000	29,597,000	47,383,000	61,122,000	71,406,000	78,307,000	82,928,000	86,586,000	91,349,000	98,734,000	7,939,000	18,552,000		
	End Reading		29,597,000	47,383,000	61,122,000	71,406,000	78,307,000	82,928,000	86,586,000	91,349,000	98,734,000	107,005,317	18,552,000	34,097,000		
Period Use in units =	1 x GALL		17,761,000	17,786,000	13,739,000	10,284,000	6,901,000	4,621,000	3,658,000	4,763,000	7,385,000	9,205,000	10,613,000	15,545,000		122,261,000
FT_4100: MUW, CHW.	Start Reading		838,064	104,862	604,323	133,018	485,024	763,493	62,668	245,023	426,608	557,065	766,926	852,728		
	End Reading		1,241,677	604,324	988,112	485,024	763,493	1,062,668	245,023	426,608	557,065	1,766,926	852,728	1,033,994		
	1 x GALL		403,613	504,155	387,186	352,006	278,469	299,175	182,355	181,585	130,457	1,209,861	85,802	181,266		
	Excess of Daily Cap		0	-4,693	-3,397	0	0	0	0	0	0	0	0	0		
Period Use in units =	1 x GALL		403,613	504,155	387,186	352,006	278,469	299,175	182,355	181,585	130,457	1,209,861	85,802	181,266		4,195,930
2" PLANT WATER	Start Reading in 10 x scft		0	0	0	0	0	0	0	0	0	0	0	0		
UTILITY METER	Start Reading in 10 x scft		0	0	0	0	0	0	0	0	0	0	0	0		
Period Use in units =	1 x SCFT		0	0	0	0	0	0	0	0	0	0	0	0		0
6" PLANT WATER	Start Reading		615,332	640,650	666,244	686,430	702,125	713,934	723,980	733,764	744,111	757,091	772,442	787,934		
UTILITY METER	End Reading		640,650	666,244	686,430	702,125	713,934	723,980	733,764	744,111	757,091	772,442	787,934	810,189		
Period Use in units =	1 x SCFT		25,318	25,594	20,186	15,695	11,809	10,046	9,784	10,347	12,980	15,351	15,492	22,255		194,857
2" DOMESTIC WATER	Start Reading		966.0	1,005.0	1,024.0	1,054.0	1,068.0	1,082.0	1,096.0	1,119.0	1,133.0	1,133.0	1,133.0	1,133.0		
UTILITY METER	End Reading		1,005.0	1,024.0	1,054.0	1,068.0	1,082.0	1,096.0	1,119.0	1,133.0	1,133.0	1,133.0	1,133.0	1,133.0		
Period Use in units =	1 x SCFT		39	19	30	14	14	14	23	14	0	0	0	0		167

PERFORMANCE CALCULATIONS															
Month		7	8	9	10	11	12	13	14	15	16	17	18		**TOTAL**
ELECTRIC-to-STEAM CONVERSION															
Emainutility	kWh	8,256,640	7,821,436	6,332,088	4,816,084	3,655,316	2,734,088	2,340,744	2,711,576	3,659,376	4,405,772	5,065,172	7,329,924		**59,128,216**
Echw,metered	kWh	8,055,579	7,648,599	6,157,808	4,624,263	3,440,466	2,463,086	2,044,067	2,452,481	3,435,744	4,237,399	4,892,600	7,150,616		**56,602,708**
Esteam,metered	kWh	56,286	58,399	55,957	67,994	87,805	125,974	154,564	121,449	93,939	115,219	112,739	52,570		**1,102,895**
Esteam,unmetered	kWh	987.0	854.0	1,046.0	1,748.0	3,052.0	6,682.0	9,384.0	6,165.0	3,329.0	1,390.0	1,332.0	909.0		**36,878**
CAPACITY TEST ADJUSTMENT,	kWh	0	0	0	0	0	0	0	0	0	0	0	0		**0**
Esteam,total	kWh	57,273	59,253	57,003	69,742	90,857	132,656	163,948	127,614	97,268	116,609	114,071	53,479		**1,139,773**
Customer Steam, Sn+e	lbs	13,469,912	13,841,587	17,673,155	23,851,339	30,949,003	47,257,677	62,085,465	46,179,218	37,728,754	26,735,604	21,397,290	15,991,235		**357,160,239**
nelec, actual	**kWh/klb**	4.202	4.244	3.188	2.878	2.872	2.712	2.542	2.672	2.521	4.310	5.267	3.306		**3.191209**
FUEL GAS-to-STEAM CONVERSION															
Metered Plant Steam Send-out	lbs	19,227,000	20,866,000	22,523,000	29,122,000	35,879,000	51,061,000	65,143,000	50,696,000	41,677,000	31,629,000	27,205,000	21,629,000		**416,657,000**
CAPACITY TEST ADJUSTMENT,	lbs	0	0	0	0	0	0	0	0	0	0	0	0		**0**
ADJUSTED Plant Steam SO	lbs	19,227,000	20,866,000	22,523,000	29,122,000	35,879,000	51,061,000	65,143,000	50,696,000	41,677,000	31,629,000	27,205,000	21,629,000		**416,657,000**
Natural Gas use, NG	Dth	25,180.3	27,600.5	30,174.3	39,891.2	49,749.5	71,165.7	88,564.4	70,608.8	57,789.4	42,777.4	37,280.4	29,330.4		**570,112.3**
Propane Gas use, P	gallon	0	0	0	0	180	90	180	270	0	0	0	0		**720**
	Dth	0	0	0	0	16	8	16	25	0	0	0	0		**65**
CAPACITY TEST ADJUSTMENT,	Dth	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		**0**
TOTAL FUEL GAS USE	Dth	25,180.3	27,600.5	30,174.3	39,891.2	49,765.5	71,173.7	88,580.4	70,633.4	57,789.4	42,777.4	37,280.4	29,330.4		**570,176.9**
nhhv,actual	**Dth/klb**	**1.310**	**1.323**	**1.340**	**1.370**	**1.387**	**1.394**	**1.360**	**1.393**	**1.387**	**1.352**	**1.370**	**1.356**		**1.3680**
Condensate Return, CR	gallon	14,570,875	16,238,036	17,340,987	22,207,954	23,919,912	30,510,319	39,695,778	29,919,727	25,100,892	22,238,530	19,530,078	15,428,223		276,701,311
	% of SO	75.78%	77.82%	76.99%	76.26%	66.67%	59.75%	60.94%	59.02%	60.23%	70.31%	71.79%	71.33%		66.41%
Condensate Return Energy	mmBtu	2,247	2,493	2,616	3,285	3,533	0	0	0	0	0	0	0		14,174
Condensate Return Temperature	avg	186 °F	186 °F	183 °F	180 °F	179 °F	175 °F	177 °F	174 °F	174 °F	181 °F	179 °F	182 °F		179 °F
nhhv,guarantee	**Dth/klb**													**GUARANTEED MAX RATE**	**1.381000**
														CES FEA RATE	**1.381000**
WATER-to-STEAM CONVERSION															
Metered Steam Makeup, MW	lbs	5,685,240	5,809,619	6,197,355	8,371,781	12,653,730	20,989,390	26,197,884	21,582,923	16,811,549	9,129,318	7,020,127	5,674,896		146,123,811
CAPACITY TEST ADJUSTMENT,	lbs	0	0	0	0	0	0	0	0	0	0	0	0		0
ADJUSTED Steam Makeup, MW	lbs	5,685,240	5,809,619	6,197,355	8,371,781	12,653,730	20,989,390	26,197,884	21,582,923	16,811,549	9,129,318	7,020,127	5,674,896		146,123,811
Actual Steam Makeup, nwater	lbs	5,613,959	5,736,778	6,119,653	8,266,816	12,495,078	20,726,226	25,869,417	21,312,318	16,600,767	9,014,855	6,932,109	5,603,744		144,291,719
Guarantee Steam Makeup, nguar.	lbs	5,587,350	5,553,557	6,218,416	8,296,855	14,350,906	24,660,817	30,536,666	24,931,528	19,891,330	11,268,564	9,209,906	7,440,932		167,946,827
ELECTRICITY-to-CHW CONVERSION															
Emainutility	kWh	8,256,640	7,821,436	6,332,088	4,816,084	3,655,316	2,734,088	2,340,744	2,711,576	3,659,376	4,405,772	5,065,172	7,329,924		59,128,216
CAPACITY TEST ADJUSTMENT,	kWh	0	0	0	0	0	0	0	0	0	0	0	0		0
Echw,metered	kWh	8,055,579	7,648,599	6,157,808	4,624,263	3,440,466	2,463,086	2,044,067	2,452,481	3,435,744	4,237,399	4,892,600	7,150,616		56,602,708
Esteam,total	kWh	57,273	59,253	57,003	69,742	90,857	132,656	163,948	127,614	97,268	116,609	114,071	53,479		1,139,773
Echw,unmetered	kWh	143,788	113,584	117,277	122,079	123,993	138,346	132,729	131,481	126,364	51,764	58,501	125,829		1,385,735
Echw,total	kWh	8,199,367	7,762,183	6,275,085	4,746,342	3,564,459	2,601,432	2,176,796	2,583,962	3,562,108	4,289,163	4,951,101	7,276,445		57,988,443
Customer CHW, CHWs+e	Ton-hrs	8,894,261	8,575,131	7,006,566	5,361,143	3,950,211	2,999,567	2,472,518	2,965,074	4,229,456	5,003,137	5,895,677	8,009,444		65,362,185
nelec, actual	**kWh/ton-hr**	0.922	0.905	0.896	0.885	0.902	0.867	0.880	0.871	0.842	0.857	0.840	0.908		**0.887186**
CW-to-CHW CONVERSION															
Cond Water Makeup incl loss , CM	Gallons	18,164,613	18,285,462	14,122,789	10,632,587	7,176,356	4,917,836	3,840,355	4,941,567	7,515,457	9,484,784	10,698,802	15,726,266		125,506,873
Customer CHW, CHWs+e	Ton-hrs	8,894,261	8,575,131	7,006,566	5,361,143	3,950,211	2,999,567	2,472,518	2,965,074	4,229,456	5,003,137	5,895,677	8,009,444		65,362,185
nwater,actual	**Gallons/ton-hr**	2.042	2.132	2.016	1.983	1.817	1.640	1.553	1.667	1.776	1.895	1.814	1.963		**1.920176**

Constellation.

METER CHECKS AND ESTIMATES															
WATER METER CHECKS			7	8	9	10	11	12	1	2	3	4	5	6	TOTAL
Utility Meters - Utility Dates	gallons		18,128,528	21,549,880	18,691,772	10,199,728	9,468,184	9,630,500	8,795,732	7,443,348	7,319,928	10,590,932	11,873,004	12,117,600	**145,809,136**
Utility Meters - Customer Dates	gallons		189,379	191,443	150,991	117,399	88,331	75,144	73,184	77,396	97,090	114,825	115,880	166,467	**1,457,530**
variance (line 184-line 183)	gallons		-17,939,149	-21,358,437	-18,540,781	-10,082,329	-9,379,853	-9,555,356	-8,722,548	-7,365,952	-7,222,838	-10,476,107	-11,757,124	-11,951,133	**-144,351,606**
% of TOTAL (line 183)			-99%	-99%	-99%	-99%	-99%	-99%	-99%	-99%	-99%	-99%	-99%	-99%	**-99.00%**
Plant Meters															
CHW	gallons		403,613	504,155	387,186	352,006	278,469	299,175	182,355	181,585	130,457	1,209,861	85,802	181,266	**4,195,930**
CW	gallons		17,761,000	17,786,000	13,739,000	10,284,000	6,901,000	4,621,000	3,658,000	4,763,000	7,385,000	9,205,000	10,613,000	15,545,000	**122,261,000**
STEAM	gallons		681,520	696,430	742,910	1,003,570	1,516,870	2,516,110	3,140,480	2,587,260	2,015,290	1,094,380	841,540	680,280	**17,516,640**
TOTAL	**gallons**		**18,846,133**	**18,986,585**	**14,869,096**	**11,639,576**	**8,696,339**	**7,436,285**	**6,980,835**	**7,531,845**	**9,530,747**	**11,509,241**	**11,540,342**	**16,406,546**	**143,973,570**
variance (line 191-line 184)	gallons		18,656,754	18,795,142	14,718,105	11,522,177	8,608,008	7,361,141	6,907,651	7,454,449	9,433,657	11,394,416	11,424,462	16,240,079	**142,516,040**
% of TOTAL (line 184)			103%	87%	79%	113%	91%	76%	79%	100%	129%	108%	96%	134%	**97.74%**
CW MUW CHECK			7	8	9	10	11	12	1	2	3	4	5	6	TOTAL
CHW Send-out	ton-hrs		9,315,800	9,038,100	7,299,500	5,604,200	4,210,500	3,081,900	2,576,200	3,067,600	4,358,900	5,264,600	6,043,200	8,431,900	**68,292,400**
CW MUW Rate	gall/ton-hr		1.907	1.968	1.882	1.835	1.639	1.499	1.420	1.553	1.694	1.748	1.756	1.844	**1.790**
FINAL MAKEUP WATER RESULTS			7	8	9	10	11	12	1	2	3	4	5	6	TOTAL
CHW	gallons		403,613	504,155	387,186	352,006	278,469	299,175	182,355	181,585	130,457	1,209,861	85,802	181,266	**4,195,930**
CW	gallons		17,761,000	17,786,000	13,739,000	10,284,000	6,901,000	4,621,000	3,658,000	4,763,000	7,385,000	9,205,000	10,613,000	15,545,000	**122,261,000**
STEAM	gallons		681,520	696,430	742,910	1,003,570	1,516,870	2,516,110	3,140,480	2,587,260	2,015,290	1,094,380	841,540	680,280	**17,516,640**
TOTAL	**gallons**		**18,846,133**	**18,986,585**	**14,869,096**	**11,639,576**	**8,696,339**	**7,436,285**	**6,980,835**	**7,531,845**	**9,530,747**	**11,509,241**	**11,540,342**	**16,406,546**	**143,973,570**
variance	gallons		18,656,754	18,795,142	14,718,105	11,522,177	8,608,008	7,361,141	6,907,651	7,454,449	9,433,657	11,394,416	11,424,462	16,240,079	**142,516,040**
% of TOTAL (line 184)			103%	87%	79%	113%	91%	76%	79%	100%	0%	108%	96%	134%	**98%**

Exhibit 1 – Performance Guarantee Calculation

Constellation.

NASHVILLE, TENNESSEE

EXHIBIT 1 - CALCULATION DETAIL FOR PLANT PERFORMANCE PER APPENDIX 19

ELECTRICITY-TO-STEAM CONVERSION

(1)	E (MainUtility) = total electric use per main utility meters		59,128,216	kWh
(2)	E (Steam,metered) = metered electric use for steam plant		1,102,897	kWh
	MCC-3	*246,419*		
	MCC-4	*856,478*		
(3)	E (CHW,metered) = metered electric use for chilled water plant		56,602,708	kWh
	SWGR-2A	*12,022,670*		
	SWGR-2B	*12,766,410*		
	SWGR-3A	*12,519,150*		
	SWGR-3B	*6,710,940*		
	SWGR-4A	*3,437,011*		
	SWGR-4B	*1,662,507*		
	SWGR-5A	*1,627,191*		
	SWGR-5B	*1,933,536*		
	MCC-1	*2,025,731*		
	MCC-2	*1,897,562*		
(4)	Esteam,unmetered = un-metered electric use for steam plant		36,878	kWh *
(5)	Echw,unmetered = un-metered electric use for chilled water plant		1,385,735	kWh *
(6)	Esteam,total = total electric use for steam plant = (2) + (4)		1,139,775	kWh *
(7)	Customer Steam Sales, metered + unmetered		357,160,239	lbs
	n (elec): Actual Steam Plant Electric Conversion = (6) / [(7) x 0.001] =		**3.191**	**kWh/klb**

NATURAL GAS-TO-STEAM CONVERSION

(8)	NG = Total Natural Gas Use per main utility meters		570,112.3	Dth
(9)	P = Total Propane Gas		65	Dth
(10)	HHV = Higher Heating Value of Propane		1.002052	Btu/scft
(11)	SO = Plant Steam Send Out		416,657,000	lbs
	Meter Reading at the beginning, n-1	*1,562,956*		
	Meter Reading at the end, n (Adjusted for meter reset)	*1,979,613*		
	Units of Measure	*1 x SCFT*		
	n (HHV): Actual Plant Efficiency = [(8) + (9) x (10)] / [(11) x 0.001)] =		**1.368**	**Dth/klb**
(12)	CR = Condensate Return per plant meter		276,701,311	gallons **
	Meter Reading at the beginning, n-1	*96,154,816*		
	Meter Reading at the end, n	*92,315,450*		
	Units of Measure	*1 x SCFT*		
(13)	H = Condensate Return energy		23,839	mmBtu
	Meter Reading at the beginning, n-1	*146,506*		
	Meter Reading at the end, n	*170,345*		
	Units of Measure	*1 x MMBTU*		
	T (cr,avg): Average Condensate Return Temperature =		**179**	**°F**

WATER-TO-STEAM CONVERSION

(14)	MW = Steam system makeup water plant meter			146,123,811	lbs
		Meter Reading at the beginning, n-1	*2,677,150*		
		Meter Reading at the end, n	*10,193,790*		
		Units of Measure	*1 x SCFT*		
	n (water): Actual steam plant water use = (14)			**146,123,811**	**lbs**
	G (water): Guaranteed steam plant water use = [(11)-(12)*1.2)] =			**167,946,827**	**lbs**

ELECTRICITY-TO-CHILLED WATER CONVERSION

(15)	E (chw,total) = Total CHW Electric use = (3) + (5) =			57,988,443	kWh *
(16)	Customer CHW Sales, metered + unmetered			65,362,185	tonhrs
	n (elec): Actual chilled water plant electric conversion = (15) / (16) =			**0.887**	**kw/ton**

CONDENSER WATER-TO-CHILLED WATER CONVERSION

(17)	CM = water makeup			125,526,853	gallons **
		Meter Reading at the beginning, n-1	*11,836,000*		
		Meter Reading at the end, n	*34,097,000*		
		Units of Measure	*1 x GALL*		
	Cooling Tower Makeup			121,330,923	
		Meter Reading at the beginning, n-1	*838,064*		
		Meter Reading at the end, n	*1,033,994*		
		Units of Measure	*Excess of Daily Cap*		
	EDS ChW Makeup			4,195,930	
	n (water): Actual chilled water plant conversion = (17) / (16) =			**1.920**	**gal/ton-hr**

Exhibit 2 – Information Technology System Program

Networks

The Operating System for the Metro Nashville District Energy System (DES) Energy Generation Facility (EGF) was provided and installed by Siemens Building Technologies. This System has been upgraded from Apogee Insight to Desigo CC. This software controls all the equipment and machinery in the plant.

DEAO installed an Administrative Computer Network to be used for non-operating office functions, such as the Computerized Maintenance Management System database (CMMS), e-mail, reporting, accounting, customer billing, etc. The following addresses equipment, programs, and scheduled activities to support this network.

Hardware

The computer equipment in the EGF belongs to Metro. DEAO is obligated to provide equipment which meets or exceeds industry standards. The following table shows equipment acquired by DEAO for the MNDES:

Equipment
Plant Server Dell PowerEdge T330/1 x Xeon e3-1200 v6 3.00 GHz Processor/64 GB RAM/RAID 5 Configuration/DVD drive Siemens Server Dell Precision 5820/duel Xeon W-2223 3.6 GHz Processor/16 GB RAM/RAID 5 Configuration/DVD drive
Firewall Sonicwall TZ 400
Desktop Computers Dell OptiPlex 7080 small frame with Intel Core i7-10700 Processor, 16 GB Ram, 2.90 GHz , x64 based processor, 1 TB HD
Monitors Dell Professional E2420HS 24” Ultra Sharp LCD Flat Panel
Laptop Computers Dell Vostro 15 5501, with Intel i7-1065G7, 15.6 HD Display, 1.50GHz, x64 based processor, 16 GB Ram, 500 GB Hard Drive
Docking Stations Dell D6000 Universal Docking Station Ultra slim, wireless, keyboard & mouse

Per industry standards, computer hardware should be replaced every three to five years. This equipment was most recently replaced in 2020, the Metro computer in 2023. The Siemens server was replaced in 2020 and is continuously updated per the manufacturer's requirements to maintain functionality. It is planned to upgrade the Siemens server again in 2026. The DEAO server was replaced with a solid-state Dell T330 in 2018; a major overhaul performed in 2021 modernized this equipment with a new operating system and mother board. An inventory of equipment is located on page 60 of this document.

DEAO has a performance contract with Metro to operate and manage the Metro Nashville DES. Except for a designated workstation in the Metro office, DEAO will have exclusive use of and responsibility for this equipment in the same way DEAO has exclusive rights to boilers, chillers, pumps, etc., as defined in the ARMA.

Software

Each server has the following software installed:

Operating System	Microsoft 8 R2 Server/Microsoft Server 2016 Standard
Data base	Microsoft SQL 2008
AntiVirus	Malwarebytes

Each computer has the following software installed:

Operating System	Windows10 Professional
Microsoft Office Professional 2019	Word, Excel, Power Point, Outlook, One Note, Office Publisher
AntiVirus	Malwarebytes

Additional software installed on specific machines includes:

- Adobe Acrobat Professional 2019 - General Manager, Operations Manager, Administrative Operations Representative and I&C Technician.
- I-Maint - Control Room, Plant Operations Manager, Maintenance Office, Electrical Office and Metro office.

Connectivity

	Metro	**Constellation**	**Constellation Backup**
Internet Connection	Fiber optic	Comcast Cable	Verizon 4G Wireless System

DEAO accesses customer meter data through the internet. The State has granted DEAO access to their building meters through a VPN at no cost. Metro building meters are accessed through the fiber optic line Metro installed to the EGF.

Metro Access to Data

A Lenovo desktop computer, furnished by DEAO, is in the Metro office at the EGF. The purpose of this computer is to give Metro administrative access to plant data. DEAO personnel check to make sure the required data files are transferred from the DEAO Administrative server to the Metro workstation periodically. These include: a copy of the Siemens database, the I-Maint CMMS database, customer billing system data and customer meter data.

Data Backup and Storage

DEAO's Administrative Server is backed up continuously. The offsite, online repository used by DEAO is Carbonite.

The Siemens SQL database is also backed up to Carbonite. Other trend data is manually backed up on two external drives every Monday, the last day of the month and when any changes or updates are made.

Metro, at their own expense, back up data from the computer in the Metro Office to Carbonite. This is maintained by Metro's Project Administrator.

If issues cause data not to transfer, DEAO will assist a Metro Representative with troubleshooting. DEAO personnel check to see if there have been any software security updates and make corrections to reestablish connectivity. Metro checks their backup at least once per month. From time to time, Metro has to purge old data or purchase additional storage space.

Support and Service

Administrative System

DEAO has contracted with a third-party vendor, Vertical IT Solutions, LLC, for ITS service and support. These services include:

1. Installation and setup of new workstations and servers. Fully test and verify set up.

2. Provide information technology consulting, support, and maintenance services to maintain the IT infrastructure at the Energy Generation Facility. This includes Server and desktop hardware support, troubleshooting, repairing or replacement of system components, and peripherals.

3. Hardware support will include and may not be limited to memory upgrades, hard disk replacement, network card replacement, system board replacement and hardware accessories installation.

4. Software support includes installation, configuration, and troubleshooting of the supported applications. This will also include monthly patches, anti-virus and security upgrades.

5. Response time for critical system and system-down issues will be within 4 hours and non-critical system tasks will be resolved within 24 hours. An on-site equipment inspection will be performed at least once per month.

Operating System

DEAO continues to have Siemens repair, replace, and maintain their proprietary equipment when required. Services include regular updates and emergency support.

Cyber Security

Access to the server room is behind a key card monitored, locked door.

There is no outside connection to the Siemens server. Building automation is segregated on a separate network. There is no WiFi or Bluetooth on the Siemens network.

The administrative network server is behind a Sonicwall TZ400 firewall. There is no wireless access to the network inside the firewall. Remote access requires a VPN. All network traffic is monitored by Malwarebytes software. Sonicwall and Malwarebytes firmware is kept up to date.

DEAO employees receive Cyber Security Awareness training and Phishing training.

Program Review

The Information Technology Services Program is reviewed with Project Administrator and Metro annually and updated as required. This document incorporates all changes that were made to the program.

Hardware Inventory

There are two servers, four laptops and ten desktop workstations. Below is a detailed list of what is included at each workstation and where each is located (Equipment descriptions are in the Hardware section of this program above).

Office Location	Computer	ID Number	Monitor	Keyboard & Mouse
Data Room	2-Servers	CPKGM83 (Siemens) 8P8RMN2 (DEAO)	2-24” Flat Panels	1-each
Metro Office	1-Desktop	MJ0JERFT	1-24” Flat Panel	1-each
General Manager	1-Laptop with Docking Station	5R20763	1-24” Flat Panel	1-each
Operations Manager	1-Laptop with Docking Station	1K20763	1-24” Flat Panel	1-each
Finance & Administration Representative	1-Laptop with Docking Station	D7PRO43	1-24” Flat Panel	1-each
Customer Service Representative	1-Desktop	GBX7673	1-24” Flat Panel	1-each
Electrical Office	1-Desktop	GBX1J63	1-24” Flat Panel	1-each
Instrumentation & Controls Technician	1-Laptop	2MTZ663	N/A	N/A
Maintenance Office	1-Desktop	GBWYH63	1-24” Flat Panel	1-each
Operations Office	1 - Desktop 1-Docking Station	GBWZH63 N/A	2-24” Flat Panels	1-each
Reception Area	1-Docking Station	N/A	1-24” Flat Panel	1-each
Control Room	3 Desktops	GBX9673 GHJXH63 GBX0J63	8-24” Flat Panels	1-each
Control Room (Security)	1 Desktop	BYPC8M2	1-23” Flat Panel 1-42’’ Flat Panel	1-each

Exhibit 3 – Constellation Assets

- 2011 GMC Canyon Crew Cab Pickup Truck
- 2015 Chevrolet 3500 Crew Cab Flatbed Pickup Truck
- 2016 Ford F-150 Crew Cab Pickup Truck
- 2021 GMC Sierra Crew Cab Pickup Truck
- Ecom Combustion Analyzer
- Fluke Multi-meter
- Fluke Insulation Tester (megger)
- Greenlee Circuit Analyzer
- Fluke Clamp Meter
- Fluke 87 Multi-meter
- Salisbury Audio/Visual Voltage Detector
- Quad Tech Decade Resistor
- Fluke 719 Pro Pressure Calibrator
- Piecal Thermocouple Tester
- Altek loop Calibrator
- Fluke 45 Dual Display Multi-meter
- Hart Scientific Temperature Bath
- Miller Bobcat 225 Welding Machine
- Miller Bobcat 250 Welding Machine
- Hytorc Hydraulic Torque Wrench System
- Milwaukee Electric Mag-base drill press
- Ryobi portable pressure washer
- Miller Filtair 130 Welding Fume Extractor
- Miller CST 280 Welding Machine
- Goodway RAM-4 Tube Cleaning Machine
- Goodway Cooling Tower Vacuum System
- Vestil 2,000 lb. Capacity Aluminum A Frame
- Vestil 4,000 lb. Capacity Aluminum A Frame
- Vestil 8,000 lb. Capacity Steel A Frame
- 2,000 lb. Capacity Electric Chain Hoist
- 1,000 lb. Capacity Electric Chain Hoist
- 3 – Bucks of scaffolding with braces, safety pins, handrails, walk boards and kick plates
- Hyster Model S50XM Lift Truck
- Buffalo Vaneaxial Exhaust Fan
- Generac XG 10000E Generator
- H&H Pump Com Hydraulic Powered Dewatering Pump (Green Machine)
- Trane 3,400 lb. Refrigerant Recovery Tank
- Service First Refrigerant Recovery Machine
- Distribution Truck hand tools, cones, pry bars, hoses, pumps, etc.
- Zoll AED & cabinet

- (2) Phillips AED and Cabinet
- Epson Video Projector
- Starry Hub Conference Projector and Motorized Screen
- 3-OKI printers
- 2-HP printers
- 1-Brother Printer
- 27” JVC TV
- JVC VCR/DVR
- Honda self-propelled Push Mower
- Echo Weedeater
- Echo backpack blower
- 3 – Kerosene torpedo heaters
- 40 cal/cm^2 rated high voltage suit with hood and fan
- 1 pair 10 kV gloves
- 1 pair 20 kV gloves
- Arc protection face shield
- 20 kV mat
- Hot stick
- Voltage detector (Glow stick)
- Remote switch operator (Chicken switch)
- Ricoh Copier (Leased)
- General Manager’s HP Laptop – SN#EXPCT7978
- Platform Lift
- Genie Boom Lift
- (2) Connex Boxes in Expansion Yard

Exhibit 4 – Spare Parts Inventory

Per the ARMA Section, 20.14, at the end of the Term or termination of their contract, DEAO shall turn over the existing spare parts inventory to Metro. Also included in this list is equipment purchased by Metro for use in the EDS which are existing property of Metro but used by DEAO in the management of the EDS.

Quantity	Description	Location
4	4 inch 150# Buttweld Valves	Connex
5	ATS 2 inch TP2W-121 300°F 150 psi 8 inch travel	Connex
1	ATS 3 inch TP2W-121 300°F 150 psi 4 inch travel	Connex
1	ATS 18 inch TP2W-131 500°F 300 psi 12 inch Travel	Chiller Alley
1	Re-wound Toshiba 350HP CWP Motor	Chiller Alley
1	Trane Chiller Seal Ring	Maintenance Shop
1	Trane Chiller Vane Actuator	Maintenance Shop
1	Trane Motor Changeout Gasket Kit	Maintenance Shop
1	Trane Heater Element	Maintenance Shop
1	Trane Vane Operator Assembly	Maintenance Shop
1	Trane Chiller Oil Regulator Valve	Maintenance Shop
12	Trane Chiller Oil Filters	Maintenance Shop
1 Lot	Goulds Pumps Misc. Gaskets, o-rings, etc	Maintenance Shop
1	Shaft Sleeve- CWP	Maintenance Shop
Various	Misc Pipe Fittings from 1/4 to 1 1/2	Maintenance Shop
Various	Misc Bolts, Nuts and washers from 1/4 to 1 inch	Maintenance Shop
Various	Misc Plate and flat bar	Maintenance Shop
Various	Misc Pipe from 3/8 to 3 inch	Maintenance Shop
2	Shaft Sleeves- BFWP	Maintenance Shop
1	175# Boiler Safety Valve	Mezzanine
1	185# Boiler Safety Valve	Mezzanine
1	35# Deaerator Safety Valve	Mezzanine
1	60 HP Cooling Tower Fan Motor	Mezzanine
1	Cooling Tower Fan Shaft	Mezzanine
2	Cooling Tower Belts	Mezzanine
1	Weil 460V Sump Pump	Mezzanine
1	Weil 208V Sump Pump	Mezzanine
6	Temperature Sensors- Trane	Maintenance Office
5	Wiring Harnesses- Trane	Maintenance Office
5	Solenoid Valves-Trane	Maintenance Office
1	Chiller Purge Unit- Trane	Mezzanine

6	Air Compressor Filters	Maintenance Office
2	Differential Gauges- Air Compressor	Maintenance Office
2	Pressure Switch- Air Compressor	I&E Lab
6	Weksler Thermometer 30/240F	Main Electrical Room
6	Weksler Thermometer 0/120F	Main Electrical Room
2	Weksler Thermometer 50/550F	Main Electrical Room
10	Trerice Thermometer 0/100F	Main Electrical Room
4	Trerice Thermometer 50/550F	Main Electrical Room
1	Siemens Control Valve 1" 274-03131	Main Electrical Room
1	Siemens Control Valve 2" 274-03134	Main Electrical Room
11	Brass Temperature Wells (assorted lengths)	Main Electrical Room
3	Stainless Temperature Wells (assorted lengths)	Main Electrical Room
2	Trerice Steam Pressure Gauge 0-300 psi	Main Electrical Room
4	Trerice CHW Pressure Gauge 0-300 psi	Main Electrical Room
4	Steam Pressure Pigtails	Main Electrical Room
8	Yokogawa Steam & CHW Converter Cables	Main Electrical Room
1	Yokogawa Pressure Transmitter 0-200 psi	Main Electrical Room
1	Yokogawa Pressure Transmitter 0-290 psi	Main Electrical Room
1	Yokogawa Meter Transmitter (Head)	Main Electrical Room
1	Yokogawa Temperature Transmitter	Main Electrical Room
1	DP Transmitter for Manhole 18	Main Electrical Room
2	Yokogawa Steam Flow Converter	Main Electrical Room
2	Yokogawa Mag Flow Converter	Main Electrical Room
6	Yokogawa Transmitter Mounting Brackets	Main Electrical Room
1	Yokogawa 6 inch MV Steam Flow Meter	Main Electrical Room
1	Yokogawa 10 inch Mag Flow Meter	Main Electrical Room
1	Yokogawa ADMAG AXF Flow Meter	Main Electrical Room
1	Yokogawa 2 inch MV Steam Flow Meter	Main Electrical Room
2	Maxon Gas Valves for Boilers	Main Electrical Room
3	Hubbell Replacement High Bay Lenses	Main Electrical Room
1	Siemens Load Center 12-24 120/208 VAC MLO Panel	Main Electrical Room
1	ABZ028 Valve Actuator	Main Electrical Room
1	ABZ015 Valve Actuator	Main Electrical Room
1	100 ft of SOOW 6/4 Cable for Temporary Boiler	Main Electrical Room
4	DAMAR 400 watt Metal Halide Ballasts	Main Electrical Room
4	DAMAR 175 watt Metal Halide Ballasts	Main Electrical Room
5	DAMAR Compact Fluorescent Ballasts	Main Electrical Room
5	DAMAR Compact Fluorescent Bulbs	Main Electrical Room

4	DAMAR 400 watt Metal Halide Bulbs	Main Electrical Room
5	DAMAR 175 watt Metal Halide Bulbs	Main Electrical Room
2	Tunnel Light Fixtures	I&E Lab
18	F32T8 Lamps	Main Electrical Room
13	F96T8 Lamps	Main Electrical Room
16	F25T8 Lamps	Main Electrical Room
4	27 watt LED Lamps	Main Electrical Room
3	18 watt LED Lamps	Main Electrical Room
2	5 watt LED Lamps	Main Electrical Room
Various	Miscellaneous Electrical Wire sizes and amounts	Main Electrical Room
Various	Miscellaneous Instrumentation Wire sizes and amounts	Main Electrical Room
2	Johnson Controls Pressure Switches	Main Electrical Room
1	Coilhouse 27FC4-M Air Pressure Regulator	Main Electrical Room
1	Yokogawa GX20 Panel (SN#S52317268)	Main Electrical Room
4	Partical Yokogawa CX Panels (Used for Parts)	Main Electrical Room
1	EDS Canister Fan with Exhaust hose	Distribution Truck/Loading Dock
1	Yokogawa GX20 Panel (SN#S52317267)	Main Electrical Room
6	Pressure Gauge 0-30 psi	I&E Lab
12	Pressure Gauge 0-100 psi	I&E Lab
7	Pressure Gauge 0-160 psi	I&E Lab
17	Pressure Gauge 0-300 psi	I&E Lab
6	Pressure Gauge 0-600 psi	I&E Lab
2	Siemens AEM Micro Server	I&E Lab
2	Mercoid Switches	I&E Lab
Various	Misc. Electrical Switches	I&E Lab
Various	Misc. Electrical Relays	I&E Lab
Various	Misc. Electrical Connectors	I&E Lab
3	United Electric DP Switches	I&E Lab
1	Fire-eye Boiler Flame Scanner	I&E Lab
2	Power Supply for Chiller Starters	I&E Lab
1	Power Supply for CX/GX Panels	I&E Lab
1	Boiler Gas Valve Rebuild Kit	I&E Lab
1	Walchem Conductivity Controller & Probe	Main Electrical Room
1	Chiller Flow Switch IFM	I&E Lab
Various	Misc. Breakers	I&E Lab
1	Flow Meter for Water Softeners	I&E Lab
1	Netbiter Temp Data Collection at Customer Bldgs.	I&E Lab
Various	Misc. Fire Alarm Parts	I&E Lab

18	Glass Fuse Holders	I&E Lab
5	Misc. Control Transformers	I&E Lab
3	E-Stop pushbuttons	I&E Lab
Various	Misc. Tunnel Radio Parts	I&E Lab
1	GE 750 Multilin Relay	I&E Lab
1	WEG Propane Pump Motor	Mezzanine
1	Cooling Tower Basin Heater	I&E Lab
	Gallons - Distilled Water	I&E Office
1	Electric Valve Wrench w 2" square nut operators	Main Electrical Room
1	Magnet MH Lid Lift Mechanism	Distribution Truck/Loading Dock
1	Underground Pipe Locator Tool	Main Electrical Room