

# Fiscal Year 2016-2017

# Annual Report

for the





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# **Executive Summary**

On behalf of Constellation NewEnergy, Inc. (CNE), operator of the Metro Nashville District Energy System (DES), I am pleased to present the fourteenth "Annual Report" to the Metropolitan Government of Nashville and Davidson County, Tennessee (Metro).

The DES is made up of two basic parts, the Energy Generation Facility (EGF) and the Energy Distribution System (EDS). This report summarizes activities related to the performance of the DES for the period July 1, 2016 through June 30, 2017.

CNE's fully staffed work force continues to operate and maintain the DES in a manner that produces outstanding results. Both steam and chilled water availability and reliability were greater than 99% and all contractual guarantees were met. There were no reportable or lost time accidents and I am happy to report that CNE's environmental record at this facility is perfect with zero excursions, violations or fines since commercial operations began on December 16, 2003. All verification data, records, reporting requirements and submittals are kept up to date and in order.

In the Repair section of this report, you may notice #1 Boiler experienced several problems throughout the year. These have now been resolved. We recently experienced our first problem with the propane vaporizer. It developed a leak between the burner duct and the glycol reservoir. Plant Maintenance personnel were able to troubleshoot the problem and make the repair. As the equipment ages, it requires more attention.

Under Improvements, you will see that all of the Cooling Towers have been refurbished with the last 3 cells being completed in June 2017. This has been a five year process. The electricity time of use program was implemented at the beginning of this fiscal year. This took a tremendous amount of time and effort to complete and was a significant improvement to the customer billing system.

In addition to routine business activities, CNE employees volunteer and participate in community outreach programs. I am very proud to report CNE's Nashville employees won the Constellation Community Challenge for 2016. During the contest period, our team was awarded \$2,500 to be given to the charity of our choice. This was given to St. Jude's Children's Research Hospital. Our team also logged the most volunteer hours per employee for the year and was awarded another \$5,000 grant. This was quite an accomplishment. This grant was split between St. Jude's and the Tuberous Sclerosis Alliance.

With the enormous amount of growth taking place in Nashville, CNE and the DES team continue to meet with potential new customers, but since the DES is near its capacity Metro's moratorium on the pursuit of new customers is still in effect. Realistically, new buildings directly adjacent to the facility could be provided steam and chilled water using the EGF's current equipment; however, additional piping would be required. The benefits of adding additional capacity is currently being contemplated. At the request of the DES Advisory Board, Metro is currently having a study performed to provide long term options for the system.



On May 31<sup>st</sup> we received the devastating news that Harry Ragsdale had passed away of a massive heart attack. Harry served the Metro District Energy System with great honor and distinction over the last ten years as the DES Project Administrator. He was an invaluable member of the DES team and was highly regarded and respected in the District Energy profession with more than forty-seven years of professional experience. The effects of his passing will be felt by everyone who had the pleasure of knowing and working with him. Dan Coyle, Harry's business partner, has been named the new President of Thermal Engineering Group, Inc. and Harry's successor as the DES Project Administrator.

As we move forward, I would like to thank the Metro DES team and CNE personnel for their commitment toward achieving the past year's objectives. With continued cooperation, communication and teamwork, I believe our success will continue throughout the coming year.

Sincerely,

Tim Hestle Plant/General Manager



# Monthly Operations Report Summary

Constellation NewEnergy, Inc. (CNE) submits a written report to the Metro Nashville District Energy System (DES) team on or about the 10<sup>th</sup> day of each month to convey the operational activities of the prior month. These reports are broken up in to four major sections. The first item included in each report is the Summary. This section gives an overview of the entire report, addresses news, events, and other business activities. The next section is Operations, which includes plant reliability and efficiency data, environmental, health & safety, accidents, personnel, and employee training. The third section of the report lists and discusses all Maintenance activities in and around the Energy Generation Facility (EGF). Items covered in this section include the building and grounds, warranty issues, preventive and predictive maintenance and construction projects. The final section of these reports is about the Energy Distribution System (EDS). Items discussed in this section are customers, sales and marketing, system maintenance and repairs, and distribution system projects.

#### **Operations Summary**

The EGF continued to furnish reliable steam and chilled water service to the DES customers over the past twelve months. There were no scheduled steam or chilled water outages during the year. Some customers requested service interruptions so they could make repairs in their respective buildings and some sections were isolated to make steam and chilled water repairs. With the exception of these, service has been uninterrupted.

The plant is fully staffed with an outstanding work force. There were no reportable or lost time accidents for the year. Training classes were conducted in conjunction with the monthly Safety Meetings. Employees also received training related to plant systems, equipment and corporate programs and requirements. For the thirteenth consecutive year, there were no environmental excursions or violations.

Maintenance activities were performed as scheduled in the EGF and in the EDS. A great deal of planning and coordination go into the project work both in the plant and in the distribution system.

Communications with the DES customers are performed on a routine basis. Any issues they might have are dealt with courteously and expeditiously. According to the annual customer survey, they are satisfied with the services we are providing.

#### News, Events & Other Business

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

- MNDES Customer Electric Time of Use Billing began July 1, 2016.
- The annual water treatment review was held with Nashville Chemical July 15, 2016.
- CNE submitted their 13<sup>th</sup> Annual Report to Metro on July 31, 2016.



- Trane Representatives toured the EGF on August 18, 2016.
- The MNDES Advisory Board met in the EGF Conference room September 1, 2016.
- Members of the American Council of Engineering Companies Senior Executive Institute toured the EGF on September 16, 2016.
- CNE Managers attended the Downtown Partnership Awards Banquet at the Renaissance Hotel September 22, 2016.
- CNE and DES representatives met with the Printers Alley Hotel Development Team on October 13, 2016 regarding a new building they plan to construct and an electrical vault that will be installed near an access shaft to the 4<sup>th</sup> Avenue Tunnel.
- The first quarter review was held with the water treatment vendor on October 21, 2016.
- The MNDES Advisory Board met in the EGF Conference Room on November 17, 2016.
- CNE's Customer Service Representative entertained customers at the Music City Bowl game December 30, 2016.
- A Quarterly Water Treatment Review was held with Nashville Chemical January 11, 2017.
- Trane provided lunch for CNE/NDE employees January 13, 2017. An annual review meeting was held with plant managers immediately afterwards.
- The MNDES Advisory Board met in the EGF Conference room on February 16, 2017.
- Vanderbilt University engineering students toured the EGF on February 23, 2017.
- CNE Managers attended the TN One Call Annual Meeting on April 12, 2017.
- The FY18 Natural Gas Supply contract was executed with CNEG on April 14, 2017.
- CNE Managers met with TARGA, our propane vendor, on April 20, 2017.
- The water treatment quarterly review was held with our chemical vendor on April 21, 2017.
- A tour of the EGF was conducted for 30 members of the local ASHRAE chapter on April 27, 2017.
- The Nashville District Energy System Invitational Golf Tournament took place May 13, 2017 at Indian Hills Golf Course in Murfreesboro, Tennessee. Participants included customers, employees, contractors, vendors and friends. This year marked the tournament's 25<sup>th</sup> Anniversary and was the 14<sup>th</sup> consecutive year it has been put on by Constellation Energy. Everyone had a great time and the event was a tremendous success.
- The Quarterly MNDES Advisory Board Meeting was held at the EGF May 18, 2017.
- CNE's Plant Manager attended the annual Association of Energy Engineers Meeting May 19, 2017.
- The annual MNDES Customer meeting was held in the Downtown Partnership Meeting Room May 25, 2017.
- Harry Ragsdale, President of Thermal Engineering Group and MNDES Contract Administrator passed away May 31, 2017. Dan Coyle was named as his replacement.
- CNE's Plant Manager attended the National Boiler Service annual meeting June 9, 2017 and the John Bouchard & Sons annual meeting June 10, 2017.
- A meeting was held between CNE & TEG to discuss insurance certificates on June 7, 2017.
   A follow up conference call between CNE, TEG and an Exelon Insurance representative was held on June 28, 2017.



- A meeting was held June 21, 2017 to discuss items on the MNDES 14th Year Audit.
- Managers attended the Center Point Energy Workshop in Franklin on June 28-29, 2017.

# **Community Service Activities**

Constellation employees continue to participate in fund raising activities and volunteer for community service projects. CNE's Nashville area employees won the 2016 Constellation Community Challenge. During the contest period our team won \$2,500 which was given to St. Jude's Children's Research Hospital. Our team also had the most volunteer hours per employee for the year and was awarded another \$5,000 grant to be given to the charity of our choice. After a vote, St. Jude's received another \$3,000 and the Tuberous Sclerosis Alliance was given \$2,000. Nashville's Constellation employees are real Tennessee volunteers and we are proud of these accomplishments.

The following are examples of service activities:

• CNE employees and family members participated in the "2016 Walk to End Alzheimer's" on October 15, 2016. This 2 mile walk began and ended at the Music City Walk of Fame Park, across the street from the Country Music Hall of Fame.





• On October 22, 2016 CNE employees and family members met at the Energy Generation Facility to participate in the 4.2 mile "Making Strides Against Breast Cancer – Nashville Walk". It began and ended at Nissan Stadium. With our walk to the stadium from the plant, we logged an extra mile.

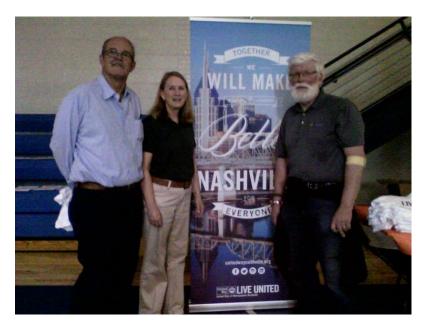


• CNE employees participated in a Hands-on-Nashville – Home Energy Savings Project on November 17, 2016.





• On March 30, 2017, Constellation's Nashville District Energy employees took part in the United Way of Nashville's Reading Days of Action program. 215 volunteers sorted and bagged 4413 donated books, along with activity sheets and notes of encouragement. The bags were distributed to help for pre-school children on their educational pathway.



• On April 6, 2017, Constellation employees worked with Hands-on-Nashville on another Home Energy Savings project.





• On April 13<sup>th</sup>, Constellation employees worked with Hands-on-Nashville on another Home Energy Savings project. CNE volunteers included employees from NDE and our Hendersonville office.



 CNE employees participated in another Hands-on-Nashville Home Energy Savings Project on June 23, 2017. These projects include adding attic insulation, sealing air leaks around doors, windows and electric outlets, installing water saving water faucets and LED light bulbs.





# Plant Performance

#### **Facility Operations**

### Plant Reliability

The EGF continued to provide reliable service to the DES customers. With the exception of uncontrollable circumstances, the guarantees are to maintain 150 psig of export steam pressure leaving the EGF and deliver 43.3 degree chilled water to each customer. The following items describe minor incidents, short in duration, when the EGF experienced an excursion outside parameters of the performance guarantees.

- On July 26, 2016, a feed water control valve malfunction caused #3 Boiler to trip offline due to low water. The Boiler would not re-light so #1 Boiler was placed in service. Steam pressure dropped to a low of 113 psi and was below 150 psi for approximately 105 minutes. CNE I&E personnel have repaired the feedwater control valve.
- On September 21, 2016, operators rotated from #3 Boiler to #4 Boiler. During the process, #4 Boiler tripped. It was immediately restarted, but system pressure was below 150 psi for approximately 60 minutes reaching a low of 96 psi. Three hours later #4 Boiler tripped again. This time #2 Boiler was put on line. System pressure was below 150 psi for approximately 45 minutes reaching a low of 132 psi. The fire eye tube was cleaned and the controller was replaced on #4 Boiler.
- On September 22, 2016, operators swapped from #2 Boiler to #4 Boiler to test repairs. After a few hours, #4 Boiler tripped. It was relit and #2 Boiler was also put on line. This upset caused the system pressure to drop below 150 psi for approximately 60 minutes reaching a low of 119 psi.
- On September 23, 2016, #2 Boiler was stopped for I&E personnel to trouble shoot #4 Boiler. #4 Boiler tripped. It was relit and #2 Boiler was also put on line. This upset caused system pressure to drop below 150 psi for approximately 30 minutes reaching a low of 138 psi.
- On September 24, 2016, #2 Boiler was stopped for I&E personnel to continue testing on #4 Boiler. #4 Boiler tripped again. This time only #2 Boiler was put on line. System pressure dropped below 150 psi for approximately 30 minutes reaching a low of 145 psi.
- On September 30, 2016, a steam leak was discovered on a blank flange near the steam drum on #4 Boiler. When operators tried to swap from #4 Boiler to #3 Boiler, they found the fire eye on #3 was not functioning. #1 & #2 Boilers were put on line. During this swap, system pressure dropped below 150 psi for approximately 45 minutes reaching a low of 139 psi. The fire eye on #3 Boiler has been replaced.



- On October 13, 2016, #4 Boiler tripped due to an issue with the jackshaft on the damper control for inlet air to the boiler. Another Boiler was placed in service, but the pressure was below normal for approximately 45 minutes reaching a low of 124 psi.
- On December 8, 2016, #4 Boiler tripped due to an issue with the flame scanner. The steam pressure was below 150 psi for 60 minutes with a low pressure of 114 psi. Later that same day, #3 Boiler tripped due to a feedwater control valve issue, the steam pressure was below 150 psi for 60 minutes with a low pressure of 123 psi. Both issues were corrected.
- On January 5, 2017, Trane was performing the run inspections on the chillers. Operators were swapping chillers during this process. #3 Chiller was turned off at the panel and was not turned back on. The SE-1 commanded #3 Chiller to start but was unaware it was off at the panel. The chilled water temperature went above 43.3°F for approximately 2 hours with a high of 44°F.
- On February 20, 2017, at approximately 5:15 am, #3 Boiler tripped off-line. The SE-2 attempted to re-start it, but was unsuccessful so he put #1 Boiler on line. This caused the system pressure to go below 150 psi for approximately 1 hour and 15 minutes. The problem with #3 Boiler was found to be with the burner igniter which was repaired the same day.
- On March 30, 2017 at approximately 11:23 p.m., a second boiler was placed online due to load conditions and the steam system pressure was below 150 psi for approximately 45 minutes reaching a low of 147.4 psi.
- On May 23, 2017, The plant lost power due to an issue with an NES Substation. CNE personnel were called in and brought the plant back online within an hour. The steam pressure was below 150 psi for 2 hours and the chilled water was above 43.3°F for 88 minutes.

Constellation is required to report upsets that last longer than thirty minutes. The following table includes every minute the plant was outside the contractual service delivery parameters, whether reportable or not, and not necessarily down. Reliability does not include scheduled outages allowed per the Amended and Restated Management Agreement (ARMA). This year there were no scheduled outages.

	Downtime			
	Scheduled	Unscheduled	Availability	Reliability
Boilers	0 minutes	840 minutes	99.998%	99.998%
Chillers	0 minutes	208 minutes	99.999%	99.999%



## Plant Efficiency

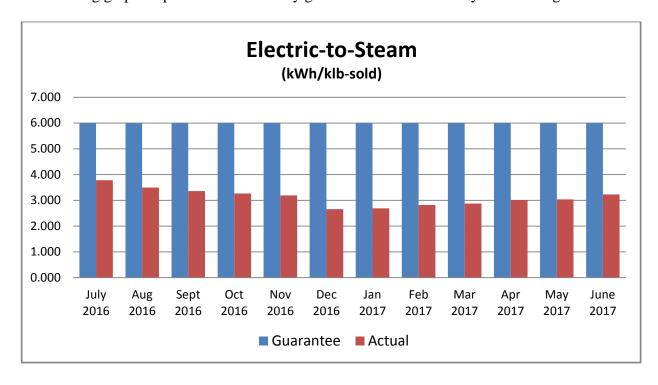
As usual, following the annual boiler inspections at the end of July 2016, two boilers were placed in wet lay-up, one in stand-by, and one de-aerator tank was isolated due to the reduced steam demand during the summer months. One boiler and one de-aerator were left on line. This equipment is rotated monthly. This is done to increase steam efficiency during the cooling season. Stand-by boilers are taken out of wet lay-up and the second DA Tank was put back in service during the month of November in preparation for the heating season.

Constellation submitted the final version of the Metro DES annual reconciliation for FY16-17 on October 16, 2017. The annual reconciliation for this time period consisted of a true-up for chemicals, insurance, engineering and Metro Incremental Administrative costs. For reference, the annual reconciliation is included in Appendix 4 of this report.

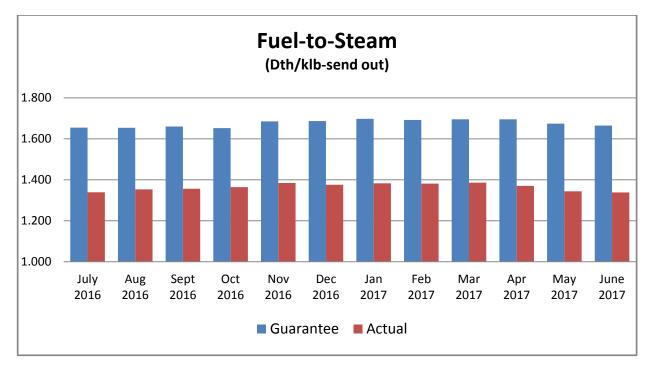
Constellation Energy's efficiency guarantees consist of five key conversion rates:

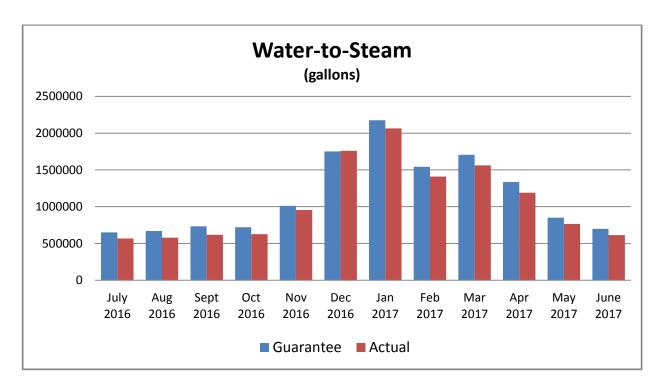
- 1. Electric-to-Steam (kWh per klb-sold)
- 2. Fuel-to-Steam (Dekatherm per klb-send-out)
- 3. Water-to-Steam (gallons)
- 4. Electric-to-Chilled Water (kWh per ton hr-sold)
- 5. Water-to-Chilled Water (gallon per ton hr-sold)

The following graphs represent the efficiency guarantee results from July 2016 through June 2017:

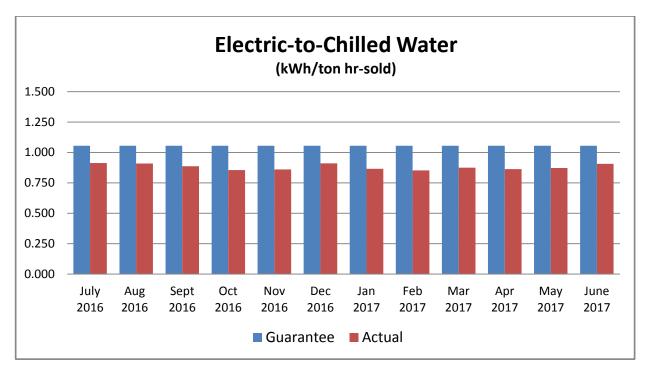


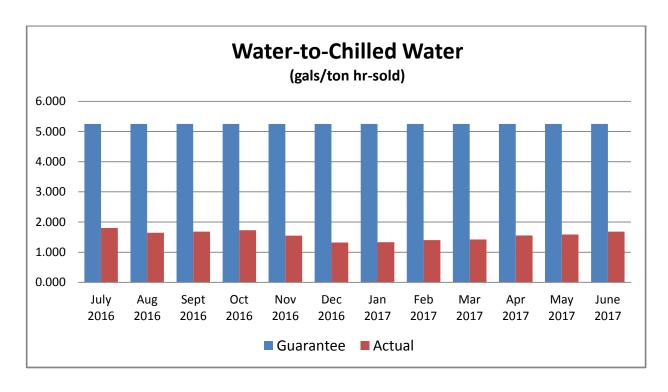














# Environmental, Health and Safety

#### Environmental

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

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

#### Regulatory Compliance

Required reporting activities were submitted as follows:

- The Semi-Annual Emissions Monitoring Report for January-June 2016 was sent to the Metro Nashville Health Department on July 12, 2016.
- The Metro Health Department conducted the Annual Site Inspection and Record Review on August 22, 2016 and found no issues.
- Exelon hired a 3<sup>rd</sup> Party vendor to conduct an Environmental, Health and Safety Audit of the Facility and Record Keeping procedures from August 23-25, 2016. The Plant received the highest rating available.
- The Semi-Annual Monitoring Report for July-December 2016 was sent to the Metro Health Department on January 9, 2016.
- The Title V Certificate of Compliance for 2016 was sent to the EPA on January 11, 2017. A copy was also sent to the Metro Health Department the same day.
- The Annual Emission Inventory Report for 2016 was sent to the Metro Health Department on January 11, 2017. The Annual Emission Fees were also sent in on that date.
- The Tier II report was sent to the State Emergency Planning Committee, Davidson County LEPC and the Nashville Fire Department on February 3, 2017.
- The Annual Greenhouse Gas Report was sent to the U.S. EPA on February 20, 2017.

#### Health

Due to the increasing cost of health insurance and Constellation's commitment to their employee's wellbeing, several programs are offered throughout the year. Many Nashville employees have taken advantage of the Healthy Habits Program, Healthy Eating Program and two Walking Challenge Programs.



#### Safety

CNE plant personnel continue to conduct themselves in a safe manner. There were no reportable or lost time accidents in the past year.

Monthly safety meetings were coordinated and scheduled by the CNE site Safety Officer. Training classes are conducted in conjunction with each safety meeting. Safety and accident reports are issued and posted each month.

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

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

#### Accident Report

	Total	OSHA	Lost Time	Total
_	Accidents	Reportable	Accidents	Lost Days
July 2016	0	0	0	0
August	0	0	0	0
September	0	0	0	0
October	0	0	0	0
November	0	0	0	0
December	0	0	0	0
January 2017	0	0	0	0
February	0	0	0	0
March	0	0	0	0
April	0	0	0	0
May	0	0	0	0
June	0	0	0	0
Total	0	0	0	0



# System Assessment and Status

#### Personnel

The plant is fully staffed with an exceptional work force. CNE prides itself on keeping employees engaged which results in a very low turnover rate. There were no personnel changes during FY16-17.

#### **Training**

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

- CNE Managers attended a chiller seminar, sponsored by Mechanical Resource Group.
- CNE employees completed corporate Annual Security Awareness Training, Annual Ethics Training & FERC Training in September 2016.
- CNE employees completed corporate Retail Power Compliance Training.
- CNE employees completed corporate Environmental Management Training.
- CNE Managers attended Leader as Coach Training in Baltimore, MD in March 2017.
- CNE Managers completed Fusion Database Reporting Training.
- CNE I & E Personnel participated in a Storage Battery Systems Webinar in March 2017.
- CNE Employees completed ePeople Performance Development Training.
- Employees completed corporate on-line Health and Wellness classes in June 2017.

Training classes conducted in conjunction with our monthly safety meetings included:

- Fire Safety (Annual Fire Extinguisher refresher conducted by the Metro Fire Department)
- Accident Investigation, Reporting & Record Keeping
- Tool & Equipment Safety
- Compressed Gas Cylinder Safety & Hot Work
- Confined Space Entry
- Storm Water Pollution Prevention Plan & Spill Prevention, Controls & Countermeasures (conducted by the Constellation's Corporate EHS Manager)
- Bloodborne Pathogens, Heat Stress & Cold Stress
- Steam Safety & Refrigerant Safety (conducted by the Constellation's Plant Safety Officer)
- Lock out/Tag out
- Safe Work Practices
- Elevated Work & Vehicle Safety
- Personal Protective Equipment
- Chemical Safety & Hazard Communications

Note: Unless otherwise specified, all safety classes were conducted by Hazmat Training, LLC.



#### **Customer Service**

CNE personnel routinely communicate with the customers each month through e-mails, phone calls or visits. When customers have heating or cooling issues inside their buildings, we assist them with trouble-shooting and attempt to resolve their problems. When a service interruption is required, whether it is project related or an emergency, activities are coordinated closely with the customers to keep the impact to a minimum.

The annual DES customer meeting took place May 25, 2017 in the Downtown Partnership conference room. The state of the EDS, upcoming projects, fuel costs, EDS water treatment and many other issues were discussed.

DES customers are routinely invited to participate in the CNE/Nashville District Energy System Annual Golf Tournament, attend Tennessee Titans football games, Nashville Predators hockey games or meet for breakfast or lunch. These relationships help further a positive image of the DES in the community and promote existing building owners to assist us in our sales efforts.

CNE's Customer Service Representative reviews each customers meter readings monthly. For those who do not meet their contractual chilled water return temperature requirements, a Thermal-Inefficiency-Fuel-Surcharge (TIFS) penalty is assessed. TIFS are added directly to customer invoices.

When a customer habitually exceeds their contractual demand capacity, the meter data is sent to the DES Contract Administrator for review and evaluation. If a capacity adjustment is deemed appropriate, CNE assists by setting up a meeting with the customer. During these meetings an explanation of the adjustment is discussed. The reason for the excursion is investigated and suggestions are made to keep it from reoccurring.

#### **Energy Generation Facility and Equipment Maintenance**

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

#### EGF Preventive and Predictive Maintenance

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

CNE personnel perform daily equipment inspections, check bearing temperatures, oil levels, belt tensions, etc. In addition, preventative maintenance is performed on the following equipment monthly: HVAC units, cooling towers cell, condenser water pumps, chilled water pumps, boiler



feed water pumps, condensate pumps, motors, instrument air compressors and driers. The roof surface is inspected and cleaned. The propane system is also test fired and leak checked monthly.

Annual pressure vessel inspections are scheduled to be completed during the cooling season. The inspections are conducted by Arise Incorporated. They are State Certified Boiler Inspectors, working as a subcontractor to our insurance carrier. These inspections are required in order to renew our operating permits. Boiler inspections consist of a visual examination of the mud drum, steam drum, economizer, tubes and fire box. #2 and #4 boilers and #1 de-aerator tank were inspected in July 2016. #1 and #3 boilers and #2 de-aerator tank were most recently inspected in June 2017. All units received a passing grade and their respective permits have been renewed. #2 and #4 boilers and #1 de-aerator are scheduled to be re-inspected in July 2017.

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

Annual chiller inspections, although not required, are scheduled and executed during the heating season as a good maintenance practice. These inspections include opening the condensers and cleaning the tubes, performing vibration analysis and taking oil sample analysis on each chiller. Eddy current testing was conducted on #1, #2 and #3 Chillers. Controls and purge units were also checked for proper operation.

As part of the Preventive and Predictive maintenance program CNE had a contractor take alignment and vibration readings as on all pumps, fans and motors. These readings are compared to the previous year's readings. Issues discovered with #1 & #3 Boiler Feed Water Pumps were addressed. All other equipment readings were within acceptable limits.

Infrared testing was conducted on all electrical switchgears and starters. No problems were found as a result of this testing.

The high-voltage switch gear preventive maintenance was scheduled and executed during the fall. Inspections and testing was conducted on the following equipment: transformers, vacuum breakers, relays, load break switches, infrared inspections and oil sample analysis.

#### Information Technology System Program

The Information Technology System Program is reviewed with Metro annually. The last review was conducted on October 12, 2016. One change was made in the past year. Anti-malware software was installed. A copy of the program is included in Exhibit 2 of this report.

#### Repairs and Replacements

From time to time emergency repairs and replacements must be made. The following are examples of the routine maintenance and emergency repairs that have been performed in the EGF in the past 12 months:



#### **July 2016**

- Installed new guard on day tank mixing pump
- Replaced belt on #5 Air Handler
- Replaced 175 psi Safety Relief Valve on #3 Boiler
- Repaired leak at #2 Boiler Steam drum door
- Trane installed refrigerant temperature sensor on #6A Chiller
- Trane replaced purge unit on #7B Chiller
- Checked and repaired plant roof treads (corners rolling up causing trip hazards)
- Replaced Water Softener UPS
- Repaired leak on irrigation system near north gate
- Performed Annual P.M.'s on #2 and #4 Boilers

#### August 2016

- Removed casing top and repaired packing gland on # 3 CWP
- Repaired roof leaks
- Adjusted belts on # 3 and # 11 Cooling Towers
- Repaired keyway on sprinkler system air compressor
- Repaired lights in expansion yard area
- Repaired the flag pole light
- Replaced gears on # 3 Softener Controller

#### September 2016

- Transformer 3A tripped when rain water infiltrated the cabinet
  - o Plant personnel repaired enclosure
  - o CE Power repaired the high side connections & performed tests
  - o Transformer was placed back in service
- Dell replaced mother board on plant server under warranty
- Replaced belts on #2 Cooling Tower
- Adjusted belts on #15, #16 and #18 Cooling Towers
- Repaired leak on # 5 BFWP Vent Valve
- Repaired bulkhead fittings on MBC 449 Chemical Tank
- Blew down the pressure transmitters for Steam PRV Station and Main Steam Header
- Installed new flame scanner on #3 Boiler

#### October 2016

- Replaced Flash Tank Sight Glass
- Repaired leak on #4 Boiler Steam Drum
- Repaired leak on #3 Boiler Steam Stop
- Removed and cleaned MBC 211 Chemical Tank
- Pressure washed east and north side concrete walls on exterior of Plant
- Repaired leak on #2 Boiler Blow down Line
- Contractor cleared floor drains in boiler and chiller rooms



- Re-installed #1 CWP Motor following rewind
- Installed new Soft Start on #1 CWP
- Installed a new Flame Scanner on #4 Boiler
- Replaced the photocell on the Main Plant Exterior Lighting

#### November 2016

- Trane Installed Evaporator Temperature sensor and DynaView on #9 Chiller
- Trane replaced DynaView on #4 Chiller
- Repaired low water cut out on #2 Boiler
- Replaced steam drum gasket on #4 Boiler
- Conducted combustion analysis and tuned #4 Boiler
- Cleaned Gas Line Strainer on #2 and #4 Boilers
- Adjusted belts on Cooling Towers 6, 13 and 18
- Cleaned drip leg and cleared lines to #2 Air Handler
- Purged lawn Sprinkler System for Winter
- Replaced the pressure switch & gauges on the Instrument Air Compressor
- Repaired the high water alarm on #2 Dearator

#### December 2016

- Trane replaced purge unit on Chiller 4B
- Repaired leak on Flash Tank Heat Exchanger
- Repaired screen over DA vent pipe
- Replaced spool piece on Cooling Tower make-up water line
- Cleaned Gas Line Strainer on #1 and #3 Boilers
- Replaced flame scanner on #4 Boiler
- Adjusted Feed water valve on #3 Boiler
- Winterized Boiler Area and checked heat trace equipment
- Replaced air filter canister on Instrument Air Compressor
- Replaced union on #1 Boiler low water cut out
- Contractor completed the tube leak on #4 Boiler
- Repaired Camera 6
- Replaced gears on #1 Softener controller

#### January 2017

- Contractor repaired tube leak in #1 Boiler
- Trane replaced purge sensor on #3A Chiller
- Repaired Sprinkler System Air Compressor
- Replaced packing on #3 Condensate Pump
- Repaired #2 Softener Aquamatic Valve
- Calibrated O<sub>2</sub> Analyzer on #2 Boiler
- Calibrated O<sub>2</sub> Analyzer on #4 Boiler
- Replaced batteries on Switchgear 4 UPS



- Replaced the conductivity probe on #3 Boiler
- Replaced the conductivity probe on #2 Boiler
- Replaced the feedwater discharge pressure gauge on main header

#### February 2017

- Replaced bearings and oil seals on #5 BFWP
- Trane replaced oil regulator on #5B Chiller
- Repaired Lab Sink Faucets
- Completed annual chiller tube cleaning
- Replaced differential pressure switches on #1, 2 and 3 BFWP's
- Replaced solenoid valve on #2 Chiller Evaporator Inlet Valve
- Repaired #3 Boiler Igniter
- Experitech calibrated Fisher Valves on PRV station
- Painted Men's Room

#### March 2017

- Adjusted belts on #3 and #18 Cooling Towers
- Placed dye in Chilled Water System
- Replaced oil seals, bearings and packing on #4 BFWP
- Replaced Coupling and Fan Blade on #1 BFWP
- Replaced Coupling on #5 Condensate Pump
- Replaced packing on #5 CHWP
- Contractor repaired insulation on Chillers 1, 2 & 3 damaged due to head removal to perform Eddy Current Testing
- Replaced belts on Rooftop Exhaust Fans #3 and #6
- Replaced batteries in EM-36 Emergency Light
- Replaced the Ignitor on #1 Boiler
- Rebuilt 2 Chilled Water Valve Actuators
- Trane repaired resistor wire on #8 Chiller motor winding sensor
- Mowed lawn
- Transformer 1A tripped. Relay failed. Ordered new relay.
- #3 Condensate Pump failed. Ordered new pump.

#### **April 2017**

- Repaired Fire System Air Compressor
- Replaced float assembly and pump seal on in house condensate pump
- Repaired leak on Sprinkler System
- Replaced belts on Cooling Towers 3, 5, 6, 10 and 15
- Trane replaced solenoid on # 2B Purge Unit and sensor on # 4B Purge Unit
- Cleaned Control Room A/C Coils
- Repaired insulation on chilled water pipe in hallway ceiling



- Replaced fan on #2 BFWP Motor
- Replaced MBC 231 Chemical Pump
- Replaced rear bearings, deflector and housing on #4 BFWP
- Repaired grease lines on Cooling Towers 4, 5, 11, 13 and 14
- Contractor began rebuilding Cooling Towers 7, 8 and 17

#### May 2017

- Replaced #3 Condensate Pump
- Repaired roof leaks and replaced ceiling tile
- Repaired Genie lift
- #2 DA water column leak
- Repaired Walchem #3 Boiler
- Repaired junction boxes on #12 & #15 Cooling Tower Motors
- Investigated Glycol leak in vaporizer
- Tightened belt on #1, #3 & #15 Cooling Towers
- Replaced motor pulley on #12 Cooling Tower
- Repaired light beside #5 Chiller
- Adjusted Packing on #1, #2 & #3 ChW Pumps
- Contractor installed new 845 relay in Transformer 1A
- Contractor repaired tube leak in #1 Boiler
- Replaced breaker on #1 FD Fan
- Trane replaced purge unit on 2B Chiller
- Trane replaced purge unit on 3A Chiller
- Replaced controller on #1 Softener
- Repaired cooling tower level controller B
- Repaired emergency light in SWG 1
- Reset PRV for State Steam tunnel
- Replaced vacuum breaker on #1 DA
- Repaired lights in switch yard
- Replaced #3 Condensate Pump rear motor bearing
- Trane installed resistor on #8 Chiller motor winding temperature sensor
- Contractor completed refurbishment of #7, #8 and #17 Cooling Towers

#### **June 2017**

- Checked #3 Condensate Pump alignment
- Repaired Portable coolers
- Repaired pressure washer
- Checked cooling tower floats & turned off basin heaters
- Repaired vaporizer
- Sprayed Herbicide on EDS property



- Repaired plant lighting
- Hauled off pallets
- Checked plant AHU's for proper operation
- Repaired Softener Piping
- Repaired #1 CWP soft start
- Checked Switch gear #1
- Repaired lightening protection system
- Repaired leak on Filming Amine strainer
- Contractor repaired several roof leaks
- Replaced ceiling tiles
- Order parts for irrigation system
- Repaired grease line on #5 Cooling Tower
- Replaced air regulator on #6 Cooling Tower control valve
- Adjusted Pump Packing on #2 & #5 ChWP
- Trane installed resistors on #8 Chiller motor winding temperature sensors
- Trane replaced two temperature sensors on #2 Chiller
- Trane reset purge alarm on #3 Chiller
- Trane called in to trouble shoot surge on #4 Chiller
- Trane reset purge unit on #1 Chiller
- Checked #8 Chiller motor winding temperature
- Trane replaced evaporator temperature sensors on #1 Chiller
- Closed up #1 Boiler after annual inspection
- Closed up #3 Boiler after annual inspection, fill & leak check
- Closed up #2 DA after annual inspection
- Reset #1 Softener controls
- Repaired men's room toilet
- Put rebuilt safety back on #2 DA
- Tightened belts on #1, #2 & #11 cooling towers
- Repaired #1 Boiler Economizer feedwater valve leak
- Replaced relief valve on service air compressor expansion tank
- Checked high water alarm on #1 DA
- Repaired brine tank sample line
- Repaired #1, #2 & #3 softener valves
- Checked low water cut out switch on #3 Boiler
- Ordered a new key pad for #6 VFD



# **Modifications and Improvements**

The following are improvements that were performed in and around the Energy Generation Facility and in the Energy Distribution System:



Installed new fill in #7, #8 and #17 Cooling Towers



Re-coated the basins and riser pipes in #7, #8 and #17 Cooling Towers





Upgraded Relay on Transformer 1A from 745 to 845





Controller upgraded on #1 Softener





Added concrete pad around water meter boxes





Replaced Chevrolet Service Truck with a Ford F150 Crewcab





Installed a sparge tube in Manhole A



#### **Energy Distribution System**

#### Preventive and Predictive Maintenance

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

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

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

When the customer meter readings are taken for the preceding month, the readings are reviewed. If they vary 30% high or low, from their three year average, Instrumentation personnel check the questionable metering devices for calibration as required in the customer buildings.

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

The chilled water loop is now being treated with a biocide in an attempt to kill the localized bacteria at customer interfaces and clean the heat exchanger surfaces. Samples are being taken at several customer buildings periodically and tests indicate an improvement has been made. Options being considered to make further improvement include the possibility of feeding low doses of dispersant in buildings that have PVC coupon stations, changing the Oxidizing Biocide fed at the EGF to a product that also has a dispersant and the installation of side stream filter.



#### Routine Maintenance and Emergency Repairs

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

The majority of jobs performed in the EDS require off duty policemen to perform security and traffic control. The following are examples of the routine maintenance and emergency repairs that have been performed on the EDS in FY16-17.

#### **July 2016**

- CNE I&E personnel replaced the display on the CX 2000 Panel at TSU on July 8, 2016.
- CNE Maintenance personnel installed a temporary fence around Manhole N2 on July 11, 2016 to keep debris from being dumped over lids.
- CNE I&E personnel replaced two light fixtures in the A. A. Birch tunnel shaft at the 2<sup>nd</sup> Avenue Entrance on July 21, 2016.
- CNE Maintenance personnel repaired a chilled water leak in the A. A. Birch Tunnel on July 21, 2016.
- On July 26, 2016. CNE personnel removed approximately 20 feet of lagging and insulation from the chilled water lines in the A. A. Birch Tunnel so TEG could review the condition of pipe.

#### **August 2016**

- On August 9, 2016, CNE Maintenance personnel assisted TEG with a walkthrough of the Manhole 12 Anchor Repair Project and a warranty review of the Cordell Hull Condensate Line replacement.
- CNE Maintenance personnel isolated the chilled water to the Wildhorse Saloon so a contractor could perform chilled water connection modifications in Manhole K on August 21, 2016.
- CNE I&E and Maintenance personnel repaired an electrical switch to the sump pump in Manhole B2 on August 24, 2016.
- CNE Maintenance personnel and CNE's Customer Service Representative identified a chilled water leak at the James K. Polk Building on August 25, 2016.
- On August 28, 2016, CNE Maintenance personnel made a preliminary review of the sandblasting and painting work on the anchor in Manhole 12.
- On August 31, 2016, CNE personnel performed a test to see if chilled water could be isolated on 5<sup>th</sup> Avenue. The valves Manhole 5B & 5C appear to hold.



# September 2016

- CNE Maintenance personnel assisted a representative from TEG with measurements on the steam line in Manhole 4 and in the 401 Union Building. The measurements were to determine if there is an anchor outside of the building.
- CNE Maintenance personnel assisted a representative from TEG with a review of punch list items in Manhole B2 on September 14, 2016.
- CNE Maintenance personnel assisted with the Pre-bid walkthrough of DES-135 on September 14, 2016.
- CNE Maintenance personnel isolated the steam and condensate in Manhole 13 at 3:00 p.m. on September 16, 2016 to allow a contractor to disconnect steam service to the CJC the following day. The chilled water service to the Wells Fargo Building was also isolated at 5:00 p.m.
- CNE Maintenance personnel isolated the chilled water supply and return lines in Manhole K, Manhole N1 and outside of Manhole 15 at 2:00 a.m. on September 18, 2016 to allow a contractor disconnect the chilled water service to the CJC. The chilled water valves were reopened and service was restored to surrounding customers by approximately 2:00 p.m. Steam service was restored by approximately 8:00 p.m.
- CNE Maintenance personnel returned chilled water service to the Wells Fargo Building at 7:00 a.m. on September 19, 2016.
- CNE personnel and contractor personnel removed the metering devices from the garage of the Criminal Justice Center on September 22, 2016.
- CNE Maintenance personnel installed new sump pumps, hoses, floats etc. in Manhole D1 on September 27-29, 2016.

#### October 2016

- CNE Maintenance personnel pumped out Manhole S4 several times from October 1-4, 2016 in an attempt to keep water off of steam lines and out of basement in War Memorial Building. The source of the water entering the manhole was suspected to be the result of a city water leak, but it was never proven. The water infiltration stopped suddenly.
- CNE Maintenance personnel restored steam service up to the first isolation valve in the 401 Union Building on October 4, 2016.
- On October 30, 2016, CNE Maintenance personnel replaced the main steam isolation valve to Renaissance Hotel. Steam service was restored upon completion.

#### November 2016

- CNE personnel replaced the sump pump and check valve in the A. A. Birch Tunnel on November 1, 2016.
- CNE personnel repaired a leak on the steam valve in Manhole 9 on November 8, 2016.



- CNE Maintenance personnel replaced two steam trap assemblies in the State Tunnel on November 12, 2016.
- CNE Maintenance personnel and the CNE Operations Manager assisted the contractor attempting to locate a chilled water leak on 5<sup>th</sup> Avenue. The exploratory excavation took place November 21-23, 2016. No leaks were discovered.
- CNE Maintenance personnel and a representative from TEG investigated the source of water entering Manhole S4A November 30, 2016. The fire hydrants, storm sewer lines and catch basins were checked. The source may have been the result of a plugged drain at the War Memorial Building, but the water infiltration stopped before the source could be definitively determined.

#### December 2016

- CNE Maintenance personnel assisted contractor map the A. A. Birch Tunnel for CJC Project on December 5, 2016.
- CNE Maintenance personnel isolated steam to the Wells Fargo Building on December 8, 2016.
- CNE Maintenance personnel assisted Metro Water Services check storm drains near Manhole S4A on December 17, 2016.

#### January 2017

- CNE Maintenance personnel isolated the steam in Manholes 5 and 15 on January 20, 2017 and opened the drains to relieve the pressure and drain the water from the system. The following morning they began the installation of the steam traps in Manholes 11 and 12. Steam service was restored to this section of piping at 9:00 p.m. on January 21, 2017. The main steam isolation valve to St. Mary's Church was repacked and the steam transmitter at the Citizens Plaza was also repaired during this timeframe.
- CNE Maintenance personnel restored steam service to the Cordell Hull Building on January 24, 2017 at the customer's request.
- CNE Maintenance personnel isolated the steam to the 401 Union Building and depressurized the line on January 27, 2017 to allow contractors begin work on January 30, 2017.

### February 2017

- CNE personnel placed the condensate to drain at Manhole 18 on February 1, 2017 due to hardness indicated in samples at the Plant. Customer buildings were checked and hardness was found in a heat exchanger at the James K. Polk Building. The heat exchanger was isolated and condensate was returned to the plant on February 2, 2017.
- CNE personnel replaced the steam trap assembly in Manhole 4 on February 4, 2017.
- CNE personnel replaced the floats on the sump pump in Manhole 18 on February 4, 2017.



- CNE personnel repaired both condensate pumps in the State Tunnel February 9, 2017.
- CNE assisted the sales representative remove the HydroFlow Water Conditioner from the Metro Courthouse on February 20, 2017.
- CNE personnel re-energized the steam line to the 401 Union Hotel building on February 28, 2017 following the completion of the DES-134 project.

#### **March 2017**

- CNE personnel replaced the steam trap in Manhole B3 on March 3, 2017.
- CNE personnel isolated chilled water valves at 5<sup>th</sup> and Union and assisted contractors with an exploratory excavation to locate a chilled water leak near service lines to the 501 Union Building on March 11, 2017. No leak was found.
- CNE personnel isolated the chilled water at 5<sup>th</sup> and Union and in Manhole 23 on March 14, 2017 in an attempt to locate a chilled water leak. Service was restored on March 15, 2017.
- CNE personnel isolated the chilled water at 5<sup>th</sup> and Union and in Manhole 5C in attempt to locate a chilled water leak on March 15, 2017. Service was restored on March 16, 2017. This was repeated on March 18-19 while leaving the building isolation valves in the James K. Polk open so pressures on the supply and return lines could be monitored. It was determined that the isolation valves in Manhole 5C were leaking.

### **April 2016**

- CNE personnel installed a new sump pump in the A. A. Birch Tunnel on April 4, 2017.
- CNE personnel assisted with a walkthrough of the A. A. Birch mechanical room on April 4, 2017. This was done in order to obtain pricing for the potential installation of temporary boilers and chillers in the event of an emergency.
- CNE personnel replaced belts on the Northernmost Fan in the 4<sup>th</sup> Avenue Tunnel on April 10, 2017.
- CNE personnel restored chilled water service to the Cordell Hull Building on April 19, 2017 at the Contractor's request. CNE I&E personnel repaired the CHW RTD the following day.
- CNE personnel assisted the contractor with the installation of a seismograph in the A. A. Birch Tunnel on April 21, 2017.
- CNE personnel inspected and marked manhole covers and tunnel access locations of the Marathon Route at the request of the Metro Police Department on April 26, 2017.
- CNE Maintenance personnel inspected the A. A. Birch Tunnel 17 days during the month of April 2017 following blasting that is taking place at the Criminal Justice Center site. Pictures were taken and a report generated each day.

#### May 2016

• CNE personnel assisted the contractor with the removal of the seismograph in the A. A. Birch Tunnel on May 5, 2017.



- CNE personnel assisted the contractor on the 5<sup>th</sup> & Broadway Project with a review of the EDS Tunnel on Broadway on May 5, 2017.
- CNE personnel assisted contractors with a walkthrough of the Manhole D Repair & Improvement Project on May 9, 2017.
- CNE personnel assisted contractors with potholing around the chilled water pipes on 5<sup>th</sup> Avenue North and Union Street on May 9, 2017.
- CNE personnel replaced a steam trap assembly in Manhole C on May 10, 2017.
- CNE personnel assisted Nashville Public Library with a cooling issue in their building on May 24, 2017.
- CNE personnel adjusted packing on the first steam valve in the Citizens Plaza Building on May 30, 2017.

#### **June 2016**

- CNE personnel isolated the steam to the Nashville Hyatt Place to enable a contractor to make repairs to their strainer on June 2, 2017. Service was restored the same day.
- CNE personnel changed from the winter meter to the summer meter on the steam to the Bridgestone Arena on June 12, 2017.
- CNE personnel replaced the chilled water supply RTD at the Nashville Symphony on June 13, 2017.
- CNE personnel isolated the steam service to the Municipal Auditorium to allow contractors to make repairs on June 20, 2017.
- CNE Maintenance personnel inspected and marked manhole and tunnel entrances for the July 4<sup>th</sup> Holiday celebration at the request of the Metro Nashville Police Department on June 30, 2017.



### **DES Projects**

Below is a brief description of the DES projects in various stages of completion performed during FY16-17.

## **DES-119.1** HydroFlow Water Conditioner Test

At the request of TEG, CNE submitted a proposal to purchase and install a Hydroflow Water Conditioner from Genuine Energy Solutions. It was installed at the Metro Courthouse in January 2016 and placed into service on March 15, 2016 following baseline testing conducted by two representatives from TEG. The Hydroflow representative visited the site on March 23, 2016 to confirm proper operation of the device. A follow up test was conducted by TEG on June 22, 2016. CNE assisted TEG conduct a final performance test on October 10, 2016 in the presence of the HydroFlow Representative. Results of the test were not favorable. TEG agreed to let the HydroFlow Representative relocate his apparatus and perform an additional test for a few more months. A final water test was taken and sent off to Microbial Insights on January 24, 2017. The Hydroflow representative was then contacted and asked to remove the device and provide a prearranged refund. The water conditioner was removed on February 20, 2017. The sales representative took the unit and said he would return it to the manufacturer. He indicated the manufacturer would be responsible for half of the refund and he would be responsible for the other half. To date no refund has been received.

## DES-121 Miscellaneous Manhole Safety Repairs (ladders, insulation, etc.)

This project began May 2, 2016 with the cleanout of manholes and gathering measurements for ladders. A walkthrough was conducted on August 30, 2016 to review the completed work. The punch list was developed and items noted during the walkthrough were completed on November 14, 2016. TEG reviewed and approved backup documentation for additional labor required to remove the roof in Manhole 4.

#### **DES-122** Manhole 13 Structural Repairs

CNE personnel, a representative from TEG and a Structural Engineer reviewed the structural integrity of Manhole 13 on February 22, 2016. It was determined that all personnel entering the Manhole should wear hardhats when inspecting this vault. There is no imminent danger, but it was recommended that repairs should be scheduled within the next 6-12 months. A pre-bid meeting was held on October 20, 2016 with three bidders present. Bids were received on November 1, 2016 with only one bidder responding (ProShot Concrete). CNE sent a proposal to TEG/Metro on November 17, 2016. Metro approved this project on December 14, 2016. A preconstruction meeting was held on January 12, 2017 and the project began on January 16, 2017. A representative from TEG and CNE reviewed the rebar installation January 25, 2017. Following the review, additional modifications/clarifications were issued to the contractor in an e-mail dated the same day. A walkthrough to review the completed work was conducted on February 7, 2017 and a punch list was generated.



The punch list items were completed the following day, were reviewed and found acceptable. A Certificate of Substantial Completion was issued on February 9, 2017.

Proshot Concrete was asked to furnish a quote to make repairs in Manhole 6 while they were mobilized and in town making repairs to Manhole 13. The quote was accepted, a change order was issued and work began February 9, 2017. A walkthrough was conducted the following day and a punch list was generated. These items were completed and a Certificate of Substantial Completion was issued on February 13, 2017.

#### **DES-124.2** Criminal Justice Center Service Disconnect

This project was approved on June 29, 2016 and CNE awarded the contract to S. M. Lawrence. The original date of the service disconnect has changed from August 5-8, 2016 to September 16-19, 2016 due to a delay in the building being vacated. The steam and condensate lines were isolated in Manhole 13 on September 16, 2016. CNE personnel relieved the pressure on the steam line; however, the condensate had to be drained in Manhole 18 to relieve the pressure. The contractor disconnected the steam and condensate lines from the CJC on September 17, 2016 and welded caps onto those lines. CNE personnel isolated the chilled water to the CJC on September 18, 2016 and drained the supply and return lines. The contractor installed weld neck flanges and valves on both chilled water lines. World Testing x-rayed the welds on the steam line and both chilled water lines. Due to the cap being welded onto an existing weld-o-let on the condensate line, it was magna-fluxed instead of being x-rayed. All welds passed inspection. Chilled water service was restored to surrounding customers on September 18, 2016. All work was completed well before the scheduled deadline.

### **DES-124.3** Manhole D1 Sump Pump Modifications

CNE submitted a proposal to relocate the power supply and alarm from the CJC to the A. A. Birch Tunnel. The project was awarded to S. M. Lawrence Co. and the excavation work was done in conjunction with DES-124.2. Excavation began on September 22, 2016. Core drills were made the following day. The conduit and link seals were installed September 26-27, 2016. Flowable fill was completed on September 27, 2016. The pavement binder was installed and the site was cleaned up on September 29, 2016. CNE personnel ran wire, installed control panels, pumps, hoses, floats etc. from September 27-28, 2016. The alarms and auto dialer were reconnected in the A. A. Birch Mechanical Room on September 30, 2016.

## **DES-127** Manhole 12 Steam Anchor Repair

A Pre-bid Meeting for this project was conducted on June 14, 2016. The bids were received on June 24, 2016 and the project was awarded to S. M. Lawrence on June 30, 3016. The contractor completed the structural steel installation and initial painting on August 8, 2016. A walkthrough was conducted the following day and it was discovered that not all of the steel had been sandblasted and painted as required.



The contractor returned and completed the work on August 27-28, 2016. Another walkthrough was conducted on August 30, 2016. The punch list item noted in the original project review was completed on September 18, 2016. A representative from TEG reviewed this work and confirmed that all outstanding punch list items were complete

## **DES-128** Manhole A Sparge Tube Installation

A Pre-bid Meeting for this project was conducted on June 14, 2016. The bids were received on June 24, 2016 and the project was awarded to PPMI on June 30, 3016. This project was completed the week of October 3, 2016. A representative from TEG reviewed the project and issued a punch list on October 20, 2016. The punch list items were completed on November 16, 2016.

## **DES-129** Manhole 22B Vault Repair

A contractor performing horizontal boring for a fiber optic high speed internet service inadvertently bored two holes into the east side of Manhole 22B. TEG's Structural Engineer developed a procedure to make the necessary repairs. A pre-bid meeting was held on May 19, 2016. The bids were received May 31, 2016 and the contract was awarded to S.M. Lawrence. S. M. Lawrence Co. began vault repairs on August 25, 2016 and completed them the following day. A representative from TEG reviewed the work on August 30, 2016. No deficiencies were noted.

### DES-130 Manhole B3 Vault Repair

A contractor performing horizontal boring for a fiber optic high speed internet service inadvertently bored a hole into the south side of Manhole B3 near the top of the vault. TEG's Structural Engineer developed a procedure to make the necessary repairs. A pre-bid meeting was held on May 19, 2016. The bids were received May 31, 2016 and the contract was awarded to PPMI. In December 2016 PPMI asked to be relieved of this project because they were closing their Nashville office. S.M. Lawrence was the next lowest bidder and agreed to make the repair based on the bid they submitted in June 2016. This project was re-assigned to S. M. Lawrence. They received a Notice-to-proceed January 31, 2016. This project was completed on March 3, 2017.

#### **DES-131** Wildhorse Saloon Chilled Water Connection Modifications

This project was awarded to PPMI and they began work on August 21, 2016. The piping modifications and insulation work was completed and a walkthrough was conducted on September 27, 2016. The punch list items from the walkthrough were completed in October and reviewed by TEG and found acceptable.

#### DES-134 Fairlane Hotel (fka.401 Union Building) New Service Installation

A Pre-bid Meeting was held on November 30, 2016. Bids were received December 7, 2016 and the the project was awarded to S. M. Lawrence. Work began on January 31, 2017. A walkthrough was conducted on February 7, 2016 and a punch list was generated. The punch list items and weld x-rays were completed on February 10, 2017 and the insulation was completed on February 17, 2017.



# DES-135 Exploratory Excavation and Chilled Water Leak Repairs on 5<sup>th</sup> Avenue

On August 25, 2016, an employee of Jones, Lang, LaSalle reported a water leak in the chase area near the east foundation wall of the James K. Polk Building. CNE personnel investigated and found green dye in the water indicating the leak was chilled water. CNE personnel isolated the chilled water to the building on August 31, 2016 to make sure that the isolation valves would hold in this area. A pre-bid meeting for an exploratory excavation was held on September 14, 2016. F. M. Sylvan was awarded the project and began work on October 11, 2016. The leak was not located in the original excavation area. An additional excavation was performed north towards Union Street. A leak locating company was brought in and found a potential leak near the main header branch to the James K. Polk Building. The original excavation site was backfilled and the sidewalk was restored. The potential leak site is in a heavy traffic area as well as the loading dock for the James K. Polk Building. CNE, TEG, Metro Public Works and James K. Polk personnel scheduled another excavation which took place on November 21, 2016 in the area where the branch lines for the James K. Polk Building come off of the main header. No leak was discovered in this area. The following day an excavation was conducted in the sidewalk to expose the branch lines as well as the elbows and additional piping. There was a slight amount of water in this area, so after consulting with a representative from TEG, an additional excavation and the removal of a section of concrete anchor was performed on November 23, 2016. This allowed access to the mechanical fittings on the chilled water lines in this area. There was still no indication of a chilled water leak in this area. A decision was made to begin backfilling and plating this area to allow traffic and access to the building. The contractor returned on November 28, 2016 to finish backfilling and returned on the following day to restore the sidewalk and install binder in the roadway. On November 30, 2016 the plates and fencing were removed and the area was cleaned up.

Metro hired a second leak detection company to try and locate the leak before making another excavation. Another excavation took place on March 10, 2017 near the service manhole for the 501 Union Building. No leaks were found at this location. The site was backfilled and a top patch of asphalt was completed the following week.

Potholing in 4 locations on Union Street & 5<sup>th</sup> Avenue North was completed on May 9, 2017. There was no indication of any water present at these locations.

### **DES-137** Cordell Hull Building Chilled Water Isolation Valves

A Pre-bid Meeting was held on November 30, 2016. Bids were received December 7, 2016. F. M. Sylvan was awarded the contract and work began on this project January 20, 2017. The piping and valves were hydrostatically tested and reviewed by a representative from TEG on January 25, 2017. Insulation was completed on January 31, 2017. Punch list items were completed and a Certificate of Substantial Completion was issued on February 3, 2017.



## **DES-138** Manhole D Repairs

A pre-bid meeting was held on April 26, 2017. The bids were received on May 12, 2017 and reviewed by TEG. F. M. Sylvan was recommended as the best bid. A proposal was sent to Metro on May 25, 2017 and approved on June 5, 2017. The project is expected to begin around the middle of July and be completed in early August.

## **DES-140** Manhole N2 Security Fence Installation

The project to install a security fence around Manhole N2 was approved on June 22, 2017. CNE is in the process of getting contractors approved to complete this installation.



# Outstanding Issues and Recommendations

Each year CNE meets with Metro representatives to discuss outstanding issues and project recommendations. Below is a list of those items.

## **Outstanding Issues**

• NES must isolate all power to the plant to perform cable and conductor upgrades. CNE will coordinate this cold plant outage with NES in the Fall of 2017.

## **Recommendations for FY 2017-2018**

- Pipe insulation restoration in manholes and in the tunnels
- Manhole & Tunnel Structural Steel Rehabilitation & Corrosion Prevention
- Build a maintenance platform under the 7<sup>th</sup> Avenue Tunnel exhaust fan
- Investigate the installation of additional Division Valves
- Investigate the installation of a side stream filter on the chilled water system
- Investigate system expansion
  - o Add additional equipment to existing plant for potential new customers
  - o Add new service lines from plant to allow for system redundancy and to serve potential new customers south of Broadway
  - o Investigate the possibility of a satellite plant
- Potential projects that should be customer funded:
  - o Polisher on Condensate return system
  - Oxygen Trim on burners
  - o Capacitor Bank on Electrical feed to plant



## Sales and Marketing

## **Sales and Marketing Review**

Due to the amount of development taking place south of Broadway, the potential exists for system expansion. As reported last year, Metro has temporarily suspended the pursuit of new customers. Potential customers continue to inquire about system capacity. The existing parking lots adjacent to the EGF are scheduled to be developed soon.

The following table, furnished by Thermal Engineering Group, Inc. on September 21, 2016, indicates the remaining current system capacity.

System Capacity		
Diversity Factor	66.54%	74.60%
	Chilled Water (tons)	Steam (pph)
Installed capacity including redundant equipment	23,400	260,000
Installed capacity	20,800	195,000
System losses	600	28,568
Max Allowable Customer Load	20,200	166,433
Maximum System Peaks	19,654	157,996
Net Undiversified Capacity Available for Sale	546	8,437
Net Diversified Capacity Available for Sale	521	11,309
Contract Capacity for Existing Customers	30,533	299,459
Potential Contract Capacity for Sale	1,276	21,740

Customers currently on the system that are redeveloping their property:

- The 401 Union Building is expected to open in the Fall of 2017 as the "Fairlane Hotel".
- The Nashville Convention Center is being converted to a dual tower mixed use complex.
- Wells Fargo is being converted to the "Bobby Hotel".
- The Central Services Building was demolished to build a parking garage.
- The Criminal Justice Center is building a new jail and sheriff's office on the existing site.

#### Ongoing activities include the following:

- A Sales and Marketing Report is included in the Monthly Operations Report.
- The DES e-Newsletter is produced and issued semi-annually.
- The MNDES Marketing Brochure was updated in June 2017.
- The Annual CNE/NDES Golf Tournament is held each year for existing and potential new customers as well as strategic partners.
- CNE participates in meetings and social events with business groups, engineers and developers throughout the year.
- CNE provides presentations and tours of the EGF to point out the positive attributes of the system.



## Utilities and Fuel Procurement

During FY16-17, CNE secured propane supplies and deliveries as needed. No off site storage was recommended nor secured during the past year. Trane Energy Supply Services routinely holds conference calls regarding natural gas purchase recommendations. Procurement decisions are made based upon a matrix of pricing and consumption factors including but not limited to then-current pricing conditions, future pricing conditions, technical and fundamental pricing trends, consumption variances as a function of incremental demand and conservation and budgetary considerations. Natural gas procurement decisions are generally made in a collaborative effort with CNE, Trane, Metro and F. C. Stone. Due to the relatively low natural gas spot market prices, MNDES does not have any hedged positions at the present time.

All natural gas supply was purchased from Constellation NewEnergy – Gas Division, LLC (CNEG) under the terms and conditions of an agreement between CNE and CNEG for a service period through June 2018. The costs includes the amount paid to CNEG for the cost of gas (including transportation to the Nashville city gate), Piedmont for the cost of transportation from the city gate to the plant and the risk management fees, but it does not include the Fuel Efficiency Adjustment (FEA). Appendix 3 includes the FEA. That is why there is a difference in the totals.

The following is a report of the natural gas purchased in FY16-17:

#### **Natural Gas**

Month	Quantity (DT)	Unit Cost	Amount
July, 2016	27,220.2	\$ 3.8647	\$ 105,198.00
August	28,267.6	\$ 3.2621	\$ 92,210.80
September	28,738.8	\$ 3.6022	\$ 103,522.77
October	35,155.9	\$ 3.6338	\$ 127,749.94
November	46,826.4	\$ 3.4977	\$ 163,782.44
December	74,820.0	\$ 3.6793	\$ 275,282.54
January, 2017	70,813.7	\$ 4.6701	\$ 330,707.21
February	53,605.5	\$ 4.2064	\$ 225,483.66
March	56,032.1	\$ 3.1736	\$ 177,821.28
April	37,045.6	\$ 3.8509	\$ 142,658.63
May	33,059.6	\$ 3.8859	\$ 128,466.05
June	28,530.8	\$ 4.0037	\$ 114,228.90
Total	520,116.2	\$ 3.8205	\$ 1,987,112.22



No additional propane was purchased in FY16-17. The following is a report of propane used:

**Propane** 

Month	Quantity (DT)	Unit Cost	Amount
July, 2016	0	N/A	\$ 0.00
August	0	N/A	\$ 0.00
September	0	N/A	\$ 0.00
October	25	\$ 26.0670	\$ 651.67
November	33	\$ 26.3303	\$ 868.90
December	41	\$ 26.4908	\$ 1,086.12
January, 2017	16	\$ 27.1531	\$ 434.45
February	8	\$ 27.1531	\$ 217.22
March	213	\$ 26.5157	\$ 5,647.85
April	0	N/A	\$ 0.00
May	0	N/A	\$ 0.00
June	0	N/A	\$ 0.00
Total	336	\$ 26.5066	\$ 8,906.22

During FY16-17, electricity was purchased each month based on the Nashville Electric Service rate schedule.

**Electricity** 

Month	Quantity (Kwh)	Unit Cost	Amount
July, 2016	8,515,948	\$ 0.09004	\$ 766,756.17
August	8,485,568	\$ 0.08486	\$ 720,116.19
September	6,531,392	\$ 0.09096	\$ 594,104.56
October	4,674,096	\$ 0.09435	\$ 441,017.16
November	3,177,888	\$ 0.09272	\$ 294,658.29
December	2,556,232	\$ 0.09268	\$ 236,905.10
January, 2017	2,784,180	\$ 0.09513	\$ 264,847.59
February	2,767,044	\$ 0.10063	\$ 278,449.17
March	3,223,108	\$ 0.09646	\$ 310,893.15
April	4,205,264	\$ 0.09139	\$ 384,311.66
May	5,187,280	\$ 0.09116	\$ 472,886.45
June	6,568,016	\$ 0.09087	\$ 596,825.19
Total	58,676,016	\$ 0.09138	\$ 5,361,770.68



The following table indicates the water purchased during FY16-17 based on the Metro Water Services rate schedule.

## Water & Sewer

Month	Quantity (Kgal)	Unit Cost	Amount
July, 2016	21,660,584	\$ 0.00364	\$ 78,867.43
August	19,835,464	\$ 0.00364	\$ 72,236.00
September	22,389,884	\$ 0.00364	\$ 81,569.19
October	15,470,136	\$ 0.00365	\$ 56,433.98
November	12,108,624	\$ 0.00365	\$ 44,227.82
December	8,898,956	\$ 0.00367	\$ 32,634.66
January, 2017	8,770,300	\$ 0.00366	\$ 32,106.46
February	9,336,536	\$ 0.00366	\$ 34,206.22
March	9,225,832	\$ 0.00366	\$ 33,778.09
April	11,457,116	\$ 0.00366	\$ 41,880.04
May	11,431,684	\$ 0.00365	\$ 41,765.55
June	15,586,824	\$ 0.00366	\$ 57,021.25
Total	166,171,940	\$ 0.00365	\$ 606,726.69



## Financial Report

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

### **Appendix 1 – Customer List**

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

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

## **Appendix 2 – Revenues**

This chart summarizes the revenues charged per month by DES to each customer for FY16-17.

#### **Appendix 3 – Customer Rate Reconciliation**

Monthly Reconciliation charts from July 2016 to June 2017 are found in this appendix. The final chart is a Summary Reconciliation table for FY16-17. These charts detail the amount allocable to customers to the amount allocated to customers. The difference in the allocable amount and the amount allocated to customers is paid by Metro and is called the Metro Funding Amount (MFA).

- Facilities Capital Charge The debt service on revenue bonds issued for the project.
- **System Operator Charge** Includes the system operator's fee which is most of the operations and maintenance costs of the system.
- **EDS Improvements Charge** Due to a CPI adjustment of 1.006%, the annual replacement and repair allowance was \$190,951 for FY16-17.
- Metro Incremental Administrative Charge Per the customer service agreement, these charges are the "actual, reasonable and necessary" cost over and above current Metro operating costs to manage the DES system and operator.
- Pass Through Charges
  - o Water Treatment & Chemicals actual costs of chemicals to treat water
  - o **Engineering** The engineering costs required for any non-capital projects, customer related issues, meetings, etc.
  - o **Insurance** The cost to maintain all-risk property insurance and business insurance policies.
  - o **EDS Electricity** The cost of electricity for tunnel lights and safety equipment.
  - o **EDS Surcharge** Surcharge to private customers only to cap their annual cost of any EDS repairs made by Metro (\$76,249).
- Energy Charges
  - o Electricity
  - Natural Gas
  - o **Propane**

**Appendix 4 – CEPS Invoice Reconciliation (FEA)** 

Exhibit 1 – Performance Guarantee Calculation



# Appendix 1



# **Metro Nashville District Energy System Customers**

Pri	vate	Sta	te	Me	tro
1	Bobby Hotel (fka Wells Fargo)	18	Andrew Jackson	32	A.A. Birch
2	Parkway Tower	19	Cordell Hull	33	Metro Courthouse
3	Sheraton Hotel	20	John Sevier	34	Municipal Auditorium
4	Hermitage Hotel	21	War Memorial	35	Criminal Justice Center
5	501 Union Building	22	Library & Archives	36	Nashville Convention Center
6	4 <sup>th</sup> & Church Building	23	Supreme Court	37	Bridgestone Arena
7	Fifth-Third Financial Center	24	State Capitol	38	Nissan Stadium
8	Renaissance Hotel	25	James K. Polk	39	Hume-Fogg High School
9	Renaissance Office Tower	26	Citizens Plaza	40	Nashville Public Library
10	St. Mary's Catholic Church	27	Snodgrass Tennessee Tower	41	Music City Center
11	Nashville City Center	28	Tennessee State University		
12	Wildhorse Saloon	29	Tennessee Performing Arts Center		
13	Ryman Auditorium	30	Legislative Plaza		
14	Schermerhorn Symphony Center	31	Rachael Jackson		
15	Viridian Residential Tower				
16	Hyatt Place Hotel				
17	Fairlane Hotel (fka 401 Union)				



# Appendix 2

#### Metro Nashville District Energy System Revenues Chilled Water and Steam Fiscal Year Ending June 30, 2017

Customer No.	Customer Name		yuly		August		September		October		November	December			January		February		March		April		Мау	June (including True Up)		Total
2	A. A. Birch	\$	69,695.26	\$	65,772.83	\$	59,271.37	\$	81,726.30	-	63,599.62		58.14	•	60,902.35	•	59,281.49 \$		2,905.59	τ	54,397.41	-	52,688.82			735,195.89
4	Metro Courthouse	\$	33,579.52	\$	32,401.86		30,316.43		27,575.58	\$	25,124.63		94.74		25,033.12		23,518.58 \$		22,905.75	-	24,077.55		26,258.79			323,914.75
7	Parkway Tower	\$	28,447.18	\$	27,674.84	-	26,051.04		23,310.45		23,678.94		13.49	\$	32,621.03		29,783.11 \$		29,650.13		26,412.28		24,998.76			330,001.72
9	Bobby Hotel (fka Wells Fargo)	\$	11,606.27	\$	11,750.54		11,107.64		9,882.41		6,960.97		32.89	\$	5,010.98		5,137.67 \$		5,116.14	-	5,130.30	-	5,177.68		.41 \$	86,932.90
10	Fairlane Hotel (fka 401 Union)	\$	5,227.43	\$	5,230.34	-	5,226.36		5,218.72		5,220.59		20.76		5,220.74		5,218.94 \$		5,220.20		5,224.48		5,231.90		.77 \$	62,341.23
	Sheraton Hotel	\$	,	\$	69,668.15		68,917.35		64,818.15		60,555.51		05.10		61,266.86		54,432.38 \$		3,281.37	-	57,242.37		58,166.94			742,264.28
12	Municipal Auditorium	\$	24,372.40	\$	27,154.70	-	22,133.61		20,636.93		22,659.77		04.67		25,443.68		22,708.06 \$		23,172.90		22,639.04		21,838.29			282,963.15
21	Hermitage Hotel	\$	25,624.89	\$	,		24,648.65		24,929.41		23,345.29		57.32		23,379.28		21,727.96 \$		21,354.06	-	22,046.40		22,761.79			278,596.24
24	Criminal Justice Center	\$	41,156.03	\$	36,813.84	-	30,248.77		21,038.53		21,046.26		46.95		21,046.91		21,039.45 \$		21,044.65	\$	21,062.42		21,093.16			296,314.04
25	501 Union Building	\$	17,258.14		15,024.87		16,180.13		17,548.37		16,700.92		52.81		17,493.16		15,778.70 \$		15,861.49	\$	14,261.96		14,286.38			192,096.36
28	4th & Church Building	\$	44,721.18		44,102.66	•	39,471.26		32,328.40		32,829.96		18.92	•	39,931.14		36,824.49 \$		37,131.98	-	31,576.66		33,036.90			449,894.49
29	Fifth-Third Financial Center	\$	44,753.08	\$	45,387.37		41,748.38		32,379.44		29,019.02		26.86	•	27,667.50		26,816.27 \$		28,588.75		30,289.67		33,324.77			404,349.90
32	Renaissance Hotel	\$	78,826.98	Ş	79,874.16	•	76,201.72		66,323.28		58,307.57	. ,	57.53		61,693.82		58,129.17 \$		55,794.17		61,339.94		65,244.54			793,743.18
33	Nashville Convention Center	\$	66,335.88	\$	70,701.50	•	66,569.43		67,629.26		63,349.86		82.84		72,728.41		68,006.71 \$		54,080.52		62,093.48		57,335.93			787,782.52
34	Renaissance Office Tower	\$	15,175.19	\$	14,743.31		13,348.29		11,109.95		9,434.43		70.52		8,325.34		8,827.07 \$		9,592.37		9,450.50		10,525.11			130,114.54
	St. Mary's Catholic Church	\$	987.79		987.79	•	987.79		987.79		987.79		87.79		987.79		987.79 \$		987.79		987.79	\$	987.79		.79 \$	11,853.48
36	Nashville City Center	\$	,		42,730.73	•	39,499.48		33,441.81		27,640.64		22.34		25,090.78		24,231.47 \$		26,547.92		27,056.07	\$	31,363.64		•	381,780.80
38	Wildhorse Saloon	\$	15,466.78		,	•	12,738.51		11,129.38		10,983.81		17.80		9,333.58		8,643.26 \$		7,469.24		13,040.72		17,117.54			149,397.71
39	Ryman Auditorium	\$	20,967.49	-	18,851.61	•	17,518.45		16,322.89		14,372.38		89.05		15,275.26		13,955.64 \$		13,558.60		14,925.26		15,376.58		•	192,262.40
40	Bridgestone Arena	\$	140,040.31		122,055.34		122,157.58		106,232.09		97,453.35		41.50		102,452.84		101,013.41 \$		10,203.10	\$	121,574.66	\$	132,134.80			1,377,394.50
41	Nissan Stadium	\$	78,787.17	\$	79,966.79	\$	69,082.17		54,659.03	\$	36,834.24		48.96	\$	32,113.99		33,923.54 \$		33,939.57	\$	44,485.50	\$	52,286.77		•	612,650.45
43	Hume-Fogg High School	\$	13,222.61	\$	12,947.31		12,829.06	-	12,386.18		10,986.18		53.46	\$	10,658.65		11,096.16 \$		10,562.70		12,604.61		10,358.67			137,488.59
44	Schermerhorn Symphony Center	\$	33,131.03	\$	33,818.65	\$	32,652.97	\$	28,855.52	\$	24,828.16	\$ 26,1	17.09	\$	29,018.06	\$	26,128.42 \$	5 2	25,646.18	\$	27,007.09	\$	29,122.46	34,576	.41 \$	350,902.04
45	Nashville Public Library	\$	29,874.31	\$	28,830.36	\$	26,499.42	\$	30,496.70	\$	26,039.76	\$ 31,5	86.62	\$	30,485.71	\$	32,205.09 \$	\$ 3	32,208.29	\$	23,331.40	\$	24,881.99	28,009	.64 \$	344,449.29
49	Viridian Residential Tower	\$	21,724.42	\$	21,301.33	\$	21,320.28	\$	18,916.63	\$	16,820.47	\$ 15,2	69.05	\$	15,208.77	\$	15,483.69 \$	\$ 1	15,578.53	\$	17,080.71	\$	18,762.80	20,759	.65 \$	218,226.33
50	Music City Center	\$	307,252.30	\$	290,410.36	\$	266,281.32	\$	220,115.96	\$	202,367.30	\$ 193,2	52.23	\$	221,985.11	\$ 1	198,423.38 \$	\$ 20	00,443.11	\$	212,063.00	\$	221,123.05	239,552	.99 \$	2,773,270.11
51	Hyatt Place Hotel	\$	21,520.59	\$	20,339.96	\$	19,077.83	\$	18,513.40	\$	17,432.64	\$ 17,1	23.39	\$	17,292.51	\$	16,906.75 \$	5 1	16,542.41	\$	17,183.21	\$	17,708.41	19,214	.49 \$	218,855.59
S1	State Government of TN	\$	476,124.75	\$	458,912.67	\$	437,536.50	\$	390,621.46	\$	370,858.74	\$ 412,7	85.74	\$	416,243.61	\$ 3	383,770.65 \$	37	74,426.05	\$	372,649.17	\$	400,877.89	443,452	.86 \$	4,938,260.09
	Grand Totals:	\$ :	1,781,797.34	\$ 1	,717,070.80	\$ 1	1,609,621.79	\$ 1	,449,134.02	\$ 1,	,319,438.80	\$ 1,365,6	38.56	\$ 1,	,413,910.98	\$ 1,3	323,999.30 \$	3 1,31	13,813.56	\$ 1,	351,233.65	\$ 1	1,424,072.15	1,533,565	.62 \$	17,603,296.57



# Appendix 3

#### Metro Nashville District Energy System Revenues Chilled Water and Steam Fiscal Year Ending June 30, 2017

Customer Number Customer Name	Capacity	Operating	EDS Improvement	Metro Incremental	Water And Sewer	Chemical Treatment	Engineering	Insurance	EDS Electricity	EDS Maint Costs Alloc	ПFS	Electricity	Natural Gas	Propane	Total
2 A. A. Birch	\$ 127,374.48 \$	191,028.84	\$ 8,367.84	\$ 20,790.17	\$ 31,283.62	\$ 11,230.06	\$ 476.27	666.94	\$ 1,990.35	-	\$ 11,244.06	\$ 207,908.04	\$ 122,214.31	620.91 \$	735,195.89
4 Metro Courthouse	\$ 60,298.92 \$	89,137.56	\$ 3,904.80	\$ 9,701.43	\$ 13,059.80	\$ 4,476.02	\$ 222.23 \$	311.33	\$ 928.77	-	\$ 3,543.84	\$ 99,248.28	\$ 38,917.01	\$ 164.76 \$	323,914.75
7 Parkway Tower	\$ 54,972.96 \$	86,482.44	\$ 3,787.92	\$ 9,411.14	\$ 11,740.95	\$ 4,722.21	\$ 215.27 \$	301.53	\$ 900.96	8,147.04	\$ 2,961.48	\$ 109,604.90	\$ 36,529.05	\$ 223.87 \$	330,001.72
9 Bobby Hotel (fka Wells Fargo)	\$ 20,262.60 \$	31,346.28	\$ 1,372.92	\$ 3,411.30	\$ 3,245.94	\$ 776.85	\$ 78.16 \$	109.34	\$ 326.55 \$	2,925.96	\$ 1.43	\$ 14,477.47	\$ 8,585.25	\$ 12.85 \$	86,932.90
10 Fairlane Hotel (fka 401 Union)	\$ 21,016.32 \$	32,301.00	\$ 1,414.92	\$ 3,515.29	\$ -	\$ -	\$ 80.48 \$	112.69	\$ 336.53	3,564.00	\$ -	\$ -	\$ - \$	\$ - \$	62,341.23
11 Sheraton Hotel	\$ 115,993.92 \$	173,703.12	\$ 7,608.96	\$ 18,904.59	\$ 36,478.28	\$ 12,880.59	\$ 432.98 \$	606.47	\$ 1,809.80 \$	14,130.00	\$ 4,369.16	\$ 216,155.64	\$ 138,614.94 \$	\$ 575.83 \$	742,264.28
12 Municipal Auditorium	\$ 58,209.36 \$	92,308.44	\$ 4,043.04	\$ 10,044.96	\$ 7,446.47	\$ 2,948.94	\$ 229.75	321.77	\$ 961.67	-	\$ 2,990.57	\$ 57,255.97	\$ 45,947.05	\$ 255.16 \$	282,963.15
21 Hermitage Hotel	\$ 56,026.92 \$	81,447.24	\$ 3,567.96	\$ 8,864.79	\$ 10,203.95	\$ 3,658.14	\$ 203.19 \$	284.61	\$ 848.66	3,180.96	\$ 5,505.65	\$ 73,806.35	\$ 30,840.03	\$ 157.79 \$	278,596.24
24 Criminal Justice Center	\$ 94,736.40 \$	133,911.12	\$ 5,866.68	\$ 14,575.94	\$ 4,328.94	\$ 855.71	\$ 334.40 \$	468.35	\$ 1,395.38 \$	-	\$ 1,886.44	\$ 35,361.61	\$ 2,593.07	\$ - \$	296,314.04
25 501 Union Building	\$ 22,090.20 \$	32,833.56	\$ 1,438.32	\$ 3,573.38	\$ 11,451.34	\$ 4,276.07	\$ 81.90 \$	114.67	\$ 342.12 \$	2,673.96	\$ 192.68	\$ 75,237.10	\$ 37,625.46 \$	\$ 165.60 \$	192,096.36
28 4th & Church Building	\$ 239,733.36 \$	-	\$ -	\$ -	\$ 14,550.79	\$ 5,280.66	\$ 273.46 \$	382.97	\$ - \$	-	\$ -	\$ 153,172.46	\$ 36,272.32	\$ 228.47 \$	449,894.49
29 Fifth-Third Financial Center	\$ 67,510.32 \$	121,529.40	\$ 5,321.64	\$ 13,221.55	\$ 12,585.78	\$ 3,883.44	\$ 301.49 \$	422.24	\$ 1,265.79	9,038.04	\$ 3,213.68	\$ 166,056.53	\$ - \$	\$ - \$	404,349.90
32 Renaissance Hotel	\$ 139,150.32 \$	202,558.08	\$ 8,873.52	\$ 22,046.34	\$ 32,577.54	\$ 11,167.50	\$ 505.35	707.81	\$ 2,110.59	16,803.12	\$ 1,434.87	\$ 241,559.72	\$ 113,748.58	\$ 499.84 \$	793,743.18
33 Nashville Convention Center	\$ 171,339.48 \$	256,447.20	\$ 11,233.68	\$ 27,910.00	\$ 25,851.30	\$ 9,621.27	\$ 639.32	895.38	\$ 2,671.92	-	\$ 348.90	\$ 218,889.59	\$ 61,602.09	\$ 332.39 \$	787,782.52
34 Renaissance Office Tower	\$ 16,505.40 \$	29,712.36	\$ 1,301.04	\$ 3,232.47	\$ 6,322.01	\$ 2,039.95	\$ 73.70 \$	103.23	\$ 309.46 \$	2,610.96	\$ 552.67	\$ 67,351.29	\$ - \$	\$ - \$	130,114.54
35 St. Mary's Catholic Church	\$ 11,471.52 \$	-	\$ -	\$ -	\$ -	\$ -	\$ - \$	- :	\$ - \$	381.96	\$ -	\$ -	\$ - \$	\$ - \$	11,853.48
36 Nashville City Center	\$ 55,017.96 \$	99,041.28	\$ 4,336.92	\$ 10,774.99	\$ 15,202.63	\$ 4,689.92	\$ 245.71	344.11	\$ 1,031.55 \$	8,655.96	\$ 115.55	\$ 182,324.22	\$ - \$	\$ - \$	381,780.80
38 Wildhorse Saloon	\$ 20,480.88 \$	32,432.28	\$ 1,420.56	\$ 3,529.29	\$ 7,012.37	\$ 2,347.39	\$ 80.76	113.06	\$ 337.87	2,100.96	\$ 310.84	\$ 61,532.16	\$ 17,642.58	\$ 56.71 \$	149,397.71
39 Ryman Auditorium	\$ 21,129.72 \$	34,016.16	\$ 1,489.80	\$ 3,701.47	\$ 11,540.64	\$ 4,038.26	\$ 84.64 \$	118.52	\$ 354.37	2,036.04	\$ -	\$ 77,404.44	\$ 36,199.03	\$ 149.31 \$	192,262.40
40 Bridgestone Arena	\$ 227,552.88 \$	367,293.00	\$ 16,086.60	\$ 39,967.37	\$ 60,592.89	\$ 21,316.18	\$ 913.74 \$	1,279.69	\$ 3,826.27	-	\$ 887.35	\$ 533,346.55	\$ 103,973.48 \$	\$ 358.50 \$	1,377,394.50
41 Nissan Stadium	\$ 97,090.56 \$	174,778.68	\$ 7,653.24	\$ 19,014.69	\$ 25,881.02	\$ 7,199.21	\$ 433.58 \$	607.25	\$ 1,820.38 \$	-	\$ 396.49	\$ 277,775.35	\$ - \$	\$ - \$	612,650.45
43 Hume-Fogg High School	\$ 32,333.64 \$	49,887.00	\$ 2,185.08	\$ 5,428.96	\$ 2,964.32	\$ 1,036.90	\$ 124.29 \$	174.03	\$ 519.74	-	\$ 3,815.24	\$ 27,457.63	\$ 11,501.70 \$	\$ 60.06 \$	137,488.59
44 Schermerhorn Symphony Center	\$ 174,600.00 \$	-	\$ -	\$ -	\$ 14,654.86	\$ 5,198.36	\$ 197.05 \$	276.03	\$ - \$	-	\$ -	\$ 104,957.88	\$ 50,830.37 \$	\$ 187.49 \$	350,902.04
45 Nashville Public Library	\$ 79,557.12 \$	-	\$ -	\$ -	\$ 21,229.77	\$ 7,912.16	\$ 307.16 \$	430.15	\$ - \$	-	\$ 307.23	\$ 197,375.62	\$ 37,104.09 \$	\$ 225.99 \$	344,449.29
49 Viridian Residential Tower	\$ 142,172.16 \$	-	\$ -	\$ -	\$ 5,668.77	\$ 1,696.00	\$ 148.00 \$	207.28	\$ - \$	-	\$ 11,504.09	\$ 56,830.03	\$ - \$	\$	218,226.33
50 Music City Center	\$ 930,788.28 \$	106,171.80	\$ -	\$ 73,477.05	\$ 139,817.01	\$ 47,980.31	\$ 2,276.80 \$	3,188.63	\$ - \$	-	\$ 16,967.45	\$ 940,728.05	\$ 509,830.70 \$	\$ 2,044.03 \$	2,773,270.11
51 Hyatt Place Hotel	\$ 125,874.00 \$	-	\$ -	\$ -	\$ 8,192.77	\$ 2,856.00	\$ 151.10 \$	211.62	\$ - \$	-	\$ 2,215.56	\$ 46,247.87	\$ 32,978.79	\$ 127.88 \$	218,855.59
S1 State Government of TN	\$ 1,639,133.78 \$	1,226,577.00	\$ -	\$ -	\$ 151,475.08	\$ 54,454.07	\$ - \$	4,723.64	\$ 14,095.43	-	\$ 55,385.47	\$ 1,252,794.96	\$ 537,177.24 \$	\$ 2,443.42 \$	4,938,260.09
Grand Totals:	\$ 4,822,423.46 \$	3,644,943.84	\$ 101,275.44	\$ 325,097.17	\$ 685,358.84	\$ 238,542.17	\$ 9,110.78 \$	17,483.34	\$ 38,184.16 \$	76,248.96	\$ 130,150.70	\$ 5,494,859.71	\$ 2,010,727.14 \$	\$ 8,890.86 \$	17,603,296.57
Rate Calculation Totals:	\$ 5,745,565.44 \$	5,038,263.24	\$ 162,308.28	\$ 403,257.00	\$ 685,615.63	\$ 238,666.35	\$ 12,495.57	17,499.90	\$ 38,605.76	76,248.96	\$ 130,150.70	\$ 5,496,340.81	\$ 2,013,615.68 \$	\$ 8,906.21 \$	
Deviation:	\$ (923,141.98) \$	(1,393,319.40)	\$ (61,032.84)	\$ (78,159.83)	\$ (256.79)	\$ (124.18)	\$ (3,384.79) \$	(16.56)	\$ (421.60)	-	\$ -	\$ (1,481.10)	\$ (2,888.54) \$	\$ (15.35) \$	(2,464,242.96)

#### Metro Nashville District Energy System Revenues Chilled Water and Steam July, 2016

Customer Number	Customer Name	Capacity	Operating	3	EDS Improvement	Metro Incremental	Water And Sewer	Chemical Treatment	Engineering	Insurance		EDS Electricity	EDS Maint Costs Alloc	ПFS	Electricity		Natural Gas	Propane		Total
2 A	A. A. Birch	\$ 10,614.54 \$	15,919.07	\$	697.32 \$	1,975.29	\$ 4,250.20	\$ 690.09	\$ 25.11 \$	5	-	\$ 184.31 \$	- !	206.17	\$ 28,826	.23 \$	6,306.93	\$	-	\$ 69,695.26
4	Metro Courthouse	\$ 5,024.91 \$	7,428.13	\$	325.40 \$	921.74	\$ 1,969.37	\$ 313.06	\$ 11.72 \$	5	-	\$ 86.01 \$	- :	109.10	\$ 14,952	.25 \$	2,437.83	\$	-	\$ 33,579.52
7	Parkway Tower	\$ 4,581.08 \$	7,206.87	\$	315.66 \$	894.16	\$ 1,213.11	\$ 172.09	\$ 11.35 \$	5	-	\$ 83.43 \$	678.92	186.91	\$ 13,103	.60 \$	-	\$	-	\$ 28,447.18
9	Bobby Hotel (fka Wells Fargo)	\$ 1,688.55 \$	2,612.19	\$	114.41 \$	324.11	\$ 807.11	\$ 140.72	\$ 4.12 \$	5	-	\$ 30.24 \$	243.83	-	\$ 3,743	.44 \$	1,897.55	\$	-	\$ 11,606.27
10	Fairlane Hotel (fka 401 Union)	\$ 1,751.36 \$	2,691.75	\$	117.91 \$	333.99	\$ -	\$ -	\$ 4.25 \$	5	-	\$ 31.17 \$	297.00	-	\$	- \$	-	\$	-	\$ 5,227.43
11	Sheraton Hotel	\$ 9,666.16 \$	14,475.26	\$	634.08 \$	1,796.14	\$ 5,056.63	\$ 835.27	\$ 22.84 \$	5	-	\$ 167.59 \$	1,177.50	71.74	\$ 30,265	.78 \$	8,534.85	\$	-	\$ 72,703.84
12	Municipal Auditorium	\$ 4,850.78 \$	7,692.37	\$	336.92 \$	954.38	\$ 962.80	\$ 143.02	\$ 12.11 \$	5	-	\$ 89.05 \$	- :	276.40	\$ 8,588	.71 \$	465.86	\$	-	\$ 24,372.40
21	Hermitage Hotel	\$ 4,668.91 \$	6,787.27	\$	297.33 \$	842.25	\$ 1,246.56	\$ 189.13	\$ 10.72 \$	5	-	\$ 78.59 \$	265.08	383.64	\$ 9,965	.39 \$	890.02	\$	-	\$ 25,624.89
24	Criminal Justice Center	\$ 7,894.70 \$	11,159.26	\$	488.89 \$	1,384.87	\$ 2,060.44	\$ 321.33	\$ 17.63 \$	5	-	\$ 129.21 \$	- :	5 538.98	\$ 15,059	.28 \$	2,101.44	\$	-	\$ 41,156.03
25	501 Union Building	\$ 1,840.85 \$	2,736.13	\$	119.86 \$	339.51	\$ 1,347.83	\$ 222.86	\$ 4.32 \$	5	-	\$ 31.68 \$	222.83	1.32	\$ 8,100	.03 \$	2,290.92	\$	-	\$ 17,258.14
28	4th & Church Building	\$ 19,977.78 \$	-	\$	- \$	-	\$ 2,078.54	\$ 294.87	\$ 14.42 \$	5	-	\$ - \$	- :	-	\$ 22,355	.57 \$	-	\$	-	\$ 44,721.18
29	Fifth-Third Financial Center	\$ 5,625.86 \$	10,127.45	\$	443.47 \$	1,256.19	\$ 1,986.31	\$ 281.78	\$ 15.89 \$	5	-	\$ 117.22 \$	753.17	5 55.14	\$ 24,090	.60 \$	-	\$	-	\$ 44,753.08
32	Renaissance Hotel	\$ 11,595.86 \$	16,879.84	\$	739.46 \$	2,094.64	\$ 4,575.10	\$ 725.06	\$ 26.65 \$	5	-	\$ 195.44 \$	1,400.26	-	\$ 35,092	.24 \$	5,502.43	\$	-	\$ 78,826.98
33	Nashville Convention Center	\$ 14,278.29 \$	21,370.60	\$	936.14 \$	2,651.75	\$ 2,610.23	\$ 391.91	\$ 33.71 \$	5	-	\$ 247.43 \$	- :	-	\$ 22,251	.10 \$	1,564.72	\$	-	\$ 66,335.88
34	Renaissance Office Tower	\$ 1,375.45 \$	2,476.03	\$	108.42 \$	307.12	\$ 949.61	\$ 134.71	\$ 3.89 \$	5	-	\$ 28.66 \$	217.58	-	\$ 9,573	.72 \$	-	\$	-	\$ 15,175.19
35	St. Mary's Catholic Church	\$ 955.96 \$	-	\$	- \$	-	\$ -	\$ -	\$ - \$	5	-	\$ - \$	31.83	-	\$	- \$	-	\$	-	\$ 987.79
36	Nashville City Center	\$ 4,584.83 \$	8,253.44	\$	361.41 \$	1,023.74	\$ 2,315.80	\$ 328.52	\$ 12.95 \$	5	-	\$ 95.53 \$	721.33	-	\$ 25,516	.97 \$	-	\$	-	\$ 43,214.52
38	Wildhorse Saloon	\$ 1,706.74 \$	2,702.69	\$	118.38 \$	335.32	\$ 1,016.39	\$ 151.72	\$ 4.26 \$	5	-	\$ 31.29 \$	175.08	-	\$ 8,679	.22 \$	545.69	\$	-	\$ 15,466.78
39	Ryman Auditorium	\$ 1,760.81 \$	2,834.68	\$	124.15 \$	351.68	\$ 1,696.45	\$ 273.10	\$ 4.46 \$	5	-	\$ 32.82 \$	169.67	-	\$ 11,372	.12 \$	2,347.55	\$	-	\$ 20,967.49
40	Bridgestone Arena	\$ 18,962.74 \$	30,607.75	\$	1,340.55 \$	3,797.33	\$ 7,867.91	\$ 1,238.95	\$ 48.18 \$	5	-	\$ 354.33 \$	- :	-	\$ 66,935	.34 \$	8,887.23	\$	-	\$ 140,040.31
41	Nissan Stadium	\$ 8,090.88 \$	14,564.89	\$	637.77 \$	1,806.60	\$ 4,798.64	\$ 680.74	\$ 22.86 \$	5	-	\$ 168.57 \$	- :	-	\$ 48,016	.22 \$	-	\$	-	\$ 78,787.17
43	Hume-Fogg High School	\$ 2,694.47 \$	4,157.25	\$	182.09 \$	515.81	\$ 410.95	\$ 60.07	\$ 6.55 \$	5	-	\$ 48.13 \$	- :	267.34	\$ 4,751	.61 \$	128.34	\$	-	\$ 13,222.61
44	Schermerhorn Symphony Center	\$ 14,550.00 \$	-	\$	- \$	-	\$ 1,925.99	\$ 323.52	\$ 10.39 \$	5	-	\$ - \$	- :	-	\$ 12,681	.15 \$	3,639.98	\$	-	\$ 33,131.03
45	Nashville Public Library	\$ 6,629.76 \$	-	\$	- \$	-	\$ 2,257.77	\$ 320.29	\$ 16.20 \$	5	-	\$ - \$	- :	-	\$ 20,650	.29 \$	-	\$	-	\$ 29,874.31
49	Viridian Residential Tower	\$ 11,847.68 \$	-	\$	- \$	-	\$ 881.44	\$ 125.04	\$ 7.80 \$	5	-	\$ - \$	- :	385.05	\$ 8,477	.41 \$	-	\$	-	\$ 21,724.42
50	Music City Center	\$ 77,565.69 \$	8,847.65	\$	- \$	6,981.11	\$ 22,187.51	\$ 3,658.07	\$ 120.04 \$	5	-	\$ - \$	- :	952.29	\$ 149,993	.64 \$	36,946.30	\$	-	\$ 307,252.30
51	Hyatt Place Hotel	\$ 10,489.50 \$	-	\$	- \$	-	\$ 1,299.92	\$ 222.49	\$ 7.97 \$	5	-	\$ - \$	- :	<b>-</b>	\$ 6,744	.79 \$	2,755.92	\$	-	\$ 21,520.59
S1 :	State Government of TN	\$ 136,594.49 \$	102,214.75	\$	- \$	-	\$ 21,112.97	\$ 3,308.07	\$ - \$	5	-	\$ 1,305.27 \$	- :	2,195.36	\$ 186,746	.71 \$	22,647.13	\$	-	\$ 476,124.75
0	Grand Totals:	\$ 401,868.63 \$	303,745.32	\$	8,439.62 \$	30,887.73	\$ 98,885.58	\$ 15,546.48	\$ 480.39 \$	5	-	\$ 3,535.97 \$	6,354.08	5,629.44	\$ 796,533	.41 \$	109,890.69	\$	-	\$ 1,781,797.34
F	Rate Calculation Totals:	\$ 478,797.12 \$	419,855.27	\$ 1	3,525.69 \$	38,313.75	\$ 98,904.16	\$ 15,546.19	\$ 658.75 \$	5	-	\$ 3,575.06 \$	6,354.08	5,629.44	\$ 796,742	.73 \$	109,890.71	\$	-	\$ 1,987,792.95
	Deviation:	\$ (76,928.49) \$	(116,109.95)	\$ (	(5,086.07) \$	(7,426.02)	\$ (18.58)	\$ 0.29	\$ (178.36) \$	5	-	\$ (39.09) \$	- :	\$ -	\$ (209	.32) \$	(0.02)	\$	-	\$ (205,995.61)

#### Metro Nashville District Energy System Revenues Chilled Water and Steam August, 2016

Number Number Customer Name	Capacity	Operating	EDS Im provement	Metro Incremental	Water And Sewer	Chemical Treatment	Engineering	Insurance		EDS Electricity	EDS Maint Costs Alloc	пгѕ	Electricity		Natural Gas	Propane		Total
2 A. A. Birch	\$ 10,614.54 \$	15,919.07	\$ 697.32 \$	1,975.29 \$	3,743.86 \$	708.24	\$ 25.11	\$	- \$	201.58 \$	- 5	317.18	\$ 26,308.	45 \$	5,262.19	\$	-	\$ 65,772.83
4 Metro Courthouse	\$ 5,024.91 \$	7,428.13	\$ 325.40 \$	921.74 \$	1,801.08 \$	334.23	\$ 11.72	\$	- \$	94.06 \$	- 5	147.81	\$ 14,361.	04 \$	1,951.74	\$	-	\$ 32,401.86
7 Parkway Tower	\$ 4,581.08 \$	7,206.87	\$ 315.66 \$	894.16 \$	1,116.18 \$	193.77	\$ 11.35	\$	- \$	91.25 \$	678.92	174.45	\$ 12,394.	19 \$	16.96	\$	-	\$ 27,674.84
9 Bobby Hotel (fka Wells Fargo)	\$ 1,688.55 \$	2,612.19	\$ 114.41 \$	324.11 \$	841.62 \$	168.73	\$ 4.12	\$	- \$	33.07 \$	243.83	-	\$ 3,687.	68 \$	2,032.23	\$	-	\$ 11,750.54
10 Fairlane Hotel (fka 401 Union)	\$ 1,751.36 \$	2,691.75	\$ 117.91 \$	333.99 \$	- \$	-	\$ 4.25	\$	- \$	34.08 \$	297.00	-	\$ -	\$	-	\$	-	\$ 5,230.34
11 Sheraton Hotel	\$ 9,666.16 \$	14,475.26	\$ 634.08 \$	1,796.14 \$	4,647.96 \$	885.83	\$ 22.84	\$	- \$	183.29 \$	1,177.50	121.96	\$ 28,938.	44 \$	7,118.69	\$	-	\$ 69,668.15
12 Municipal Auditorium	\$ 4,850.78 \$	7,692.37	\$ 336.92 \$	954.38 \$	1,027.27 \$	189.06	\$ 12.11	\$	- \$	97.40 \$	- \$	362.49	\$ 10,658.	83 \$	973.09	\$	-	\$ 27,154.70
21 Hermitage Hotel	\$ 4,668.91 \$	6,787.27	\$ 297.33 \$	842.25 \$	1,188.67 \$	216.45	\$ 10.72	\$	- \$	85.94 \$	265.08	410.82	\$ 9,302.	51 \$	919.13	\$	-	\$ 24,995.08
24 Criminal Justice Center	\$ 7,894.70 \$	11,159.26	\$ 488.89 \$	1,384.87 \$	1,467.92 \$	258.77	\$ 17.63	\$	- \$	141.32 \$	- \$	609.67	\$ 13,016	53 \$	374.28	\$	-	\$ 36,813.84
25 501 Union Building	\$ 1,840.85 \$	2,736.13	\$ 119.86 \$	339.51 \$	1,058.68 \$	199.68	\$ 4.32	\$	- \$	34.65 \$	222.83	-	\$ 7,032.	90 \$	1,435.46	\$	-	\$ 15,024.87
28 4th & Church Building	\$ 19,977.78 \$	-	\$ - \$	- \$	2,077.42 \$	360.28	\$ 14.42	\$	- \$	- \$	- \$	-	\$ 21,672.	72 \$	0.04	\$	-	\$ 44,102.66
29 Fifth-Third Financial Center	\$ 5,625.86 \$	10,127.45	\$ 443.47 \$	1,256.19 \$	1,992.47 \$	345.55	\$ 15.89	\$	- \$	128.20 \$	753.17	47.26	\$ 24,651.	86 \$	-	\$	-	\$ 45,387.37
32 Renaissance Hotel	\$ 11,595.86 \$	16,879.84	\$ 739.46 \$	2,094.64 \$	4,668.90 \$	861.59	\$ 26.65	\$	- \$	213.75 \$	1,400.26	-	\$ 36,763.	09 \$	4,630.12	\$	-	\$ 79,874.16
33 Nashville Convention Center	\$ 14,278.29 \$	21,370.60	\$ 936.14 \$	2,651.75 \$	2,920.61 \$	521.54	\$ 33.71	\$	- \$	270.60 \$	- \$	-	\$ 26,457.	22 \$	1,340.90	\$	-	\$ 70,781.36
34 Renaissance Office Tower	\$ 1,375.45 \$	2,476.03	\$ 108.42 \$	307.12 \$	866.61 \$	150.30	\$ 3.89	\$	- \$	31.34 \$	217.58	-	\$ 9,206	57 \$	=	\$	-	\$ 14,743.31
35 St. Mary's Catholic Church	\$ 955.96 \$	-	\$ - \$	- \$	- \$	-	\$ -	\$	- \$	- \$	31.83	-	\$ -	\$	-	\$	-	\$ 987.79
36 Nashville City Center	\$ 4,584.83 \$	8,253.44	\$ 361.41 \$	1,023.74 \$	2,264.95 \$	392.81	\$ 12.95	\$	- \$	104.47 \$	721.33	-	\$ 25,010.	80 \$	= :	\$	-	\$ 42,730.73
38 Wildhorse Saloon	\$ 1,706.74 \$	2,702.69	\$ 118.38 \$	335.32 \$	891.43 \$	157.30	\$ 4.26	\$	- \$	34.22 \$	175.08	-	\$ 8,175.	60 \$	240.97	\$	-	\$ 14,541.99
39 Ryman Auditorium	\$ 1,760.81 \$	2,834.68	\$ 124.15 \$	351.68 \$	1,452.91 \$	272.71	\$ 4.46	\$	- \$	35.89 \$	169.67	-	\$ 9,994.	01 \$	1,850.64	\$	-	\$ 18,851.61
40 Bridgestone Arena	\$ 18,962.74 \$	30,607.75	\$ 1,340.55 \$	3,797.33 \$	7,210.42 \$	1,329.21	\$ 48.18	\$	- \$	387.52 \$	- \$	-	\$ 51,343.	75 \$	7,027.89	\$	-	\$ 122,055.34
41 Nissan Stadium	\$ 8,090.88 \$	14,564.89	\$ 637.77 \$	1,806.60 \$	5,115.27 \$	887.14	\$ 22.86	\$	- \$	184.37 \$	- \$	-	\$ 48,657.	01 \$	=	\$	-	\$ 79,966.79
43 Hume-Fogg High School	\$ 2,694.47 \$	4,157.25	\$ 182.09 \$	515.81 \$	404.03 \$	70.53	\$ 6.55	\$	- \$	52.63 \$	- \$	219.76	\$ 4,603.	23 \$	40.96	\$	-	\$ 12,947.31
44 Schermerhorn Symphony Center	\$ 14,550.00 \$	=	\$ - \$	- \$	1,907.95 \$	364.94	\$ 10.39	\$	- \$	- \$	- \$	-	\$ 13,944.	96 \$	3,040.41	\$	-	\$ 33,818.65
45 Nashville Public Library	\$ 6,629.76 \$	-	\$ - \$	- \$	2,126.07 \$	368.72	\$ 16.20	\$	- \$	- \$	- \$	-	\$ 19,689.	61 \$	-	\$	-	\$ 28,830.36
49 Viridian Residential Tower	\$ 11,847.68 \$	-	\$ - \$	- \$	829.70 \$	143.89	\$ 7.80	\$	- \$	- \$	- \$	420.59	\$ 8,051.	67 \$	-	\$	-	\$ 21,301.33
50 Music City Center	\$ 77,565.69 \$	8,847.65	\$ - \$	6,981.11 \$	20,646.73 \$	3,976.83	\$ 120.04	\$	- \$	- \$	- \$	1,133.02	\$ 135,778.	15 \$	35,361.14	\$	-	\$ 290,410.36
51 Hyatt Place Hotel	\$ 10,489.50 \$	-	\$ - \$	- \$	1,110.38 \$	216.46	\$ 7.97	\$	- \$	- \$	- \$	46.78	\$ 6,336.	53 \$	2,132.34	\$	-	\$ 20,339.96
S1 State Government of TN	\$ 136,594.49 \$	102,214.75	\$ - \$	- \$	19,861.36 \$	3,671.65	\$ -	\$	- \$	1,427.51 \$	- \$	1,690.24	\$ 173,176.	12 \$	20,276.55	\$	-	\$ 458,912.67
Grand Totals:	\$ 401,868.63 \$	303,745.32	\$ 8,439.62 \$	30,887.73 \$	93,240.45 \$	17,246.21	\$ 480.39	\$	- \$	3,867.14 \$	6,354.08	5,702.03	\$ 749,213.	47 \$	96,025.73	\$	-	\$ 1,717,070.80
Rate Calculation Totals:	\$ 478,797.12 \$	419,855.27	\$ 13,525.69 \$	38,313.75 \$	93,257.49 \$	17,253.06	\$ 658.75	\$	- \$	3,909.94 \$	6,354.08	5,702.03	\$ 749,410.	91 \$	96,025.71	\$	-	\$ 1,923,063.80
Deviation:	\$ (76,928.49) \$	(116,109.95)	\$ (5,086.07) \$	(7,426.02) \$	(17.04) \$	(6.85)	\$ (178.36)	\$	- \$	(42.80) \$	- \$	-	\$ (197.	44) \$	0.02	\$	-	\$ (205,993.00)

#### Metro Nashville District Energy System Revenues Chilled Water and Steam September, 2016

ustomer Lustomer Jame		apacity	perating	:DS mproveme t	Aetro ncremental	Water And Sewer	chemical reatment	ngineering	nsurance		EDS	EDS Maint Costs Alloc	IFS	lectricity	latural Gas	ropane		otal
2 A. A. Birch	Ś	10,614.54 \$	15,919.07	697.32 \$	1,975.29 \$	3,479.63 \$	617.99	ŝ 29.54	s <u>-</u>	- Ś		- s	872.25 \$	19,739.47 \$	5,152.64	; -	Ś	59,271.37
4 Metro Courthouse	Ś	5,024.91 \$	7,428.13		921.74 \$	1,910.17 \$	335.41			- \$		- Ś		11,826.58 \$	2,220.54		Ś	
7 Parkway Tower	Ś	4,581.08 \$	7,206.87		894.16 \$	1,244.34 \$	209.36			- Ś		678.92 \$	161.99 \$	10,666.72 \$	-,		Ś	26,051.04
9 Bobby Hotel (fka Wells Fargo)	\$	1,688.55 \$	2,612.19	114.41 \$	324.11 \$	858.57 \$	157.71	\$ 4.85	\$	- \$	28.48 \$	243.83 \$	- \$	2,976.37 \$	2,098.57	-	\$	11,107.64
10 Fairlane Hotel (fka 401 Union)	\$	1,751.36 \$	2,691.75	117.91 \$	333.99 \$	- \$	- :	\$ 4.99	\$	- \$	29.36 \$	297.00 \$	- \$	- \$	- 5	-	\$	
11 Sheraton Hotel	\$	9,666.16 \$	14,475.26	634.08 \$	1,796.14 \$	5,427.73 \$	970.83	\$ 26.85	\$	- \$	157.88 \$	1,177.50 \$	394.59 \$	25,068.99 \$	9,121.34	-	\$	68,917.35
12 Municipal Auditorium	\$	4,850.78 \$	7,692.37	336.92 \$	954.38 \$	897.66 \$	154.46	\$ 14.25	\$	- \$	83.89 \$	- \$	457.65 \$	6,147.66 \$	543.59	-	\$	22,133.61
21 Hermitage Hotel	\$	4,668.91 \$	6,787.27	\$ 297.33 \$	842.25 \$	1,411.64 \$	246.36	\$ 12.60	\$	- \$	74.04 \$	265.08 \$	428.95 \$	8,212.98 \$	1,401.24	-	\$	24,648.65
24 Criminal Justice Center	\$	7,894.70 \$	11,159.26 \$	488.89 \$	1,384.87 \$	835.79 \$	141.42	\$ 20.74	\$	- \$	121.73 \$	- \$	737.79 \$	7,336.78 \$	126.80	-	\$	30,248.77
25 501 Union Building	\$	1,840.85 \$	2,736.13	119.86 \$	339.51 \$	1,476.36 \$	264.45	\$ 5.08	\$	- \$	29.85 \$	222.83 \$	6.61 \$	6,597.29 \$	2,541.31	-	\$	16,180.13
28 4th & Church Building	\$	19,977.78 \$	- \$	\$ - \$	- \$	1,931.20 \$	324.92	\$ 16.96	\$	- \$	- \$	- \$	- \$	17,220.40 \$	- 5	-	\$	39,471.26
29 Fifth-Third Financial Center	\$	5,625.86 \$	10,127.45	\$ 443.47 \$	1,256.19 \$	2,005.60 \$	337.43	\$ 18.70	\$	- \$	110.42 \$	753.17 \$	94.52 \$	20,975.57 \$	- 5	-	\$	41,748.38
32 Renaissance Hotel	\$	11,595.86 \$	16,879.84	739.46 \$	2,094.64 \$	5,234.36 \$	918.06	\$ 31.34	\$	- \$	184.12 \$	1,400.26 \$	- \$	31,203.96 \$	5,919.82	-	\$	76,201.72
33 Nashville Convention Center	\$	14,278.29 \$	21,370.60 \$	936.14 \$	2,651.75 \$	3,146.13 \$	539.72	\$ 39.65	\$	- \$	233.09 \$	- \$	84.58 \$	21,643.78 \$	1,645.70	-	\$	66,569.43
34 Renaissance Office Tower	\$	1,375.45 \$	2,476.03	108.42 \$	307.12 \$	893.61 \$	150.35	\$ 4.57	\$	- \$	27.00 \$	217.58 \$	- \$	7,788.16 \$	- 5	-	\$	13,348.29
35 St. Mary's Catholic Church	\$	955.96 \$	- \$	\$ - \$	- \$	- \$	- :	\$ -	\$	- \$	- \$	31.83 \$	- \$	- \$	- 9	-	\$	987.79
36 Nashville City Center	\$	4,584.83 \$	8,253.44	361.41 \$	1,023.74 \$	2,395.85 \$	403.09	\$ 15.24	\$	- \$	89.98 \$	721.33 \$	89.87 \$	21,560.70 \$	- 5	-	\$	39,499.48
38 Wildhorse Saloon	\$	1,706.74 \$	2,702.69	118.38 \$	335.32 \$	859.46 \$	145.72	\$ 5.01	\$	- \$	29.47 \$	175.08 \$	- \$	6,483.14 \$	177.50	-	\$	12,738.51
39 Ryman Auditorium	\$	1,760.81 \$	2,834.68	124.15 \$	351.68 \$	1,583.99 \$	279.98	\$ 5.25	\$	- \$	30.91 \$	169.67 \$	- \$	8,243.73 \$	2,133.60	-	\$	17,518.45
40 Bridgestone Arena	\$	18,962.74 \$	30,607.75	1,340.55 \$	3,797.33 \$	7,187.59 \$	1,250.55	\$ 56.67	\$	- \$	333.78 \$	- \$	- \$	52,088.82 \$	6,531.80	-	\$	122,157.58
41 Nissan Stadium	\$	8,090.88 \$	14,564.89	637.77 \$	1,806.60 \$	4,783.51 \$	804.80	\$ 26.89	\$	- \$	158.80 \$	- \$	90.62 \$	38,117.41 \$	- 5	-	\$	69,082.17
43 Hume-Fogg High School	\$	2,694.47 \$	4,157.25 \$	\$ 182.09 \$	515.81 \$	525.97 \$	90.82	\$ 7.71	\$	- \$	45.34 \$	- \$	215.23 \$	4,025.94 \$	368.43	-	\$	12,829.06
44 Schermerhorn Symphony Center	\$	14,550.00 \$	- \$	\$ - \$	- \$	2,161.03 \$	386.20	\$ 12.22	\$	- \$	- \$	- \$	- \$	11,962.60 \$	3,580.92	-	\$	32,652.97
45 Nashville Public Library	\$	6,629.76 \$	- \$	\$ - \$	- \$	2,314.83 \$	389.76	\$ 19.05	\$	- \$	- \$	- \$	9.24 \$	17,089.26 \$	47.52	-	\$	26,499.42
49 Viridian Residential Tower	\$	11,847.68 \$	- \$	\$ - \$	- \$	964.88 \$	162.34	\$ 9.18	\$	- \$	- \$	- \$	574.61 \$	7,761.59 \$	- 5	-	\$	21,320.28
50 Music City Center	\$	77,565.69 \$	8,847.65	\$ - \$	6,981.11 \$	21,666.05 \$	3,882.07	\$ 141.21	\$	- \$	- \$	- \$	1,577.88 \$	108,133.28 \$	37,486.38	-	\$	266,281.32
51 Hyatt Place Hotel	\$	10,489.50 \$	- \$	\$ - \$	- \$	1,141.34 \$	204.54	\$ 9.37	\$	- \$	- \$	- \$	74.42 \$	5,178.77 \$	1,979.89	-	\$	19,077.83
S1 State Government of TN	\$	136,594.48 \$	102,214.75	- \$	- \$	21,567.56 \$	3,784.84	\$ -	\$	- \$	1,229.63 \$	- \$	2,981.77 \$	144,441.56 \$	24,721.91	-	\$	437,536.50
Grand Totals:	\$	401,868.62 \$	303,745.32	8,439.62 \$	30,887.73 \$	97,904.85 \$	17,153.18	\$ 565.05	\$	- \$	3,331.01 \$	6,354.08 \$	9,081.32 \$	622,491.51 \$	107,799.50	-	\$	1,609,621.79
Rate Calculation Totals:	\$	478,797.12 \$	419,855.27	13,525.69 \$	38,313.75 \$	97,927.48 \$	17,157.97	\$ 775.00	\$	- \$	-,	6,354.08 \$	9,081.32 \$	622,670.89 \$	107,818.39	-	\$	1,815,644.63
Deviation:	\$	(76,928.50) \$	(116,109.95) \$	(5,086.07) \$	(7,426.02) \$	(22.63) \$	(4.79)	\$ (209.95)	\$	- \$	(36.66) \$	- \$	- \$	(179.38) \$	(18.89)	-	\$	(206,022.84)

#### Metro Nashville District Energy System Revenues Chilled Water and Steam October, 2016

Customer Number Customer Name	Capacity	Operating	EDS Improvement	Metro Incremental	Water And Sewer	Chemical Treatment	Engineering	Insurance	EDS Electricity	EDS Maint Costs Alloc	TIFS	Electricity	Natural Gas	Propane	Total
2 A. A. Birch	\$ 10,614.54 \$	15,919.07	\$ 697.32	1,975.29	5,313.78 \$	1,273.17	\$ 29.54	\$ -	\$ 128.50 \$	- \$	816.74	\$ 27,649.25	\$ 17,224.52	\$ 84.58 \$	81,726.30
4 Metro Courthouse	\$ 5,024.91 \$	7,428.13	\$ 325.40	921.74	1,365.62 \$	312.40	3 13.78	\$ -	\$ 59.96 \$	- \$	348.40	\$ 8,842.43	\$ 2,918.48	\$ 14.33 \$	27,575.58
7 Parkway Tower	\$ 4,581.08 \$	7,206.87	\$ 315.66	894.16	846.91 \$	175.99	3 13.35	\$ -	\$ 58.17 \$	678.92 \$	220.14	\$ 8,319.20	\$ -	\$ - \$	23,310.45
9 Bobby Hotel (fka Wells Fargo)	\$ 1,688.55 \$	2,612.19	\$ 114.41	324.11	530.35 \$	129.68	\$ 4.85	\$ -	\$ 21.09 \$	243.83 \$	-	\$ 2,218.73	\$ 1,984.87	\$ 9.75 \$	9,882.41
10 Fairlane Hotel (fka 401 Union)	\$ 1,751.36 \$	2,691.75	\$ 117.91	333.99	- \$	- :	\$ 4.99	\$ -	\$ 21.72 \$	297.00 \$	-	\$ -	\$ -	\$ - \$	5,218.72
11 Sheraton Hotel	\$ 9,666.16 \$	14,475.26	\$ 634.08	1,796.14	3,945.16 \$	934.27	\$ 26.85	\$ -	\$ 116.84 \$	1,177.50 \$	760.48	\$ 19,559.83	\$ 11,668.28	\$ 57.30 \$	64,818.15
12 Municipal Auditorium	\$ 4,850.78 \$	7,692.37	336.92	954.38	652.09 \$	145.80	3 14.25	\$ -	\$ 62.09 \$	- \$	611.71	\$ 4,262.29	\$ 1,049.10	\$ 5.15 \$	20,636.93
21 Hermitage Hotel	\$ 4,668.91 \$	6,787.27	\$ 297.33	842.25	1,256.97 \$	289.93	\$ 12.60	\$ -	\$ 54.79 \$	265.08 \$	447.07	\$ 7,064.18	\$ 2,928.65	\$ 14.38 \$	24,929.41
24 Criminal Justice Center	\$ 7,894.70 \$	11,159.26	\$ 488.89	1,384.87	- \$	- :	\$ 20.74	\$ -	\$ 90.08 \$	- \$	-	\$ (0.01)	\$ -	\$ - \$	21,038.53
25 501 Union Building	\$ 1,840.85 \$	2,736.13	\$ 119.86	339.51	1,208.57 \$	281.65	5.08	\$ -	\$ 22.09 \$	222.83 \$	40.97	\$ 7,605.95	\$ 3,109.61	\$ 15.27 \$	17,548.37
28 4th & Church Building	\$ 19,977.78 \$	- :	\$ - :	- :	1,007.15 \$	209.29	\$ 16.96	\$ -	\$ - \$	- \$	-	\$ 11,117.22	\$ -	\$ - \$	32,328.40
29 Fifth-Third Financial Center	\$ 5,625.86 \$	10,127.45	\$ 443.47	1,256.19	1,087.96 \$	226.08	\$ 18.70	\$ -	\$ 81.72 \$	753.17 \$	299.31	\$ 12,459.53	\$ -	\$ - \$	32,379.44
32 Renaissance Hotel	\$ 11,595.86 \$	16,879.84	\$ 739.46	2,094.64	3,478.94 \$	795.48	31.34	\$ -	\$ 136.26 \$	1,400.26 \$	37.76	\$ 21,701.14	\$ 7,395.98	\$ 36.32 \$	66,323.28
33 Nashville Convention Center	\$ 14,278.29 \$	21,370.60	\$ 936.14	2,651.75	2,913.59 \$	637.80	\$ 39.65	\$ -	\$ 172.50 \$	- \$	74.01	\$ 21,241.66	\$ 3,297.08	\$ 16.19 \$	67,629.26
34 Renaissance Office Tower	\$ 1,375.45 \$	2,476.03	\$ 108.42	307.12	582.94 \$	121.14	\$ 4.57	\$ -	\$ 19.98 \$	217.58 \$	38.51	\$ 5,858.21	\$ -	\$ - \$	11,109.95
35 St. Mary's Catholic Church	\$ 955.96 \$	- :	\$ - !	- :	- \$	- :	\$ -	\$ -	\$ - \$	31.83 \$	-	\$ -	\$ -	\$ - \$	987.79
36 Nashville City Center	\$ 4,584.83 \$	8,253.44	\$ 361.41	1,023.74	1,532.18 \$	318.39	\$ 15.24	\$ -	\$ 66.60 \$	721.33 \$	25.68	\$ 16,538.97	\$ -	\$ - \$	33,441.81
38 Wildhorse Saloon	\$ 1,706.74 \$	2,702.69	\$ 118.38	335.32	635.43 \$	141.89	\$ 5.01	\$ -	\$ 21.81 \$	175.08 \$	-	\$ 4,277.92	\$ 1,004.18	\$ 4.93 \$	11,129.38
39 Ryman Auditorium	\$ 1,760.81 \$	2,834.68	\$ 124.15	351.68	1,203.05 \$	276.13	\$ 5.25	\$ -	\$ 22.88 \$	169.67 \$	-	\$ 6,897.51	\$ 2,664.00	\$ 13.08 \$	16,322.89
40 Bridgestone Arena	\$ 18,962.74 \$	30,607.75	\$ 1,340.55	3,797.33	5,669.12 \$	1,243.98			\$ 247.02 \$	- \$	-	\$ 37,552.62	\$ 6,721.31	\$ 33.00 \$	
41 Nissan Stadium	\$ 8,090.88 \$	14,564.89	\$ 637.77	1,806.60	2,593.37 \$	538.91	\$ 26.89	\$ -	\$ 117.52 \$	- \$	113.28	\$ 26,168.92	\$ -	\$ - \$	54,659.03
43 Hume-Fogg High School	\$ 2,694.47 \$	4,157.25	\$ 182.09	515.81	397.53 \$	91.46	\$ 7.71	\$ -	\$ 33.55 \$	- \$	283.20	\$ 3,116.59	\$ 902.09	\$ 4.43 \$	12,386.18
44 Schermerhorn Symphony Center	\$ 14,550.00 \$	- :	\$ - :	- :	1,416.49 \$	326.70	\$ 12.22	\$ -	\$ - \$	- \$	-	\$ 9,235.24	\$ 3,298.67	\$ 16.20 \$	28,855.52
45 Nashville Public Library	\$ 6,629.76 \$	- :	\$ - !	- :	2,141.05 \$	455.41	\$ 19.05	\$ -	\$ - \$	- \$	16.17	\$ 20,160.23	\$ 1,069.78	\$ 5.25 \$	30,496.70
49 Viridian Residential Tower	\$ 11,847.68 \$	-	\$ - :	- :	624.10 \$	129.69	9.18	\$ -	\$ - \$	- \$	924.12	\$ 5,381.86	\$ -	\$ - \$	18,916.63
50 Music City Center	\$ 77,565.69 \$	8,847.65	\$ - :	6,981.11	13,106.75 \$	3,069.00	\$ 141.21	\$ -	\$ - \$	- \$	1,195.58	\$ 73,824.14	\$ 35,211.93	\$ 172.90 \$	220,115.96
51 Hyatt Place Hotel	\$ 10,489.50 \$	- :	\$ - :	- :	864.74 \$	204.30	\$ 9.37	\$ -	\$ - \$	- \$	246.64	\$ 4,177.19	\$ 2,509.34	\$ 12.32 \$	18,513.40
S1 State Government of TN	\$ 136,594.48 \$	102,214.75	\$ - !	- :	13,896.93 \$	3,158.56	\$ -	\$ -	\$ 910.00 \$	- \$	4,373.48	\$ 101,738.67	\$ 27,599.05	\$ 135.54 \$	390,621.46
Grand Totals:	\$ 401,868.62 \$	303,745.32	\$ 8,439.62	30,887.73	68,270.77 \$	15,487.10	\$ 565.05	\$ -	\$ 2,465.17 \$	6,354.08 \$	10,873.25	\$ 466,969.47	\$ 132,556.92	\$ 650.92 \$	1,449,134.02
Rate Calculation Totals:	\$ 478,797.12 \$	419,855.27	\$ 13,525.69	38,313.75	68,301.90 \$	15,495.94	\$ 775.00	\$ -	\$ 2,492.39 \$	6,354.08 \$	10,873.25	\$ 467,386.22	\$ 132,713.53	\$ 651.68 \$	1,655,535.82
Deviation:	\$ (76,928.50) \$	(116,109.95)	\$ (5,086.07)	(7,426.02)	(31.13) \$	(8.84)	(209.95)	\$ -	\$ (27.22) \$	- \$	-	\$ (416.75)	\$ (156.61)	\$ (0.76) \$	(206,401.80)

#### Metro Nashville District Energy System Revenues Chilled Water and Steam November, 2016

Customer Number Customer Name	Capacity	Operating	EDS Improvement	Metro Incremental	Water And Sewer	Chemical Treatment	Engineering	Insurance	EDS	EDS Maint Costs Alloc	ПFS	Electricity	Natural Gas	Propane	Total
2 A. A. Birch	\$ 10,614.54 \$	15,919.07	\$ 697.32 \$	1,975.29 \$	3,011.50 \$	975.16	\$ 29.54	\$ -	\$ 139.50 \$	- \$	769.16	\$ 16,165.68	\$ 13,235.25	\$ 67.61	\$ 63,599.62
4 Metro Courthouse	\$ 5,024.91 \$	7,428.13	\$ 325.40 \$	921.74 \$	1,050.23 \$	326.87	\$ 13.78	\$ -	\$ 65.10 \$	- \$	351.92	\$ 6,113.59	\$ 3,485.16	\$ 17.80	\$ 25,124.63
7 Parkway Tower	\$ 4,581.08 \$	7,206.87	\$ 315.66 \$	894.16 \$	951.35 \$	285.52	\$ 13.35	\$ -	\$ 63.15 \$	678.92 \$	249.21	\$ 6,176.62	\$ 2,251.55	\$ 11.50	\$ 23,678.94
9 Bobby Hotel (fka Wells Fargo)	\$ 1,688.55 \$	2,612.19	\$ 114.41 \$	324.11 \$	180.09 \$	56.16	\$ 4.85	\$ -	\$ 22.89 \$	243.83 \$	1.43	\$ 1,102.23	\$ 607.13	\$ 3.10	\$ 6,960.97
10 Fairlane Hotel (fka 401 Union)	\$ 1,751.36 \$	2,691.75	\$ 117.91 \$	333.99 \$	- \$	=	\$ 4.99	\$ -	\$ 23.59 \$	297.00 \$	-	\$ -	\$ -	\$ -	\$ 5,220.59
11 Sheraton Hotel	\$ 9,666.16 \$	14,475.26	\$ 634.08 \$	1,796.14 \$	3,011.08 \$	973.68	\$ 26.85	\$ -	\$ 126.85 \$	1,177.50 \$	1,061.80	\$ 14,420.68	\$ 13,118.41	\$ 67.02	\$ 60,555.51
12 Municipal Auditorium	\$ 4,850.78 \$	7,692.37	\$ 336.92 \$	954.38 \$	640.32 \$	229.10	\$ 14.25	\$ -	\$ 67.41 \$	- \$	747.64	\$ 2,426.03	\$ 4,676.68	\$ 23.89	\$ 22,659.77
21 Hermitage Hotel	\$ 4,668.91 \$	6,787.27	\$ 297.33 \$	842.25 \$	998.70 \$	312.55	\$ 12.60	\$ -	\$ 59.48 \$	265.08 \$	444.05	\$ 5,178.41	\$ 3,460.98	\$ 17.68	\$ 23,345.29
24 Criminal Justice Center	\$ 7,894.70 \$	11,159.26	\$ 488.89 \$	1,384.87 \$	- \$	-	\$ 20.74	\$ -	\$ 97.80 \$	- \$	-	\$ -	\$ -	\$ -	\$ 21,046.26
25 501 Union Building	\$ 1,840.85 \$	2,736.13	\$ 119.86 \$	339.51 \$	1,129.57 \$	349.19	\$ 5.08	\$ -	\$ 23.98 \$	222.83 \$	37.00	\$ 6,334.67	\$ 3,544.14	\$ 18.11	\$ 16,700.92
28 4th & Church Building	\$ 19,977.78 \$	-	\$ - \$	- \$	1,127.63 \$	348.30	\$ 16.96	\$ -	\$ - \$	- \$	-	\$ 7,827.10	\$ 3,514.24	\$ 17.95	\$ 32,829.96
29 Fifth-Third Financial Center	\$ 5,625.86 \$	10,127.45	\$ 443.47 \$	1,256.19 \$	977.82 \$	266.44	\$ 18.70	\$ -	\$ 88.72 \$	753.17 \$	385.96	\$ 9,075.24	\$ -	\$ -	\$ 29,019.02
32 Renaissance Hotel	\$ 11,595.86 \$	16,879.84	\$ 739.46 \$	2,094.64 \$	2,221.76 \$	717.17	\$ 31.34	\$ -	\$ 147.93 \$	1,400.26 \$	241.66	\$ 12,618.12	\$ 9,570.64	\$ 48.89	\$ 58,307.57
33 Nashville Convention Center	\$ 14,278.29 \$	21,370.60	\$ 936.14 \$	2,651.75 \$	2,576.36 \$	760.69	\$ 39.65	\$ -	\$ 187.28 \$	- \$	105.73	\$ 15,392.99	\$ 5,024.71	\$ 25.67	\$ 63,349.86
34 Renaissance Office Tower	\$ 1,375.45 \$	2,476.03	\$ 108.42 \$	307.12 \$	554.93 \$	151.21	\$ 4.57	\$ -	\$ 21.69 \$	217.58 \$	88.58	\$ 4,128.85	\$ -	\$ -	\$ 9,434.43
35 St. Mary's Catholic Church	\$ 955.96 \$	- :	\$ - \$	- \$	- \$	-	ŝ -	\$ -	\$ - \$	31.83 \$	-	\$ -	\$ -	\$ -	\$ 987.79
36 Nashville City Center	\$ 4,584.83 \$	8,253.44	\$ 361.41 \$	1,023.74 \$	1,287.74 \$	350.89	\$ 15.24	\$ -	\$ 72.30 \$	721.33 \$	-	\$ 10,969.72	\$ -	\$ -	\$ 27,640.64
38 Wildhorse Saloon	\$ 1,706.74 \$	2,702.69		335.32 \$	610.41 \$	188.78		-	\$ 23.68 \$	175.08 \$	-	\$ 3,185.63	\$ 1,922.27		10,983.81
39 Ryman Auditorium	\$ 1,760.81 \$	2,834.68	\$ 124.15 \$	351.68 \$	926.88 \$	288.32		-	\$ 24.83 \$	169.67 \$	-	\$ 4,808.36	\$ 3,062.11	\$ 15.64	\$ 14,372.38
40 Bridgestone Arena	\$ 18,962.74 \$	30,607.75	, , , , , , ,	3,797.33 \$	4,674.34 \$	1,334.89		-	\$ 268.18 \$	- \$		\$ 31,143.20	\$ 5,240.93	\$ 26.77	\$ 97,453.35
41 Nissan Stadium	\$ 8,090.88 \$	14,564.89		1,806.60 \$	1,129.61 \$	307.80			\$ 127.59 \$	- \$					\$ 36,834.24
43 Hume-Fogg High School	\$ 2,694.47 \$	4,157.25	\$ 182.09 \$	515.81 \$	192.62 \$	65.18		-	\$ 36.43 \$	- \$	559.60				10,986.18
44 Schermerhorn Symphony Center	\$ 14,550.00 \$	- :	\$ - \$	- \$	976.38 \$	311.39		-	\$ - \$	- \$		\$ 5,076.54			24,828.16
45 Nashville Public Library	\$ 6,629.76 \$	- :	\$ - \$	- \$	2,016.43 \$	589.70		-	\$ - \$	- \$	55.44			\$ 17.61	\$ 26,039.76
49 Viridian Residential Tower	\$ 11,847.68 \$	- :		- \$	427.40 \$	116.46		-	\$ - \$	- \$	1,238.08				\$ 16,820.47
50 Music City Center	\$ 77,565.69 \$	8,847.65	\$ - \$	6,981.11 \$	9,986.20 \$	3,205.84		-	\$ - \$	- \$	1,751.66				202,367.30
51 Hyatt Place Hotel	\$ 10,489.50 \$	-		- \$	618.26 \$	199.48		\$ -	\$ - \$	- \$	255.15		, , , , , ,		 17,432.64
S1 State Government of TN	\$ 136,594.48 \$	102,214.75			11,129.65 \$	3,552.03		-	987.95 \$	- \$	5,033.41				370,858.74
Grand Totals:	\$ 401,868.62 \$	303,745.32			52,407.26 \$	16,262.80			\$ 2,676.33 \$	6,354.08 \$	-,	\$ 312,215.51			1,319,438.80
Rate Calculation Totals:	\$ 478,797.12 \$	419,855.27		38,313.75 \$	52,436.98 \$	16,275.36		-	2,705.91 \$	6,354.08 \$	13,388.81	\$ 312,262.85			1,525,648.55
Deviation:	\$ (76,928.50) \$	(116,109.95)	\$ (5,086.07) \$	(7,426.02) \$	(29.72) \$	(12.56)	\$ (209.95)	\$ -	\$ (29.58) \$	- \$	=	\$ (47.34)	\$ (328.36)	\$ (1.70)	\$ (206,209.75)

#### Metro Nashville District Energy System Revenues Chilled Water and Steam December, 2016

Customer Number Customer		Capacity	Operating	EDS Improvement	Metro Incremental	Water And Sewer	Chemical Treatment	Engineering	Insurance	EDS Electricity	EDS Maint Costs Alloc	TIFS	Electricity	Natural Gas	Propane		Total
2 A. A. Birch		\$ 10,614.54 \$	15,919.07	\$ 697.32 \$	1,975.29 \$	1,889.23 \$	938.03 \$	29.54 \$	-	\$ 140.48 \$	- \$	729.52 \$	9,911.48 \$	16,152.38	61.26	\$	59,058.14
4 Metro Courthou	use	\$ 5,024.91 \$	7,428.13	\$ 325.40 \$	921.74 \$	783.18 \$	381.54 \$	13.78 \$	-	\$ 65.54 \$	- \$	218.19 \$	4,499.76 \$	5,810.53	22.04	\$	25,494.74
7 Parkway Tower		\$ 4,581.08 \$	7,206.87	\$ 315.66 \$	894.16 \$	1,339.03 \$	642.05 \$	13.35 \$	-	\$ 63.59 \$	678.92 \$	319.82 \$	8,031.51 \$	8,694.48	32.97	\$	32,813.49
9 Bobby Hotel (fka	a Wells Fargo)	\$ 1,688.55 \$	2,612.19	\$ 114.41 \$	324.11 \$	9.52 \$	4.05 \$	4.85 \$	-	\$ 23.04 \$	243.83 \$	- \$	108.34 \$	- \$	-	\$	5,132.89
10 Fairlane Hotel (f	fka 401 Union)	\$ 1,751.36 \$	2,691.75	\$ 117.91 \$	333.99 \$	- \$	- \$	4.99 \$	-	\$ 23.76 \$	297.00 \$	- \$	- \$	- \$	-	\$	5,220.76
11 Sheraton Hotel		\$ 9,666.16 \$	14,475.26	\$ 634.08 \$	1,796.14 \$	2,216.15 \$	1,073.36 \$	26.85 \$	-	\$ 127.73 \$	1,177.50 \$	1,219.64 \$	12,246.57 \$	15,686.17	59.49	\$	60,405.10
12 Municipal Audite	torium	\$ 4,850.78 \$	7,692.37	\$ 336.92 \$	954.38 \$	490.00 \$	291.68 \$	14.25 \$	-	\$ 67.87 \$	- \$	- \$	3,935.42 \$	10,032.95	38.05	\$	28,704.67
21 Hermitage Hote	el	\$ 4,668.91 \$	6,787.27	\$ 297.33 \$	842.25 \$	688.81 \$	332.03 \$	12.60 \$	-	\$ 59.89 \$	265.08 \$	462.18 \$	3,739.66 \$	4,683.55	17.76	\$	22,857.32
24 Criminal Justice	Center	\$ 7,894.70 \$	11,159.26	\$ 488.89 \$	1,384.87 \$	- \$	- \$	20.74 \$	-	\$ 98.49 \$	- \$	- \$	- \$	- \$	-	\$	21,046.95
25 501 Union Build	ding	\$ 1,840.85 \$	2,736.13	\$ 119.86 \$	339.51 \$	979.54 \$	454.69 \$	5.08 \$	-	\$ 24.15 \$	222.83 \$	33.04 \$	5,830.00 \$	4,549.87	17.26	\$	17,152.81
28 4th & Church Bu	uilding	\$ 19,977.78 \$	-	\$ - \$	- \$	1,172.38 \$	576.20 \$	16.96 \$	-	\$ - \$	- \$	- \$	7,930.79 \$	9,309.50	35.31	\$	39,018.92
29 Fifth-Third Finan	ncial Center	\$ 5,625.86 \$	10,127.45	\$ 443.47 \$	1,256.19 \$	631.85 \$	269.00 \$	18.70 \$	-	\$ 89.34 \$	753.17 \$	456.85 \$	7,354.98 \$	- \$	-	\$	27,026.86
32 Renaissance Hot	otel	\$ 11,595.86 \$	16,879.84	\$ 739.46 \$	2,094.64 \$	1,420.80 \$	745.33 \$	31.34 \$	-	\$ 148.95 \$	1,400.26 \$	211.45 \$	7,062.21 \$	16,963.06	64.33	\$	59,357.53
33 Nashville Conve	ention Center	\$ 14,278.29 \$	21,370.60	\$ 936.14 \$	2,651.75 \$	2,269.91 \$	1,068.56 \$	39.65 \$	-	\$ 188.57 \$	- \$	84.58 \$	14,404.50 \$	12,343.48	46.81	\$	69,682.84
34 Renaissance Offi	fice Tower	\$ 1,375.45 \$	2,476.03	\$ 108.42 \$	307.12 \$	389.28 \$	165.73 \$	4.57 \$	-	\$ 21.84 \$	217.58 \$	127.10 \$	2,577.40 \$	- \$	-	\$	7,770.52
35 St. Mary's Catho	olic Church	\$ 955.96 \$	- :	\$ - \$	- \$	- \$	- \$	- \$	-	\$ - \$	31.83 \$	- \$	- \$	- \$	-	\$	987.79
36 Nashville City Ce	enter	\$ 4,584.83 \$	8,253.44	\$ 361.41 \$	1,023.74 \$	835.25 \$	355.59 \$	15.24 \$	-	\$ 72.81 \$	721.33 \$	- \$	9,098.70 \$	- \$	-	\$	25,322.34
38 Wildhorse Saloo	on	\$ 1,706.74 \$	2,702.69	\$ 118.38 \$	335.32 \$	351.59 \$	169.32 \$	5.01 \$	-	\$ 23.85 \$	175.08 \$	84.05 \$	2,064.66 \$	2,372.11	9.00	\$	10,117.80
39 Ryman Auditoriu	ium	\$ 1,760.81 \$	2,834.68	\$ 124.15 \$	351.68 \$	639.15 \$	307.50 \$	5.25 \$	-	\$ 25.01 \$	169.67 \$	- \$	3,479.88 \$	4,275.06	16.21	\$	13,989.05
40 Bridgestone Are	ena	\$ 18,962.74 \$	30,607.75	\$ 1,340.55 \$	3,797.33 \$	3,588.27 \$	1,593.63 \$	56.67 \$	-	\$ 270.05 \$	- \$	585.27 \$	29,036.87 \$	7,972.14	30.23	\$	97,841.50
41 Nissan Stadium	ı	\$ 8,090.88 \$	14,564.89	\$ 637.77 \$	1,806.60 \$	477.32 \$	203.21 \$	26.89 \$	=	\$ 128.48 \$	- \$	22.66 \$	4,290.26 \$	- \$	-	\$	30,248.96
43 Hume-Fogg High	h School	\$ 2,694.47 \$	4,157.25	\$ 182.09 \$	515.81 \$	81.16 \$	51.74 \$	7.71 \$	-	\$ 36.69 \$	- \$	- \$	442.10 \$	2,076.56	7.88	\$	10,253.46
44 Schermerhorn S	Symphony Center	\$ 14,550.00 \$	-	\$ - \$	- \$	834.18 \$	400.08 \$	12.22 \$	-	\$ - \$	- \$	- \$	4,871.81 \$	5,428.21	20.59	\$	26,117.09
45 Nashville Public	Library	\$ 6,629.76 \$	-	\$ - \$	- \$	1,837.38 \$	844.56 \$	19.05 \$	-	\$ - \$	- \$	46.20 \$	14,652.72 \$	7,528.40	28.55	\$	31,586.62
49 Viridian Residen	ntial Tower	\$ 11,847.68 \$	-	\$ - \$	- \$	231.24 \$	98.44 \$	9.18 \$	-	\$ - \$	- \$	1,451.34 \$	1,631.17 \$	- \$	-	\$	15,269.05
50 Music City Cente	ter	\$ 77,565.69 \$	8,847.65	\$ - \$	6,981.11 \$	5,370.38 \$	2,748.50 \$	141.21 \$	-	\$ - \$	- \$	4,420.85 \$	31,146.96 \$	55,818.19	211.69	\$	193,252.23
51 Hyatt Place Hote	tel	\$ 10,489.50 \$	- :	\$ - \$	- \$	409.88 \$	204.85 \$	9.37 \$	-	\$ - \$	- \$	310.43 \$	2,019.57 \$	3,665.89	13.90	\$	17,123.39
S1 State Governme	ent of TN	\$ 136,594.48 \$	102,214.75	\$ - \$	- \$	10,045.62 \$	5,042.38 \$	- \$	-	\$ 994.80 \$	- \$	6,035.83 \$	59,033.91 \$	92,473.25	350.72	\$	412,785.74
Grand Totals:		\$ 401,868.62 \$	303,745.32	\$ 8,439.62 \$	30,887.73 \$	38,981.10 \$	18,962.05 \$	565.05 \$	-	\$ 2,694.93 \$	6,354.08 \$	16,819.00 \$	249,401.23 \$	285,835.78	1,084.05	\$ 1,	,365,638.56
Rate Calculation	Totals:	\$ 478,797.12 \$	419,855.27	\$ 13,525.69 \$	38,313.75 \$	39,002.25 \$	18,976.28 \$	775.00 \$	-	\$ 2,724.74 \$	6,354.08 \$	16,819.00 \$	249,458.86 \$	286,381.02	1,086.12	\$ 1,	,572,069.18
Deviation:		\$ (76,928.50) \$	(116,109.95)	\$ (5,086.07) \$	(7,426.02) \$	(21.15) \$	(14.23) \$	(209.95) \$	-	\$ (29.81) \$	- \$	- \$	(57.63) \$	(545.24) \$	(2.07)	\$ 1	(206,430.62)

#### Metro Nashville District Energy System Revenues Chilled Water and Steam January, 2017

Oustomer Number Customer Name	Capacity	Operating	EDS Improvement	Metro Incremental	Water And Sewer	Chemical Treatment	Engineering	Insurance	EDS Electricity	EDS Maint Costs Alloc	ПFS	Electricity	Natural Gas	Propane		Total
2 A. A. Birch	\$ 10,614.54 \$	15,919.07	\$ 697.32	\$ 1,975.29	\$ 1,506.94 \$	860.70	29.54	\$ -	\$ 140.42	\$ -	\$ 943.61	\$ 11,465.40	\$ 16,727.54	\$ 21.98	\$	60,902.35
4 Metro Courthouse	\$ 5,024.91 \$	7,428.13	\$ 325.40	\$ 921.74	\$ 577.88 \$	329.11	13.78	\$ -	\$ 65.53	\$ -	\$ 306.17	\$ 4,173.49	\$ 5,859.28	\$ 7.70	\$	25,033.12
7 Parkway Tower	\$ 4,581.08 \$	7,206.87	\$ 315.66	\$ 894.16	\$ 947.14 \$	539.48	13.35	\$ -	\$ 63.56	\$ 678.92	\$ 319.82	\$ 7,402.99	\$ 9,645.33	\$ 12.67	\$	32,621.03
9 Bobby Hotel (fka Wells Fargo)	\$ 1,688.55 \$	2,612.19	\$ 114.41	\$ 324.11	\$ - \$	- 5	4.85	\$ -	\$ 23.04	\$ 243.83	\$ -	\$ -	\$ -	\$ -	\$	5,010.98
10 Fairlane Hotel (fka 401 Union)	\$ 1,751.36 \$	2,691.75	\$ 117.91	\$ 333.99	\$ - \$	- 5	4.99	\$ -	\$ 23.74	\$ 297.00	\$ -	\$ -	\$ -	\$ -	\$	5,220.74
11 Sheraton Hotel	\$ 9,666.16 \$	14,475.26	\$ 634.08	\$ 1,796.14	\$ 1,642.70 \$	938.85	26.85	\$ -	\$ 127.69	\$ 1,177.50	\$ 731.78	\$ 11,437.00	\$ 18,588.43	\$ 24.42	\$	61,266.86
12 Municipal Auditorium	\$ 4,850.78 \$	7,692.37	\$ 336.92	\$ 954.38	\$ 343.29 \$	206.62	14.25	\$ -	\$ 67.84	\$ -	\$ -	\$ 1,009.75	\$ 9,954.40	\$ 13.08	\$	25,443.68
21 Hermitage Hotel	\$ 4,668.91 \$	6,787.27	\$ 297.33	\$ 842.25	\$ 529.01 \$	300.71	12.60	\$ -	\$ 59.88	\$ 265.08	\$ 501.45	\$ 4,075.39	\$ 5,032.79	\$ 6.61	\$	23,379.28
24 Criminal Justice Center	\$ 7,894.70 \$	11,159.26	\$ 488.89	\$ 1,384.87	\$ - \$	- 5	20.74	\$ -	\$ 98.45	\$ -	\$ -	\$ -	\$ -	\$ -	\$	21,046.91
25 501 Union Building	\$ 1,840.85 \$	2,736.13	\$ 119.86	\$ 339.51	\$ 709.74 \$	400.79	5.08	\$ -	\$ 24.13	\$ 222.83	\$ 24.85	\$ 5,852.80	\$ 5,209.75	\$ 6.84	\$	17,493.16
28 4th & Church Building	\$ 19,977.78 \$	-	\$ -	\$ -	\$ 954.88 \$	544.85	16.96	\$ -	\$ -	\$ -	\$ -	\$ 8,136.27	\$ 10,286.89	\$ 13.51	\$	39,931.14
29 Fifth-Third Financial Center	\$ 5,625.86 \$	10,127.45	\$ 443.47	\$ 1,256.19	\$ 495.01 \$	273.30	18.70	\$ -	\$ 89.30	\$ 753.17	\$ 441.09	\$ 8,143.96	\$ -	\$ -	\$	27,667.50
32 Renaissance Hotel	\$ 11,595.86 \$	16,879.84	\$ 739.46	\$ 2,094.64	\$ 1,171.39 \$	678.49	31.34	\$ -	\$ 148.91	\$ 1,400.26	\$ 219.01	\$ 8,208.18	\$ 18,502.13	\$ 24.31	\$	61,693.82
33 Nashville Convention Center	\$ 14,278.29 \$	21,370.60	\$ 936.14	\$ 2,651.75	\$ 1,949.33 \$	1,102.44	39.65	\$ -	\$ 188.51	\$ -	\$ -	\$ 14,927.46	\$ 15,264.19	\$ 20.05	\$	72,728.41
34 Renaissance Office Tower	\$ 1,375.45 \$	2,476.03	\$ 108.42	\$ 307.12	\$ 318.50 \$	175.85	4.57	\$ -	\$ 21.83	\$ 217.58	\$ 98.21	\$ 3,221.78	\$ -	\$ -	\$	8,325.34
35 St. Mary's Catholic Church	\$ 955.96 \$	-	\$ -	\$ -	\$ - \$	- 5	-	\$ -	\$ -	\$ 31.83	\$ -	\$ -	\$ -	\$ -	\$	987.79
36 Nashville City Center	\$ 4,584.83 \$	8,253.44	\$ 361.41	\$ 1,023.74	\$ 603.92 \$	333.43	15.24	\$ -	\$ 72.78	\$ 721.33	\$ -	\$ 9,120.66	\$ -	\$ -	\$	25,090.78
38 Wildhorse Saloon	\$ 1,706.74 \$	2,702.69	\$ 118.38	\$ 335.32	\$ 217.29 \$	123.56	5.01	\$ -	\$ 23.84	\$ 175.08	\$ 128.46	\$ 1,699.43	\$ 2,095.03	\$ 2.75	\$	9,333.58
39 Ryman Auditorium	\$ 1,760.81 \$	2,834.68	\$ 124.15	\$ 351.68	\$ 528.88 \$	300.86	5.25	\$ -	\$ 25.00	\$ 169.67	\$ -	\$ 4,006.59	\$ 5,160.91	\$ 6.78	\$	15,275.26
40 Bridgestone Arena	\$ 18,962.74 \$	30,607.75	\$ 1,340.55	\$ 3,797.33	\$ 2,939.86 \$	1,648.17	56.67	\$ -	\$ 269.95	\$ -	\$ 113.28	\$ 28,098.90	\$ 14,598.46	\$ 19.18	\$	102,452.84
41 Nissan Stadium	\$ 8,090.88 \$	14,564.89	\$ 637.77	\$ 1,806.60	\$ 426.12 \$	235.26	26.89	\$ -	\$ 128.43	\$ -	\$ 22.66	\$ 6,174.49	\$ -	\$ -	\$	32,113.99
43 Hume-Fogg High School	\$ 2,694.47 \$	4,157.25	\$ 182.09	\$ 515.81	\$ 88.67 \$	53.14		-	\$ 36.67	\$ -	\$ -	\$ 483.82	\$ 2,435.82	\$ 3.20	\$	10,658.65
44 Schermerhorn Symphony Center	\$ 14,550.00 \$	-	\$ -	\$ -	\$ 724.04 \$	412.04	12.22	\$ -	\$ -	\$ -	\$ -	\$ 6,151.12	\$ 7,159.23	\$ 9.41	\$	29,018.06
45 Nashville Public Library	\$ 6,629.76 \$	-	\$ -	\$ -	\$ 1,528.48 \$	859.73	19.05	\$ =	\$ -	\$ -	\$ 36.96	\$ 12,165.32	\$ 9,234.28	\$ 12.13	\$	30,485.71
49 Viridian Residential Tower	\$ 11,847.68 \$	-	\$ -	\$ -	\$ 159.97 \$	88.32	9.18	\$ -	\$ -	\$ -	\$ 1,439.49	\$ 1,664.13	\$ -	\$ -	\$	15,208.77
50 Music City Center	\$ 77,565.69 \$	8,847.65	\$ -	\$ 6,981.11	\$ 5,663.82 \$	3,250.55	141.21	\$ -	\$ -	\$ -	\$ 2,467.61	\$ 45,010.55	\$ 71,962.38	\$ 94.54	\$	221,985.11
51 Hyatt Place Hotel	\$ 10,489.50 \$	=	\$ -	\$ -	\$ 299.71 \$	172.19	9.37	\$ -	\$ -	\$ -	\$ 308.31	\$ 2,091.07	\$ 3,917.21	\$ 5.15	\$	17,292.51
S1 State Government of TN	\$ 136,594.48 \$	102,214.75	\$ -	\$ -	\$ 7,755.19 \$	4,450.41		-	\$ 994.49	\$ -	\$ 5,743.57	\$ 60,075.83	\$ 98,285.79	\$ 129.10	\$	416,243.61
Grand Totals:	\$ 401,868.62 \$	303,745.32	\$ 8,439.62			18,278.85	565.05	\$ -	\$ 2,693.99	\$ 6,354.08	\$ 13,846.33	\$ 264,796.38	\$ 329,919.84	\$ 433.41	\$	1,413,910.98
Rate Calculation Totals:	\$ 478,797.12 \$	419,855.27	\$ 13,525.69	\$ 38,313.75	\$ 32,106.46 \$	18,294.51	775.00	\$ -	\$ 2,723.71	\$ 6,354.08	\$ 13,846.33	\$ 264,847.59	\$ 330,707.21	\$ 434.45	\$	1,620,581.17
Deviation:	\$ (76,928.50) \$	(116,109.95)	\$ (5,086.07)	\$ (7,426.02)	\$ (24.70) \$	(15.66)	(209.95)	\$ -	\$ (29.72)	\$ -	\$ -	\$ (51.21	\$ (787.37)	\$ (1.04	) \$	(206,670.19)

#### Metro Nashville District Energy System Revenues Chilled Water and Steam February, 2017

Customer Number	Customer Name	Capacity	Operating	EDS Improvement	Metro Incremental	Water And Sewer	Chemical Treatment	Engineering	Insurance		EDS Electricity	EDS Maint Costs Alloc	ПFS	Electricity	Natural Gas	Propane		Total
2 A.	A. Birch	\$ 10,614.54 \$	15,919.07	\$ 697.32	\$ 1,975.29	\$ 1,587.70 \$	845.45	\$ 29.54	\$	- (	129.79 \$	- \$	1,522.47	\$ 11,374.53	\$ 14,571.75	\$ 14.04	\$	59,281.49
4 M	letro Courthouse	\$ 5,024.91 \$	7,428.13	\$ 325.40	\$ 921.74	\$ 573.98 \$	303.59	\$ 13.78	\$	- 5	60.57 \$	- \$	387.11	\$ 4,527.73	\$ 3,947.84	\$ 3.80	\$	23,518.58
7 Pa	arkway Tower	\$ 4,581.08 \$	7,206.87	\$ 315.66	\$ 894.16	\$ 986.87	521.74	\$ 13.35	\$	- 5	58.75 \$	678.92	282.44	\$ 7,602.92	\$ 6,633.96	\$ 6.39	\$	29,783.11
9 Bc	obby Hotel (fka Wells Fargo)	\$ 1,688.55 \$	2,612.19	\$ 114.41	\$ 324.11	\$ 2.83 \$	1.47	\$ 4.85	\$	- 5	21.29 \$	243.83	- :	\$ 124.14	\$ -	\$ -	\$	5,137.67
10 Fa	irlane Hotel (fka 401 Union)	\$ 1,751.36 \$	2,691.75	\$ 117.91	\$ 333.99	\$ - \$	-	\$ 4.99	\$	- 5	21.94 \$	297.00 \$	- :	\$ -	\$ -	\$ -	\$	5,218.94
11 Sh	neraton Hotel	\$ 9,666.16 \$	14,475.26	\$ 634.08	\$ 1,796.14	\$ 1,608.20 \$	854.33	\$ 26.85	\$	- 5	118.01 \$	1,177.50	7.17	\$ 10,604.19	\$ 13,451.53	\$ 12.96	\$	54,432.38
12 M	lunicipal Auditorium	\$ 4,850.78 \$	7,692.37	\$ 336.92	\$ 954.38	\$ 415.64 \$	225.37	\$ 14.25	\$	- 5	62.71 \$	- \$	72.50	\$ 1,663.02	\$ 6,413.94	\$ 6.18	\$	22,708.06
21 He	ermitage Hotel	\$ 4,668.91 \$	6,787.27	\$ 297.33	\$ 842.25	\$ 525.32 \$	277.89	\$ 12.60	\$	- 5	55.34 \$	265.08	491.18	\$ 3,870.06	\$ 3,631.23	\$ 3.50	\$	21,727.96
24 Cr	riminal Justice Center	\$ 7,894.70 \$	11,159.26	\$ 488.89	\$ 1,384.87	\$ - \$	-	\$ 20.74	\$	- 5	90.99 \$	- \$	- :	\$ -	\$ -	\$ -	\$	21,039.45
25 50	01 Union Building	\$ 1,840.85 \$	2,736.13	\$ 119.86	\$ 339.51	\$ 716.80 \$	377.50	\$ 5.08	\$	- 5	22.31 \$	222.83 \$	35.68	\$ 5,479.47	\$ 3,878.94	\$ 3.74	\$	15,778.70
28 4t	h & Church Building	\$ 19,977.78 \$	-	\$ -	\$ -	\$ 1,001.43 \$	529.58	\$ 16.96	\$	- 5	- \$	- \$	- :	\$ 8,470.17	\$ 6,822.00	\$ 6.57	\$	36,824.49
29 Fif	fth-Third Financial Center	\$ 5,625.86 \$	10,127.45	\$ 443.47	\$ 1,256.19	\$ 542.47 \$	281.13	\$ 18.70	\$	- 5	82.53 \$	753.17	401.71	\$ 7,283.59	\$ -	\$ -	\$	26,816.27
32 Re	enaissance Hotel	\$ 11,595.86 \$	16,879.84	\$ 739.46	\$ 2,094.64	\$ 1,329.54 \$	708.30	\$ 31.34	\$	- 5	137.63 \$	1,400.26 \$	302.08	\$ 10,492.97	\$ 12,405.30	\$ 11.95	\$	58,129.17
33 Na	ashville Convention Center	\$ 14,278.29 \$	21,370.60	\$ 936.14	\$ 2,651.75	\$ 1,954.47 \$	1,027.48	\$ 39.65	\$	- 5	174.23 \$	- \$	- :	\$ 16,164.76	\$ 9,400.28	\$ 9.06	\$	68,006.71
34 Re	enaissance Office Tower	\$ 1,375.45 \$	2,476.03	\$ 108.42	\$ 307.12	\$ 341.20 \$	176.82	\$ 4.57	\$	- 5	20.18 \$	217.58	65.48	\$ 3,734.22	\$ -	\$ -	\$	8,827.07
35 St.	. Mary's Catholic Church	\$ 955.96 \$	-	\$ -	\$ -	\$ - \$	-	\$ -	\$	- 5	- \$	31.83 \$	- :	\$ -	\$ -	\$ -	\$	987.79
36 Na	ashville City Center	\$ 4,584.83 \$	8,253.44	\$ 361.41	\$ 1,023.74	\$ 629.52	326.24	\$ 15.24	\$	- 5	67.26 \$	721.33 \$	- :	\$ 8,248.46	\$ -	\$ -	\$	24,231.47
38 W	ildhorse Saloon	\$ 1,706.74 \$	2,702.69	\$ 118.38	\$ 335.32	\$ 214.22 \$	112.95	\$ 5.01	\$	- 5	22.03 \$	175.08 \$	47.58	\$ 1,958.12	\$ 1,243.94	\$ 1.20	\$	8,643.26
39 Ry	yman Auditorium	\$ 1,760.81 \$	2,834.68	\$ 124.15	\$ 351.68	\$ 578.04 \$	305.37	\$ 5.25	\$	- 5	23.11 \$	169.67 \$	- :	\$ 4,065.42	\$ 3,733.86	\$ 3.60	\$	13,955.64
40 Br	ridgestone Arena	\$ 18,962.74 \$	30,607.75	\$ 1,340.55	\$ 3,797.33	\$ 3,429.64 \$	1,790.01	\$ 56.67	\$	- 5	249.50 \$	- \$	113.28	\$ 32,521.61	\$ 8,136.49	\$ 7.84	\$	101,013.41
41 Ni	issan Stadium	\$ 8,090.88 \$	14,564.89	\$ 637.77	\$ 1,806.60	\$ 573.09 \$	297.00	\$ 26.89	\$	- 5	118.70 \$	- \$	11.33	\$ 7,796.39	\$ -	\$ -	\$	33,923.54
43 Hu	ume-Fogg High School	\$ 2,694.47 \$	4,157.25	\$ 182.09	\$ 515.81	\$ 123.89 \$	66.51	\$ 7.71	\$	- 5	33.89 \$	- \$	568.66	\$ 1,261.36	\$ 1,483.09	\$ 1.43	\$	11,096.16
44 Sc	chermerhorn Symphony Center	\$ 14,550.00 \$	-	\$ -	\$ -	\$ 727.19 \$	384.20	\$ 12.22	\$	- 5	- \$	- \$	- :	\$ 5,720.86	\$ 4,729.39	\$ 4.56	\$	26,128.42
45 Na	ashville Public Library	\$ 6,629.76 \$	-	\$ -	\$ -	\$ 1,619.06 \$	849.59	\$ 19.05	\$	- 5	- \$	- \$	36.96	\$ 16,267.79	\$ 6,776.35	\$ 6.53	\$	32,205.09
49 Vi	ridian Residential Tower	\$ 11,847.68 \$	-	\$ -	\$ -	\$ 168.78 \$	87.47	\$ 9.18	\$	- 5	- \$	- \$	1,398.03	\$ 1,972.55	\$ -	\$ -	\$	15,483.69
50 M	lusic City Center	\$ 77,565.69 \$	8,847.65	\$ -	\$ 6,981.11	\$ 6,178.06 \$	3,278.88	\$ 141.21	\$	- 5	- \$	- \$	1,890.68	\$ 43,818.71	\$ 49,673.54	\$ 47.85	\$	198,423.38
51 Hy	yatt Place Hotel	\$ 10,489.50 \$	-	\$ -	\$ -	\$ 357.00 \$	189.80	\$ 9.37	\$	- 5	- \$	- \$	312.56	\$ 2,459.10	\$ 3,086.45	\$ 2.97	\$	16,906.75
S1 St	ate Government of TN	\$ 136,594.48 \$	102,214.75	\$ -	\$ -	\$ 7,994.05 \$	4,243.68	\$ -	\$	- 5	919.16 \$	- \$	5,918.13	\$ 60,918.98	\$ 64,904.90	\$ 62.52	\$	383,770.65
Gra	and Totals:	\$ 401,868.62 \$	303,745.32	\$ 8,439.62	\$ 30,887.73	\$ 34,178.99 \$	18,062.35	\$ 565.05	\$	- 5	2,489.92 \$	6,354.08	13,865.03	\$ 278,401.12	\$ 224,924.78	\$ 216.69	\$ 1,	323,999.30
Rat	te Calculation Totals:	\$ 478,797.12 \$	419,855.27	\$ 13,525.69	\$ 38,313.75	\$ 34,206.22 \$	18,077.43	\$ 775.00	\$	- 5	2,517.29 \$	6,354.08	13,865.03	\$ 278,449.17	\$ 225,483.66	\$ 217.22	\$ 1,	530,436.93
De	viation:	\$ (76,928.50) \$	(116,109.95)	\$ (5,086.07)	\$ (7,426.02)	\$ (27.23) \$	(15.08)	\$ (209.95)	\$	- 5	(27.37) \$	- \$	- :	\$ (48.05)	\$ (558.88)	\$ (0.53)	\$ (	206,437.63)

#### Metro Nashville District Energy System Revenues Chilled Water and Steam March, 2017

Customer Number Customer Name	Capacity	Operating	EDS Improveme nt	Metro Incremental	Water And Sewer	Chemical Treatment	Engineering	Insurance	EDS Electricity	EDS Maint Costs Alloc	TIFS	Electricity	Natural Gas	Propane		Total
2 A. A. Birch	\$ 10,614.54 \$	15,919.07	\$ 697.32	\$ 1,975.29 \$	1,590.80 \$	863.50 \$	29.54 \$	-	\$ 137.20 \$	- \$	1,490.75 \$	7,521.32 \$	11,694.82 \$	371.44	\$	52,905.59
4 Metro Courthouse	\$ 5,024.91 \$	7,428.13	\$ 325.40	\$ 921.74 \$	572.66 \$	308.18 \$	13.78 \$	-	\$ 64.03 \$	- \$	362.48 \$	4,665.53 \$	3,119.82 \$	99.09	\$	22,905.75
7 Parkway Tower	\$ 4,581.08 \$	7,206.87	\$ 315.66	\$ 894.16 \$	951.85 \$	511.90 \$	13.35 \$	-	\$ 62.11 \$	678.92 \$	278.29 \$	8,947.35 \$	5,048.25 \$	160.34	\$	29,650.13
9 Bobby Hotel (fka Wells Fargo)	\$ 1,688.55 \$	2,612.19	\$ 114.41	\$ 324.11 \$	3.66 \$	1.92 \$	4.85 \$	-	\$ 22.52 \$	243.83 \$	- \$	100.10 \$	- \$	-	\$	5,116.14
10 Fairlane Hotel (fka 401 Union)	\$ 1,751.36 \$	2,691.75	\$ 117.91	\$ 333.99 \$	- \$	- \$	4.99 \$	-	\$ 23.20 \$	297.00 \$	- \$	- \$	- \$	=	\$	5,220.20
11 Sheraton Hotel	\$ 9,666.16 \$	14,475.26	\$ 634.08	\$ 1,796.14 \$	1,626.79 \$	881.10 \$	26.85 \$	-	\$ 124.76 \$	1,177.50 \$	- \$	11,352.17 \$	11,165.92 \$	354.64	\$	53,281.37
12 Municipal Auditorium	\$ 4,850.78 \$	7,692.37	\$ 336.92	\$ 954.38 \$	486.71 \$	268.44 \$	14.25 \$	-	\$ 66.30 \$	- \$	154.06 \$	2,865.02 \$	5,314.86 \$	168.81	\$	23,172.90
21 Hermitage Hotel	\$ 4,668.91 \$	6,787.27	\$ 297.33	\$ 842.25 \$	531.84 \$	286.66 \$	12.60 \$	-	\$ 58.50 \$	265.08 \$	507.49 \$	3,917.14 \$	3,081.13 \$	97.86	\$	21,354.06
24 Criminal Justice Center	\$ 7,894.70 \$	11,159.26	\$ 488.89	\$ 1,384.87 \$	- \$	- \$	20.74 \$	-	\$ 96.19 \$	- \$	- \$	- \$	- \$	-	\$	21,044.65
25 501 Union Building	\$ 1,840.85 \$	2,736.13	\$ 119.86	\$ 339.51 \$	694.98 \$	372.77 \$	5.08 \$	-	\$ 23.58 \$	222.83 \$	11.89 \$	6,103.13 \$	3,286.50 \$	104.38	\$	15,861.49
28 4th & Church Building	\$ 19,977.78 \$	- 5	\$ - :	\$ - \$	908.49 \$	488.74 \$	16.96 \$	-	\$ - \$	- \$	- \$	10,700.70 \$	4,884.18 \$	155.13	\$	37,131.98
29 Fifth-Third Financial Center	\$ 5,625.86 \$	10,127.45	\$ 443.47	\$ 1,256.19 \$	552.89 \$	290.15 \$	18.70 \$	-	\$ 87.26 \$	753.17 \$	417.46 \$	9,016.15 \$	- \$	-	\$	28,588.75
32 Renaissance Hotel	\$ 11,595.86 \$	16,879.84	\$ 739.46	\$ 2,094.64 \$	1,388.71 \$	753.02 \$	31.34 \$	-	\$ 145.50 \$	1,400.26 \$	271.87 \$	10,292.25 \$	9,887.38 \$	314.04	\$	55,794.17
33 Nashville Convention Center	\$ 14,278.29 \$	21,370.60	\$ 936.14	\$ 2,651.75 \$	1,517.47 \$	812.92 \$	39.65 \$	-	\$ 184.19 \$	- \$	- \$	15,317.91 \$	6,756.99 \$	214.61	\$	64,080.52
34 Renaissance Office Tower	\$ 1,375.45 \$	2,476.03	\$ 108.42	\$ 307.12 \$	352.62 \$	185.05 \$	4.57 \$	-	\$ 21.33 \$	217.58 \$	57.77 \$	4,486.43 \$	- \$	-	\$	9,592.37
35 St. Mary's Catholic Church	\$ 955.96 \$	- 5	\$ - :	\$ - \$	- \$	- \$	- \$	-	\$ - \$	31.83 \$	- \$	- \$	- \$	-	\$	987.79
36 Nashville City Center	\$ 4,584.83 \$	8,253.44	\$ 361.41	\$ 1,023.74 \$	644.02 \$	337.98 \$	15.24 \$	-	\$ 71.11 \$	721.33 \$	- \$	10,534.82 \$	- \$	-	\$	26,547.92
38 Wildhorse Saloon	\$ 1,706.74 \$	2,702.69	\$ 118.38	\$ 335.32 \$	187.33 \$	100.55 \$	5.01 \$	-	\$ 23.29 \$	175.08 \$	- \$	1,172.60 \$	913.24 \$	29.01	\$	7,469.24
39 Ryman Auditorium	\$ 1,760.81 \$	2,834.68	\$ 124.15	\$ 351.68 \$	560.74 \$	301.52 \$	5.25 \$	-	\$ 24.43 \$	169.67 \$	- \$	4,372.17 \$	2,959.50 \$	94.00	\$	13,558.60
40 Bridgestone Arena	\$ 18,962.74 \$	30,607.75	\$ 1,340.55	\$ 3,797.33 \$	3,567.27 \$	1,890.70 \$	56.67 \$	-	\$ 263.77 \$	- \$	75.52 \$	41,796.52 \$	7,602.80 \$	241.48	\$	110,203.10
41 Nissan Stadium	\$ 8,090.88 \$	14,564.89	\$ 637.77	\$ 1,806.60 \$	681.04 \$	357.40 \$	26.89 \$	-	\$ 125.49 \$	- \$	22.66 \$	7,625.95 \$	- \$	-	\$	33,939.57
43 Hume-Fogg High School	\$ 2,694.47 \$	4,157.25	\$ 182.09	\$ 515.81 \$	148.83 \$	81.01 \$	7.71 \$	-	\$ 35.83 \$	- \$	532.41 \$	986.74 \$	1,182.98 \$	37.57	\$	10,562.70
44 Schermerhorn Symphony Center	\$ 14,550.00 \$	- 5	\$ - :	\$ - \$	712.05 \$	382.70 \$	12.22 \$	-	\$ - \$	- \$	- \$	6,191.86 \$	3,680.45 \$	116.90	\$	25,646.18
45 Nashville Public Library	\$ 6,629.76 \$	- 5	\$ - :	\$ - \$	1,464.56 \$	780.62 \$	19.05 \$	-	\$ - \$	- \$	55.44 \$	18,193.93 \$	4,909.01 \$	155.92	\$	32,208.29
49 Viridian Residential Tower	\$ 11,847.68 \$	- 5	\$ - :	\$ - \$	188.40 \$	98.87 \$	9.18 \$	-	\$ - \$	- \$	1,356.56 \$	2,077.84 \$	- \$	-	\$	15,578.53
50 Music City Center	\$ 77,565.69 \$	8,847.65	\$ - :	\$ 6,981.11 \$	6,420.41 \$	3,470.08 \$	141.21 \$	-	\$ - \$	- \$	1,341.55 \$	53,282.00 \$	41,088.39 \$	1,305.02	\$	200,443.11
51 Hyatt Place Hotel	\$ 10,489.50 \$	- 5	\$ - :	\$ - \$	361.45 \$	195.85 \$	9.37 \$	-	\$ - \$	- \$	255.15 \$	2,633.20 \$	2,517.92 \$	79.97	\$	16,542.41
S1 State Government of TN	\$ 136,594.48 \$	102,214.75	\$ - :	\$ - \$	7,643.15 \$	4,129.79 \$	- \$	-	\$ 971.66 \$	- \$	6,201.29 \$	66,697.12 \$	48,435.43 \$	1,538.38	\$	374,426.05
Grand Totals:	\$ 401,868.62 \$	303,745.32	\$ 8,439.62	\$ 30,887.73 \$	33,758.72 \$	18,151.42 \$	565.05 \$	-	\$ 2,632.25 \$	6,354.08 \$	13,392.64 \$	310,849.95 \$	177,529.57 \$	5,638.59	\$ 1,	,313,813.56
Rate Calculation Totals:	\$ 478,797.12 \$	419,855.27	\$ 13,525.69	\$ 38,313.75 \$	33,778.09 \$	18,162.79 \$	775.00 \$	-	\$ 2,661.36 \$	6,354.08 \$	13,392.64 \$	310,893.15 \$	177,821.28 \$	5,647.84	\$ 1,	,519,978.06
Deviation:	\$ (76,928.50) \$	(116,109.95)	\$ (5,086.07)	\$ (7,426.02) \$	(19.37) \$	(11.37) \$	(209.95) \$	-	\$ (29.11) \$	- \$	- \$	(43.20) \$	(291.71) \$	(9.25)	\$ (	(206,164.50)

#### Metro Nashville District Energy System Revenues Chilled Water and Steam April, 2017

Customer Number Customer Name	Capacity	Operating	EDS Improveme nt	Metro Incremental	Water And Sewer	Chemical Treatment	Engineering	Insurance	EDS Electricity	EDS Maint Costs Alloc	TIFS	Electricity	Natural Gas	Propane		Total
2 A. A. Birch	\$ 10,614.54 \$	15,919.07	697.32	1,975.29 \$	1,674.04 \$	733.96 \$	29.54 \$	-	\$ 162.55 \$	- \$	1,482.82 \$	14,322.13 \$	6,786.15 \$		-	\$ 54,397.41
4 Metro Courthouse	\$ 5,024.91 \$	7,428.13	325.40	921.74 \$	724.23 \$	315.96 \$	13.78 \$	-	\$ 75.86 \$	- \$	344.88 \$	6,386.46 \$	2,516.20 \$		-	\$ 24,077.55
7 Parkway Tower	\$ 4,581.08 \$	7,206.87	315.66	894.16 \$	922.08 \$	402.26 \$	13.35 \$	-	\$ 73.58 \$	678.92 \$	299.06 \$	7,825.77 \$	3,199.49 \$		-	\$ 26,412.28
9 Bobby Hotel (fka Wells Fargo)	\$ 1,688.55 \$	2,612.19	114.41	324.11 \$	4.48 \$	1.90 \$	4.85 \$	-	\$ 26.67 \$	243.83 \$	- \$	109.31 \$	- \$		-	\$ 5,130.30
10 Fairlane Hotel (fka 401 Union)	\$ 1,751.36 \$	2,691.75	117.91	333.99 \$	- \$	- \$	4.99 \$	-	\$ 27.48 \$	297.00 \$	- \$	- \$	- \$		-	\$ 5,224.48
11 Sheraton Hotel	\$ 9,666.16 \$	14,475.26		1,796.14 \$	2,292.23 \$	1,011.75 \$	26.85 \$	-	\$ 147.81 \$	1,177.50 \$	- \$	14,910.31 \$	11,104.28 \$		-	\$ 57,242.37
12 Municipal Auditorium	\$ 4,850.78 \$	7,692.37	336.92	954.38 \$	532.05 \$	237.30 \$	14.25 \$	-	\$ 78.54 \$	- \$	40.78 \$	4,664.48 \$	3,237.19 \$		-	\$ 22,639.04
21 Hermitage Hotel	\$ 4,668.91 \$	6,787.27		842.25 \$	656.33 \$	286.93 \$	12.60 \$	-	\$ 69.32 \$	265.08 \$	489.36 \$	5,231.89 \$	2,439.13 \$		-	\$ 22,046.40
24 Criminal Justice Center	\$ 7,894.70 \$	11,159.26			- \$	- \$	20.74 \$		\$ 113.96 \$	- \$	- \$	- \$	- \$		-	\$ 21,062.42
25 501 Union Building	\$ 1,840.85 \$	2,736.13	119.86	339.51 \$	727.28 \$	318.88 \$	5.08 \$	-	\$ 27.95 \$	222.83 \$	1.32 \$	,	2,953.96 \$		-	\$ 14,261.96
28 4th & Church Building	\$ 19,977.78 \$	- \$	\$ - 5	- \$	783.77 \$	337.82 \$	16.96 \$	-	\$ - \$	- \$	- \$	8,842.15 \$	1,618.18 \$		-	\$ 31,576.66
29 Fifth-Third Financial Center	\$ 5,625.86 \$	10,127.45	3 443.47	1,256.19 \$	696.87 \$	294.99 \$	18.70 \$	-	\$ 103.38 \$	753.17 \$	299.31 \$	10,670.28 \$	- \$		-	\$ 30,289.67
32 Renaissance Hotel	\$ 11,595.86 \$	16,879.84	739.46	2,094.64 \$	2,032.10 \$	890.53 \$	31.34 \$	-	\$ 172.38 \$	1,400.26 \$	105.73 \$	17,267.31 \$	8,130.49 \$		-	\$ 61,339.94
33 Nashville Convention Center	\$ 14,278.29 \$	21,370.60	936.14	2,651.75 \$	1,653.76 \$	711.30 \$	39.65 \$	-	\$ 218.22 \$	- \$	- \$	17,220.53 \$	3,013.24 \$		-	\$ 62,093.48
34 Renaissance Office Tower	\$ 1,375.45 \$	2,476.03			363.22 \$	153.75 \$	4.57 \$	-	\$ 25.27 \$	217.58 \$	51.99 \$	4,367.10 \$	- \$		-	\$ 9,450.50
35 St. Mary's Catholic Church	\$ 955.96 \$	- \$			- \$	- \$	- \$	-	\$ - \$	31.83 \$	- \$	- \$	- \$		-	\$ 987.79
36 Nashville City Center	\$ 4,584.83 \$	8,253.44	361.41	1,023.74 \$	801.94 \$	339.47 \$	15.24 \$	-	\$ 84.25 \$	721.33 \$	- \$	10,870.42 \$	- \$		-	\$ 27,056.07
38 Wildhorse Saloon	\$ 1,706.74 \$	2,702.69	118.38	335.32 \$	429.60 \$	187.58 \$	5.01 \$	-	\$ 27.59 \$	175.08 \$	31.72 \$	5,786.30 \$	1,534.71 \$		-	\$ 13,040.72
39 Ryman Auditorium	\$ 1,760.81 \$	2,834.68	124.15	351.68 \$	743.51 \$	325.56 \$	5.25 \$	-	\$ 28.95 \$	169.67 \$	- \$	5,679.58 \$	2,901.42 \$		-	\$ 14,925.26
40 Bridgestone Arena	\$ 18,962.74 \$	30,607.75	1,340.55	3,797.33 \$	4,794.11 \$	2,072.74 \$	56.67 \$	-	\$ 312.50 \$	- \$	- \$	48,011.63 \$	11,618.64 \$		-	\$ 121,574.66
41 Nissan Stadium	\$ 8,090.88 \$	14,564.89		,	1,309.58 \$	554.36 \$	26.89 \$	-	\$ 148.68 \$	- \$	11.33 \$		- \$		-	\$ 44,485.50
43 Hume-Fogg High School	\$ 2,694.47 \$	4,157.25	182.09	515.81 \$	371.52 \$	163.63 \$	7.71 \$	-	\$ 42.45 \$	- \$	319.45 \$		1,705.46 \$		-	\$ 12,604.61
44 Schermerhorn Symphony Center	\$ 14,550.00 \$	- \$	\$ - \$	- \$	930.85 \$	408.69 \$	12.22 \$	-	\$ - \$	- \$	- \$	7,179.12 \$	3,926.21 \$		-	\$ 27,007.09
45 Nashville Public Library	\$ 6,629.76 \$	- 5	- :	- \$	1,369.42 \$	586.25 \$	19.05 \$	-	\$ - \$	- \$	23.10 \$	12,943.94 \$	1,759.88 \$		-	\$ 23,331.40
49 Viridian Residential Tower	\$ 11,847.68 \$	- 5	- :	- \$	328.72 \$	139.15 \$	9.18 \$	-	\$ - \$	- \$	1,042.60 \$	3,713.38 \$	- \$		-	\$ 17,080.71
50 Music City Center	\$ 77,565.69 \$	8,847.65	- :	6,981.11 \$	8,293.13 \$	3,647.78 \$	141.21 \$	-	\$ - \$	- \$	- \$	69,799.06 \$	36,787.37 \$		-	\$ 212,063.00
51 Hyatt Place Hotel	\$ 10,489.50 \$	- 5		- \$	513.27 \$	227.12 \$	9.37 \$	-	\$ - \$	- \$	195.62 \$	-,	2,641.07 \$		-	\$ 17,183.21
S1 State Government of TN	\$ 136,594.48 \$	102,214.75	- :	- \$	8,911.17 \$	3,901.35 \$	- \$	-	\$ 1,151.21 \$	- \$	4,659.83 \$	80,592.99 \$	34,623.39 \$		-	\$ 372,649.17
Grand Totals:	\$ 401,868.62 \$	303,745.32			41,859.26 \$	18,251.01 \$	565.05 \$	-	\$ 3,118.60 \$	6,354.08 \$	9,398.90 \$	384,249.00 \$	142,496.46 \$		-	\$ 1,351,233.65
Rate Calculation Totals:	\$ 478,797.12 \$	419,855.27	13,525.69	38,313.75 \$	41,880.04 \$	18,259.58 \$	775.00 \$	-	\$ 3,153.04 \$	6,354.08 \$	9,398.90 \$	384,311.66 \$	142,658.63 \$		-	\$ 1,557,282.76
Deviation:	\$ (76,928.50) \$	(116,109.95)	(5,086.07)	(7,426.02) \$	(20.78) \$	(8.57) \$	(209.95) \$	-	\$ (34.44) \$	- \$	- \$	(62.66) \$	(162.17) \$		-	\$ (206,049.11)

#### Metro Nashville District Energy System Revenues Chilled Water and Steam May, 2017

Customer Number Customer Name	Capacity	Operating	EDS Improveme nt	Metro Incremental	Water And Sewer	Chemical Treatment	Engineering	Insurance		EDS Electricity	EDS Maint Costs Alloc	TIFS	Electricity	Natural Gas	Propane		Total
2 A. A. Birch	\$ 10,614.54 \$	15,919.07	\$ 697.32	\$ 1,975.29	\$ 1,423.11 \$	532.74	\$ 29.54	\$	- \$	206.40 \$	- \$	1,173.57 \$	15,219.00 \$	4,898.24	\$	-	\$ 52,688.82
4 Metro Courthouse	\$ 5,024.91 \$	7,428.13	\$ 325.40	\$ 921.74	\$ 766.59 \$	286.75	\$ 13.78	\$	- \$	96.31 \$	- \$	436.38 \$	8,400.65 \$	2,558.15	\$	-	\$ 26,258.79
7 Parkway Tower	\$ 4,581.08 \$	7,206.87	\$ 315.66	\$ 894.16	\$ 656.23 \$	242.74	\$ 13.35	\$	- \$	93.43 \$	678.92 \$	265.83 \$	8,848.70 \$	1,201.79	\$	-	\$ 24,998.76
9 Bobby Hotel (fka Wells Fargo)	\$ 1,688.55 \$	2,612.19	\$ 114.41	\$ 324.11	\$ 6.96 \$	2.54	\$ 4.85	\$	- \$	33.86 \$	243.83 \$	- \$	146.38 \$	-	\$	-	\$ 5,177.68
10 Fairlane Hotel (fka 401 Union)	\$ 1,751.36 \$	2,691.75	\$ 117.91	\$ 333.99	\$ - \$	-	\$ 4.99	\$	- \$	34.90 \$	297.00 \$	- \$	- \$	-	\$	-	\$ 5,231.90
11 Sheraton Hotel	\$ 9,666.16 \$	14,475.26	\$ 634.08	\$ 1,796.14	\$ 2,179.33 \$	823.15	\$ 26.85	\$	- \$	187.67 \$	1,177.50 \$	- \$	17,042.35 \$	10,158.45	\$	-	\$ 58,166.94
12 Municipal Auditorium	\$ 4,850.78 \$	7,692.37	\$ 336.92	\$ 954.38	\$ 494.75 \$	186.53	\$ 14.25	\$	- \$	99.72 \$	- \$	140.47 \$	4,885.53 \$	2,182.59	\$	-	\$ 21,838.29
21 Hermitage Hotel	\$ 4,668.91 \$	6,787.27	\$ 297.33	\$ 842.25	\$ 648.82 \$	242.70	\$ 12.60	\$	- \$	88.01 \$	265.08 \$	471.24 \$	6,272.23 \$	2,165.35	\$	-	\$ 22,761.79
24 Criminal Justice Center	\$ 7,894.70 \$	11,159.26	\$ 488.89	\$ 1,384.87	\$ - \$	-	\$ 20.74	\$	- \$	144.70 \$	- \$	- \$	- \$	-	\$	-	\$ 21,093.16
25 501 Union Building	\$ 1,840.85 \$	2,736.13	\$ 119.86	\$ 339.51	\$ 663.41 \$	249.52	\$ 5.08	\$	- \$	35.47 \$	222.83 \$	- \$	5,364.37 \$	2,709.35	\$	-	\$ 14,286.38
28 4th & Church Building	\$ 19,977.78 \$	-	\$ -	\$ -	\$ 626.56 \$	228.60	\$ 16.96	\$	- \$	- \$	- \$	- \$	12,187.00 \$	-	\$	-	\$ 33,036.90
29 Fifth-Third Financial Center	\$ 5,625.86 \$	10,127.45	\$ 443.47	\$ 1,256.19	\$ 712.98 \$	260.13	\$ 18.70	\$	- \$	131.26 \$	753.17 \$	212.67 \$	13,782.89 \$	-	\$	-	\$ 33,324.77
32 Renaissance Hotel	\$ 11,595.86 \$	16,879.84	\$ 739.46	\$ 2,094.64	\$ 2,113.61 \$	792.80	\$ 31.34	\$	- \$	218.87 \$	1,400.26 \$	45.31 \$	21,484.10 \$	7,848.45	\$	-	\$ 65,244.54
33 Nashville Convention Center	\$ 14,278.29 \$	21,370.60	\$ 936.14	\$ 2,651.75	\$ 1,083.80 \$	399.59	\$ 39.65	\$	- \$	277.08 \$	- \$	- \$	14,791.71 \$	1,507.32	\$	-	\$ 57,335.93
34 Renaissance Office Tower	\$ 1,375.45 \$	2,476.03	\$ 108.42	\$ 307.12	\$ 340.23 \$	124.13	\$ 4.57	\$	- \$	32.09 \$	217.58 \$	25.03 \$	5,514.46 \$	-	\$	-	\$ 10,525.11
35 St. Mary's Catholic Church	\$ 955.96 \$	-	\$ -	\$ -	\$ - \$	- :	\$ -	\$	- \$	- \$	31.83 \$	- \$	- \$	-	\$	-	\$ 987.79
36 Nashville City Center	\$ 4,584.83 \$	8,253.44	\$ 361.41	\$ 1,023.74	\$ 840.67 \$	306.72	\$ 15.24	\$	- \$	106.97 \$	721.33 \$	- \$	15,149.29 \$	-	\$	-	\$ 31,363.64
38 Wildhorse Saloon	\$ 1,706.74 \$	2,702.69	\$ 118.38	\$ 335.32	\$ 673.35 \$	253.18	\$ 5.01	\$	- \$	35.04 \$	175.08 \$	19.03 \$	8,371.36 \$	2,722.36	\$	-	\$ 17,117.54
39 Ryman Auditorium	\$ 1,760.81 \$	2,834.68	\$ 124.15	\$ 351.68	\$ 708.15 \$	265.74	\$ 5.25	\$	- \$	36.74 \$	169.67 \$	- \$	6,446.81 \$	2,672.90	\$	-	\$ 15,376.58
40 Bridgestone Arena	\$ 18,962.74 \$	30,607.75	\$ 1,340.55	\$ 3,797.33	\$ 4,963.08 \$	1,842.10	\$ 56.67	\$	- \$	396.78 \$	- \$	- \$	58,812.48 \$	11,355.32	\$	-	\$ 132,134.80
41 Nissan Stadium	\$ 8,090.88 \$	14,564.89	\$ 637.77	\$ 1,806.60	\$ 1,570.67 \$	573.06	\$ 26.89	\$	- \$	188.77 \$	- \$	33.98 \$	24,793.26 \$	-	\$	-	\$ 52,286.77
43 Hume-Fogg High School	\$ 2,694.47 \$	4,157.25	\$ 182.09	\$ 515.81	\$ 115.79 \$	42.60	\$ 7.71	\$	- \$	53.89 \$	- \$	444.05 \$	2,016.31 \$	128.70	\$	-	\$ 10,358.67
44 Schermerhorn Symphony Center	\$ 14,550.00 \$	-	\$ -	\$ -	\$ 952.70 \$	358.72	\$ 12.22	\$	- \$	- \$	- \$	- \$	9,216.35 \$	4,032.47	\$	-	\$ 29,122.46
45 Nashville Public Library	\$ 6,629.76 \$	-	\$ -	\$ -	\$ 1,252.94 \$	462.21	\$ 19.05	\$	- \$	- \$	- \$	27.72 \$	14,647.96 \$	1,842.35	\$	-	\$ 24,881.99
49 Viridian Residential Tower	\$ 11,847.68 \$	-	\$ -	\$ -	\$ 374.65 \$	136.69	\$ 9.18	\$	- \$	- \$	- \$	793.79 \$	5,600.81 \$	-	\$	-	\$ 18,762.80
50 Music City Center	\$ 77,565.69 \$	8,847.65	\$ -	\$ 6,981.11	\$ 8,766.03 \$	3,297.78	\$ 141.21	\$	- \$	- \$	- \$	- \$	79,461.84 \$	36,061.74	\$	-	\$ 221,123.05
51 Hyatt Place Hotel	\$ 10,489.50 \$	-	\$ -	\$ -	\$ 515.31 \$	194.98	\$ 9.37	\$	- \$	- \$	- \$	138.21 \$	3,834.61 \$	2,526.43	\$	-	\$ 17,708.41
S1 State Government of TN	\$ 136,594.48 \$	102,214.75	\$ -	\$ -	\$ 9,302.92 \$	3,482.01	\$ -	\$	- \$	1,461.70 \$	- \$	5,463.53 \$	110,516.47 \$	31,842.03	\$	-	\$ 400,877.89
Grand Totals:	\$ 401,868.62 \$	303,745.32	\$ 8,439.62	\$ 30,887.73	\$ 41,752.64 \$	15,587.71	\$ 565.05	\$	- \$	3,959.66 \$	6,354.08 \$	9,690.81 \$	472,806.92 \$	128,413.99	\$	-	\$ 1,424,072.15
Rate Calculation Totals:	\$ 478,797.12 \$	419,855.27	\$ 13,525.69	\$ 38,313.75	\$ 41,765.55 \$	15,589.71	\$ 775.00	\$	- \$	4,003.36 \$	6,354.08 \$	9,690.81 \$	472,886.45 \$	128,466.05	\$	-	\$ 1,630,022.84
Deviation:	\$ (76,928.50) \$	(116,109.95)	\$ (5,086.07)	\$ (7,426.02)	\$ (12.91) \$	(2.00)	\$ (209.95)	\$	- \$	(43.70) \$	- \$	- \$	(79.53) \$	(52.06)	\$	-	\$ (205,950.69)

#### Metro Nashville District Energy System Revenues Chilled Water and Steam June, 2017

Customer Number Customer Name	Capacity	Operating	EDS Improveme nt	Metro Incremental	Water And Sewer	Chemical Treatment	Engineering	Insurance	EDS	Electricity	EDS Maint Costs Alloc	TIFS	Electricity	Natural Gas	Propane			Total
2 A. A. Birch	\$ 10,614.54 \$	15,919.07	697.32 \$	1,975.29 \$	2,006.80 \$	633.73 \$	29.54 \$	-	\$	245.99 \$	- \$	919.82 \$	19,856.41 \$	4,733.74	\$	-	\$	57,632.25
4 Metro Courthouse	\$ 5,024.91 \$	7,428.13	325.40 \$	921.74 \$	1,056.83 \$	335.11 \$	13.78 \$	-	\$	114.78 \$	- \$	302.65 \$	10,682.65 \$	2,258.73	\$	-	\$	28,464.71
7 Parkway Tower	\$ 4,581.08 \$	7,206.87	315.66 \$	894.16 \$	663.95 \$	218.87 \$	13.35 \$	=	\$	111.35 \$	678.92 \$	203.52 \$	10,475.80 \$	-	\$	-	\$	25,363.53
9 Bobby Hotel (fka Wells Fargo)	\$ 1,688.55 \$	2,612.19	114.41 \$	324.11 \$	14.84 \$	4.89 \$	4.85 \$	-	\$	40.36 \$	243.83 \$	- \$	192.27 \$	-	\$	-	\$	5,240.30
10 Fairlane Hotel (fka 401 Union)	\$ 1,751.36 \$	2,691.75	117.91 \$	333.99 \$	- \$	- \$	4.99 \$	-	\$	41.59 \$	297.00 \$	- \$	- \$	-	\$	-	\$	5,238.59
11 Sheraton Hotel	\$ 9,666.16 \$	14,475.26	634.08 \$	1,796.14 \$	3,044.77 \$	947.95 \$	26.85 \$	-	\$	223.68 \$	1,177.50 \$	- \$	20,818.15 \$	9,491.48	\$	-	\$	62,302.02
12 Municipal Auditorium	\$ 4,850.78 \$	7,692.37	336.92 \$	954.38 \$	549.04 \$	173.32 \$	14.25 \$	-	\$	118.85 \$	- \$	126.87 \$	6,282.58 \$	1,306.20	\$	-	\$	22,405.56
21 Hermitage Hotel	\$ 4,668.91 \$	6,787.27	297.33 \$	842.25 \$	596.45 \$	194.61 \$	12.60 \$	-	\$	104.88 \$	265.08 \$	468.22 \$	7,126.11 \$	341.79	\$	-	\$	21,705.50
24 Criminal Justice Center	\$ 7,894.70 \$	11,159.26	488.89 \$	1,384.87 \$	- \$	- \$	20.74 \$	-	\$	172.46 \$	- \$	- \$	- \$	-	\$	-	\$	21,120.92
25 501 Union Building	\$ 1,840.85 \$	2,736.13	119.86 \$	339.51 \$	814.24 \$	255.04 \$	5.08 \$	-	\$	42.28 \$	222.83 \$	- \$	6,127.88 \$	2,277.13	\$	-	\$	14,780.83
28 4th & Church Building	\$ 19,977.78 \$	- 5	- \$	- \$	1,008.77 \$	332.53 \$	16.96 \$	-	\$	- \$	- \$	- \$	16,942.47 \$	-	\$	-	\$	38,278.51
29 Fifth-Third Financial Center	\$ 5,625.86 \$	10,127.45	443.47 \$	1,256.19 \$	1,028.36 \$	338.99 \$	18.70 \$	-	\$	156.44 \$	753.17 \$	102.40 \$	18,720.60 \$	-	\$	-	\$	38,571.63
32 Renaissance Hotel	\$ 11,595.86 \$	16,879.84	739.46 \$	2,094.64 \$	3,165.17 \$	999.43 \$	31.34 \$	-	\$	260.85 \$	1,400.26 \$	- \$	29,849.51 \$	7,482.48	\$	-	\$	74,498.84
33 Nashville Convention Center	\$ 14,278.29 \$	21,370.60	936.14 \$	2,651.75 \$	1,466.37 \$	479.18 \$	39.65 \$	-	\$	330.22 \$	- \$	- \$	19,457.07 \$	714.17	\$	-	\$	61,723.44
34 Renaissance Office Tower	\$ 1,375.45 \$	2,476.03	108.42 \$	307.12 \$	431.50 \$	142.24 \$	4.57 \$	-	\$	38.25 \$	217.58 \$	- \$	6,978.52 \$	-	\$	-	\$	12,079.68
35 St. Mary's Catholic Church	\$ 955.96 \$	- 5	- \$	- \$	- \$	- \$	- \$	-	\$	- \$	31.83 \$	- \$	- \$	-	\$	-	\$	987.79
36 Nashville City Center	\$ 4,584.83 \$	8,253.44	361.41 \$	1,023.74 \$	1,200.26 \$	395.66 \$	15.24 \$	-	\$	127.49 \$	721.33 \$	- \$	19,906.76 \$	-	\$	-	\$	36,590.16
38 Wildhorse Saloon	\$ 1,706.74 \$	2,702.69	118.38 \$	335.32 \$	980.19 \$	305.82 \$	5.01 \$	-	\$	41.76 \$	175.08 \$	- \$	9,778.07 \$	2,944.98	\$	-	\$	19,094.04
39 Ryman Auditorium	\$ 1,760.81 \$	2,834.68	124.15 \$	351.68 \$	997.68 \$	313.66 \$	5.25 \$	-	\$	43.80 \$	169.67 \$	- \$	8,199.74 \$	2,592.09	\$	-	\$	17,393.21
40 Bridgestone Arena	\$ 18,962.74 \$	30,607.75	1,340.55 \$	3,797.33 \$	5,201.01 \$	1,663.28 \$	56.67 \$	-	\$	472.89 \$	- \$	- \$	56,835.15 \$	8,715.86	\$	-	\$	127,653.23
41 Nissan Stadium	\$ 8,090.88 \$	14,564.89	637.77 \$	1,806.60 \$	2,683.74 \$	884.67 \$	26.89 \$	-	\$	224.98 \$	- \$	56.64 \$	39,022.77 \$	-	\$	-	\$	67,999.83
43 Hume-Fogg High School	\$ 2,694.47 \$	4,157.25	182.09 \$	515.81 \$	125.08 \$	41.16 \$	7.71 \$	-	\$	64.24 \$	- \$	405.54 \$	1,889.57 \$	13.30	\$	-	\$	10,096.22
44 Schermerhorn Symphony Center	\$ 14,550.00 \$	- 5	- \$	- \$	1,479.08 \$	460.27 \$	12.22 \$	-	\$	- \$	- \$	- \$	12,928.57 \$	4,647.77	\$	-	\$	34,077.91
45 Nashville Public Library	\$ 6,629.76 \$	- 5	- \$	- \$	1,491.63 \$	487.87 \$	19.05 \$	-	\$	- \$	- \$	- \$	17,965.70 \$	653.56	\$	-	\$	27,247.57
49 Viridian Residential Tower	\$ 11,847.68 \$	- 5	- \$	- \$	546.05 \$	180.00 \$	9.18 \$	-	\$	- \$	- \$	479.83 \$	7,392.41 \$	-	\$	-	\$	20,455.15
50 Music City Center	\$ 77,565.69 \$	8,847.65	- \$	6,981.11 \$	12,397.75 \$	3,886.57 \$	141.21 \$	-	\$	- \$	- \$	236.33 \$	100,253.04 \$	34,100.01	\$	-	\$	244,409.36
51 Hyatt Place Hotel	\$ 10,489.50 \$	- 5	- \$	- \$	747.63 \$	230.41 \$	9.37 \$	-	\$	- \$	- \$	72.29 \$	4,586.40 \$	2,730.65	\$	-	\$	18,866.25
S1 State Government of TN	\$ 136,594.48 \$	102,214.75	- \$	- \$	13,312.45 \$	4,216.72 \$	- \$	-	\$ 1	1,742.05 \$	- \$	5,089.03 \$	144,462.48 \$	29,224.96	\$	-	\$	436,856.92
Grand Totals:	\$ 401,868.62 \$	303,745.32	8,439.62 \$	30,887.73 \$	57,009.64 \$	18,121.98 \$	565.05 \$	-	\$ 4	4,719.19 \$	6,354.08 \$	8,463.14 \$	596,730.68 \$	114,228.90	\$	-	\$ 1	1,551,133.95
Rate Calculation Totals:	\$ 478,797.12 \$	419,855.27	13,525.69 \$	38,313.75 \$	57,021.25 \$	18,122.33 \$	775.00 \$	-	\$ 4	4,771.29 \$	6,354.08 \$	8,463.14 \$	596,825.19 \$	114,228.90	\$	-	\$ 1	1,757,053.01
Deviation:	\$ (76,928.50) \$	(116,109.95)	(5,086.07) \$	(7,426.02) \$	(11.61) \$	(0.35) \$	(209.95) \$	-	\$	(52.10) \$	- \$	- \$	(94.51) \$	-	\$	-	\$	(205,919.06)

#### Metro Nashville District Energy System Revenues Chilled Water and Steam Fiscal Year 16-17 True Up

Customer Number Customer Name	 Capacity	Operating	EDS Improveme nt	Metro Incremental	Water And Sewer	Chemical Treatment	Engineering	Insurance		EDS Electricity	EDS Maint Costs Alloc	TIFS	Electricity	Natural Gas	Propane		Total
2 A. A. Birch	\$ -	\$ -	\$ -	\$ (2,913.31) \$	(193.97) \$	1,557.30	\$ 130.65	\$ 666.9	4 \$	-	\$ =	\$ -	\$ (451.31) \$	(531.84)	\$	-	\$ (1,735.54)
4 Metro Courthouse	\$ -	\$ -	\$ =	\$ (1,359.45) \$	(92.02) \$	593.81	\$ 60.99	\$ 311.3	3 \$	-	\$ -	\$ -	\$ (183.88) \$	(167.29)	\$	-	\$ (836.51)
7 Parkway Tower	\$ -	\$ -	\$ =	\$ (1,318.78) \$	(98.09) \$	606.44	\$ 59.07	\$ 301.5	3 \$	=	\$ =	\$ =	\$ (190.47) \$	(162.76)	\$	-	\$ (803.06)
9 Bobby Hotel (fka Wells Fargo)	\$ -	\$ -	\$ =	\$ (478.02) \$	(14.09) \$	107.08	\$ 21.42	\$ 109.3	4 \$	=	\$ =	\$ =	\$ (31.52) \$	(35.10)	\$	-	\$ (320.89)
10 Fairlane Hotel (fka 401 Union)	\$ -	\$ -	\$ =	\$ (492.59) \$	- \$	-	\$ 22.08	\$ 112.6	9 \$	=	\$ =	\$ =	\$ - \$	i -	\$	-	\$ (357.82)
11 Sheraton Hotel	\$ -	\$ -	\$ -	\$ (2,649.09) \$	(220.45) \$	1,750.22	\$ 118.80	\$ 606.4	7 \$	-	\$ -	\$ -	\$ (508.82)	(592.89)	\$	-	\$ (1,495.76)
12 Municipal Auditorium	\$ -	\$ -	\$ -	\$ (1,407.60) \$	(45.15) \$	498.24	\$ 63.03	\$ 321.7	7 \$	-	\$ -	\$ -	\$ (133.35) \$	(203.40)	\$	-	\$ (906.46)
21 Hermitage Hotel	\$ -	\$ -	\$ -	\$ (1,242.21) \$	(75.17) \$	482.19	\$ 55.75	\$ 284.6	1 \$	-	\$ -	\$ -	\$ (149.60) \$	(134.96)	\$	-	\$ (779.39)
24 Criminal Justice Center	\$ -	\$ -	\$ -	\$ (2,042.50) \$	(35.21) \$	134.19	\$ 91.74	\$ 468.3	5 \$	-	\$ -	\$ -	\$ (50.97) \$	(9.45)	\$	-	\$ (1,443.85)
25 501 Union Building	\$ -	\$ -	\$ -	\$ (500.74) \$	(75.66) \$	529.05	\$ 22.46	\$ 114.6	7 \$	-	\$ -	\$ -	\$ (159.70) \$	(161.48)	\$	-	\$ (231.40)
28 4th & Church Building	\$ -	\$ -	\$ -	\$ - \$	(127.43) \$	704.68	\$ 75.02	\$ 382.9	7 \$	-	\$ -	\$ -	\$ (230.10) \$	(162.71)	\$	-	\$ 642.43
29 Fifth-Third Financial Center	\$ -	\$ -	\$ -	\$ (1,852.73) \$	(124.81) \$	418.47	\$ 82.71	\$ 422.2	4 \$	-	\$ -	\$ -	\$ (168.72) \$	-	\$	-	\$ (1,222.84)
32 Renaissance Hotel	\$ -	\$ -	\$ -	\$ (3,089.34) \$	(222.84) \$	1,582.24	\$ 138.65	\$ 707.8	1 \$	-	\$ -	\$ -	\$ (475.36) \$	(489.70)	\$	-	\$ (1,848.54)
33 Nashville Convention Center	\$ -	\$ -	\$ -	\$ (3,911.00) \$	(210.73) \$	1,168.14	\$ 175.40	\$ 895.3	8 \$	-	\$ -	\$ -	\$ (381.10) \$	(270.69)	\$	-	\$ (2,534.60)
34 Renaissance Office Tower	\$ -	\$ -	\$ -	\$ (452.97) \$	(62.24) \$	208.67	\$ 20.22	\$ 103.2	3 \$	-	\$ -	\$ -	\$ (84.13) \$	-	\$	-	\$ (267.22)
35 St. Mary's Catholic Church	\$ -	\$ -	\$ -	\$ - \$	- \$	-	\$ -	\$ -	\$	-	\$ -	\$ -	\$ - \$	-	\$	-	\$ -
36 Nashville City Center	\$ -	\$ -	\$ -	\$ (1,509.89) \$	(149.47) \$	501.13	\$ 67.41	\$ 344.1	.1 \$	-	\$ -	\$ -	\$ (202.05)	-	\$	-	\$ (948.76)
38 Wildhorse Saloon	\$ -	\$ -	\$ -	\$ (494.55) \$	(54.32) \$	309.02	\$ 22.14	\$ 113.0	6 \$	-	\$ -	\$ -	\$ (99.89)	(74.40)	\$	-	\$ (278.94)
39 Ryman Auditorium	\$ -	\$ -	\$ -	\$ (518.69) \$	(78.79) \$	527.81	\$ 23.22	\$ 118.5	2 \$	-	\$ -	\$ -	\$ (161.48) \$	(154.61)	\$	-	\$ (244.02)
40 Bridgestone Arena	\$ -	\$ -	\$ -	\$ (5,600.59) \$	(499.73) \$	2,417.97	\$ 250.68	\$ 1,279.6	9 \$	-	\$ -	\$ -	\$ (830.34) \$	(435.39)	\$	-	\$ (3,417.71)
41 Nissan Stadium	\$ -	\$ -	\$ -	\$ (2,664.51) \$	(260.94) \$	874.86	\$ 118.96	\$ 607.2	5 \$	-	\$ -	\$ -	\$ (352.73) \$	-	\$	-	\$ (1,677.11)
43 Hume-Fogg High School	\$ -	\$ -	\$ -	\$ (760.76) \$	(21.72) \$	159.05	\$ 34.09	\$ 174.0	3 \$	-	\$ -	\$ -	\$ (47.34)	(50.57)	\$	-	\$ (513.22)
44 Schermerhorn Symphony Center	\$ -	\$ -	\$ -	\$ - \$	(93.07) \$	678.91	\$ 54.07	\$ 276.0	3 \$	-	\$ -	\$ -	\$ (202.30) \$	(215.14)	\$	-	\$ 498.50
45 Nashville Public Library	\$ -	\$ -	\$ -	\$ - \$	(189.85) \$	917.45	\$ 84.26	\$ 430.1	.5 \$	-	\$ -	\$ -	\$ (315.22) \$	(164.72)	\$	-	\$ 762.07
49 Viridian Residential Tower	\$ -	\$ -	\$ -	\$ - \$	(56.56) \$	189.64	\$ 40.60	\$ 207.2	8 \$	-	\$ -	\$ -	\$ (76.46) \$	-	\$	-	\$ 304.50
50 Music City Center	\$ -	\$ -	\$ -	\$ (10,296.27) \$	(865.81) \$	6,608.36	\$ 624.62	\$ 3,188.6	3 \$	-	\$ -	\$ -	\$ (1,943.00) \$	(2,172.90)	\$	-	\$ (4,856.37)
51 Hyatt Place Hotel	\$ -	\$ -	\$ -	\$ - \$	(46.12) \$	393.53	\$ 41.46	\$ 211.6	2 \$	-	\$ -	\$ -	\$ (112.16) \$	(140.09)	\$	-	\$ 348.24
S1 State Government of TN	\$ -	\$ -	\$ -	\$ - \$	(1,057.94) \$	7,512.58	\$ -	\$ 4,723.6	4 \$	-	\$ -	\$ -	\$ (2,256.94)	(2,325.40)	\$	-	\$ 6,595.94
Grand Totals:	\$ -	\$	\$ -	\$ (45,555.59) \$	(4,972.18) \$	31,431.03	\$ 2,499.50	\$ 17,483.3	4 \$	-	\$ -	\$ -	\$ (9,798.94) \$	(8,655.49)	\$	-	\$ (17,568.33)
Rate Calculation Totals:				\$ (56,508.00) \$	(4,972.24) \$	31,455.20	\$ 3,428.07	\$ 17,499.9	10				\$ (9,804.86) \$	(8,668.24)			\$ (27,570.17)
Deviation:				\$ 10,952.41 \$	0.06 \$	(24.17)	\$ (928.57	\$ (16.5	6)				\$ 5.92	12.75			\$ 10,001.84



# Appendix 4

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NASHVILLE, TENNESSEE

#### CNE INVOICE RECONCILIATION - FY 2016 - 2017 MONTH 20.822.69 35,267,345 15.767.82 36,293,879 STEAM SALES 14.196.61 15,405,741 16 172 92 29,369,282 50 625 601 47,430,154 21.612.333 18.655.113 321,619,509 Previously invoiced, lbs Reconciled, lbs 14,196,61 15,405,741 16,172,929 20,822,696 29,369,282 50,625,601 47,430,154 35,267,345 36,293,879 21,612,333 18,655,113 15,767,82 321,619,509 CHW SALES Previously invoiced, ton-hrs 9,163,91 9,188,9 7,220,13 5,302,3 3,490,40 2,969,92 3,048,11 3,555,447 4,709,61 5,800,2 64,118,837 Reconciled, ton-hrs 9,163,917 9,188,98 3,048,114 3,555,447 4,709,613 64,118,837 START DATE 07/01/16 13 07/01/1 08/01/16 09/01/16 10/01/16 11/01/16 12/01/16 01/01/17 02/01/17 03/01/17 04/01/17 05/01/17 06/01/17 14 END DATE 03/31/1 06/30/17 08/31/1 09/30/1 10/31/1 11/30/1 04/30/17 05/31/1 01/31/1 02/28/1 06/30/1 3,048,114 15 CHW SALES ton-hrs 9,163,917 9,188,984 7,220,134 5,302,332 3,490,402 2,568,986 2,969,923 3,555,447 4,709,613 5,800,288 7,100,697 64,118,837 CHW SENDOUT 9,777,00 9,749,30 7,556,600 5,550,400 3,654,20 3,176,300 3,184,10 3,740,30 6,105,90 7,494,10 67,646,900 16 ton-hrs 2,718,90 4,939,80 2,600,60 4,270,00 17 CHW ELECTRIC kWh 8,363,74 8,353,70 6,403,27 4,532,67 3,005,22 2,338,37 2,572,818 3,109,89 4,064,79 5,058,78 6,433,14 56,837,044 3,946,000 47,430 51,22 18 CHW MUW 16,512,00 15,098,00 12,158,000 9,169,000 5,403,00 3,394,00 5,064,0 7,321,00 9,187,0 103,455,000 galls 19 STEAM SALES mlbs 14,19 16,17 21,20 50,62 54,41 21,61 27,04 321,620 20,32 24,60 STEAM SENDOUT mlbs 380,071 STEAM PRODUCTION 23,79 27,22 25,31 28,73 30,34° 35,156 40,19 46,19 16,101,428 21 mlbs 25,18 64,22 61,28 48,12 32,92 15,674,44 29,39 22 NATURAL GAS mmBtu 74,82 520,124 PROPANE 23 mmBtu 336 53,72 53,83 54,35 134,55 127,490 99,47 104,394 65,03 STEAM ELECTRIC kWh 962,188 CONDENSATE RETURN 1,926,20 2,536,00 34,565,100 25 1,977,90 1,961,60 5,148,00 4,388,300 3,419,30 3,494,50 2,154,50 2,277,60 2,008,00 galls mlbs 15,71 195 °I 16,13° 196° 26,696 167 °F 27,887 173 °F 28,501 174 °F 17,572 183 °F 16,37 187° 281,908 20,68 192° 35,790 171 °F 18,576 182 °F 195 °F 169 °F 27 178.9 620,370 5.177 28 STEAM MUW galls 562,03 572,470 611,550 1,741,710 2,042,880 ,395,50 1,545,460 1,179,15 758,48 606,70 12,582,190 29 4,777 7.894 17.048 11.646 12.897 9.840 5.063 4.690 5.104 14.535 6.330 105.002 mlbs 30 0.861 30 Days in Service 31 0.855 365 0.909 0.887 kWh/ton-hr-Sold 0.913 0.910 0.866 0.853 0.875 0.863 0.872 0.906 0.886 31 Efficiency - Cooling 32 Efficiency - Heating Dth/klb-Sendout 1.339 1.353 1.356 1.365 1.384 1.376 1.383 1.381 1.386 1.370 1.344 1.338 1.369 33 34

NASHVILLE, TENNESSEE

REV: 1 DATE: 07/28/17

# CNE INVOICE RECONCILIATION - FY 2016 - 2017

SUMMARY	ELECTRIC FEA	FUEL GAS FEA	WATER FEA	System TOTAL		Include FEA	
STEAM SYSTEM	\$21,689.58	\$81,678.47	\$716.90	\$104,084.95		in INVOICE	
CHILLED WATER SYSTEM	\$227,297.04	\$0.00	\$147,496.81	\$374,793.85		(YES/NO)	
TOTAL	\$248,986.62	\$81,678.47	\$148,213.71	\$478,878.80		YES	
ELECTRICITY-TO-STEAM CONVE	RSION						
CONTRACTUAL GUARANTEE	6.000	kWh per mlb sold	CNE PENALTY/E	ONUS CALCULATIO	N	PENALTY	BONUS
Metering Inaccuracy Buffer	0%	Krvii poi iiilo oola	RATE VAR		kWh per mlb sold	0.000	2,952
GUARANTEED MAX QUANTITY	6.000	kWh per mlb sold	STEAM SO		321,620 mlb	0.000	
CEPS FUEL EFFICIENCY ADJUSTM	6.000	kWh per mlb sold			ANCE x STEAM SOLD	0	949,434
CEPS ACTUAL CONVERSION RATE	3.048	kWh per mlb sold		ELECTRIC PRICE	\$0.0914 / kWh	•	0.10,101
		'	CEPS PEN	ALTY / BONUS		\$0.00	\$21,689.5
			NOTE	: Penalty at 100% of v	ariance and Bonus at 2	25% of variance	
FUEL GAS-TO-STEAM CONVERSION	ON	•		•			
CONTRACTUAL GUARANTEE (varie		urn, see below)	CNE PENALTY/F	ONUS CALCULATIO	N	PENALTY	BONUS
Given Condensate Return at	74%	of Send-out	RATE VAR		Dth. per mlb sold	0.000	0.225
Circii Condonado Notam de	179 °F	avg. Temp.	STEAM SE		380,071 mlb	0.000	0.220
GUARANTEED MAX QUANTITY	1.681	Dth.per mlb sold			NCE x STEAM SOLD	0	85,516
CEPS FUEL EFFICIENCY ADJUSTM	1.594	Dth.per mlb sold		FUEL PRICE	\$3.8205 / Dth.		
CEPS ACTUAL CONVERSION RATE	1.369	Dth.per mlb sold		ALTY / BONUS	. ,	\$0.00	\$81,678.4
					rariance and Bonus at 2		, , , , , , , , , , , , , , , , , , , ,
WATER-TO-STEAM CONVERSION							
CONTRACTUAL GUARANTEE (varie	s by Plant Send-out	see helow))	CNE PENALTY/E	ONUS CALCULATIO	N	PENALTY	BONUS
PLANT LOSSES	15%	1		in gallons = GMQ - CE		0	1,133,306
VOLUMETRIC CONVERSION	7.4805	gallons per cft		WATER PRICE	\$2.5303 / kGall	0	1,133,300
CONDENSATE RETURN SPEC. VOI	8.15585	gall per lb		ALTY / BONUS	ψ2.0000 / .tou	\$0.00	\$716.90
GUARANTEED MAX QUANTITY	13,841,318	gallons		ge water pice exclude:	s sewer	ψ0.00	Ų. 10.00
CEPS ACTUAL USE	12,708,012	gallons	7.1707.0	go water proo exercico	3 0011011		
02. 07.0.07.2002	12,7 00,0 12	ganorio	NOTE	Penalty at 100% of v	rariance and Bonus at 2	25% of variance	
ELECTRICITY-TO-CHILLED WATE	R CONVERSION	J.					
CONTRACTUAL GUARANTEE	1.055	kWh per ton-hr sold	CNE PENALTY/E	ONUS CALCULATIO	N	PENALTY	BONUS
Metering Inaccuracy Buffer	0%	p 2	RATE VAR		kWh per ton-hr sold	0.000	0.155
GUARANTEED MAX QUANTITY	1.055	kWh per ton-hr sold	CHILLED W	ATER SOLD	64,118,837 ton-hrs		
CEPS FUEL EFFICIENCY ADJUSTM	1.055	kWh per ton-hr sold		in kWh = RATE VARIA		0	9,949,640
CEPS ACTUAL CONVERSION RATE	0.900	kWh per ton-hr sold	AVERAGE	ELECTRIC PRICE	\$0.0914 / kWh		
				ALTY / BONUS	•	\$0.00	\$227,297.0
l			<u>N</u> OTE	: Penalty at 100% of v	ariance and Bonus at 2	25% of variance	
	VEDCION						
WATER-TO-CHILLED WATER CON	VERSION		CNE PENALTY/E	ONUS CALCULATIO	N	PENALTY	BONUS
		gall per ton-hr sold			gall per ton-hr sold	0.000	3.637
WATER-TO-CHILLED WATER CON CONTRACTUAL GUARANTEE Metering Inaccuracy Buffer	5.250 0%	gall per ton-hr sold	RATE VAR	ANCE			
CONTRACTUAL GUARANTEE	5.250	gall per ton-hr sold		ANCE /ATER SOLD	64,118,837 ton-hrs		
CONTRACTUAL GUARANTEE  Metering Inaccuracy Buffer	5.250 0%	•	CHILLED W	ATER SOLD	64,118,837 ton-hrs	0	233,168,89
CONTRACTUAL GUARANTEE  Metering Inaccuracy Buffer GUARANTEED MAX QUANTITY	<b>5.250 0</b> % 5.250	gall per ton-hr sold	CHILLED W VARIANCE	ATER SOLD		0	233,168,89
CONTRACTUAL GUARANTEE  Metering Inaccuracy Buffer GUARANTEED MAX QUANTITY CEPS FUEL EFFICIENCY ADJUSTM	5.250 0% 5.250 5.250	gall per ton-hr sold gall per ton-hr sold	CHILLED W VARIANCE AVERAGE	/ATER SOLD in gallons = RATE VA	RIANCE x CHW SOLE	0	233,168,89

55									
56	COMPARISO	N PREVIOUSLY	BILLED VS. RE	CONCILED AN	OUNTS				
57	STEAM SYSTEM				CH	IILLED WATER	SYSTEM		
58		CALCULATED	RECONCILED	VARIANCE			CALCULATED	RECONCILED	VARIANCE
59	ELECTRIC	\$22,694.46	\$21,689.58	(\$1,004.88)		ELECTRIC	\$247,878.19	\$227,297.04	(\$20,581.15)
60	FUEL GAS	\$81,733.69	\$81,678.47	(\$55.22)		FUEL GAS	\$0.00	\$0.00	\$0.00
61	WATER	\$702.98	\$716.90	\$13.92		WATER	\$147,491.96	\$147,496.81	\$4.85
62	TOTAL	\$105,131.13	\$104,084.95	(\$1,046.18)		TOTAL	\$395,370.15	\$374,793.85	(\$20,576.30)
63									

65	COMPARISO	N AMOUNT CO	OLLECTED BY ME	TRO VS 97-13	CAP	
66		FEA COLLEC	CTED BY METRO		METRO PAID	METRO OWES
67		STEAM	CHILLED WATER	TOTAL	CNE	CUSTOMER
68	ELECTRIC	\$9,673.20	\$134,701.79	\$144,374.99		
69	FUEL GAS	\$35,171.70	\$0.00	\$35,171.70		
70	WATER	\$258.89	\$83,602.29	\$83,861.18		
71	TOTAL	\$45,103.79	\$218,304.08	\$263,407.87	\$239,961.50	\$23,446.37
72						

64





NASHVILLE, TENNESSEE

## CNE INVOICE RECONCILIATION - FY 2016 - 2017

7/1/2016 7/31/2016 17,864 8,515,948 \$ 766,756.17 \$ 0.090000	7/1/2016 7/31/2016 16,296 8,485,568 \$ 720,116.19	9/1/2016 9/30/2016 14,504 6,531,392	10/1/2016 10/31/2016 12,096 4,674,096	11/1/2016 11/30/2016 7,672 3,177,888	11/1/2016 11/30/2016 6,646	11/1/2016 11/30/2016 6.646	11/1/2016 11/30/2016 7.392	3/1/2017 3/31/2017	4/1/2017 4/30/2017	4/30/2017 5/31/2017	5/31/2017 6/30/2017	7/1 6/3
7/31/2016 17,864 8,515,948 \$ 766,756.17	7/31/2016 16,296 8,485,568	9/30/2016 14,504 6,531,392	10/31/2016 12,096	11/30/2016 7,672	11/30/2016 6,646	11/30/2016	11/30/2016	3/31/2017	4/30/2017			
17,864 8,515,948 \$ 766,756.17	16,296 8,485,568	14,504 6,531,392	10/31/2016 12,096	11/30/2016 7,672	11/30/2016 6,646	11/30/2016	11/30/2016	3/31/2017	4/30/2017	5/31/2017	6/30/2017	
8,515,948 \$ 766,756.17	8,485,568	6,531,392	7		6,646	6.646	7 202					
\$ 766,756.17			4,674,096	2 177 000				8,176	10.640	13.048	14.336	17
\$ 766,756.17					2,556,232	2,784,180	2,767,044	3,223,108	4,205,264	5,187,280	6,568,016	58,6
		\$ 594,104,56	\$ 441.017.16	\$ 294.658.29	\$ 236,905,10	\$ 264.847.59	\$ 278,449.17	\$ 310,893.15	\$ 384,311,66	\$ 472,886.45	\$ 596.825.19	\$ 5,3
		\$ 0.091000	\$ 0.094400	\$ 0.092700	\$ 0.092700	\$ 0.095100	\$ 0.100600	\$ 0.096500	\$ 0.091400	\$ 0.091200	\$ 0.090900	\$
												*
7/1/2016	8/1/2016	9/1/2016	10/1/2016	11/1/2016	12/1/2016	1/1/2017	2/1/2017	3/1/2017	4/1/2017	5/1/2017	6/1/2017	7/1
												6/3
												0,0
												4,8
27,220.2	∠ŏ,∠b7.b	28,738.8	35,155.9	40,826.4	74,820.0	70,813.7	53,005.5	ენ,032.1	37,045.6	33,059.6	∠8,530.8	520
									0			
												74,
												269
												1,642
,,	,						,		·,			\$ 1,9
\$ 3.8647	\$ 3.2621	\$ 3.6022	\$ 3.6338	\$ 3.4977	\$ 3.6793	\$ 4.6701	\$ 4.2064	\$ 3.1736	\$ 3.8509	\$ 3.8859	\$ 4.0037	\$
												7/1
7/31/2016	7/31/2016	9/30/2016	10/31/2016	11/30/2016	11/30/2016	11/30/2016	11/30/2016	3/31/2017	4/30/2017	5/31/2017	6/30/2017	6/3
44	40	53	39	33	30	27	34	30	34	31	33	
28,958	26,518	29,933	20,682	16,188	11,897	11,725	12,482	12,334	15,317	15,283	20,838	22
29,002	26,558	29,986	20,721	16,221	11,927	11,752	12,516	12,364	15,351	15,314	20,871	22
28,958	26,518	29,933	20,682	16,188	11,897	11,725	12,482	12,334	15,317	15,283	20,838	22
21.660.584	19.835.464	22.389.884	15,470,136	12.108.624	8.898.956	8.770.300	9.336.536	9.225.832	11.457.116	11.431.684	15.586.824	166,
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\$ 122.51	\$ 113.95	s 141.77	\$ 111.81	\$ 98.97	\$ 92.55	\$ 86.13	S 101.11	\$ 92.55	\$ 101.11	\$ 94.69	\$ 98.97	s
			•		•					•		\$
												\$ 4
												\$ 1
,			,			,		,		. ,		\$ 1
					•							\$ 6
, .,	, , , , , , , ,	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,		,	,	,	,	, , , , , , , , ,	. ,		\$ 4
												\$ 4
φ 2.5299	φ 2.5299	ψ 2.0300	φ 2.0302	φ 2.0304	ψ 2.0308	φ 2.0307	φ 2.0309	φ 2.0307	φ ∠.0305	φ 2.0304	φ 2.0300	1.9
	27,220.2  \$6,241.11 \$ 15,684.29 \$ 83,272.61 \$ 105,198.00 \$ 3,8647  7/1/2016 7/31/2016  44 28,958 29,002 28,958 21,660,584 \$ 122.51 \$ 247.17 \$ 54,798.61 \$ 100.00 \$ 7,8867.43 \$ 54,798.61	412,108 437,715 437,715 464,084 10 10 10 1.063 1.072 256,070 263,689 27,220,2 28,267,6  \$6,241,10 \$6,241,10 \$ 15,684,29 \$ 16,074,16 \$ 83,272,61 \$ 69,895,54 \$ 105,198,00 \$92,210,80 \$ 3,8647 \$ 3,2621  7/1/2016 7/1/2016 7/31/2016 7/31/2016  7/31/2016 7/31/2016  28,958 26,518 29,002 26,558 28,958 26,518 21,660,584 19,835,464  \$ 122,51 \$ 113,95 \$ 247,17 \$ 229,89 \$ 54,798,61 \$ 50,181,62 \$ 23,599,14 \$ 21,610,54 \$ 100,00 \$ 100,00 \$ 78,867,43 \$ 72,236,00 \$ 54,798,61 \$ 50,181,62 \$ 2,5299 \$ 2,5299	412,108	412,108	412,108	412,108	412,108	412.108 437.715 464.084 490.993 523.849 567.449 637.049 703.045 703.045 10 10 10 10 10 10 10 10 10 10 10 10 10	412,108	442108	412.08 437.715 464.094 490.993 523.849 567.449 637.049 73.045 752.957 805.177 839.709 870.977 10 10 10 10 10 10 10 10 10 10 10 10 10	412,109

8 MONTHLY	FEAs		0	0	0	0	0	0	0	0	0	0	0	0	0
9 Service	Dates	From	7/1/2016	8/1/2016	9/1/2016	10/1/2016	11/1/2016	12/1/2016	1/1/2017	2/1/2017	3/1/2017	4/1/2017	5/1/2017	6/1/2017	7/1/2016
0		To	7/31/2016	8/31/2016	9/30/2016	10/31/2016	11/30/2016	12/31/2016	1/31/2017	2/28/2017	3/31/2017	4/30/2017	5/31/2017	6/30/2017	6/30/2017
1 STEAM	ELECTRIC		\$707.85	\$819.43	\$970.97	\$1,342.06	\$1,911.89	\$3,921.00	\$3,734.79	\$2,819.69	\$2,735.34	\$1,477.07	\$1,261.11	\$993.26	\$22,694.46
2	FUEL GAS		\$4,692.71	\$3,814.91	\$4,295.62	\$4,963.59	\$6,306.39	\$11,098.48	\$13,250.91	\$8,987.71	\$7,149.49	\$6,066.13	\$5,855.90	\$5,251.85	\$81,733.69
3	WATER		\$52.30	\$58.32	\$73.31	\$58.52	\$35.04	-\$18.60	\$71.16	\$83.58	\$90.84	\$91.52	\$53.01	\$53.98	\$702.98
4 CHW	ELECTRIC		\$29,278.71	\$28,475.29	\$27,595.36	\$25,027.00	\$15,692.67	\$8,632.76	\$13,345.26	\$15,485.33	\$15,439.52	\$20,662.02	\$24,201.13	\$24,043.14	\$247,878.19
5	FUEL GAS		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
6	WATER		\$19,984.43	\$20,963.17	\$16,284.98	\$11,809.40	\$8,174.12	\$6,386.19	\$7,367.54	\$7,423.25	\$8,606.37	\$11,011.93	\$13,451.52	\$16,029.06	\$147,491.96
7		<u> </u>	\$ 54,716.00	\$ 54,131.12	\$ 49,220.24	\$ 43,200.57	\$ 32,120.11	\$ 30,019.83	\$ 37,769.66	\$ 34,799.56	\$ 34,021.56	\$ 39,308.67	\$ 44,822.67	\$ 46,371.29	\$ 500,501.28

69	STEAM CAPACITY TEST ADJUST	MENTS										
70	Month		7	8	9	10	11	12				TOTAL
71	NATURAL GAS											
72	USAGE CREDIT N	ICF										0
73		Dth										0
74		\$										\$ -



NASHVILLE, TENNESSEE

REV: 1

` _	An Exelon Company			14710	SITVILLE, ILI	TITESSEE						
4	CNE INVOICE F	RECONCI	LIATIO	N - FY 2	016 - 201	17						
75	ELECTRIC										1	
76	USAGE CREDIT	kWh									1	0
77		\$										\$ -
78	WATER										1	
79	USAGE CREDIT	kGallon									1	0
80		\$										\$ -
81	PLANT STEAM										1	
82	SEND-OUT CREDIT	mlb									1	0
83												
84												

Month		7	8	9	10	11	12	1	2	3	4	5	6	TO
DATE OF READIN		7/1/2016	8/1/2016	9/1/2016	10/1/2016	11/1/2016	12/1/2016	1/1/2017	2/1/2017	3/1/2017	4/1/2017	5/1/2017	6/1/2017	7/1
(coincides with Cus		7/31/2016	8/31/2016	9/30/2016	10/31/2016	11/30/2016	12/31/2016	1/31/2017	2/28/2017	3/31/2017	4/30/2017	5/31/2017	6/30/2017	6/30
ELECTRIC METE														
SWG-2A	Start Reading	11,198.75	12,447.17	13,880.33	14,931.24	15,836.06	16,482.94	17,089.71	17,418.06	17,418.06	17,601.72	17,863.75	17,863.75	
	End Reading	12,447.17	13,880.33	14,931.24	15,836.06	16,482.94	17,089.71	17,418.06	17,418.06	17,601.72	17,863.75	17,863.75	18,013.36	
	od Use in units = 1,000 x kWh	1,248,420	1,433,160	1,050,910	904,820	646,880	606,770	328,350	0	183,660	262,030	0	149,610	
SWG-2B	Start Reading	46,482.83	48,561.14	50,437.91	51,203.11	51,586.33	52,073.06	52,869.06	53,523.85	54,111.67	55,063.38	56,526.87	58,041.46	
	End Reading	48,561.14	50,437.91	51,203.11	51,586.33	52,073.06	52,869.06	53,523.85	54,111.67	55,063.38	56,526.87	58,041.46	59,947.09	
	od Use in units = 1,000 x kWh	2,078,310	1,876,770	765,200	383,220	486,730	796,000	654,790	587,820	951,710	1,463,490	1,514,590	1,905,630	1
SWG-3A	Start Reading	35,374.60	36,630.83	37,893.78	38,846.72	39,372.11	39,717.34	40,023.08	40,480.40	40,734.86	40,910.20	41,718.45	43,212.74	
	End Reading	36,630.83	37,893.78	38,846.72	39,372.11	39,717.34	40,023.08	40,480.40	40,734.86	40,910.20	41,718.45	43,212.74	44,941.91	
Perio	od Use in units = 1,000 x kWh	1,256,230	1,262,950	952,940	525,390	345,230	305,740	457,320	254,460	175,340	808,250	1,494,290	1,729,170	
SWG-3B	Start Reading	116,453.84	118,432.79	120,421.42	122,532.68	124,091.10	124,813.42	124,839.28	125,300.42	126,377.84	127,356.92	127,843.12	128,656.45	
	End Reading	118,432.79	120,421.42	122,532.68	124,091.10	124,813.42	124,839.28	125,300.42	126,377.84	127,356.92	127,843.12	128,656.45	129,799.14	
Perio	od Use in units = 1,000 x kWh	1,978,950	1,988,630	2,111,260	1,558,420	722,320	25,860	461,140	1,077,420	979,080	486,200	813,330	1,142,690	1
SWG-4A	Start Reading	10,489,898.00	10,825,679.00	11,253,711.00	11,438,946.00	11,609,369.00	11,852,854.00	12,115,483.00	12,304,217.00	12,336,418.00	12,373,819.00	12,605,625.00	12,792,182.00	
	End Reading	10,825,679.00	11,253,711.00	11,438,946.00	11,609,369.00	11,852,854.00	12,115,483.00	12,304,217.00	12,336,418.00	12,373,819.00	12,605,625.00	12,792,182.00	12,962,689.00	
Perio	od Use in units = 1 x kWh	335,781	428,032	185,235	170,423	243,485	262,629	188,734	32,201	37,401	231,806	186,557	170,507	
SWG-4B	Start Reading	28,977,577.00	29,366,633.00	29,662,008.00	30,094,613.00	30,363,372.00	30,436,264.00	30,436,264.00	30,518,841.00	30,755,110.00	31,040,851.00	31,185,640.00	31,462,306.00	
	End Reading	29,366,633.00	29,662,008.00	30,094,613.00	30,363,372.00	30,436,264.00	30,436,264.00	30,518,841.00	30,755,110.00	31,040,851.00	31,185,640.00	31,462,306.00	31,895,699.00	
Perio	od Use in units = 1 x kWh	389,056	295,375	432,605	268,759	72,892	0	82,577	236,269	285,741	144,789	276,666	433,393	
SWG-5A	Start Reading	3,561,815.00	3,853,153.00	4,123,985.00	4,360,756.00	4,605,212.00	4,748,848.00	4,805,062.00	4,917,121.00	5,028,659.00	5,156,130.00	5,290,011.00	5,394,454.00	
	End Reading	3,853,153.00	4,123,985.00	4,360,756.00	4,605,212.00	4,748,848.00	4,805,062.00	4,917,121.00	5,028,659.00	5,156,130.00	5,290,011.00	5,394,454.00	5,586,402.00	
Perio	od Use in units = 1 x kWh	291.338	270.832	236,771	244,456	143,636	56.214	112.059	111.538	127,471	133.881	104,443	191,948	
SWG-5B	Start Reading	5,442,141.00	5.629.435.00	5,841,934.00	6.002.748.00	6.077.560.00	6,182,405.00	6.317.363.00	6,426,099,00	6.535.175.00	6.671.980.00	6.854.156.00	7,101,280.00	
	End Reading	5.629,435,00	5.841.934.00	6.002.748.00	6.077.560.00	6.182.405.00	6.317.363.00	6.426.099.00	6.535,175.00	6.671.980.00	6.854.156.00	7.101,280.00	7,299,470.00	
Perio	od Use in units = 1 x kWh	187,294	212,499	160.814	74.812	104.845	134.958	108.736	109.076	136.805	182,176	247.124	198,190	
MCC-1	Start Reading	19,210,499.90	19.488.677.40	19.762.527.80	19,997,099.10	20,173,786.20	20.258.984.40	20.288.142.60	20.343.348.60	20,411,992.30	20.503.449.40	20.644.865.90	20.811.960.70	
	End Reading	19,488,677.40	19,762,527.80	19,997,099.10	20,173,786.20	20,258,984.40	20,288,142.60	20,343,348.60	20,411,992.30	20,503,449.40	20,644,865.90	20,811,960.70	21,033,565.80	
Perio	od Use in units = 1 x kWh	278,178	273,850	234,571	176,687	85,198	29,158	55,206	68,644	91,457	141,417	167,095	221,605	
MCC-2	Start Reading	18.556.363.60	18.829.787.80	19.093.113.60	19.319.906.50	19.499.188.00	19.609.206.60	19.682.876.90	19.760.558.10	19.841.252.40	19.935,460,90	20.101.449.60	20.310.313.80	
	End Reading	18.829.787.80	19.093.113.60	19.319.906.50	19,499,188.00	19,609,206.60	19,682,876.90	19,760,558.10	19,841,252.40	19.935,460.90	20,101,449.60	20.310.313.80	20,555,490.00	
Perio	od Use in units = 1 x kWh	273,424	263.326	226,793	179.282	110.019	73.670	77.681	80.694	94.209	165,989	208.864	245,176	
MCC-3	Start Reading	4.650.181.00	4.660.976.40	4.663.093.60	4.670.816.70	4.698.000.00	4.751.203.80	4.811.090.50	4.860.260.90	4.897.389.40	4.948.475.80	4.956.715.60	4.975.236.10	
	End Reading	4,660,976,40	4.663.093.60	4,670,816.70	4.698.000.00	4.751,203.80	4.811.090.50	4,860,260,90	4.897.389.40	4,948,475.80	4,956,715.60	4.975.236.10	5,000,535.40	
Parin	od Use in units = 1 x kWh	10.795	2.117	7.723	27.183	53.204	59.887	49.170	37.129	51.086	8.240	18.521	25.299	
MCC-4	Start Reading	6.477.398.00	6.520.030.00	6.571.436.80	6.617.674.70	6.657.880.80	6.697.050.00	6.769.047.90	6.845.119.50	6.905.868.10	6.957.621.90	7.013.711.60	7,051,300.40	
	End Reading	6,520,030.00	6,571,436.80	6.617.674.70	6,657,880.80	6,697,050.00	6,769,047.90	6,845,119.50	6,905,868.10	6,957,621.90	7.013.711.60	7,051,300.40	7,076,552.30	
Di-	od Use in units = 1 x kWh	42.632	51,407	46,238	40,206	39,169	71,998	76,072	60,749	51,754	56,090	37,589	25.252	

130_															
131	OTHER METERS (Paste Link)														
132	FT_6120: Propane Gas Start Re	ading	12,095.33	12,095.33	12,095.33	12,095.33	12,095.33	12,095.33	12,095.33	12,095.33	12,095.33	12,095.33	12,095.33	12,095.33	
133	End Re	ading	12,095.33	12,095.33	12,095.33	12,095.33	12,095.33	12,095.33	12,095.33	12,095.33	12,095.33	12,095.33	12,095.33	12,095.33	
134	Period Use in units = 1,000 x \$	CFT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	C
135	Higher Heating Value in units = BTU/S	CFT	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	
136	FIQY_3000: Stm Sendout Start Rea	ading	4,720,368	4,740,690	4,761,576	4,782,777	4,808,560	4,842,424	4,896,834	4,948,055	4,986,875	5,027,464	5,054,508	5,079,111	
137	End Rea	ading	4,740,690	4,761,576	4,782,777	4,808,560	4,842,424	4,896,834	4,948,055	4,986,875	5,027,464	5,054,508	5,079,111	5,100,439	
138	Period Use in units = 1 x	MLB	20,322	20,886	21,201	25,783	33,864	54,410	51,221	38,820	40,589	27,044	24,603	21,328	380,071
139	WQ_1800: CHW Sendout Start Rea	ading	741,782,900	751,559,900	761,309,200	768,865,800	774,416,200	778,070,400	780,789,300	783,965,600	787,149,700	790,890,000	795,829,800	801,935,700	
140	End Rea	ading	751,559,900	761,309,200	768,865,800	774,416,200	778,070,400	780,789,300	783,965,600	787,149,700	790,890,000	795,829,800	801,935,700	809,429,800	
141	Period Use in units = 1 x TON-	HRS	9,777,000	9,749,300	7,556,600	5,550,400	3,654,200	2,718,900	3,176,300	3,184,100	3,740,300	4,939,800	6,105,900	7,494,100	67,646,900
142	FT_8100: Cond. Return Start Rea	ading	295,946,400	297,872,600	299,850,500	301,812,100	304,348,100	307,621,300	312,769,300	317,157,600	320,576,900	324,071,400	326,225,900	328,503,500	
143	End Re	ading	297,872,600	299,850,500	301,812,100	304,348,100	307,621,300	312,769,300	317,157,600	320,576,900	324,071,400	326,225,900	328,503,500	330,511,500	
144	Period Use in units = 1 x 0	SALL	1,926,200	1,977,900	1,961,600	2,536,000	3,273,200	5,148,000	4,388,300	3,419,300	3,494,500	2,154,500	2,277,600	2,008,000	34,565,100
145	WQ_8100: Cond. Return Start Rea	ading	150,737	153,299	155,944	158,551	161,868	165,480	171,219	176,181	180,101	184,155	186,801	189,588	





NASHVILLE, TENNESSEE

٠.	An Exelon Company	NAS	HVILLE, IENI	NESSEE											
4	CNE INVOICE RECONCILIAT	ΓΙΟΝ - FY 20	016 - 201	7											
146	End Reading	153,299	155,944	158,551	161,868	165,480	171,219	176,181	180,101	184,155	186,801	189,588	192,123		
147	Period Use in units = 1 x mmBtu	2,562	2,645	2,607	3,317	3,612	5,739	4,962	3,920	4,054	2,646	2,787	2,535	41,	,386
148	Condensate Return Temp	195 °F	196 °F	195 °F	192 °F	167 °F	169 °F	171 °F	173 °F	174 °F	183 °F	182 °F	187 °F	17	'9 °F
149	FT_4500: MUW, Stm. Start Reading	132,283,040	132,845,070	133,417,540	134,029,090	134,649,460	135,595,350	137,337,060	139,379,940	140,775,440	142,320,900	143,500,050	144,258,530		
150	End Reading	132,845,070	133,417,540	134,029,090	134,649,460	135,595,350	137,337,060	139,379,940	140,775,440	142,320,900	143,500,050	144,258,530	144,865,230		
151	Period Use in units = 1 x GALL	562,030	572,470	611,550	620,370	945,890	1,741,710	2,042,880	1,395,500	1,545,460	1,179,150	758,480	606,700	12,582,	,190
152	FT_4200: MUW, CW. Start Reading	1,291,970,000	1,308,482,000	1,323,580,000	1,335,738,000	1,344,907,000	1,350,310,000	1,353,704,000	1,357,650,000	1,361,920,000	1,366,984,000	1,374,305,000	1,383,492,000		
153	End Reading	1,308,482,000	1,323,580,000	1,335,738,000	1,344,907,000	1,350,310,000	1,353,704,000	1,357,650,000	1,361,920,000	1,366,984,000	1,374,305,000	1,383,492,000	1,395,425,000		
154	Period Use in units = 1 x GALL	16,512,000	15,098,000	12,158,000	9,169,000	5,403,000	3,394,000	3,946,000	4,270,000	5,064,000	7,321,000	9,187,000	11,933,000	103,455,	,000
155	FT_4100: MUW, CHW. Start Reading	114,270,200	116,288,500	118,319,800	120,434,300	122,647,800	124,848,100	127,154,600	129,403,900	131,451,800	133,715,100	135,888,800	138,190,000		
156	End Reading	116,288,500	118,319,800	120,434,300	122,647,800	124,848,100	127,154,600	129,403,900	131,451,800	133,715,100	135,888,800	138,190,000	140,514,000		
157	Period Use in units = 1 x GALL	2,018,300	2,031,300	2,114,500	2,213,500	2,200,300	2,306,500	2,249,300	2,047,900	2,263,300	2,173,700	2,301,200	2,324,000	26,243,	,800
158	2" PLANT WATER Start Reading in 10 x scft	10,720,100	10,945,300	11,166,200	11,369,700	11,572,500	11,755,200	11,940,700	12,127,200	12,292,600	12,478,200	12,665,500	12,861,900		
159	UTILITY METER Start Reading in 10 x scft	10,945,300	11,166,200	11,369,700	11,572,500	11,755,200	11,940,700	12,127,200	12,292,600	12,478,200	12,665,500	12,861,900	13,058,500		
160	Period Use in units = 1 x SCFT	225,200	220,900	203,500	202,800	182,700	185,500	186,500	165,400	185,600	187,300	196,400	196,600	2,338,	,400
161	6" PLANT WATER Start Reading	182,518,000	185,167,000	187,765,500	189,931,000	191,576,000	192,694,500	193,638,000	194,709,000	195,735,000	196,917,000	198,381,500	200,089,000		
162	UTILITY METER End Reading	185,167,000	187,765,500	189,931,000	191,576,000	192,694,500	193,638,000	194,709,000	195,735,000	196,917,000	198,381,500	200,089,000	202,208,500		
163	Period Use in units = 1 x SCFT	2,649,000	2,598,500	2,165,500	1,645,000	1,118,500	943,500	1,071,000	1,026,000	1,182,000	1,464,500	1,707,500	2,119,500	19,690,	,500
164	2" DOMESTIC WATER Start Reading	2,905,000.0	2,948,000.0	2,996,000.0	3,040,000.0	3,077,000.0	3,108,000.0	3,135,000.0	3,167,000.0	3,198,000.0	3,229,000.0	3,263,000.0	3,294,000.0		
165	UTILITY METER End Reading	2,948,000.0	2,996,000.0	3,040,000.0	3,077,000.0	3,108,000.0	3,135,000.0	3,167,000.0	3,198,000.0	3,229,000.0	3,263,000.0	3,294,000.0	3,330,000.0		
166	Period Use in units = 1 x SCFT	43,000	48,000	44,000	37,000	31,000	27,000	32,000	31,000	31,000	34,000	31,000	36,000	425,	,000
167	·													·	

PERFORMANCE CALCULAT	IONS														
Month  ELECTRIC-to-STEAM CONVERSION		7	8	9	10	11	12	13	14	15	16	17	18		TOTAL
	kWh	0.545.040	8.485.568	6.531.392	4,674,096	3.177.888	2.556,232	2.784.180	2,767,044	3,223,108	4,205,264	5,187,280	6.568.016		58.676
Emainutility	kWh	8,515,948	-,,	-, ,	,. ,	-, ,	,,	, . ,	, . , .		, , .		.,,.		56,286
Echw,metered	kWh	8,316,981 53,427	8,305,424 53,524	6,357,099 53,961	4,486,269 67,389	2,961,235 92,373	2,291,000 131.885	2,526,593 125,242	2,558,122	3,062,874 102.840	4,020,027 64,330	5,012,959	6,387,919 50,551		949
Esteam,metered Esteam.unmetered	kWh	913	799	994	1,736	3,613	6,880	5,953	97,878 3,928	1,831	1,850	56,110 1,279	997		30
CAPACITY TEST ADJUSTN		913	799	994	1,730	3,013	0,000	0,900	3,920	1,031	1,000	1,279	997		30
Esteam.total	kWh	54.340	54.323	54.055	00.405	95,986	400.705	424.405	404.000	404.074	00 400	57.000	51,548		980
Customer Steam, Sn+e	lbs	14,196,611	15,405,741	54,955 16,172,929	69,125 20,822,696	29,369,282	138,765 50,625,601	131,195 47,430,154	101,806 35,267,345	104,671 36,293,879	66,180 21,612,333	57,389 18,655,113	15,767,825		321.619
	kWh/klb	3.828													- ,- ,-
nelec, actual	KWN/KID	3.828	3.526	3.398	3.320	3.268	2.741	2.766	2.887	2.884	3.062	3.076	3.269	<u> </u>	3
FUEL GAS-to-STEAM CONVERSION Metered Plant Steam Send-out	lbs	20.322.000	20.886.000	21,201,000	25,783,000	33.864.000	54,410,000	51,221,000	38,820,000	40.589.000	27.044.000	24.603.000	21,328,000	<u> </u>	380.071
CAPACITY TEST ADJUST		20,322,000	20,000,000	21,201,000	25,765,000	33,004,000	34,410,000	51,221,000	30,020,000	40,369,000	27,044,000	24,003,000	21,320,000		300,071
ADJUSTED Plant Steam SO	I MEN I , IDS	20.322.000	20.886.000	21,201,000	25,783,000	33.864.000	54.410.000	51,221,000	38.820.000	40.589.000	27.044.000	24.603.000	21.328.000		380.071
Natural Gas use, NG	Dth Dth	20,322,000	28,267.6	21,201,000	25,783,000 35,155.9	46,826.4	74,820.0	70,813.7	53,605.5	40,589,000 56,032.1	37,044,000	33,059.6	28,530.8		380,071 520,1
Propane Gas use, P	scft	21,220.2	20,207.0	20,730.0	35,155.9	40,020.4	74,020.0	70,013.7	55,605.5	30,032.1	37,045.0	33,039.0	20,000.0		520,1
Propane Gas use, P	Dth	0	0	0	25	33	41	40	0	213	0	0	0		
CAPACITY TEST ADJUST		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
												0.0			500.4
TOTAL FUEL GAS USE	Dth Dth	27,220.2	28,267.6	28,738.8	35,180.9	46,859.4	74,861.0	70,829.7	53,613.5	56,245.1	37,045.6	33,059.6	28,530.8		520,4
nhhv,actual	Dth/klb	1.339	1.353	1.356	1.364	1.384	1.376	1.383	1.381	1.386	1.370	1.344	1.338		1.3
Condensate Return, CR	gallon	1,926,200	1,977,900	1,961,600	2,536,000	3,273,200	5,148,000	4,388,300	3,419,300	3,494,500	2,154,500	2,277,600	2,008,000		34,565,
0 1 5 5	% of SO mmBtu	77.30%	77.24%	75.46%	80.22%	78.83%	77.17%	69.87%	71.84%	70.22%	64.97%	75.50%	76.79%		74.1 41.:
Condensate Return Energy		2,562	2,645	2,607	3,317	3,612	5,739	4,962	3,920	4,054	2,646	2,787	2,535 187 °F		
Condensate Return Temperature	avg Dth/klb	195 °F	196 °F	195 °F	192 °F	167 °F	169 °F	171 °F	173 °F	174 °F	183 °F	182 °F		TEED MAX RATE	17
nhhv,guarantee	Dtn/kib												GUARANI	CES FEA RATE	1.
WATER-to-STEAM CONVERSION														CES FEA RATE	1.
Metered Steam Makeup, MW	Gallons	562,030	572.470	611,550	620,370	945,890	1.741.710	2,042,880	1,395,500	1,545,460	1,179,150	758,480	606,700		12,582
CAPACITY TEST ADJUSTMEN		302,030	372,470	011,330	020,570	343,030	1,741,710	2,042,000	1,393,300	1,343,400	1,179,130	730,400	000,700		12,302,
ADJUSTED Steam Makeup, MW	Gallons	562,030	572,470	611,550	620,370	945,890	1,741,710	2,042,880	1,395,500	1,545,460	1,179,150	758,480	606,700		12,582,
Actual Steam Makeup, nwater	Gallons	567,650	578,195	617,666	626,574	955,349	1,759,127	2,063,309	1,409,455	1,560,915	1,190,942	766,065	612,767		12,708,
Guarantee Steam Makeup, nguar.	Gallons	650.335	670,405	733,566	719,083	1,010,748	1,751,778	2,175,774	1,541,545	1,704,499	1,335,612	849,859	698,114		13,841,
ELECTRICITY-to-CHW CONVERSION		000,000	070,403	733,300	7 19,003	1,010,740	1,731,776	2,173,774	1,041,040	1,704,433	1,333,012	043,003	090,114		13,041,
Emainutility	kWh	8,515,948	8,485,568	6,531,392	4,674,096	3,177,888	2,556,232	2,784,180	2,767,044	3,223,108	4,205,264	5,187,280	6,568,016	1	58,676
CAPACITY TEST ADJUSTN		0,010,040	0,400,000	0,001,002	4,074,030	0,177,000	2,000,202	2,704,100	2,707,044	0,220,100	4,200,204	0,107,200	0,000,010		30,070
Echw.metered	kWh	8.316.981	8.305.424	6.357.099	4.486.269	2.961.235	2.291.000	2.526.593	2.558.122	3.062.874	4.020.027	5.012.959	6.387.919		56.286
Esteam,total	kWh	54,340	54,323	54,955	69,125	95,986	138,765	131,195	101,806	104,671	66,180	57,389	51,548		980.
Echw,unmetered	kWh	144,627	125,821	119,338	118,702	120,667	126,467	126,392	107,116	55,563	119,057	116,932	128,549		1,409
Echw.total	kWh	8,461,608	8.431.245	6,476,437	4,604,971	3,081,902	2,417,467	2.652.985	2.665,238	3,118,437	4,139,084	5.129.891	6,516,468		57,695
Customer CHW, CHWs+e	Ton-hrs	9,163,917	9,188,984	7,220,134	5,302,332	3,490,402	2,568,986	2,969,923	3,048,114	3,555,447	4,709,613	5,800,288	7,100,697		64,118
	(Wh/ton-hr	0.923	0.918	0.897	0.868	0.883	0.941	0.893	0.874	0.877	0.879	0.884	0.918		04,110
	***************************************	0.323	0.310	0.037	0.000	0.003	0.341	0.033	0.074	0.077	0.079	0.004	0.310		,
nelec, actual															
nelec, actual CW-to-CHW CONVERSION	Gallons	16 512 000	15 009 000	12 159 000	0.160.000	E 403 000	3 304 000	3 046 000	4 270 000	5.064.000	7 221 000	0.197.000	11 033 000	I	103 455
nelec, actual	Gallons Ton-hrs	16,512,000 9,163,917	15,098,000 9,188,984	12,158,000 7,220,134	9,169,000 5,302,332	5,403,000 3,490,402	3,394,000 2,568,986	3,946,000 2,969,923	4,270,000 3,048,114	5,064,000 3,555,447	7,321,000 4,709,613	9,187,000 5,800,288	11,933,000 7,100,697		103,455, 64,118,



# CNE INVOICE RECONCILIATION - FY 2016 - 2017

16														
METER CHECKS AND E	STIMATES													
8 WATER METER CHECKS	STIWATES	7	8	9	10	11	12	1	2	3	4	5	6	TOTA
9 Utility Meters - Utility Dates	gallons	21.660.584	19.835.464	22.389.884	15,470,136	12,108,624	8.898.956	8.770.300	9.336.536	9,225,832	11.457.116	11.431.684	15.586.824	166,171,9
Utility Meters - Customer Date:		21,499,016	21,089,112	17,720,120	13,821,544	9,732,976	8.444.920	9,406,100	8,911,672	10.229.648	12,355,464	14,241,172	17,324,428	164,776,1
variance (line 184-line 183)		-161,568	1,253,648	-4,669,764	-1,648,592	-2,375,648	-454.036	635,800	-424,864	1,003,816	898.348	2,809,488	1,737,604	-1,395,76
	TOTAL (line 183)	-1%	6%	-21%	-11%	-20%	-5%	7%	-5%	11%	8%	25%	11%	-0.84
23 Plant Meters	TOTAL (IIIIC 100)	···		2170		2070	570		5 70	1170		2070		-0.04
24 CHW	gallons	2,018,300	2,031,300	2,114,500	2,213,500	2,200,300	2,306,500	2.249.300	2,047,900	2,263,300	2,173,700	2,301,200	2,324,000	26,243,80
CW	gallons	16.512.000	15.098.000	12,158,000	9.169.000	5,403,000	3,394,000	3,946,000	4.270.000	5.064.000	7.321.000	9.187.000	11.933.000	103,455,00
26 STEAM	gallons	562,030	572,470	611,550	620,370	945,890	1,741,710	2,042,880	1,395,500	1,545,460	1,179,150	758,480	606,700	12,582,1
7 TOTAL	gallons	19,092,330	17.701.770	14.884.050	12,002,870	8,549,190	7,442,210	8,238,180	7,713,400	8,872,760	10,673,850	12,246,680	14,863,700	142,280,99
28 variance (line 191-line 184)		-2,406,686	-3.387.342	-2.836.070	-1.818.674	-1.183.786	-1.002.710	-1.167.920	-1.198.272	-1.356.888	-1.681.614	-1.994.492	-2.460.728	-22,495,18
	TOTAL (line 184)	-11%	-16%	-16%	-13%	-12%	-12%	-12%	-13%	-13%	-14%	-14%	-14%	-13.65
0	( (					,,	,,	,.						13131
1 CW MUW CHECK		7	8	9	10	11	12	1	2	3	4	5	6	TOTA
CHW Send-out	ton-hrs	9,777,000	9,749,300	7,556,600	5,550,400	3,654,200	2,718,900	3,176,300	3,184,100	3,740,300	4,939,800	6,105,900	7,494,100	67,646,90
CW MUW Rate	gall/ton-hr	1.689	1.549	1.609	1.652	1.479	1.248	1.242	1.341	1.354	1.482	1.505	1.592	1.52
34														·
FINAL MAKEUP WATER RESUL	TS	7	8	9	10	11	12	1	2	3	4	5	6	TOTA
36 CHW	gallons	2,018,300	2,031,300	2,114,500	2,213,500	2,200,300	2,306,500	2,249,300	2,047,900	2,263,300	2,173,700	2,301,200	2,324,000	26,243,80
37 CW	gallons	16,512,000	15,098,000	12,158,000	9,169,000	5,403,000	3,394,000	3,946,000	4,270,000	5,064,000	7,321,000	9,187,000	11,933,000	103,455,00
STEAM	gallons	562,030	572,470	611,550	620,370	945,890	1,741,710	2,042,880	1,395,500	1,545,460	1,179,150	758,480	606,700	12,582,19
39 TOTAL	gallons	19,092,330	17,701,770	14,884,050	12,002,870	8,549,190	7,442,210	8,238,180	7,713,400	8,872,760	10,673,850	12,246,680	14,863,700	142,280,99
40 variance	gallons	-2,406,686	-3,387,342	-2,836,070	-1,818,674	-1,183,786	-1,002,710	-1,167,920	-1,198,272	-1,356,888	-1,681,614	-1,994,492	-2,460,728	-22,495,18
41 % of 1	TOTAL (line 184)	-11%	-17%	-13%	-12%	-10%	-11%	-13%	0%	0%	-15%	-17%	-16%	-149
12														<u> </u>
43 STEAM PLANT MASS BALANCE	<del></del>	7	8	9	10	11	12	1	2	<u>.</u>	4	5	6	TOTA
14 STEAM SENDOUT	klbs	20,322	20,886	21,201	25,783	33,864	54,410	51,221	38,820	40,589	27,044	24,603	21,328	380,07
5 STEAM PRODUCTION	klbs	23,790	25,184	25,319	30,341	40,199	64,225	61,281	46,195	48,126	32,927	29,398	15,674,443	16,101,42
16		-3,468	-4,298	-4,118	-4,558	-6,335	-9,815	-10,060	-7,375	-7,537	-5,883	-4,795	-15,653,115	
47 CALC'D LOSSES														
48 BLOWDO\ 4%	klbs	952	1,007	1,013	1,214	1,608	2,569	2,451	1,848	1,925	1,317	1,176	626,978	644,05
19 DEA VENT 0.50%	klbs	119	126	127	152	201	321	306	231	241	165	147	78,372	80,50
TOTAL CALC'D LOSSES	klbs	1,071	1,133	1,139	1,365	1,809	2,890	2,758	2,079	2,166	1,482	1,323	705,350	724,56
51 CONDENSATE RETURN		4.000.000	4.077.000	4 004 000	0.500.000	0.070.000	E 440.000	4 200 222	2 440 222	0.404.500	0.454.500	0.077.000	0.000.000	2.1505.10
	gallons	1,926,200	1,977,900 16.131	1,961,600 15,999	2,536,000 20,683	3,273,200 26,696	5,148,000 41,986	4,388,300 35,790	3,419,300	3,494,500	2,154,500 17.572	2,277,600 18.576	2,008,000 16.377	34,565,10 281.90
53 8.15585 54 STEAM MUW 8.3453		15,710 4.690	4,777	15,999 5.104	20,683 5,177	26,696 7.894	41,986 14,535	35,790 17,048	27,887 11,646	28,501 12,897	17,572 9,840	6,330	5,063	281,90 105.00
51 STEAM MOV 8.3453	, KIDS	4,090	4,///	5,104	7,177	1,094	14,035	17,048	11,040	12,897	9,040	0,330	5,003	105,00
56 TOTAL LEAVING PLANT	klbs	21,393	22,019	22,340	27,148	35.673	57,300	53,979	40,899	42,755	28,526	25,926	726.678	1,104,63
TOTAL LEAVING PLANT TOTAL ENTERING PLANT	klbs	20,400	20,909	22,340	27,148 25,860	35,673	57,300 56,521	52,839	39,533	42,755	27,412	24,906	21,440	1,104,63
68 OVERAGE / SHORTFALL	klbs	-992	-1.110	-1,238	-1.288	-1.083	-779	-1.140	-1.366	-1,357	-1,114	-1.020	-705,238	-717.72
OVERAGE / SHORTFALL	CUIN	-4.6%	-1,110	-1,236	-1,266 -4.7%	-1,065	-1.4%	-1,140	-1,366	-3.2%	-3.9%	-3.9%	-705,236	-64.97
60 FINAL CONDENSATE RETURN (	CALCULATIONS	-4.076	-5.0%	-3.376	-4.170	-5.0%	-1.476	-2.176	-3.376	-5.2%	-5.376	-5.9%	-51.0%	-04.97
RECALC'D TOTAL ENTERING	klbs	22.034	22,680	23.011	27.963	36,743	59.019	55,598	42,126	44,037	29.381	26.704	748,478	
2 RECALC'D COND. RETURN	klbs	17,344	17,902	17.907	22,786	28.849	44.484	38,550	30,480	31,140	19,541	20,704	743,415	
33	gallons	2,126,574	2,195,041	2,195,602	2,793,776	3,537,266	5.454.249	4,726,614	3,737,179	3,818,116	2,395,964	2.498.077	91,151,159	
64	94.101.10	2,120,014	2,100,041	2,100,002	2,, 55,,776	0,00.,200	0, 10 1,240	1,7 20,014	5,757,175	3,5 15,110	2,000,004	2, 100,077	01,101,100	
			i i											



# Exhibit 1



#### NASHVILLE, TENNESSEE

### EXHIBIT 1 - CALCULATION DETAIL FOR PLANT PERFORMANCE PER APPENDIX 19

# **ELECTRICITY-TO-STEAM CONVERSION**

(1)	E (MainUtility)	= total electric use per main utility meters		58,676,016 kWh
(2)	E (Steam,mete	ered) = metered electric use for steam plant		949,510 kWh
		MCC-3	350,354	
		MCC-4	599,156	
(3)	E (CHW,mete	red) = metered electric use for chilled water plant		56,286,501 kWh
		SWGR-2A	6,814,610	
		SWGR-2B	13,464,260	
		SWGR-3A	9,567,310	
		SWGR-3B	13,345,300	
		SWGR-4A	2,472,791	
		SWGR-4B	2,918,122	
		SWGR-5A	2,024,587	
		SWGR-5B	1,857,329	
		MCC-1	1,823,066	
		MCC-2	1,999,126	
(4)	Esteam,unme	tered = un-metered electric use for steam plant = $[(2)/(1)]x[(1)-(2)-(2)$	3) ]	23,303 kWh *
(5)	Echw,unmeter	ed = un-metered electric use for chilled water plant = (1) - (2) - (3) - (4)		1,416,702 kWh *
(6)	Esteam,total =	total electric use for steam plant = (2) + (4)		972,813 kWh *
(7)	Customer Stea	am Sales, metered + unmetered		321,619,509 lbs

# n (elec): Actual Steam Plant Electric Conversion = (6) / [ (7) x 0.001 ] =

3.025 kWh/klb

# NATURAL GAS-TO-STEAM CONVERSION

(8)	NG = Total Na	tural Gas Use per main utility meters		520,116.2 Dth		
(9)	P = Total Prop	ane Gas		336 scft		
(10)	HHV = Higher	Heating Value of Propane		1.002520 Btu/scft		
(11)	SO = Plant Ste	eam Send Out	380,071,000 lbs			
		Meter Reading at the beginning, n-1	4,720,368			
- 1		Meter Reading at the end, n	5,100,439			
		Units of Measure	1 x SCFT			

# n (HHV): Actual Plant Efficiency = $[(8) + (9) \times (10)]/[(11) \times 0.001)]$ =

1.369 Dth/klb

(12)	CR = Condens	sate Return per plant meter	34,565,100 gallons **	
		Meter Reading at the beginning, n-1	295,946,400	
		Meter Reading at the end, n	330,511,500	
		Units of Measure	1 x SCFT	
(13)	H = Condensa	te Return energy		41,386 mmBtu
		Meter Reading at the beginning, n-1	150,737	
		Meter Reading at the end, n	192,123	
		Units of Measure	1 x MMBTU	

# T (cr,avg): Average Condensate Return Temperature =

179 °F



#### NASHVILLE, TENNESSEE

### EXHIBIT 1 - CALCULATION DETAIL FOR PLANT PERFORMANCE PER APPENDIX 19

# WATER-TO-STEAM CONVERSION

(14)	MW = Steam s	ystem makeup water plant meter		12,582,190 gallons
		Meter Reading at the beginning, n-1	132,283,040	
		Meter Reading at the end, n	144,865,230	
		Units of Measure	1 x SCFT	

n (water). Actual steem plant water use - (44) * 1.01 -	12 700 012 gallons
n (water): Actual steam plant water use = (14) * 1.01 =	12.708.012 gallons

G (water): Guaranteed steam plant water use = [ (11) / 8.15585 - (12) = 13,841,318 gallons

#### **ELECTRICITY-TO-CHILLED WATER CONVERSION**

(15)	E (chw,total) = Total CHW Electric use = (3) + (5) =	57,703,203 kWh *
(16)	Customer CHW Sales, metered + unmetered	64,118,837 kWh

n (elec): Actual chilled water plant electric conversion = (15) / (16) =

0.900 kw/ton

# CONDENSER WATER-TO-CHILLED WATER CONVERSION

(17)	CM = Condens	ser water makeup plant meter		103,455,000 gallons **
		Meter Reading at the beginning, n-1	1,291,970,000	
		Meter Reading at the end, n	1,395,425,000	
		Units of Measure	1 x GALL	

# n (water): Actual chilled water plant conversion = (17) / (16) =

1.613 gal/ton-hr

NOTES: \* - There is a 13,053 kWh variance from the FEA due to rounding errors resulting from monthly vs. annual summation.

<sup>\*\* -</sup> Estimated due to incorrect totalization resulting from "low flow cut-off".



# Exhibit 2



# Information Technology Services Program for



# **Table of Contents**

Networks	Page 1
Hardware	Page 1
Software	Page 2
Connectivity	Page 2
Metro Access to Data	Page 2
Data Backup and Storage	Page 3
Support and Service	Page 3
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#### **Networks**

The Operating System Network for the Metro Nashville District Energy System (DES) Energy Generation Facility (EGF) was provided and installed by Siemens Building Technologies. This System controls all the equipment and machinery in the plant using the Siemens proprietary Apogee and Insite software. This system was approved and accepted by Metro prior to plant start up.

Metro had a T-1, fiber optic, line installed to the EGF so that Metro representatives could access the Metro.gov network from the Metro office.

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

# **Hardware**

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

# **Equipment**

Server

Dell PowerEdge T620/duel Xeon e5-2640 2.5GHz Processor/ 4x4 GB RAM/4x1TB SATA HDs/PERC H310/ RAID 5 Configuration/DVD drive

**Firewall** 

Sonicwall TZ 150

Sonicwall TZ 215

**Desktop Computer** 

Lenovo ThinkCentre M92P Series with Intel i5 Processor, 4 GB Ram, AMD Radon HD 7350 graphics adapter, 500 GB HD & DVDRW

Monitor

Dell Professional P2312H 23" Ultra Sharp LCD Flat Panel

**Laptop Computer** 

Lenovo ThinkPad L530 notebook, with Intel i7 3520 QM Processor, 15.6 HD Display, 8 GB Ram,

500 GB HD, DVDRW, Centrino N2230 & Bluetooth

**Docking Station** 

ThinkPad MiniDock replicator

Ultra slim keyboard & mouse

Per industry standards, computer hardware will be replaced every three to five years. This equipment was most recently replaced in 2013. The mother board on both servers was replaced under warranty in 2016. An equipment inventory is located on page 5 of this document.

CNE has a performance contract with Metro to operate and maintain the Nashville DES. With the exception of a designated work station in the Metro office, CNE will have exclusive use of and responsibility for this equipment in the same way CNE has exclusive rights to boilers, chillers, pumps, etc., as long as the ARMA is in effect.

#### **Software**

Each server has the following software installed:

<b>Operating System</b>	Microsoft 8 R2 Server
Data base	Microsoft SQL 2008
AntiVirus	Symantec Endpoint Protection 12.1 + Malwarebytes

Each computer has the following software installed:

Microsoft 7 Professional				
Word, Excel, Power Point, Outlook, One Note, Office Publisher				
Symantec Endpoint Protection 12.1 + Malwarebytes				
Symance Endpoint Protection 12.1   Warwarebytes				

Additional software installed on specific machines includes:

- Microsoft Office, Access Administrative Operations Representative and the Office Coordinator.
- Adobe Acrobat X General Manager and the Administrative Operations Representative.
- I-Maint Control Room, Plant Operations Manager, Operations Supervisor, Maintenance Supervisor, Instrumentation & Electrical Supervisor and Metro office.

#### Connectivity

	Metro	Constellation
<b>Internet Connection</b>	Fiber optic	Comcast Cable

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

# Metro Access to Data

A Dell server, furnished by CNE, is located in the Metro office at the EGF. The purpose of this server is to give Metro administrative access to plant data. This server acts as a work station and contains a copy of network data for Metro's use. CNE personnel check to insure the required data files are transferred from the CNE Administrative server to the Metro Server two times per week. Information stored on the Metro office server includes a copy of the Siemens SQL data base, the I-Maint/CMMS data base, the EGF control room shift readings, the customer billing system data base (updated twice per month by the Administrative Operations Representative) and customer meter data (updated once per month by the Customer Service Representative).

#### **Data Backup and Storage**

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

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

Metro, at their own expense, backs up their Server data to Mozy Pro, a global, online data storage vendor. This contract is maintained by Metro's Contract Administrator and is renewed annually each November. Mozy is a subsidiary of EMC Company. The incremental data changes are sent to the data store at 2:50 a.m. daily without affecting the server processing power and capabilities.

If data stops being transferred from the Metro Server to Mozy, a notification is sent to the DES Contract Administrators office and to CNE's Operations Manager. CNE personnel check to see if there have been any software security updates. If so, CNE will correct this issue and reestablish connectivity. If other issues cause the data not to transfer, CNE will assist a Metro Representative with trouble shooting. Metro checks their system at least once per month. From time to time, Metro has to purge old data from Mozy or purchase additional storage space.

# **Support and Service**

### Administrative System

A three year extended service plan was purchased from Lenovo for all of the new hardware. CNE has contracted with a third party vendor, FrontGate Technology Solutions, LLC, for ITS service and support. These services include:

- 1. Installation and set up of new work stations and servers. Fully test and verify set up.
- 2. Provide information technology consulting, support and maintenance services to maintain the IT infrastructure at the Energy Generation Facility. This includes: Server and desktop hardware support, troubleshooting, repairing or replacement of system components and peripherals.
- 3. Hardware support will include and may not be limited to: memory upgrades, hard disk replacement, network card replacement, system board replacement and hardware accessories installation.
- 4. Software support includes installation, configuration, and troubleshooting of the supported applications. This will also include monthly patches, anti-virus and security upgrades.
- 5. Response time for critical system and system-down issues will be within 4 hours and non-critical system tasks will be resolved within 24 hours. An on-site equipment inspection will be performed at least once per month.

# Operating System

Constellation Energy purchased a Bronze Level service agreement with Siemens to maintain, repair, replace and install all software upgrades on their proprietary system. These services include: annual software updates, annual network maintenance, annual preventative maintenance to MBC 40 devices, data protection and data recovery, routine backups, online diagnostics and operator coaching.

# Program Review

The Information Technology Services Program is reviewed with Metro annually and updated as required. A summary of revisions and changes will be included in the Annual Report. If no changes are made, a statement to that effect will be included.

# **Hardware Inventory**

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

Office Location	Computer	ID Number	Monitor	Keyboard & Mouse
Data Room	2 Servers	G4SLBY1 (Siemens) GRNBY1 (CNE)	2-23 " Flat Panels	1-each
Metro Office	1 Server	4501BP1	1-17 " Flat Panel	1 - each
General Manager	1 Laptop	R9-W1C7R-12/12	1-23 " Flat Panel	1-each
Operations Manager	1 Laptop	R9-W1C7T-12/12	1-23 " Flat Panel	1-each
Finance & Administration Representative	1 Laptop	R9-W1C7V-12/12	1-23 "Flat Panel	1-each
Customer Service Representative	1 Desktop	1S3212CTOMJXTNXA	1-23 " Flat Panel	1-each
Instrumentation & Electrical Supervisor	1 Desktop	1S3212CTOMJXTNXD	1-23 " Flat Panel	1-each
Instrumentation & Controls Technician	1 Laptop	R9-W1C7W-12/12	N/A	N/A
Maintenance Supervisor	1 Desktop	1S3212CTOMJXTNXB	1-23 " Flat Panel	1-each
Operations Supervisor	2 Desktops	1S3212CTOMJXTNXC 1S3212CTOMJXTNXE	2-23 " Flat Panels	1-each
Office Coordinator	1 Desktop	1S3212CTOMJXTNMV	1-23 " Flat Panel	1-each
Control Room	3 Desktops	1S3212CTOMJXTNMR 1S3212CTOMJXTNMT 1S3212CTOMJXTNMW	14-17 "Flat Panels	1-each
Control Room (SE-2)	1 Desktop	ESO6826516	1-17 " Flat Panel	1-each
Control Room (Key Scan)	1 Desktop	B1Y5W91	1-17 " Flat Panel	1-each



# Exhibit 3



# **Constellation NewEnergy, Inc. Assets**

(Equipment used at MNDES owned by CNE)

- 2011 GMC Canyon Crew Cab Pickup Truck
- 2015 Chevrolet 3500 Crew Cab Flatbed Pickup Truck
- 2016 Ford F-150 Crew Cab Pickup Truck
- Ecom Combustion Analyzer
- Fluke Multi-meter
- Fluke Insulation Tester (megger)
- Greenlee Circuit Analyzer
- Fluke Clamp Meter
- Fluke 87 Multi-meter
- Salisbury Audio/Visual Voltage Detector
- Quad Tech Decade Resistor
- Fluke 719 Pro Pressure Calibrator
- Piecal Thermocouple Tester
- Altek loop Calibrator
- Fluke 45 Dual Display Multi-meter
- Hart Scientific Temperature Bath
- Miller Bobcat 225 Welding Machine
- Miller Bobcat 250 Welding Machine
- Hytorc Hydraulic Torque Wrench System
- Miller Filtair 130 Welding Fume Extractor
- Miller CST 280 Welding Machine
- Goodway RAM-4 Tube Cleaning Machine
- Goodway Cooling Tower Vacuum System
- Vestil 4,000 lb. Capacity Aluminum A Frame
- Vestil 8,000 lb. Capacity Steel A Frame
- Hvster Model S50XM Lift Truck
- Buffalo Vaneaxial Exhaust Fan
- Generac XG 10000E Generator
- H&H Pump Com Hydraulic Powered Dewatering Pump (Green Machine)
- Trane 3,400 lb. Refrigerant Recovery Tank
- Service First Refrigerant Recovery Machine
- Distribution Truck hand tools, cones, pry bars, hoses, pumps,etc.
- Phillips AED & cabinet
- Epson Video Projector
- 5-OKI desk top printers
- 2-HP printers
- 27" JVC TV
- JVC VCR
- Ricoh Copier (Leased)