



Operations Monitoring Report

Second Quarter FY13

Prepared by:

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I. Executive Summary

A review of the fiscal year 2013 (FY13) Second 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 2013, CNE has satisfactorily met all of the contract obligations to Metro and has had no contract violations.

For the Second Quarter FY13, the chilled water sales increased 8.6% over the previous Second Quarter (FY12). The Second Quarter FY13 saw a marked decrease in cooling degree days from the previous Second Quarter. The peak chilled water demand for the current quarter was 11,322 tons, which is 3.8% higher than the previous Second Quarter.

Steam sendout for the current quarter increased by approximately 28.3% over the previous Second Quarter, but only a marginal increase in heating degree days is noted. Likewise, steam sales also increased by approximately 32.2% over the previous Second Quarter. Steam system losses, as a percentage of sendout, decreased but an overall increase in losses of approximately 3% over the previous Second Quarter are noted. The peak steam demand for the current quarter was 111,906 pounds per hour, which represents an approximate 12.5% increase from the previous Second Quarter.

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 considerably lower than the guaranteed levels but was slightly higher than the value from the previous Second Quarter. The steam plant electric consumption increased approximately 16.7% over the previous Second Quarter. The steam plant fuel efficiency has increased approximately 3% from the previous Second Quarter due in part to a significant increase in the amount of condensate return. The total water consumption for the steam and chilled water plants increased approximately 8.6% from the previous Second Quarter marked by a 3.3% increase in the EDS make-up for the chilled water system and a 3.3% decrease in the steam plant usage.

Work continued on DES Capital and Repair & Improvement Projects during the Second Quarter of FY13. There were no projects closed during the Second Quarter FY13. Construction was largely completed on the new service connection to the Nashville Hyatt (DES-098) during the quarter, but the building metering system remains to be installed. Repair and Improvements to the EDS continue as scheduled.

The current fiscal year system operating costs to date are \$8,771,676. This value represents approximately 44.8% of the total budgeted operating cost for FY13. The customer revenues from the sales of steam and chilled water for FY13 (to date) are \$8,478,191 which is approximately 49.1% 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 FY13 is \$1,157,850 (50% of budget). However, the actual MFA required cannot be accurately calculated due to the outstanding invoices.

Table of Contents

Section	Description	Page
I.	Executive Summary	i
II.	Energy Distribution System Sales and Performance	1
	A. Chilled Water	1
	1. Sales and Sendout	1
	2. Losses.....	2
	3. Performance	3
	B. Steam.....	4
	1. Sales and Sendout	4
	2. Losses.....	6
	3. Performance	6
	C. Contract Guarantee Performance	8
	D. Operating Costs.....	10
III.	EGF Operations	12
	A. Reliability.....	12
	B. Efficiency	12
	C. Environment, Health and Safety	13
	D. Personnel.....	13
	E. Training.....	13
	F. Water Treatment	13
	G. Maintenance and EGF Repairs	14
	H. EGF Walk-through.....	14
IV.	Capital Projects	14
	A. Second Quarter FY13 Open Projects	15
	B. Second Quarter FY13 Closed Projects	16
	C. Capital Projects Budget.....	16
V.	Energy Distribution System Repair, Improvements, PM and Emergencies....	17
	A. Repairs and Improvements	17
	B. Preventive Maintenance.....	18
	C. Emergencies.....	19
	D. EDS Walk-through.....	19
VI.	Customer Relations	19
	A. Marketing.....	19
	B. Customer Interaction.....	19
VII.	Recommendations.....	20

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 Second Quarter chilled water sales is shown in Figure 1. This data reflects an 8.6% increase in sales for the current quarter over the same quarter of the previous fiscal year. The quarter also experienced a marked increase in the number of cooling degree days.

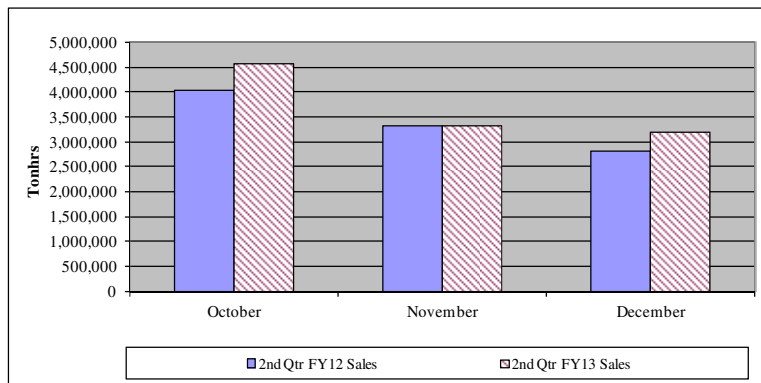


Figure 1. Second Quarter FY13 Sales Comparison

The peak chilled water demand for the current quarter was 11,322 tons. This peak demand is 3.8% higher than in the previous Second Quarter. This high peak demand can be attributed, in part, to the MCCC taking service this fiscal year.

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.

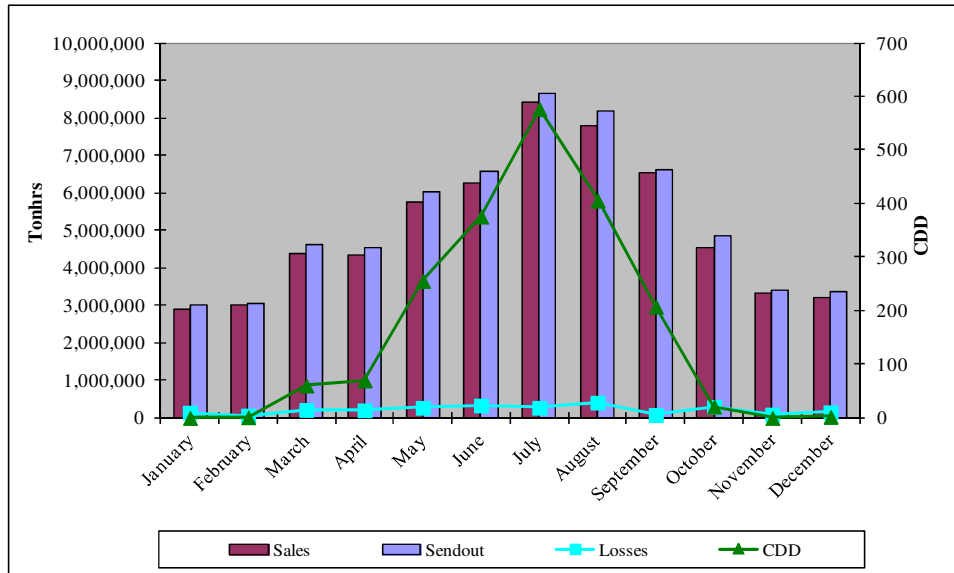


Figure 2. Chilled Water Sales, Sendout, Losses and CDD for the Previous Twelve Months

2. Losses

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

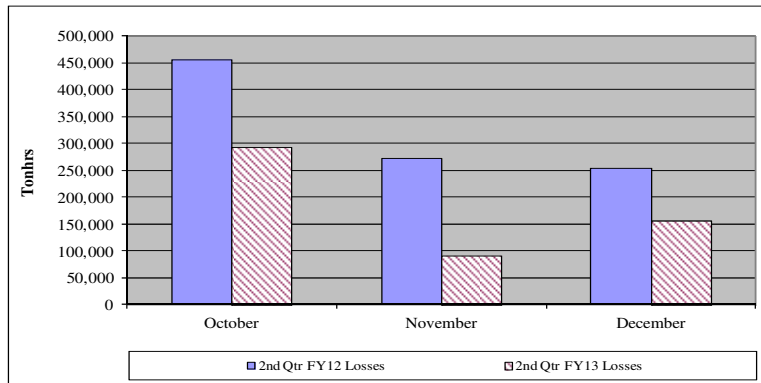


Figure 3. Chilled Water System Loss Comparison for the Second Quarter FY13

The EDS make-up increased by approximately 3.3% over the previous Second Quarter. However, the total EDS water usage represents only 10.4% of the total EGF water usage for the quarter. The total energy losses have decreased by approximately 45% over the previous Second Quarter due to improvements in the EGF sendout metering equipment and recent repairs made to the EDS. The make-up to the cooling towers increased by approximately 11.9% (due to an increase in

chilled water sales and ambient relative humidity). The number of cycles of concentration in the condensing water circuit experienced a 23% decrease during the current Second Quarter, which appears to be due in part to a decrease in the hardness of the city water used for make-up. The overall city water make-up comparison for the chilled water system is shown in Figure 4.

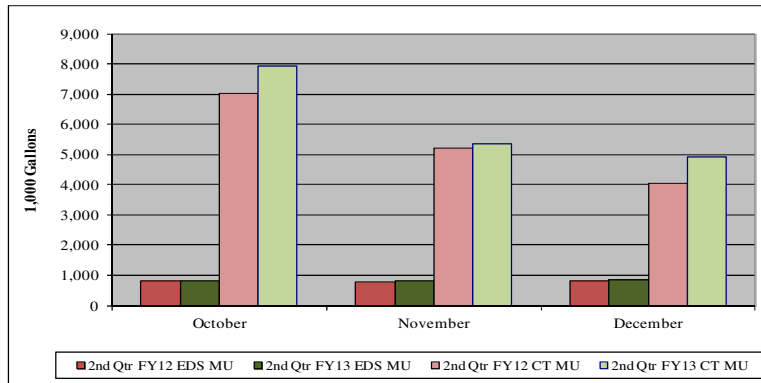


Figure 4. Chilled Water System City Water Usage Comparison

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.

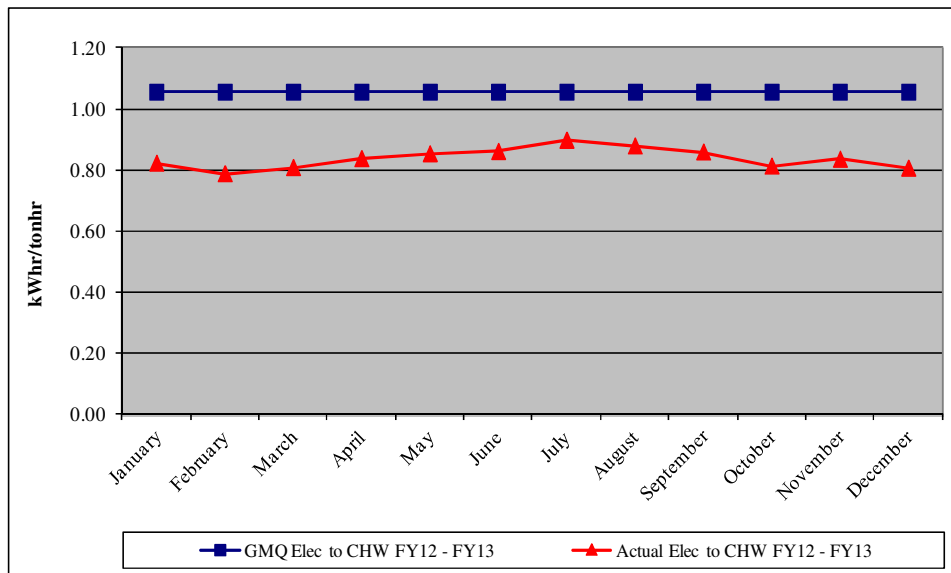


Figure 5. Chiller Plant Electric Performance Guarantee Comparison for the Previous Twelve Months

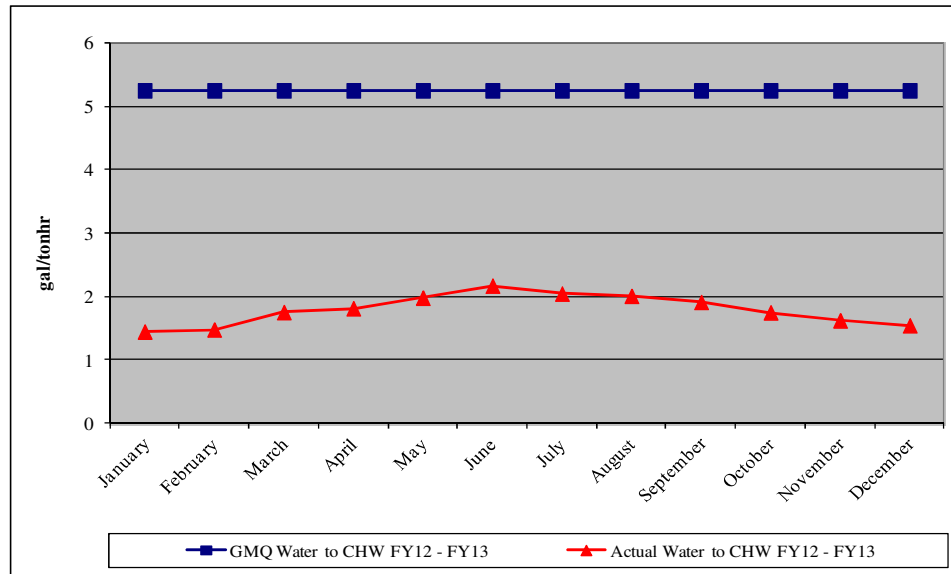


Figure 6. Chiller Plant Water Consumption Performance Guarantee Comparison for the Previous Twelve Months

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. The chiller plant electric usage for the current quarter increased approximately 9.1% over the Second Quarter for FY12. The actual electric conversion factor increased 0.4% in the quarter.

The actual chilled water plant water conversion factor increased approximately 2% over the previous Second Quarter. The total consumption of city water for the chiller plant for the current quarter is approximately 11% higher than that for the previous Second Quarter.

B. Steam

1. Sales and Sendout

The steam sendout increased by approximately 28.3% over the previous Second Quarter (FY12), and the sales increased by approximately 32.3%. The steam system losses decreased approximately 20% relative to sendout. The number of heating degree days have increased by 2.7% over the previous Second Quarter. The significant increase in steam sales is attributed to the new service to the Music City Convention Center. A comparison for the Second Quarter steam sales is shown in Figure 7.

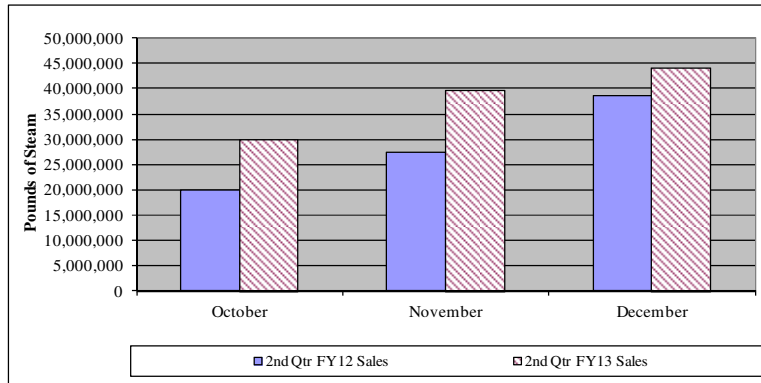


Figure 7. Steam Sales Comparison for the Second Quarter FY13

The peak steam demand for the current quarter is 111,906 pph, which reflects an approximate 12.5% increase in the peak steam production over the previous Second Quarter. This high peak demand is due, in part, to the increase in steam demand at the new Music City Convention Center.

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.

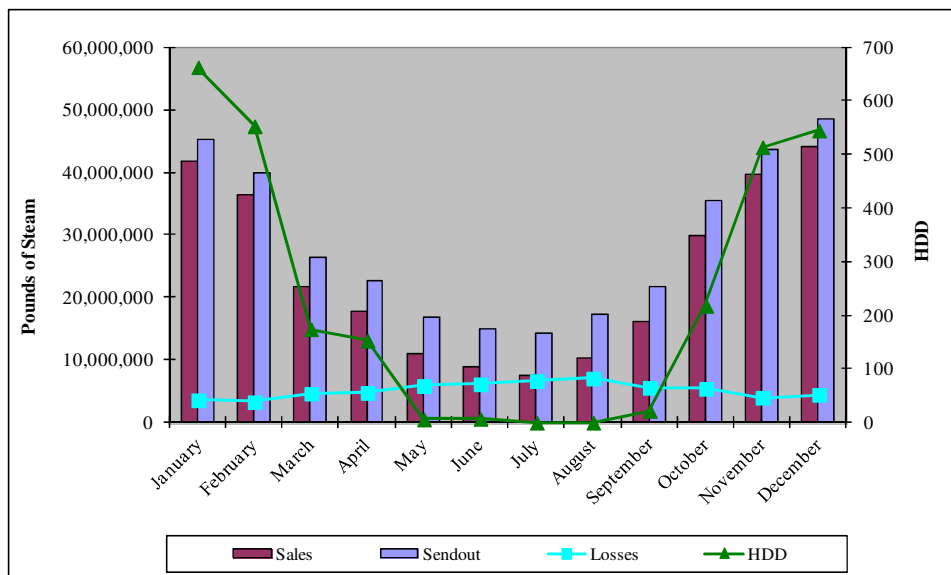


Figure 8. Steam Sales, Sendout, Losses and HDD for the Previous Twelve Months

2. Losses

A comparison of the total steam mass losses in the EDS for the Second 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.

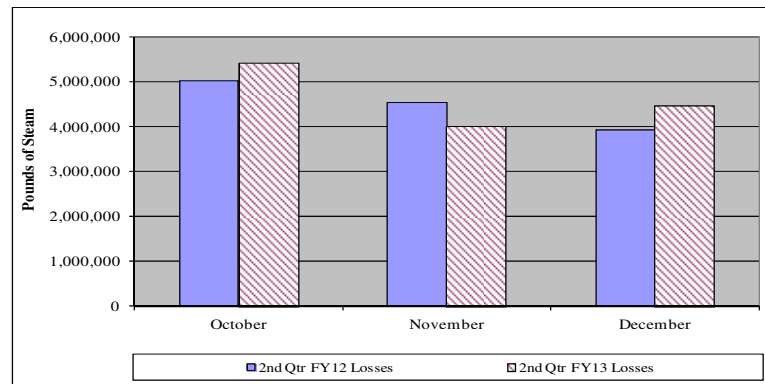


Figure 9. Second Quarter FY13 Steam System Losses

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 Second Quarter data in Figure 10.

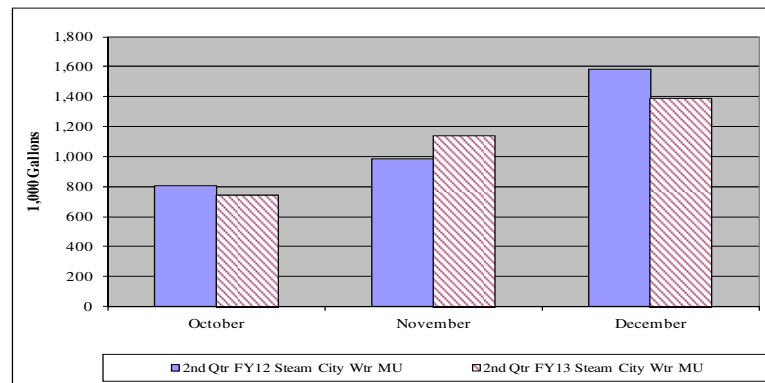


Figure 10. Second Quarter FY13 Steam System City Water Make-up Comparison

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.

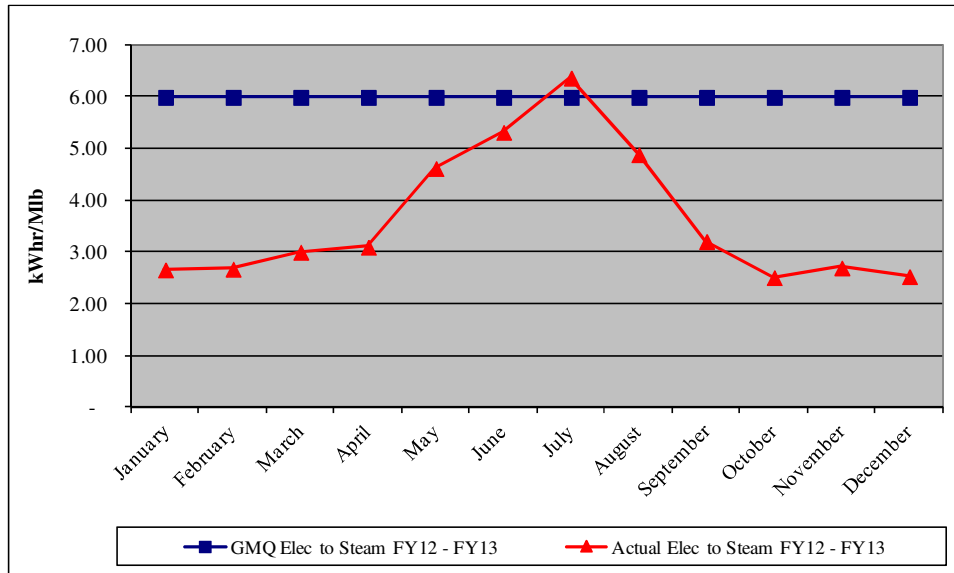


Figure 11. Steam Plant Electric Performance Guarantee for the Previous Twelve Months

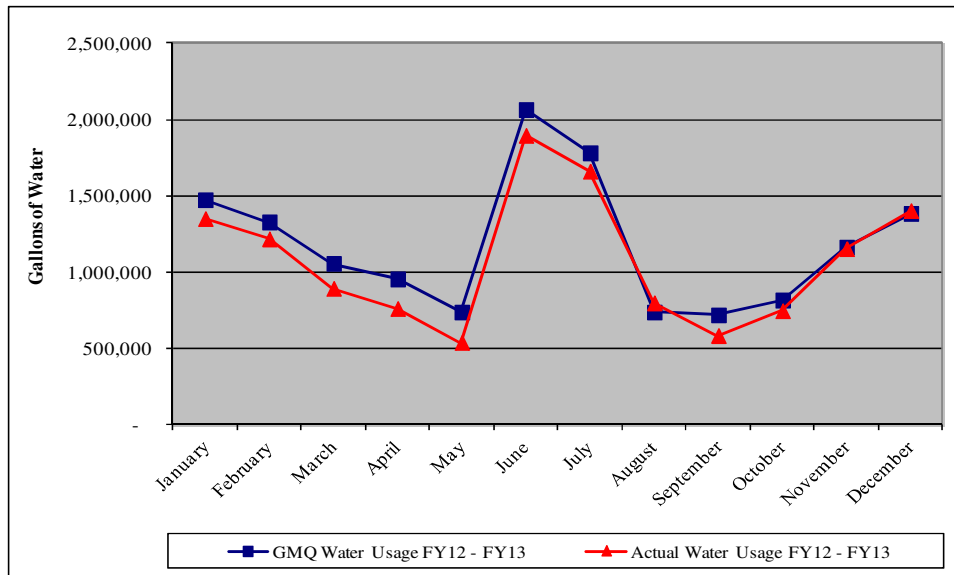


Figure 12. Steam Plant Water Performance Guarantee for the Previous Twelve Months

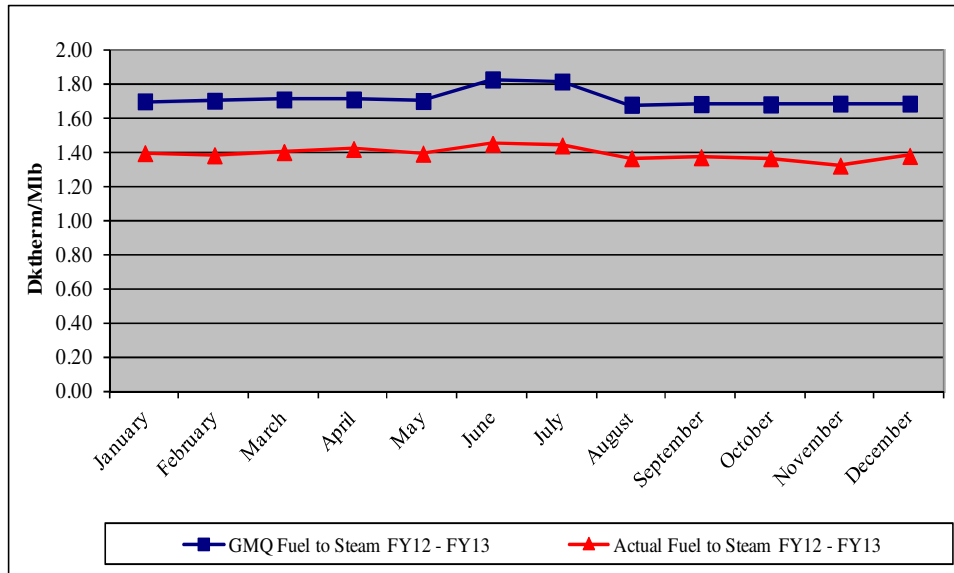


Figure 13. Steam Plant Fuel Performance Guarantee for the Previous Twelve Months

The current quarter experienced a 16.7% increase in the steam plant electric consumption while experiencing an 11.7% decrease in the electric conversion factor (due to an increase in steam sales). The water consumption for the steam plant decreased 3.3% this quarter as compared to the previous Second 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 increased slightly for the current quarter due to an increase in the amount and temperature of the condensate return.

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 Second Quarter comparisons of the Guaranteed Maximum Quantities (GMQ) of the criteria commodities (fuel, water and electricity).

Table 1. Second Quarter FY13 Production, Sales and Consumption Summary

Item	Unit	Second Quarter FY13	Second Quarter FY12	*Percent Difference
	days	92	92	0.00%
Total Electric Use	kWhrs	9,331,185	8,538,728	9.28%
Chilled Water	kWhrs	9,036,298	8,286,095	9.05%
Steam	kWhrs	294,887	252,633	16.73%
Total Water Use	kgal	23,999	22,090	8.64%
Total Chilled Water	kgal	20,731	18,712	10.79%
EDS Make-up	kgal	2,505	2,424	3.34%
Cooling Towers	kgal	18,226	16,288	11.90%
Calc CT Evaporation	kgal	15,222	13,996	8.76%
CT Blowdown	kgal	3,004	2,292	31.06%
Calc # Cycles		5.07	6.11	-17.02%
Steam	kgal	3,268	3,378	-3.26%
Total Fuel Use	mmBTU	172,958	139,192	24.26%
Natural Gas	mmBTU	172,875	139,135	24.25%
Propane	mmBTU	83	57	45.61%
Condensate Return	kgal	12,734	8,965	42.04%
	lbs	103,857,409	73,117,195	42.04%
Avg Temp	°F	165.7	162.0	2.26%
Sendout				
Chilled Water	tonhrs	11,596,088	11,156,800	3.94%
Steam	lbs	127,702,000	99,574,000	28.25%
Peak CHW Demand	tons	11,322	10,909	3.79%
Peak Steam Demand	lb/hr	111,906	99,438	12.54%
CHW LF		46.39%	46.32%	0.15%
Steam LF		51.68%	45.35%	13.96%
Sales				
Chilled Water	tonhrs	11,056,195	10,177,203	8.64%
Steam	lbs	113,846,633	86,098,466	32.23%
Losses				
Chilled Water	tonhrs	539,893	979,597	-44.89%
Steam	lbs	13,855,367	13,475,534	2.82%
		10.85%	13.53%	-19.83%
Degree Days				
CDD		23	14	64.29%
HDD		1,277	1,244	2.65%

*positive percent difference values imply an increase from FY12 to FY13

Table 2. Second Quarter FY13 Performance Guarantee Comparison for Steam and Chilled Water

GMQ Calculations	Unit	Second Quarter FY13	Second Quarter FY12	*Percent Difference
Steam				
GMQ Elec Conversion	kWhr/Mlb	6.00	6.00	
Electric Conversion	kWhr/Mlb	2.59	2.93	-11.72%
GMQ Plant Efficiency	Dth/Mlb	1.683	1.700	
Plant Efficiency	Dth/Mlb	1.354	1.398	-3.11%
Actual %CR		81.33%	73.43%	10.76%
Avg CR Temp	°F	166	162	2.26%
GMQ Water Conversion	gal	3,362,161	3,730,491	
Water Conversion	gal	3,300,680	3,411,780	-3.26%
Chilled Water				
GMQ Elec Conversion	kWhr/tonhr	1.055	1.055	
Electric Conversion	kWhr/tonhr	0.817	0.814	0.38%
GMQ Water Conversion	gal/tonhr	5.25	5.25	
Water Conversion	gal/tonhr	1.88	1.84	1.98%

*positive percent difference values imply an increase from FY12 to FY13

D. Operating Costs

The operating costs for the DES include the management fee to CNE, debt service payments on the bonds and engineering and administration costs. 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 FY13 to date are \$8,771,676. This value represents approximately 44.8% of the total budgeted operating cost for FY13 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 First 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 FY13 are \$8,478,191 which is approximately 49.1% of the budgeted amount.

The MFA transferred to date is \$1,157,850 (50% 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	FY13 Budget	First Quarter Expenses	Second Quarter Expenses	Third Quarter Expenses	Fourth Quarter Expenses	Total Spending to Date	% of Budget
Operating Management Fee							
FOC: Basic	\$ 4,190,190	\$ 1,045,307.76	\$ 1,045,307.76	\$ -	\$ -	\$ 2,090,615.52	49.89%
9th Chiller	\$ 39,300	\$ 9,794.76	\$ 9,794.76	\$ -	\$ -	\$ 19,589.52	49.85%
C/O 6A	\$ 77,900	\$ 19,337.76	\$ 19,337.76	\$ -	\$ -	\$ 38,675.52	49.65%
C/O 6B	\$ 68,200	\$ 16,929.33	\$ 16,929.33	\$ -	\$ -	\$ 33,858.66	49.65%
C/O 7	\$ 25,510	\$ 6,377.73	\$ 6,377.73	\$ -	\$ -	\$ 12,755.46	50.00%
Pass-thru Charges: Chemical Treatment	\$ 217,600	\$ 25,210.68	\$ 25,232.10	\$ -	\$ -	\$ 50,442.78	23.18%
Insurance	\$ 29,400	\$ -	\$ -	\$ -	\$ -	\$ -	0.00%
Marketing: CES Sales Activity	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	n.a.
Incentive Payments	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	n.a.
FEA: Steam	\$ -	\$ 13,874.40	\$ 41,592.65	\$ -	\$ -	\$ 55,467.05	n.a.
Chilled Water	\$ -	\$ 153,376.00	\$ 80,722.58	\$ -	\$ -	\$ 234,098.58	n.a.
Misc: Metro Credit	\$ -	\$ (217,556.62)	\$ (118,721.22)	\$ -	\$ -	\$ (336,277.84)	n.a.
ARFA	\$ -	\$ 15,181.47	\$ 15,181.47	\$ -	\$ -	\$ 30,362.94	n.a.
Deferral	\$ -	\$ -	\$ (58,460.93)	\$ -	\$ -	\$ (58,460.93)	n.a.
Subtotal - Man Fee =	\$ 4,648,100	\$ 1,087,833	\$ 1,083,294	\$ -	\$ -	\$ 2,171,127	46.71%
Reimbursed Management Fee + Chem Treatment		\$ 1,256,659.24	\$ 838,037.24	\$ -	\$ -	\$ 2,094,696.48	0.00%
Metro Costs							
Pass-thru Charges: Engineering	\$ 27,800	\$ 2,039.36	\$ 613.70	\$ -	\$ -	\$ 2,653.06	9.54%
EDS R&I Transfers	\$ 262,200	\$ 65,550.00	\$ 65,550.00	\$ -	\$ -	\$ 131,100.00	50.00%
Metro Marketing	\$ 16,000	\$ 292.50	\$ -	\$ -	\$ -	\$ 292.50	1.83%
Project Administration	\$ 32,400	\$ -	\$ -	\$ -	\$ -	\$ -	0.00%
Metro Incremental Cost	\$ 513,000	\$ 124,749.83	\$ 84,418.80	\$ -	\$ -	\$ 209,168.63	40.77%
Utility Costs: Water/Sewer	\$ 616,500	\$ 200,346.34	\$ 103,479.18	\$ -	\$ -	\$ 303,825.52	49.28%
EDS Water/Sewer	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	n.a.
EDS Electricity	\$ -	\$ 17,210.28	\$ 15,242.04	\$ -	\$ -	\$ 32,452.32	n.a.
Electricity	\$ 5,673,500	\$ 2,176,472.60	\$ 805,473.84	\$ -	\$ -	\$ 2,981,946.44	52.56%
Natural Gas Consultant	\$ 95,500	\$ 4,612.50	\$ 1,950.00	\$ -	\$ -	\$ 6,562.50	6.87%
Natural Gas Transport	\$ -	\$ 38,620.31	\$ 68,441.69	\$ -	\$ -	\$ 107,062.00	n.a.
Natural Gas Fuel	\$ 3,089,600	\$ 242,838.82	\$ 656,411.33	\$ -	\$ -	\$ 899,250.15	29.11%
Propane	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	n.a.
Subtotal - Metro Costs =	\$ 10,326,500	\$ 2,872,733	\$ 1,801,581	\$ -	\$ -	\$ 4,674,313	45.27%
Subtotal - Operations =	\$ 14,974,600	\$ 3,960,566	\$ 2,884,875	\$ -	\$ -	\$ 6,845,440	45.71%
Debt Service							
2002 Bonds	\$ 3,719,778	\$ 917,091.80	\$ 532,916.04	\$ -	\$ -	\$ 1,450,007.84	38.98%
2005 Bonds	\$ 515,477	\$ 220,116.37	\$ 271,934.58	\$ -	\$ -	\$ 492,050.95	95.46%
2007 Bonds	\$ 221,400	\$ -	\$ -	\$ -	\$ -	\$ -	0.00%
2008 Bonds	\$ 219,900	\$ -	\$ -	\$ -	\$ -	\$ -	0.00%
2010 Bonds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	n.a.
Interest Revenue	\$ (71,700)	\$ (10,745.32)	\$ (5,077.50)	\$ -	\$ -	\$ (15,822.82)	22.07%
MIP	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	n.a.
Oper. Reserve Fund	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	n.a.
Subtotal - Capital =	\$ 4,604,855	\$ 1,126,463	\$ 799,773	\$ -	\$ -	\$ 1,926,236	41.83%
Total =	\$ 19,579,455	\$ 5,087,029	\$ 3,684,648	\$ -	\$ -	\$ 8,771,676	44.80%
Customer Revenues							
Taxes Collected		\$ 89,714.59	\$ 68,916.32	\$ -	\$ -	\$ 158,630.91	n.a.
Taxes Paid		\$ 91,566.00	\$ 46,692.00	\$ -	\$ -	\$ 138,258.00	n.a.
Penalty Revenues/Credits		\$ (81,229.72)	\$ (83,826.72)	\$ -	\$ -	\$ (165,056.44)	n.a.
Energy Revenues Collected		\$ 4,864,842.59	\$ 3,758,032.12	\$ -	\$ -	\$ 8,622,874.71	n.a.
Revenues =	\$ 17,263,800	\$ 4,781,761.46	\$ 3,696,429.72	\$ -	\$ -	\$ 8,478,191.18	49.11%
Metro Funding Amount =	\$ 2,315,655	\$ 305,267	\$ (11,782)	\$ -	\$ -	\$ 293,485	12.67%

The DES serves 28 customers and 41 buildings in downtown Nashville, including the new Music City Convention Center (MCCC) and Nashville Hyatt Place (not yet taking service). 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. For FY13, the MCCC is considered a Metro owned building even though the general contractor is paying for temporary services. 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	\$ 2,167,141	11,230,261	\$ 0.1930	\$ 616,741	33,897	\$ 18.1946
State Government	\$ 1,848,552	9,061,592	\$ 0.2040	\$ 876,562	43,925	\$ 19.9557
Metro Government	\$ 2,100,829	13,475,683	\$ 0.1559	\$ 1,013,050	70,107	\$ 14.4500
New Customers	\$ 745,586	3,919,942	\$ 0.1902	\$ 113,292	7,181	\$ 15.7762
Total	\$ 6,116,522	33,767,536	\$ 0.1811	\$ 2,506,353	147,930	\$ 16.9429

Total Revenue	\$	8,622,875
True-up and Adjustments (Net)	\$	(144,684)
Net Revenue	\$	8,478,191

III. EGF Operations

Items relating to the facility operations presented herein are derived from the monthly reports issued by CNE for FY13. 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.

- A scheduled chilled water outage occurred on December 16 to make repairs on several items within the EGF.
- A boiler tripped in October due to customer load swings.
- A chiller tripped in November following a trip on a condensing water pump. The chiller was immediately restarted.
- Two boiler trips occurred in November. One occurred while an operator was completing a blowing down procedure. The other occurred due to a system malfunction. The latter was resolved within 90 minutes.
- 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

No environmental violations were reported during the quarter.

Monthly safety meetings were held on Safe Work Practices, Storm Water Pollution Prevention Plan, Spill Prevention Control and Countermeasures Plan and Steam System Safety.

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.

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 81% of the steam sendout during the quarter.
 - The steam system make-up decreased approximately 3% even though the steam sendout increased 28% over the previous Second 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
 - The control of the system chemistry continues to be excellent.

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.

- Cooling tower fan belts were replaced on cells #6 and #15.
- Repairs were made to chillers #6B and #9B by Trane.
- A new back-flow preventer was installed on the city water line.
- The #3 softener controls were rebuilt.
- The new installation of computer hardware for CNE personnel began in December.
- 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 January 8, 2013, 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 empty boxes and other items are still being stored in the electric room. These items need to be removed.
- The riser pipes in several of the cooling towers remain in need of repair.
- The insulation on chilled water pump #3 has been removed while a leak was repaired on the pump. The missing and damaged insulation is in need of repair.
- A portion of the wooden platform at the expansion tank #2 remains and should be removed as soon as possible.
- Other minor items remaining include:
 - Cobwebs have reformed in various places throughout the plant and on MCCC 4 located near the boilers; these should be removed.

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. Second Quarter FY13 Open Projects

The following projects remained open at the end of the Second Quarter FY13.

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.

2. DES077 – Music City Center Service Connection

All aspects of the construction of this project are complete except for the procurement of access equipment for the new metering station. Contract negotiations between the DES and the MCCC personnel continued through the First Quarter. The general contractor, Bell/Clark, is currently paying for the steam and chilled water services from DES used during construction.

3. DES080 – Misc. Manhole & Tunnel Safety Repairs

As a result of the ongoing review of the manholes and tunnels, some safety items have been noted that require attention. This project was established to address these items.

The remaining additional items were completed on this project; however, review of these items will not occur until the Third Quarter FY13. Therefore, this project will remain open, and it is anticipated that this project will be closed during the Third Quarter FY13.

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

Work associated with this project will be ongoing as required.

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

Although the thermal storage aspect of this project is completed, additional investigation is currently being performed by TEG for the conversion of the current billing practices to a time of use basis matching that of the electric invoice from NES.

6. DES 094 – Molloy Street Exploratory Dig

All of the work associated with this project has been completed. Cost substantiation documentation was received and reviewed during the First Quarter

FY13. The official Close-Out Documents will be signed and submitted during the Second Quarter FY13.

7. DES 095 – Manhole B2 Water Infiltration Remediation

Groundwater infiltration into Manhole B2 has increased over the last year. Metro Water & Sewer has been contacted and they have discovered some small water leaks in the area and recently repaired a rather large leak a few blocks south of this manhole. This repair resulted in a decline in the water infiltration into Manhole B2. A contractor with expertise in water infiltration into underground structures was retained to seal this manhole. This work has included sealing the wall penetrations and the contractor has re-visited this manhole several times to do additional sealing during the Second Quarter FY13. A second step would be to coat/seal the interior walls of the manhole; however it has been decided to wait and make sure that the penetration repairs are successful prior to doing this. It is expected that this project will be in close-out during the Third Quarter FY13.

8. DES 098 – Nashville Hyatt Place Customer Connection

The service connection to the new hotel was completed during the quarter with a final walk-through on December 5. The installation of the new metering equipment is subject to the building contractor's schedule and has not been completed to date. The completion of the meter equipment installation is anticipated during the Third Quarter FY13 with start-up of the in-building systems not occurring until the Fourth Quarter FY13 or early in FY14.

B. Second Quarter FY13 Closed Projects

No projects were closed during the Second Quarter FY13.

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	FY12 Spending to Date	Total Spent to Date	Remaining Balance
2005B Bond Projects					
	Total Closed Projects	\$ 7,320,301	\$ -	\$ 7,840,616	\$ (520,315)
	Project Development	\$ 866,199	\$ -	\$ 293,328	\$ 520,315
	Total 2005B Bond	\$ 8,186,500	\$ -	\$ 8,186,500	\$ (0)
2010 Bond Projects					
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
DES076	MH S4A Rehabilitation	\$ 233,000	\$ -	\$ 209,117	\$ 23,883
DES091	NES Time of Use Electric Rate	\$ 100,000	\$ 5,701	\$ 55,164	\$ 44,836
	Total Closed Projects	\$ 1,763,304	\$ -	\$ 1,605,534	\$ 157,770
	Metro Project Admin	\$ -	\$ -	\$ -	\$ -
	Project Man, Development, etc	\$ 262,696	\$ -	\$ -	\$ 262,696
	Total 2010 Bond	\$ 2,410,000	\$ 5,701	\$ 1,881,923	\$ 528,077
MCCC Construction Fund					
DES077	Music City Convention Center Design/Const	\$ 545,900	\$ 36,828	\$ 447,610	\$ 98,290
DES077	MCCC Metering	\$ 121,870	\$ -	\$ 120,670	\$ 1,200
DES077	Bell/Clark Construction Fund	\$ 4,697,860	\$ 40,729	\$ 4,104,068	\$ 593,792
DES097	EGF Cooling Tower Test #2	\$ 30,000	\$ 8,906	\$ 10,328	\$ 19,672
DES098	Nashville Hyatt Service Connection	\$ 300,000	\$ 33,701	\$ 46,313	\$ 253,687
	Sub-Total Closed Projects	\$ 656,156	\$ -	\$ 655,197	\$ 959
	Metro Project Admin	\$ -	\$ -	\$ -	\$ -
	Project Man, Development, etc	\$ 2,148,214	\$ -	\$ -	\$ 2,148,214
	Total MCCC Construction Fund	\$ 8,500,000	\$ 120,165	\$ 5,384,186	\$ 3,115,814

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

Several EDS repairs and improvements were made during the Second 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 \$32,465. Table 6 provides a summary of the FY13 expenditures and revenues to date associated with the R&I budget.

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 FY12						\$ -	\$ 428,758.17	\$ 428,758.17
DES 090B S4A Pipe In	6/30/2012	N/A	CE	\$ 2,547.75				
DES 080 Misc Safety	6/30/2012	N/A	CE	\$ 72,280.00				
DES 090A Misc EDS	6/30/2012	N/A	CE	\$ 90,161.25				
DES 093A Manhole 6 S	6/30/2012	N/A	CE	\$ 38,407.20				
May 2012 EDS Repair & Escrow	6/30/2012	N/A	CE	\$ 8,485.33				
Overage Correction	8/2/2012	N/A	N/A	\$ (105.00)				
DES-080 MISC TUNNEL	8/3/2012	N/A	TEG	\$ 144.40				
DES-093 MH 6 REHAB	8/3/2012	N/A	TEG	\$ 492.61				
DES-094 MOLLOY HOT SPOT	8/3/2012	N/A	TEG	\$ 674.25				
DES-096 MH B4 VALVE	8/3/2012	N/A	TEG	\$ 695.35				
DES-099 EDS STEAM SHUTDOWN	8/3/2012	N/A	TEG	\$ 960.30				
DES 087/ Manhole D E	8/14/2012	N/A	CE	\$ 29,488.52				
June 2012 EDS Repair	7/1/2012	N/A	CE	\$ 12,303.61				
Misc tunnel Repair D	9/10/2012	N/A	TEG	\$ 673.11				
DES-094 Molloy Hot Spot DES	9/10/2012	N/A	TEG	\$ 132.24				
DES-096 MH B4 Valve Replacement	9/10/2012	N/A	TEG	\$ 220.65				
DES-099 EDS Steam Shutdown D	9/10/2012	N/A	TEG	\$ 848.60				
DES-096 Manhole B4 S	9/24/2012	N/A	CNE	\$ 15,092.46				
Sub-Total First Quarter				\$ 273,502.63	\$ 65,550.00	\$ -	\$ (207,952.63)	\$ (207,952.63)
DES-094 Molly Hot Sp	10/09/12	N/A	TEG	\$ 1,299.60				
DES R&I Sept	10/09/12	N/A	TEG	\$ 324.90				
EDS R&I July	10/09/12	N/A	CNE	\$ 6,354.96				
EDS R&I Aug	10/09/12	1585	CNE	\$ 4,690.15				
DES-080 Misc Tunnel/	11/09/12	1592	TEG	\$ 1,023.60				
DES-094 Molloy Hot S	11/09/12	1592	TEG	\$ 614.85				
EDS R&I Sept	11/06/12	1596	CNE	\$ 1,996.18				
DES-099 Stean Outage	11/06/12	1598	CNE	\$ 38,663.65				
DES-094 Molloy St Ex	11/06/12	1599	CNE	\$ 199,459.50				
DES-076 MH-S4A Transfer	11/30/12	-	-	\$ 118.50				
DES-076 MH-S4A Transfer	11/30/12	-	-	\$ 12.76				
DES-090 MH Tunnel Repair	12/17/12	-	TEG	\$ 600.91				
EDS R & I 10/12	12/21/12	-	CNE	\$ 2,772.35				
EMR 12-002 Manhole 1	12/21/12	-	CNE	\$ 17,808.69				
Sub-Total Second Quarter				\$ 275,740.60	\$ 65,550.00	\$ -	\$ (210,190.60)	\$ (210,190.60)
Sub-Total Third Quarter				\$ -	\$ 21,850.00	\$ -	\$ 21,850.00	\$ 21,850.00
Sub-Total Fourth Quarter				\$ -	\$ -	\$ -	\$ -	\$ -
FY13 Year to Date				\$ 549,243.23	\$ 152,950.00	\$ -	\$ 32,464.94	\$ 32,464.94

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. A more detailed review of the condition of the EDS is presented in sub-section D of this report, "EDS Walk-through."

1. EDS Tunnel and Manhole Inspections
 - a. The water leaking into MH-B2 has significantly decreased due to repairs made this fiscal year.
 - b. Faulty steam traps were replaced.
 - c. Minor repairs were made during the quarter.
2. State Tunnel Inspections
 - a. CNE continues to monitor some minor steam and condensate leaks within the tunnel.
 - b. Other minor repairs were made during the quarter.
3. Other EDS Inspections
 - a. The monthly thermographic analyses revealed no changes in the new hot spots near the James K Polk Building and in the Ryman

Auditorium alley previously reported. The hot spots in Molloy Street remain.

- b. Other minor items are included in the CNE monthly reports.

C. Emergencies

No emergencies were reported during the quarter.

D. EDS Walk-through

Due to the Christmas Holidays and schedule conflicts, the Second Quarter 2013 EDS walkthrough was postponed until the Third Quarter 2013. Therefore, no manholes were reviewed during the Second Quarter FY13.

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, including the Music City Convention Center and Nashville Hyatt Place. 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

TEG and DES continue actively work on the final Customer Service Agreement (CSA) with the MCCC.

TEG is finalizing the CSA between the Nashville Hyatt Place and DES. The majority of the service connection construction was completed during the quarter.

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.

- The CSR coordinated several meetings between the customers, CNE, TEG and the contractors for particular projects that affected the steam, condensate and/or chilled water service to the customer.
- The CSR notified all the customers, and remained in contact with them, during the chilled water outage on December 16. There were no significant customer complaints regarding the outage.

- Several customers requested that their steam and condensate service be restored at their buildings during the quarter so that they could begin using steam for the heating season.
- The State Capitol building is currently under renovation, but the modifications to the HVAC systems were sufficiently completed during the quarter to have their DES service restored.
- CNE provided several customers assistance during the quarter regarding steam and chilled water leaks within buildings. Most of the time when such assistance is provided, it is determined that the leaks are the customers responsibility and are unrelated to the services provided by DES.
- Other minor issues and customer interactions are noted in the monthly CNE reports.

VII. Recommendations

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

- Steam traps noted as not functioning should be repaired or replaced as soon as possible.
- Spalling concrete in the vaults should be repaired. TEG is investigating a repair methodology for some of these repairs.
- Corroded structural steel within the vaults and tunnels should be cleaned and painted or replaced.
- 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.