



Operations Monitoring Report

Fourth Quarter FY15

Prepared by:

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I. Executive Summary

A review of the fiscal year 2015 (FY15) Fourth Quarter performance and contract obligations between Constellation New Energy (CNE) and the Metropolitan Government of Nashville and Davidson County (Metro) is presented in this report by Thermal Engineering Group, Inc (TEG). The status of the available funds for all active capital construction and repair and improvement projects are also presented. For the fiscal year 2015 to date, CNE has satisfactorily met all of the contract obligations to Metro and has had no contract violations.

For the Fourth Quarter FY15, the chilled water sales decreased marginally over the previous Fourth Quarter (FY14). The chilled water sendout was also down 2.8% over the previous Fourth Quarter, thus the system losses were down approximately 32%. The Fourth Quarter FY15 saw 1.5% decrease in cooling degree days. The peak chilled water demand for the current quarter was 18,590 tons, which is 1.7% higher than the previous Fourth Quarter.

For the fiscal year (FY15), the chilled water sales decreased 3.5% over the previous fiscal year with a 3% decrease in sendout. The system losses were 3.5% higher than in FY14. The number of cooling degree days was also down over FY14 by 1.2%. The peak chilled water demand for FY15 was 19,159 tons, recorded in the First Quarter of FY15, which was 4.8% higher than in FY14.

Steam sendout for the current quarter decreased by approximately 10.9% over the previous Fourth Quarter, marked by a 24% decrease in the number of heating degree days. Likewise, steam sales also decreased by approximately 17.4% over the previous Fourth Quarter. Steam system losses, as a percentage of sendout, increased, and the total losses increased approximately 16% over the previous Fourth Quarter. The peak steam demand for the current quarter was 67,406 pounds per hour, which represents a decrease in the Fourth Quarter demand by approximately 34%.

Steam sendout for the fiscal year is down approximately 4.9% over FY14. The steam sales were down 6.9% and the number of heating degree days was down 3.7%. The steam losses increased in FY15 approximately 10.7% over the previous fiscal year.

The Energy Generating Facility (EGF) performance continues to surpass the System Performance Guarantee (Guaranteed Maximum Quantity or GMQ) levels. The chilled water plant electric consumption continues to perform lower than the guaranteed levels and has decreased in the Fourth Quarter due to operational changes implemented by CNE. The steam plant electric consumption decreased approximately 8.2% over the previous Fourth Quarter, and the amount of electricity per unit of sales increased by approximately 11.2%. The steam plant fuel efficiency has remains consistent with previous years and quarters. The total water consumption for the steam and chilled water plants increased approximately 2% from the previous Fourth Quarter marked by a 22.8% increase in the EDS make-up for the chilled water system and a marginal increase in the steam plant usage.

For FY15, the chiller plant electric usage increased 2.7% while the steam plant electric usage decreased 2.6%. The chiller plant GMQ efficiency factor increased by 6.4% over FY14, reflecting the relative decrease in chiller plant efficiency observed during the Second and Third Quarters of FY15. The steam plant GMQ efficiency factor also increased by 4.6% over FY14. However, both factors are within the guaranteed limits by CNE.

Water usage for the chiller plant increased approximately 4% over FY14 and the steam plant water usage increased approximately 32%. Even though the water usage has increased for both plants, CNE never exceeded the guaranteed limits during the fiscal year.

Work continued on DES Capital and Repair & Improvement Projects during the Fourth Quarter of FY15. Repair and Improvements to the EDS continue as scheduled. Construction was completed on DES106 during the Fourth Quarter FY15. Construction began on DES-107 and design was started on DES-112 and DES-117. DES 089, 105, 106 and 109 were closed during the Fourth Quarter FY15.

The current fiscal year system operating costs to date are \$20,248,460. This value represents approximately 91.3% of the total budgeted operating cost for FY15. The customer revenues from the sales of steam and chilled water for FY15 (to date) are \$18,466,270 which is approximately 90.9% of the budgeted amount. The difference between the operating costs and customer revenue is the Metro funding amount (MFA), which represents the shortfall in cash flow for the system. The MFA transferred to date for FY15 is \$1,849,500 (100% of budget). However, the actual MFA required cannot be accurately calculated due to outstanding invoices.

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II. Energy Distribution Sales and Performance

A. Chilled Water

This section of the report discusses and presents performance information regarding the operation of the EGF for the periods described. Charts and tabular data are also presented to provide a more detailed description of the actual EGF performance.

1. Sales and Sendout

A comparison for the Fourth Quarter chilled water sales is shown in Figure 1. This data reflects a marginal decrease in sales for the current quarter over the same quarter of the previous fiscal year.

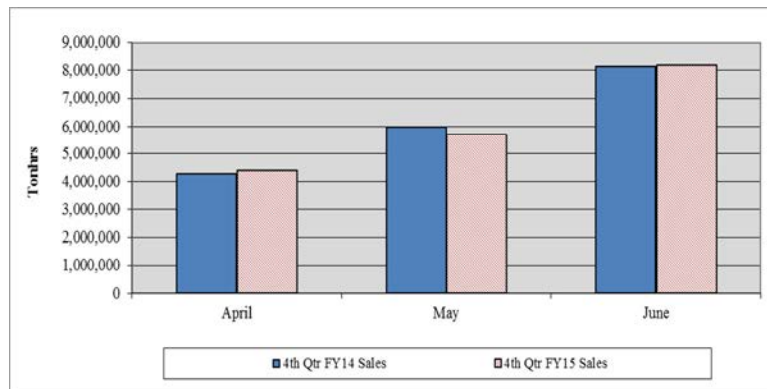


Figure 1. Chilled Water Sales Comparison

The peak chilled water demand for the current quarter was 18,590 tons, which represents an approximate 1.7% increase over the previous Fourth Quarter.

Figure 2 shows the chilled water sales, sendout and losses for the previous twelve months. The losses on this figure are defined as the difference in tonhrs per month between the recorded sendout and sales values and represent the total energy loss for chilled water in the EDS. The number of cooling degree days per month are also tracked for comparison.

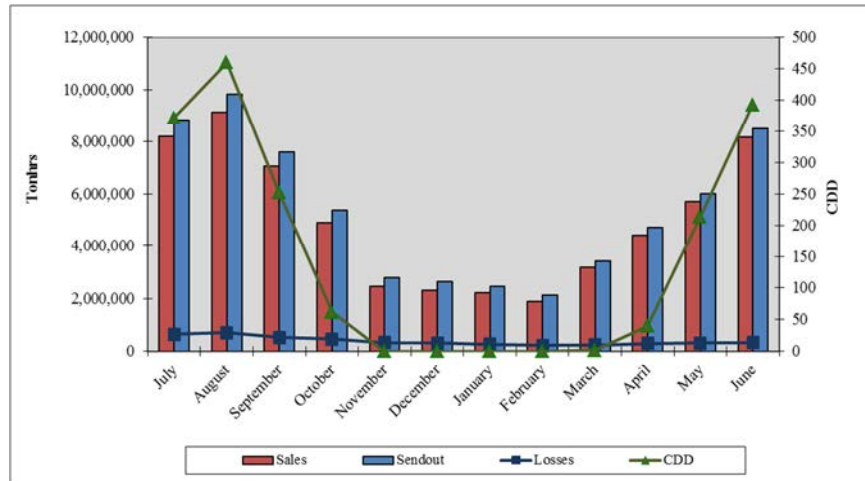


Figure 2. Chilled Water Sales, Sendout, Losses and CDD for the Previous Twelve Months

2. Losses

A comparison of the total, chilled water energy losses in the EDS for the Fourth Quarter is shown in Figure 3. These losses are the difference in chilled water sendout and sales.

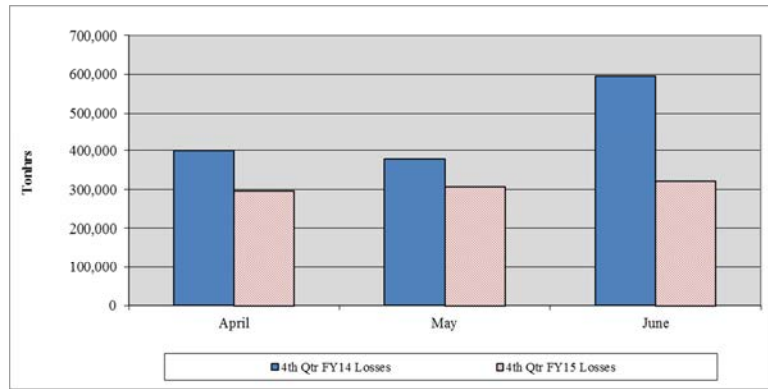


Figure 3. Chilled Water System Loss Comparison

The EDS make-up increased by approximately 23% over the previous Fourth Quarter despite numerous attempts by CNE to locate the source of the water leaks. However, the total EDS water usage represents only a small part of the total EGF water usage for the quarter, but the percentage is increasing.

The total energy losses have decreased by approximately 32% over the previous Fourth Quarter. The make-up to the cooling towers decreased marginally during the quarter. The number of cycles of concentration in the condensing water circuit experienced a 23.5% decrease during the current quarter due to changes in

operation by CNE. The overall city water make-up comparison for the chilled water system is shown in Figure 4.

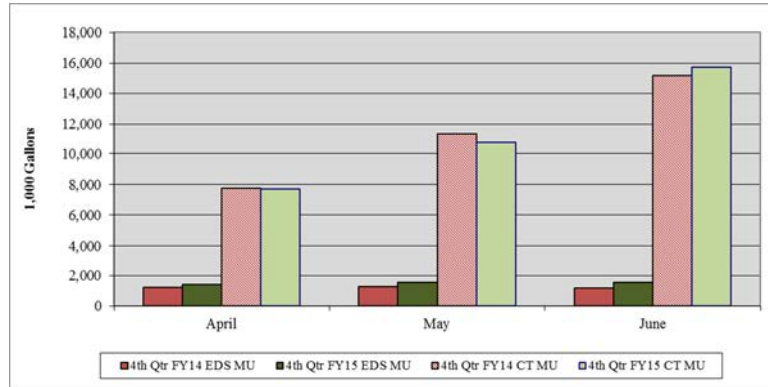


Figure 4. Chilled Water System City Water Usage Comparison

3. Performance

The performance of the chilled water aspect of the EGF is presented by the following two charts, Figures 5 and 6, for the previous twelve months. Under the management of CNE, the System Performance Guarantee levels as described in the ARMA are being achieved quite satisfactorily.

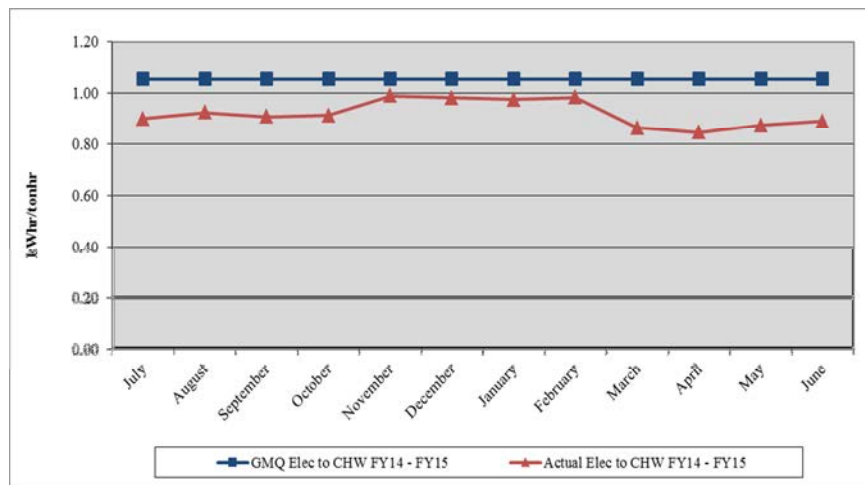


Figure 5. Chiller Plant Electric Performance Guarantee Comparison for the Previous Twelve Months

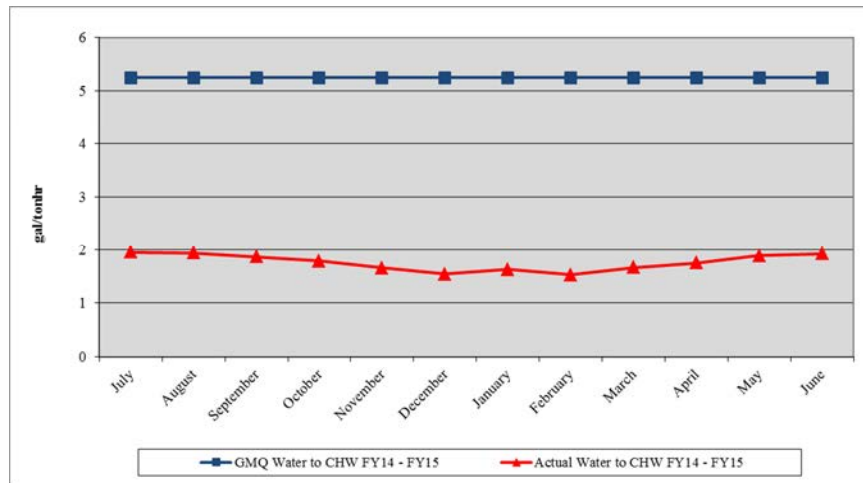


Figure 6. Chiller Plant Water Consumption Performance Guarantee Comparison for the Previous Twelve Months

The chilled water allocation of the electric consumption falls under the GMQ limit of 1.055 kWhr per tonhr for the current quarter, and no excursion is reported for the current fiscal year. However, the chiller plant electric usage continued to show a steady increase over previous years until March. CNE made some operational changes in the First Quarter FY15 that led to an increase in electric use during the Second and Third Quarters. Additional changes were made in March that appears to have led to a subsequent reduction in electric use. The electric usage per unit of sales decreased approximately 0.6% over the Fourth Quarter for FY14 (Figure 5). However, the average GMQ unit for the fiscal is 6.4% higher than FY14 and represents the highest annual average since 2003.

The actual chilled water plant water conversion factor increased approximately 2.7% over the previous Fourth Quarter. However, the total consumption of city water for the chiller plant for the current quarter increased approximately 2.1%.

B. Steam

1. Sales and Sendout

The steam sendout decreased by approximately 10.8% over the previous Fourth Quarter (FY14), and the sales also decreased by approximately 17.4%. The number of heating degree days decreased 24.2% over the previous Fourth Quarter. The steam system losses increased 16.1% over the previous Fourth Quarter. A comparison for the Fourth Quarter steam sales is shown in Figure 7.

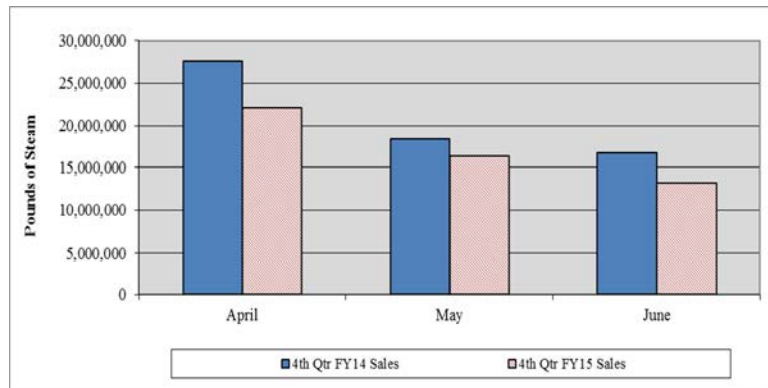


Figure 7. Steam Sales Comparison

The peak steam demand for the current quarter was 67,406 pph, which reflects an approximate 34% decrease in the peak steam production over the previous Fourth Quarter.

Figure 8 shows the steam sales, sendout and losses for the previous twelve months. The losses on this figure are defined as the difference in pounds per month between the recorded sendout and sales values and represent the total mass loss in the EDS between the EGF and the customer meters.

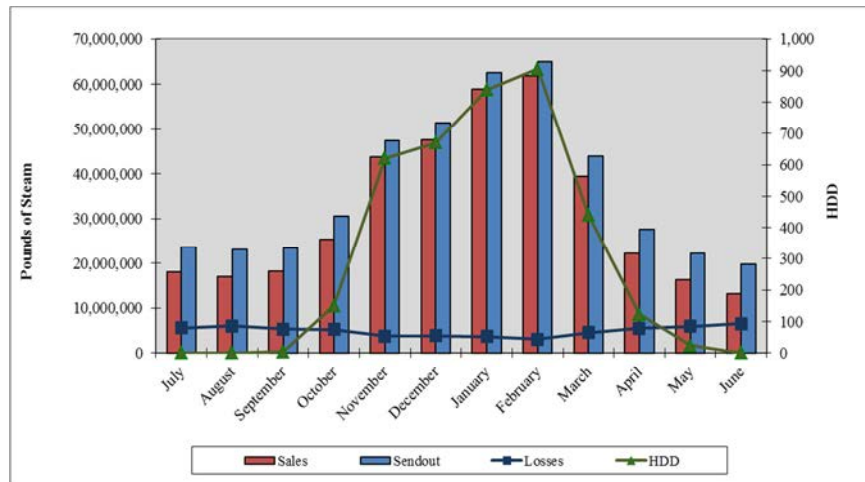


Figure 8. Steam Sales, Sendout, Losses and HDD for the Previous Twelve Months

2. Losses

A comparison of the total steam mass losses in the EDS for the Fourth Quarter is shown in Figure 9. The mass loss is caused by the heat loss in the EDS between the EGF and the customer meters, resulting in a mass loss at steam traps. Faulty traps, steam leaks or meter error could also be a contributing cause of these losses.

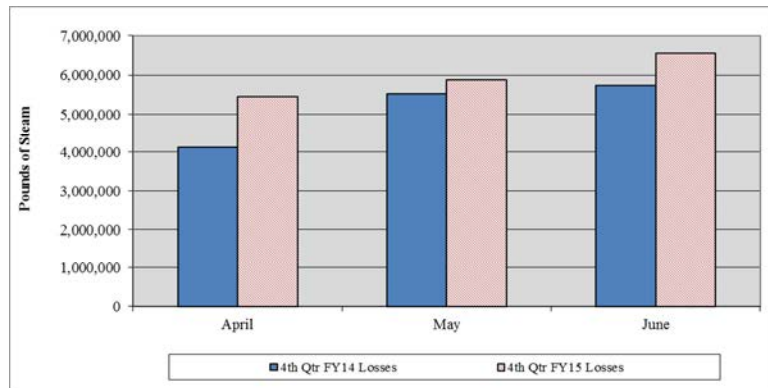


Figure 9. Steam System Losses

The amount of city water make-up (MU) to the steam system consists of the loss in mass between the EGF and the customers, in the condensate return from the customers to the EGF and losses at the EGF. This data is shown in the comparison of Fourth Quarter data in Figure 10.

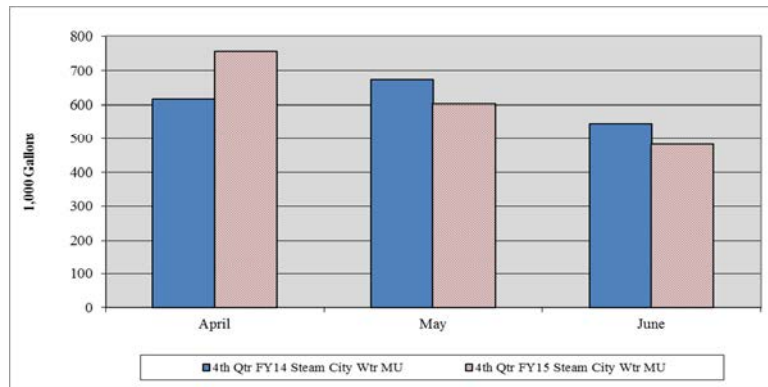


Figure 10. Steam System City Water Make-up Comparison

3. Performance

The performance of the steam system aspect of the EGF is presented by the following three charts, Figures 11, 12 and 13. Under the management of CNE, the System Performance Guarantee levels as described in the ARMA are being achieved satisfactorily.

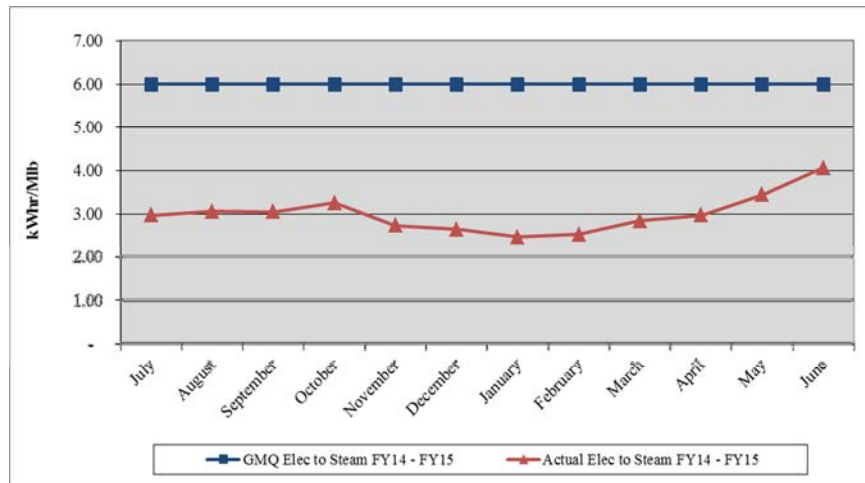


Figure 11. Steam Plant Electric Performance Guarantee for the Previous Twelve Months

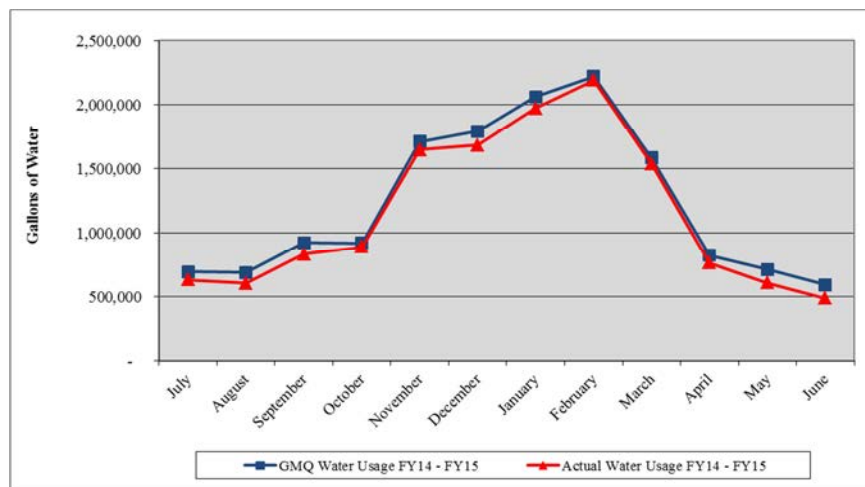


Figure 12. Steam Plant Water Performance Guarantee for the Previous Twelve Months

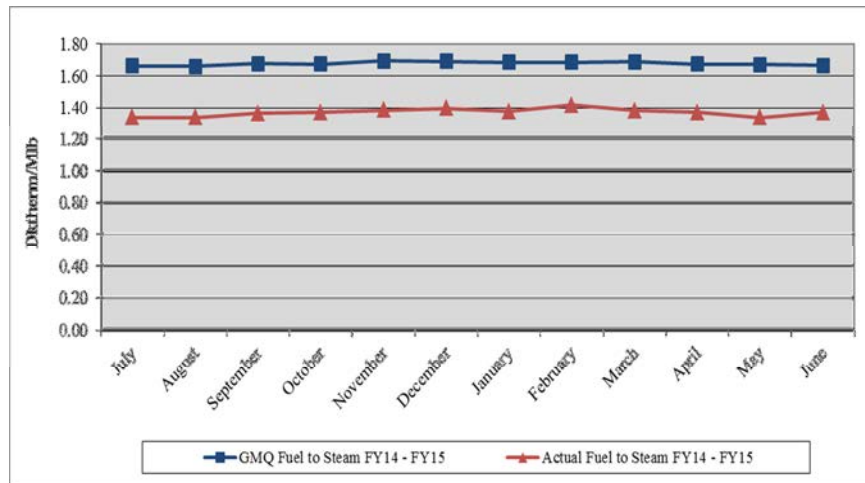


Figure 13. Steam Plant Fuel Performance Guarantee for the Previous Twelve Months

The current quarter experienced an 8.2% decrease in the steam plant electric consumption while experiencing an 11.2% increase in the electric conversion factor. The water consumption for the steam plant increased marginally this quarter as compared to the previous Fourth Quarter. The fuel consumption per unit of steam sales is relatively constant throughout the year and when compared to the historic data. The boiler plant fuel efficiency decreased 0.25% for the current quarter.

C. Contract Guarantee Performance

The production and sales performance for the EGF and EDS are summarized in Table 1 for the current quarter and the complete fiscal year. Additional parameters, such as cooling tower blow-down and peak demands are listed in this table, as well. Table 2 presents the Fourth Quarter and annual comparisons of the Guaranteed Maximum Quantities (GMQ) of the criteria commodities (fuel, water and electricity).

Table 1. Fourth Quarter and Annual FY15 Production, Sales and Consumption Summary

Item	Unit	Fourth Quarter FY15	Fourth Quarter FY14	*Percent Difference	Total Year FY15	Total Year FY14	*Percent Difference
	days	91	91	0.00%	365	365	0.00%
Total Electric Use	kWhrs	16,163,480	16,370,976	-1.27%	55,219,792	53,819,881	2.60%
Chilled Water	kWhrs	15,987,636	16,179,529	-1.19%	54,142,574	52,713,452	2.71%
Steam	kWhrs	175,844	191,447	-8.15%	1,077,218	1,106,429	-2.64%
Total Water Use	kgal	40,505	39,715	1.99%	139,251	133,842	4.04%
Total Chilled Water	kgal	38,665	37,878	2.08%	125,553	123,452	1.70%
EDS Make-up	kgal	4,486	3,653	22.80%	16,458	14,788	11.29%
Cooling Towers	kgal	34,179	34,225	-0.13%	109,095	108,668	0.39%
Calc CT Evaporation	kgal	28,350	29,573	-4.14%	91,042	95,288	-4.46%
CT Blowdown	kgal	5,829	4,652	25.30%	18,053	13,380	34.93%
Calc # Cycles		4.86	6.36	-23.49%	5.04	7.12	-29.19%
Steam	kgal	1,840	1,837	0.16%	13,698	10,390	31.84%
Total Fuel Use	mmBTU	94,788	105,990	-10.57%	607,463	635,611	-4.43%
Natural Gas	mmBTU	94,428	105,990	-10.91%	588,769	627,657	-6.20%
Propane	mmBTU	360	0	0.00%	18,694	7,954	135.03%
Condensate Return	kgal	6,684	7,762	-13.88%	41,219	46,971	-12.25%
	lbs	54,516,963	63,304,893	-13.88%	336,172,718	383,085,169	-12.25%
Avg Temp	°F	180.0	176.0	2.27%	177.0	171.4	3.26%
Sendout							
Chilled Water	tonhrs	19,224,300	19,783,100	-2.82%	64,285,000	66,268,200	-2.99%
Steam	lbs	69,604,000	78,026,000	-10.79%	440,426,000	463,085,000	-4.89%
Peak CHW Demand	tons	18,590	18,277	1.71%	19,159	18,277	4.83%
Peak Steam Demand	lb/hr	67,406	102,344	-34.14%	166,094	170,031	-2.32%
CHW LF		47.35%	49.56%	-4.46%	38.30%	41.39%	-7.46%
Steam LF		47.28%	34.91%	35.44%	30.27%	31.09%	-2.64%
Sales							
Chilled Water	tonhrs	18,292,487	18,409,647	-0.64%	59,626,410	61,768,221	-3.47%
Steam	lbs	51,783,873	62,670,106	-17.37%	381,755,418	410,083,610	-6.91%
Losses							
Chilled Water	tonhrs	931,813	1,373,453	-32.16%	4,658,590	4,499,979	3.52%
Steam	lbs	17,820,127	15,355,894	16.05%	58,670,582	53,001,390	10.70%
		25.60%	19.68%	30.09%			
Degree Days							
CDD		647	657	-1.52%	1,795	1,817	-1.21%
HDD		147	194	-24.23%	3,778	3,921	-3.65%

*positive percent difference values imply an increase from FY14 to FY15

Table 2. Fourth Quarter and Annual FY15 Performance Guarantee Comparison for Steam and Chilled Water

GMQ Calculations	Unit	Fourth Quarter FY15	Fourth Quarter FY14	*Percent Difference	Total Year FY15	Total Year FY14	*Percent Difference
Steam							
GMQ Elec Conversion	kWhr/Mlb	6.00	6.00		6.00	6.00	
Electric Conversion	kWhr/Mlb	3.40	3.05	11.16%	2.82	2.70	4.58%
GMQ Plant Efficiency	Dth/Mlb	1.671	1.671		1.678	1.673	
Plant Efficiency	Dth/Mlb	1.362	1.358	0.25%	1.379	1.373	0.49%
Actual %CR		78.32%	81.13%	-3.46%	76.33%	82.72%	-7.73%
Avg CR Temp	°F	180	176	2.27%	177	171	3.26%
GMQ Water Conversion	gal	2,127,319	2,075,721		14,700,034	11,280,223	
Water Conversion	gal	1,858,400	1,855,370	0.16%	13,834,980	10,493,900	31.84%
Chilled Water							
GMQ Elec Conversion	kWhr/tonhr	1.055	1.055		1.055	1.055	
Electric Conversion	kWhr/tonhr	0.874	0.879	-0.55%	0.908	0.853	6.40%
GMQ Water Conversion	gal/tonhr	5.25	5.25		5.25	5.25	
Water Conversion	gal/tonhr	2.11	2.06	2.73%	2.11	2.00	5.36%

*positive percent difference values imply an increase from FY14 to FY15

D. Operating Costs

The fixed operating costs for the DES include the management fee to CNE, debt service payments on the bonds and engineering and administration costs and are charged to the customers relative to their contract demand. The variable costs are dependent on the amounts of steam and chilled water produced and sold to the customers. These latter costs include the utility and chemical treatment costs. The vast majority of the costs incurred for the operation of the DES are passed onto the customers in the form of the demand charges (fixed costs) and energy charges (variable costs). A summary of the total operating costs for the fiscal year to date are shown in Table 3.

The revenues shown reflect the charges to the customers for their respective steam and chilled water service. The difference between the total costs and revenues from the customers is the shortfall that must be paid by Metro. The shortfall exists, in part, due to the remaining capacity at the EGF that was included in the original construction and remains unsold. This capacity is available for potential future customers.

The system operating costs for FY15 to date are \$20,248,460. This value represents approximately 91.3% of the total budgeted operating cost for FY15 and includes expenses to date that have been invoiced but were not paid at the time of this report. Additional invoices that would be charged to the Fourth Quarter have not been issued or paid at the time of this report. The customer revenues from the sales of steam and chilled water for FY15 are \$18,466,270 which is approximately 90.9% of the budgeted amount. The MFA transferred to date is \$1,849,500 (100% of budget). However, the actual MFA required cannot be accurately calculated due to the outstanding invoices.

Table 3. DES Expenses and Revenues to Date

Item	FY15 Budget	First Quarter Expenses	Second Quarter Expenses	Third Quarter Expenses	Fourth Quarter Expenses	Total Spending to Date	% of Budget
Operating Management Fee							
FOC: Basic	\$ 4,374,300	\$ 1,076,159	\$ 1,076,159	\$ 1,076,159	\$ 1,076,159	\$ 4,304,634	98.41%
9th Chiller	\$ 41,000	\$ 10,084	\$ 10,084	\$ 10,084	\$ 10,084	\$ 40,335	98.38%
C/O 6A	\$ 80,900	\$ 19,908	\$ 19,908	\$ 19,908	\$ 19,908	\$ 79,633	98.43%
C/O 6B	\$ 70,900	\$ 17,429	\$ 17,429	\$ 17,429	\$ 17,429	\$ 69,716	98.33%
C/O 7	\$ 26,700	\$ 6,566	\$ 6,566	\$ 6,566	\$ 6,566	\$ 26,264	98.37%
C/O 8	\$ 13,000	\$ 2,873	\$ 2,873	\$ 2,873	\$ 2,873	\$ 11,494	88.41%
Pass-thru Charges: Chemical Treatment	\$ 151,500	\$ 60,541	\$ 40,990	\$ 42,735	\$ 39,245	\$ 183,512	121.13%
Insurance	\$ 31,200	\$ -	\$ -	\$ -	\$ 35,068	\$ 35,068	112.40%
Marketing: CES Sales Activity	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	n.a.
Incentive Payments	\$ 12,400	\$ 3,139	\$ 3,139	\$ 3,139	\$ 3,139	\$ 12,557	101.27%
FEA: Steam	\$ -	\$ 24,860	\$ 42,244	\$ 57,148	\$ 20,515	\$ 144,766	n.a.
Chilled Water	\$ -	\$ 147,576	\$ 41,414	\$ 38,031	\$ 112,066	\$ 339,086	n.a.
Misc: Metro Credit	\$ -	\$ (220,970)	\$ (123,494)	\$ (88,094)	\$ (137,485)	\$ (570,043)	n.a.
ARFA	\$ -	\$ 15,630	\$ 15,630	\$ 15,630	\$ 15,630	\$ 62,518	n.a.
Deferral	\$ -	\$ -	\$ (17,564)	\$ (95,178)	\$ (132,580)	\$ (245,322)	n.a.
Subtotal - Man Fee =	\$ 4,801,900	\$ 1,384,765	\$ 1,258,872	\$ 1,194,523	\$ 1,226,101	\$ 5,064,261	105.46%
Reimbursed Management Fee + Chem Treatment		\$ 1,384,765	\$ 1,258,872	\$ 1,194,523	\$ 1,226,101	\$ 5,064,261	0.00%
Metro Costs							
Pass-thru Charges: Engineering	\$ 8,700	\$ 23,301	\$ 24,744	\$ (48,781)	\$ 3,535	\$ 2,798	32.16%
EDS R&I Transfers	\$ 275,100	\$ 70,350	\$ 71,925	\$ 71,925	\$ 71,925	\$ 286,125	104.01%
Metro Marketing	\$ 10,000	\$ -	\$ -	\$ -	\$ -	\$ -	0.00%
Project Administration	\$ 27,900	\$ -	\$ -	\$ -	\$ -	\$ -	0.00%
Metro Incremental Cost	\$ 524,500	\$ 111,740	\$ 60,163	\$ 120,158	\$ 113,311	\$ 405,371	77.29%
Utility Costs: Water/Sewer	\$ 724,600	\$ 201,426	\$ 110,046	\$ 77,500	\$ 120,014	\$ 508,986	70.24%
EDS Water/Sewer	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	n.a.
EDS Electricity	\$ -	\$ 19,544	\$ 13,448	\$ 10,593	\$ 17,471	\$ 61,057	n.a.
Electricity	\$ 6,574,600	\$ 2,487,218	\$ 756,635	\$ 685,384	\$ 1,469,373	\$ 5,398,610	82.11%
Natural Gas Consultant	\$ 99,600	\$ 4,000	\$ 5,560	\$ 3,200	\$ 2,240	\$ 15,000	15.06%
Natural Gas Transport	\$ -	\$ 47,602	\$ 84,578	\$ 105,808	\$ 55,710	\$ 293,698	n.a.
Natural Gas Fuel	\$ 3,657,600	\$ 410,315	\$ 795,227	\$ 873,031	\$ 341,377	\$ 2,419,950	66.16%
Propane	\$ -	\$ -	\$ -	\$ 183,307	\$ -	\$ 183,307	n.a.
Subtotal - Metro Costs =	\$ 11,902,600	\$ 3,375,495	\$ 1,922,325	\$ 2,082,126	\$ 2,194,956	\$ 9,574,902	80.44%
Subtotal - Operations =	\$ 16,704,500	\$ 4,760,260	\$ 3,181,197	\$ 3,276,649	\$ 3,421,057	\$ 14,639,163	87.64%
Debt Service							
2012 Bonds	\$ 3,476,900	\$ 868,988	\$ 869,313	\$ 869,313	\$ 869,313	\$ 3,476,925	100.00%
2005 Bonds -Self Funded	\$ 811,800	\$ -	\$ 344,028	\$ 467,813	\$ -	\$ 811,841	100.01%
2007 Bonds -Self Funded	\$ 210,000	\$ -	\$ 339,300	\$ -	\$ -	\$ 339,300	161.57%
2008 Bonds -Self Funded	\$ 208,900	\$ -	\$ 339,300	\$ -	\$ -	\$ 339,300	162.42%
2010 Bonds -Self Funded	\$ 207,300	\$ -	\$ -	\$ 339,300	\$ -	\$ 339,300	163.68%
MCCC Fund -Self Funded	\$ 731,000	\$ -	\$ -	\$ 339,300	\$ -	\$ 339,300	46.42%
Interest & Misc Revenue	\$ (175,800)	\$ (6,747)	\$ (8,458)	\$ (6,747)	\$ (14,723)	\$ (36,673)	20.86%
MIP	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	n.a.
Oper. Reserve Fund	\$ 600	\$ -	\$ -	\$ -	\$ -	\$ -	0.00%
Subtotal - Capital =	\$ 5,470,700	\$ 862,241	\$ 1,883,482	\$ 2,008,979	\$ 854,590	\$ 5,609,293	102.53%
Total =	\$ 22,175,200	\$ 5,622,501	\$ 5,064,680	\$ 5,285,628	\$ 4,275,647	\$ 20,248,456	91.31%
Customer Revenues							
Taxes Collected		\$ 109,142	\$ 86,298	\$ 87,826	\$ 88,214	\$ 371,479	n.a.
Taxes Paid		\$ 109,141	\$ 86,298	\$ 87,826	\$ 88,212	\$ 371,477	n.a.
Penalty Revenues/Credits		\$ (103,266)	\$ 702	\$ (5,088)	\$ (633)	\$ (108,284)	n.a.
Energy Revenues Collected		\$ 5,683,734	\$ 4,203,289	\$ 4,318,417	\$ 4,369,111	\$ 18,574,552	n.a.
Revenues =	\$ 20,325,700	\$ 5,580,469	\$ 4,203,992	\$ 4,313,329	\$ 4,368,480	\$ 18,466,270	90.85%
Metro Funding Amount =	\$ 1,849,500	\$ 42,032	\$ 860,688	\$ 972,299	\$ (92,833)	\$ 1,782,186	96.36%

The DES serves 28 customers and 41 buildings in downtown Nashville. These customers are divided into three categories: 1) Private customers who privately own their buildings, 2) State of TN owned buildings and 3) Metro owned buildings. A summary of the annual costs for each of these three categories is presented in Table 4. These values include late fees and penalties and any unpaid balances.

Table 4. Customer Revenue Summary to Date

Building	Chilled Water			Steam		
	Total Cost	Consumption (tonhrs/yr)	Unit Cost (\$/tonhr)	Total Cost	Consumption (Mlb/yr)	Unit Cost (\$/Mlb)
Private Customers	\$ 3,552,583	17,848,095	\$ 0.1990	\$ 1,618,267	101,028	\$ 16.0180
State Government	\$ 3,308,638	13,869,881	\$ 0.2385	\$ 2,085,856	119,251	\$ 17.4913
Metro Government	\$ 5,524,659	27,908,434	\$ 0.1980	\$ 2,489,786	161,476	\$ 15.4189
New Customers	\$ 3,341,906	16,653,805	\$ 0.2007	\$ 1,381,528	106,375	\$ 12.9874
Total	\$ 12,385,880	59,626,410	\$ 0.2077	\$ 6,193,909	381,755	\$ 16.2248

Total Revenue \$ 18,579,789
 True-up and Adjustments (Net) \$ (113,519)
 Net Revenue \$ 18,466,270

III. EGF Operations

Items relating to the facility operations presented herein are derived from the monthly reports issued by CNE for FY15. Communication between TEG and CNE continues to be excellent, and CNE has reported and managed all EGF operations satisfactorily and according to the ARMA with no contract violations.

A. Reliability

The principle issues surrounding the reliable operation of the EGF relates to the ability to operate without significant interruption, exclusive of planned outages, and disruption of service to the customers. The following disruptions in service occurred during the quarter.

- There were no reported excursions or disruptions for the quarter.
- Excursions and disruptions in operations that have occurred throughout the year are included in the individual Monthly Operational Reports from CNE.

B. Efficiency

The operation of the EGF satisfied the guaranteed levels for all commodity usage during the quarter. There were no significant excursions above the guaranteed levels for the current quarter. A more detailed discussion of the contract guarantee performance was presented previously in this report.

C. Environment, Health and Safety

The application for renewal of the storm water discharge permit was sent to TDEC in April.

No environmental violations were reported during the quarter.

Monthly safety meetings were held on PPE usage and emergency preparedness.

CNE continues cross-training its maintenance employees to fill in as relief operators.

D. Personnel

The EGF currently has twenty-five full time employees. Of the current number of employees, seventeen were previously employed by Nashville Thermal Transfer Corporation.

E. Training

Staff training for this quarter consisted of the Health and Safety training discussed previously. CNE continues cross training maintenance personnel to perform the tasks of the operators at the EGF in case of emergency or need.

F. Water Treatment

The water treatment program consists of regular testing and monitoring of the water chemistry in the steam, chilled water and condensing water systems. Chemicals are added to control the water hardness, chlorine levels and biologicals. Remote testing of the condensate at the AA Birch, Tennessee Tower and the Andrew Jackson also occurs regularly to monitor the concentration and distribution of the steam system chemicals.

- Steam System
 - The condensate return averaged approximately 78% of the steam sendout during the quarter which represents a decrease of approximately 3.4% over the previous Fourth Quarter.
- Condensing Water System
 - The conductivity of the condensing water continues normal with only a few excursions resulting in high cycles of concentration and low blowdown rates.
- Chilled Water System
 - During the Third Quarter, CNE treated the chilled water distribution system with a biocide to address the newfound bacteria at several customer buildings, even though the bacteria had not been measured or observed at the EGF. During the Fourth Quarter, traces of the bacteria were noted at the EGF suggesting that the first dosage had affected the sisile bacteria at the customer buildings. CNE intends to add another dose during the First Quarter FY16 in an attempt to eradicate the bacteria. It is also believed that the presence of the bacteria is reducing the heat transfer abilities of several of the customer heat exchangers.

G. Maintenance and EGF Repairs

CNE continues to report on the numerous routine maintenance and preventive maintenance activities performed on the EGF primary and ancillary equipment. The

principle items are discussed herein as they relate to the repair, maintenance or replacement of equipment or devices at the facility and are not considered extraordinary. The cost for these items is included as part of the FOCs.

- Refrigerant was added to chiller 7B.
- Fill was replaced in the cooling towers #4, 12, 13 and 16.
- CNE purchased a new projector for the EGF conference room.
- The motor on the chiller 4B purge unit was replaced.
- Other minor repairs and maintenance were made during the quarter and are listed in the monthly reports issued by CNE.

H. EGF Walk-through

A quarterly Walk-through of the EGF was performed on June 23, 2015, by Kevin Jacobs, P.E. with TEG. This review involved a tour of the facility with the primary points of interest and concern noted herein.

- Many of the housekeeping items noted in the previous walk-through have been repaired or resolved.
- Some of the riser pipes in the cooling towers have been painted, but some repairs remain. CNE has dedicated itself to repaint these riser pipes as the tower basins are repaired and the fill is replaced. They estimate a complete restoration of these components over the next couple of winters. Cooling tower #13 was repaired by CNE during the quarter.
- A door to the motor control center (MCC#1) on the cooling tower deck appeared to have been bent and would not close completely.
- Homeless persons have repeatedly made camps on the DES property along the western wall. CNE has notified Metro police several times. Remnants of a camp were left along the wall.
- A rung is bent on the ladder between the main operating floor and the water treatment mezzanine and remains unrepaired by CNE.
- Other minor items remaining include:
 - Cobwebs have reformed in various places throughout the plant and on motor control center #4 located near the boilers; these should be removed. However, progress has been made in removing some of these cobwebs.

IV. Capital Projects

The Capital Projects discussed in this section are those projects funded through the issuance of bonds by Metro. Costs for these projects will be paid from funds already appropriated. The statuses of the projects are discussed, and the project cost-to-date and bond balances are also presented.

A. Fourth Quarter FY15 Open Projects

The following projects remained open at the end of the Fourth Quarter FY15.

1. DES033 – Manhole Lid and Ring Replacement/Restoration

This project relates to the repair and replacement of manhole lids and rings whenever Metro Public Works performs Street re-paving. This project will remain open and on-going.

2. DES089 – AA Birch Tunnel Repairs

This project was closed during the Fourth Quarter FY15.

3. DES090 – Manhole & Tunnel Insulation Repair (Revised from DES060)

Work associated with this project will be on-going as required.

4. DES091 – Thermal Storage and NES Time of Use Rates

A proposal has yet to be provided from a local programmer who may be able to implement the necessary program and programming changes to the CNE invoicing system to facilitate the necessary changes to allow DES to charge the customers their respective time of use rate for electricity used at the EGF.

5. DES 105 – Vertical Tunnel Shaft Repairs at Suntrust Building

This project was closed during the Fourth Quarter FY15.

6. DES 106 – Chilled Water Modifications at the Metro Courthouse

This project was completed during the Fourth Quarter and was closed-out with a substantial completion date of June 2. All of the DES costs for this project will be reimbursed by the building through their DES monthly invoices.

7. DES 107 – Manholes A, B and M Repairs and Improvements

Manholes A, B and M are located within the bounds of the West Riverfront Project which includes the construction of an amphitheater along the river at the old waste-to-energy plant site. There is some maintenance and repair work which needs to take place within these manholes prior to the opening of the West Riverfront Park in July 2015. This project addresses these maintenance and repair items.

Punchlist items are being addressed in these manholes that will be completed prior to the end of July 2015.

8. DES 109 – Indigo Hotel Sparge Tube Addition

This project was closed during the Fourth Quarter FY15.

9. DES 110 – EGF Alternative Fuel

TEG and CNE have evaluated the options for alternative fuel sources during the Second and Third Quarters. At this time, no modifications to the EGF are anticipated, but a change in the purchase and delivery of propane will be made by CNE to ensure a consistent and available supply during curtailments. A final report from CNE is anticipated in the First Quarter FY16 which will include their proposal for a second propane tank and their propane purchasing plan.

10. DES 112 – Condensate Return Piping Replacement
at the Cordell Hull Building

The fiberglass condensate return piping from the Cordell Hull Building to the State tunnel has failed. TEG evaluated estimated costs for this repair and the results indicated a favorable payback. Therefore, TEG has developed design drawings for the replacement of this piping. Because this replacement is on State property and there is no reliable information regarding utilities in the area, TEG determined that the bidding of this project would not result in obtaining reliable cost information. Therefore, TEG is negotiating a Time and Materials/Not-to-Exceed project cost with CNE for this replacement.

Design drawings were completed during the Fourth Quarter FY15 and a cost proposal is expected in mid-July. Once a price is agreed, construction should begin in August. It is expected that this project will take 6 weeks to complete.

11. DES 117 - Manhole S5 Rebuild

Recently there was a steam leak in this manhole at the trap piping connection to the dripleg. This was repaired during an emergency shutdown of this branch piping. Due to the constant accumulation of groundwater in this manhole there is significant corrosion. In addition, this manhole does not have an entry ladder. This, coupled with the piping configuration, creates hazards for maintenance personnel. The piping and piping configuration requires re-design. TEG is in the process of designing replacement piping for this manhole.

It is anticipated that design drawings, bidding/award and construction will start on this project in the First Quarter FY16.

B. Fourth Quarter FY15 Closed Projects

DES 089, 105, 106 and 109 were closed during the Fourth Quarter FY15.

C. Capital Projects Budget

The following table summarizes the costs and remaining balance of the DES capital projects based on reported expenditures to date. Open projects or completed projects that require some additional management are shown. Total costs for projects that are closed are shown with a gray highlight. Only the funds currently available are shown.

Table 5. Capital Projects Expense Summary

DES Project #	Description	Total Budget	FY15 Spending to Date	Total Spent to Date	Remaining Balance
2010 Bond Projects -49109					
DES070	MH 6 to 23 Cond Line	\$ 20,000	\$ -	\$ 527	\$ 19,473
DES071	Hermitage Hotel Ser Modifications	\$ 20,000	\$ -	\$ 1,119	\$ 18,881
DES072	Sheraton Stm & Cond Line	\$ 11,000	\$ -	\$ 10,462	\$ 538
DES091	NES Time of Use Electric Rate	\$ 100,000	\$ -	\$ 64,616	\$ 35,384
DES089	AA Birch Tunnel Repairs	\$ 175,000	\$ 172,732	\$ 172,732	\$ 2,268
DES105	Suntrust Shaft Repairs	\$ 160,000	\$ 158,892	\$ 158,892	\$ 1,108
DES111	DES CHP	\$ 200,000	\$ 66,538	\$ 66,538	\$ 133,462
Total Closed Projects		\$ 1,834,533	\$ -	\$ 1,834,533	\$ -
	Metro Project Admin	\$ -	\$ -	\$ -	\$ -
	Project Man, Development, etc	\$ 105,383	\$ -	\$ -	\$ 105,383
Total 2010 Bond		\$ 2,625,916	\$ 398,163	\$ 2,309,419	\$ 316,496
Customer Connection Fund -49107					
DES104	Time of Use/ Customer Billing	\$ 30,000	\$ 6,353	\$ 6,353	\$ 23,647
DES106	Courthouse CHW Heat Exchanger	\$ 10,000	\$ 66,854	\$ 69,579	\$ (59,579)
DES110	Alternative Fuel Source for EGF	\$ 50,000	\$ 19,242	\$ 19,242	\$ 30,758
Sub-Total Closed Projects		\$ 7,161,827	\$ 33,039	\$ 6,559,502	\$ 602,325
	Metro Project Admin	\$ 60,000	\$ 17,532	\$ 56,946	\$ 3,054
	Project Man, Development, etc	\$ 1,188,173	\$ -	\$ -	\$ 1,188,173
Customer Connection Fund		\$ 8,500,000	\$ 143,020	\$ 6,711,621	\$ 1,788,379

V. **Energy Distribution System Repairs, Improvements, PM and Emergencies**

Several EDS repairs and improvements were made during the Fourth Quarter. The principle items for discussion are presented in the following sections.

A. Repairs and Improvements

Several repairs were made to the EDS and at customer buildings during the quarter. The remaining value of the R&I budget at the end of the current quarter is \$46,885. Table 6 provides a summary of the FY15 expenditures and revenues to date associated with the R&I budget. The costs for the R&I projects DES-113 and 114 will be reimbursed by the contractor that damaged the distribution lines.

Table 6. Repair and Improvement Expenditure and Revenue Summary

Description	Date	Tracking #	Vendor	Expenditure	Transfers	Net Market Adjustment	Market Value	Balance
Value at end of FY14						\$ -	\$ 208,524.78	\$ 208,524.78
CNE May 2014 R&I Invoice	6/30/2014	DES-1755	CNE	\$ 606.59				
CNE July 2014 R&I Invoice	9/25/2014	DES-1784	CNE	\$ 1,302.60				
Sub-Total First Quarter				\$ 1,909.19	\$ 70,350.00	\$ -	\$ 68,440.81	\$ 68,440.81
DES-107: MH-A & B Rebuild	10/10/2014	DES-1791	TEG	\$ 361.10				
CNE Aug 2014 R&I Invoice	10/31/2014	DES-1795	CNE	\$ 4,604.68				
DES-107: MH-A & B Rebuild	12/1/2014	DES-1911	TEG	\$ 495.30				
DES 109: Indigo Hotel	12/1/2014	DES-1911	TEG	\$ 2,574.30				
CNE Sept 2014 R&I Invoice	12/2/2014	DES-1916	CNE	\$ 13,950.48				
CNE Oct 2014 R&I Invoice	12/19/2014	DES-1926	CNE	\$ 4,192.49				
Sub-Total Second Quarter				\$ 26,178.35	\$ 71,925.00	\$ -	\$ 45,746.65	\$ 45,746.65
Suntrust Shaft Repair (Dec 2014) DES-105	01/06/15	DES-1930	TEG	\$ 38.10				
MH A&B Mech Rebuild (Dec 2014)	01/06/15	DES-1930	TEG	\$ 838.20				
Tunnel Insulation Rework (Dec 2014)	01/06/15	DES-1930	TEG	\$ 571.50				
Indigo Hotel (Dec 2014) DES-109	01/06/15	DES-1930	TEG	\$ 163.20				
CNE Nov 2014 R&I Invoice	01/23/15	DES-1940	CNE	\$ 4,748.70				
Misc Tunnel/MH Repair	01/26/15	DES-1944	TEG	\$ 1,550.34				
MH A&B Mech Rebuild (Jan 2015)	01/26/15	DES-1944	TEG	\$ 495.30				
Indigo Hotel (Jan 2015) DES-109	01/26/15	DES-1944	TEG	\$ 609.60				
DES-108 7th Ave	01/28/15	DES-1946	CNE	\$ 8,500.00				
MH A&B Mech Rebuild (Feb 2015)	03/06/15	DES-1965	TEG	\$ 5,685.60				
Tunnel Insulation Repair (Jan/Feb 2015)	03/06/15	DES-1965	TEG	\$ 27.67				
MH A&B Mech Rebuild (Mar 2015)	03/06/15	DES-1966	TEG	\$ 8,365.75				
Indigo Hotel (Feb 2015) DES-109	03/06/15	DES-1966	TEG	\$ 375.92				
Sub-Total Third Quarter				\$ 31,969.88	\$ 71,925.00	\$ -	\$ 39,955.12	\$ 39,955.12
Indigo Hotel DES-109	4/1/2015	DES-1860	CNE	\$ 11,615.84				
CNE DEC 2014 R&I Invoice	4/9/2015	DES-1980	CNE	\$ 6,878.14				
MH A&B Mech Rebuild DES-107	4/28/2015	DES-1989	TEG	\$ 11,082.92				
Cordell Hall Condensate DES-112	4/28/2015	DES-1989	TEG	\$ 3,199.95				
Malloy Bridgestone-D DES-113	4/28/2015	DES-1989	TEG	\$ 213.75				
4th Ave Bridgestone DES-114	4/28/2015	DES-1989	TEG	\$ 4,058.05				
CNE Jan 2015 R&I Invoice	4/29/2015	DES-1991	CNE	\$ 4,616.12				
MH A&B Mech Rebuild DES-107	5/13/2015	DES-1999	TEG	\$ 12,167.75				
Cordell Hall Condensate DES-112	5/13/2015	DES-1999	TEG	\$ 1,418.55				
Malloy Bridgestone C DES-113	5/13/2015	DES-1999	TEG	\$ 470.25				
4th Ave Bridgestone DES-114	5/13/2015	DES-1999	TEG	\$ 24.15				
MH S5 Repair DES117	5/13/2015	DES-1999	TEG	\$ 1,117.55				
CNE Mar 2015 R&I Invoice	5/26/2015	DES-1901	CNE	\$ 11,939.46				
DES-113 - (EMR15-001)	5/29/2015	DES-1902	CNE	\$ 22,381.09				
DES-114(EMR15-002)	5/29/2015	DES-1903	CNE	\$ 49,614.17				
DES-115(EMR15-003)	5/29/2015	DES-1904	CNE	\$ 8,336.92				
DES-107 MH A&B Mech	6/22/2015	N/A	TEG	\$ 6,698.00				
DES-112 Cordell Hall	6/22/2015	N/A	TEG	\$ 8,847.30				
DES-113 Malloy Bridg	6/22/2015	N/A	TEG	\$ 598.50				
DES-114 4th Ave Brid	6/22/2015	N/A	TEG	\$ 468.60				
MH A&B Mech Rebuild DES-107	6/30/2015	DES-1922	CNE	\$ 209,464.58				
CNE Apr 2015 R&I Invoice	6/30/2015	DES-1927	CNE	\$ 5,109.83				
CNE May 2015 R&I Invoice	6/30/2015	DES-1924	CNE	\$ 2,703.47				
DES-116 (EMR15-004)	6/30/2015	DES-1928	CNE	\$ 4,682.89				
Sub-Total Fourth Quarter				\$ 387,707.83	\$ 71,925.00	\$ -	\$ (315,782.83)	\$ (315,782.83)
FY15 Year to Date				\$447,765.25	\$286,125.00	\$ -	\$ 46,884.53	\$ 46,884.53

B. Preventive Maintenance

Preventive maintenance, tunnel and manhole inspections and reviews of customers' mechanical rooms were performed during the quarter. The principle items for discussion are presented.

1. EDS Tunnel and Manhole Inspections
 - a. Some traps were found not to be functioning properly; CNE is continuing to repair or replace these traps during this quarter. An annual steam system shutdown is scheduled for July 19, 2015 and the traps that require an outage for replacement will be replaced.
 - b. Structural metal in the vaults and tunnels need to be cleaned and painted.
 - c. Some minor insulation repairs are needed in some vaults.
2. Other EDS Inspections
 - a. Minor items are included in the CNE monthly reports.

C. Emergencies

No emergencies were reported during the quarter.

D. EDS Walk-through

A walkthrough was conducted on July 16, 2015 by Jon B. Belcher, PE. The manholes that were visited include: B5, K, L, M, N1, N2, S6, and 15. Manholes A, B, M and S5 are currently involved in refurbishment projects and have been visited on several occasions in the weeks leading up to this walkthrough; therefore, these manholes are also included in this report. The following comments and observations are a result of these visits.

Manholes A, B and M are within the boundary of the new West Riverfront Park. With the opening of this new park in late July, and recognizing that maintenance work was needed inside these manholes, Thermal Engineering Group decided to have the maintenance work completed prior to the park opening. This work was performed under DES-107.

1. Manhole A
 - a. The work in Manhole A included: 1) abrasive blasting and painting of all structural steel 2) replacement of the entry ladder; and 3) replacement of the entry manway covers and frames.
2. Manhole B
 - a. The work in Manhole B included: 1) abrasive blasting and painting of all structural steel; 2) replacement of the entry ladders; 3) replacement of all of the piping insulation; 4) installation of a recessed sump in the floor; 5) installation of fresh air and exhaust vents; and 6) replacement of the entry manway covers and frames.

3. Manhole M
 - a. The work in Manhole M included: 1) abrasive blasting and painting of all structural steel; 2) replacement of the entry ladders; 3) replacement of some piping insulation; 4) installation of a recessed sump in the floor; 5) installation of a sump pump; 6) installation of fresh air and exhaust vents; and 7) replacement of the entry manway covers and frames.

4. Manhole L
 - a. There was not any appreciable water in this manhole.
 - b. There is some corrosion of the structural components in this manhole. With Phase II of the West Riverfront Park project to include the area surrounding Manhole L, these components should be media blasted and painted while the Phase II work is taking place.
 - c. The entry manways and frames should also be replaced during the Phase II West Riverfront Park project.
 - d. There is some minor insulation damage that should be repaired.

5. Manhole K
 - a. There is some minor insulation damage that should be repaired. This manhole should be put on the insulation repair list with a “minor” rating.
 - b. There is some mud in the floor of the manhole. This mud should be cleaned from the manhole. TEG will coordinate this with CNE.
 - c. There is some corrosion of the structural components in this manhole. This vault should be included in the capital project to repair and prevent structural corrosion with a “moderate” rating.
 - d. The northeast corner of the manhole concrete roof has some cracking around the manway opening. These cracks should be filled with crack filler to avoid damage due to ice this winter. TEG will coordinate this with CNE.
 - e. There is some cracking and spalling of the interior southern wall at the steam penetration that has existed for a number of years. However, pictures from this review were compared with pictures from prior manhole reviews - no significant difference was detected.

6. Manhole N1
 - a. There was no water present in this manhole.
 - b. The CHW branch connections for the Nissan Stadium were never insulated in this manhole. Most of the piping in this manhole is ductile iron; however, there are some steel components and the surface condensing is causing some corrosion. Therefore, the non-insulated piping in this manhole should be insulated. TEG will coordinate with CNE to get this accomplished.

7. Manhole N2
 - a. There was water present in this manhole.
 - b. The CHW isolation valves and a small portion of the piping in this manhole was never insulated. All of the piping in this manhole is ductile iron, and the surface

condensing is causing some slight corrosion. Therefore, the non-insulated piping in this manhole should be insulated. TEG will coordinate with CNE to get this accomplished.

8. Manhole S5

- a. There was water present in this manhole and it required pumping.
- b. Recently, there was a steam leak in this manhole at the trap piping connection to the dripleg. This was repaired during an emergency shutdown of this branch piping. Due to the constant accumulation of groundwater in this manhole there is significant corrosion. In addition, this manhole does not have an entry ladder; this coupled with the piping configuration creates hazards for maintenance personnel. The piping configuration requires re-design. TEG is in the process of designing replacement piping for this manhole.
- c. There are some repairs needed for the concrete walls in this manhole. It is believed that these repairs are cosmetic in nature and if so, TEG will include these repairs in the piping replacement project.

9. Manhole S6

- a. There was no water in the manhole.
- b. Insulation is non-existent. Because of the small amount of piping that could be insulated in this manhole, the small size of the manhole and the absence of any valves or equipment that would require maintenance, it is not practical to insulate this piping.
- c. Because of the lack of serviceable equipment in this manhole, it is not necessary to inspect this manhole on a monthly basis; a yearly inspection is adequate.

10. Manhole B5

- a. A flange leak exists on the basket of the steam strainer. This is a reoccurring leak and has apparently cut into the metal therefore the strainer needs replacement. CNE is coordinating this repair rating.
- b. The condensate piping pressure gauge is leaking and CNE should repair or replace it.

11. Manhole 15

- a. The vent valve on the chilled water piping in this manhole was leaking (dripping). CNE personnel tightened the valve and it slowed the dripping but did not stop it completely. CNE personnel need to install a plug in the end of this valve to prevent this dripping as the water is getting into the pipe insulation.
- b. Two of the four sections of aluminum grating in the sidewalk which provide access to this manhole have bent bars which could cause a hazard to pedestrians. These two grating sections should be replaced. TEG will coordinate this with CNE.

VI. Customer Relations

This section contains descriptions of the marketing efforts made by the DES Team during the quarter. The topics of interactions, meetings and training seminars with the customers are also discussed. There are currently 28 customers, comprised of 41 different buildings, connected to the EDS. Service to each of these buildings continues to prove satisfactory, and the responsiveness to customer issues is handled by CNE in an excellent and professional manner.

A. Marketing

The DES has placed a temporary hold on active marketing at this time due to the uncertainty of the actual steam and chilled water loads on the MCC and due to the higher than normal system temperature differences that may be related to the chilled water chemistry. TEG will continue to monitor this issue and make recommendations to Metro regarding the availability of any additional capacity.

B. Customer Interaction

The CNE customer service representative (CSR) continues to respond to customer issues as they arise. Much of the communication involves minor problems with the customers' heating and cooling systems that are unrelated to DES service. Other more significant issues are summarized herein.

- Customers were notified regarding the steam outage scheduled to occur in July 2015.
- The 4th and Church building discovered a small leak at one of their chilled water pumps and isolated the pump until repairs could be made.
- A steam outage was coordinated in April for several of the State buildings so that repairs could be made. Steam service was restored the following day.
- New chilled water coils were installed at the War Memorial by the State's contractor.
- Several customers have isolated their steam systems for the summer.
- Meetings were held between CNE, TEG and several building owners and/or contractors to discuss the maintenance and control of their heating and cooling systems. These buildings include: Metro Criminal Justice Center, Viridian, 501 Union, City Center, Sheraton, Nashville Hyatt Place, War Memorial/Legislative Plaza and the Symphony.
- Several buildings had communications issues with their metering panels that CNE had to address. In some instances, the panels required rebooting or restarting.
- Other minor issues and customer interactions are noted in the monthly CNE reports.

VII. Recommendations

Based on the review of the Fourth Quarter EGF and EDS operations, the following recommendations are made.

- Corroded structural steel within the vaults and tunnels should be cleaned and painted or replaced; TEG will continue to coordinate this effort with CNE.
- Insulation which is absent, or in disrepair, in the vaults should be addressed through either additional capital projects, which include work within these vaults, or through DES090.
- Some steam traps will be replaced during the July 19, 2015 steam outage. Other steam traps which need repair or replacement should be addressed as soon as possible.
- Additional monitoring is required to determine the effectiveness of the chilled water chemistry.