



**Metro District Energy System Advisory Board
Regularly Scheduled Meeting of
May 19, 2016**

Minutes of Meeting

The meeting was held at the Energy Generation Facility at 90 Peabody Street Nashville, TN 37210

Facilitators: Harry Ragsdale, DES Project Contract Administrator and Kevin Jacobs, Thermal Engineering Group

Board Members Present:

Freddie O'Connell
Brian Taylor
Alan Robertson
Tom Eddlemon (*on behalf of Talia Lomax-O'dneal*)
Glenn Mohon (*on behalf of Nancy Whittemore*)

Board Members not Present:

Yuri Cunza
Nancy Whittemore
Talia Lomax-O'dneal
James Harbison
Tom Turner
Richard Fletcher

Others Present:

Tim Hestle, CNE
Kevin Jacobs, TEG
Bob Lackey, DES Liaison
Harry Ragsdale, TEG
Doug Kinsey Metro DMG Services
Jamie Hunter, DES Advisory Board Secretary

The meeting was called to order by the Vice Chair and began at 10:05 A.M.

At the request of the Vice Chair, Mr. Ragsdale proceeded with the presentation to the Board.

Mr. Jacobs and Mr. Ragsdale reviewed the Customer Cost Comparison table for the third quarter FY16. On an aggregate basis for the previous twelve (12) months, the steam consumptions were down by 19.48% and there was a slight increase in aggregate cooling consumption by 4.42%; this was due to mild weather conditions this past winter. There has been a decrease in cost of steam because the cost of natural gas is \$2.00 per BTU down from last year's \$3.00 per BTU. The increase for chilled water is because the cost of electricity has increased slightly.

Mr. Jacobs and Mr. Ragsdale reviewed Electric Time of Use (TOU) On-Peak /Off-Peak Schedule. Beginning in July, 2016 the TOU program developed by Constellation for customer billing will be implemented. The purpose for the new billing program is to get customers who use more chilled water during peak demand periods, and are currently billed at an average cost of electricity, to pay their fair share of the electric costs. The goal is also to give them an incentive to reduce chilled water use during peak demand periods. This billing program has been developed to review DES Customer peak demand at the same time as NES charges are being applied to the electric billing. Customers can see through graphic analysis where their usages are, define what may be contributing to their higher costs, and bring demands in line to aid in operating their systems more effectively.

Mr. Jacobs and Mr. Ragsdale continued and discussed Summary TOU Cost Comparison and a Sample Customer Load. There are two On-Peaks and One Off-Peak periods under the NES TOU schedule. In comparing what customers paid and would have paid there is about a 4-6% swing in the cost. Some customers would have paid 4% more some 4% less. Trends show office buildings and event buildings peak



cooling loads times are different. Mr. Jacobs and Mr. Ragsdale gave examples of the differences between different functional buildings. Board members discussed examples and scenarios. Mr. Ragsdale noted a customer meeting is scheduled for May, 26th, 2016 at 11:00 A.M. at the Downtown Partnership Facilities and it is their intention to introduce the TOU rates to them at that time.

Mr. Jacobs and Mr. Ragsdale reviewed the DES Contractor Performance for the current fiscal year including conversion tables for steam electric, steam plant efficiency, steam water, chilled hot water (CHW) electric, and CHW water. The contractor's performance continues to remain good in all areas.

Mr. Jacobs and Mr. Ragsdale reviewed Water Treatment. Biologicals in pipes are greatly reduced. The Contractors will continue to take samples. The device that was purchased to reduce biologicals on Plate and Frame heat exchangers appears to be working. Although it is still early in its trial, if the device continues with good results it can be used for other customers on a rotating basis. The Contractor's performance for water treatment is still good.

Mr. Jacobs and Mr. Ragsdale reviewed the EGF (Energy Generating Facility) walkthrough. Walkthrough of plant indicates it is very well maintained. The Energy Distribution system's Vaults and Tunnels are inspected once yearly in partial sections quarterly and those walked through look good with the exception of some small issues with the water infiltration. Pumps are desirable to be installed in all of the vaults and tunnels if electricity can be reasonably provided.

Mr. Ragsdale discussed the Co-Generation Project (CHP) with Board members. The project could incorporate a new chiller and may facilitate opportunities to begin serving areas south and west of the existing plant. The Board discussed the remaining capacities that are available for sell for potential customers if they are able to be served. Mr. Ragsdale talked about the city being fully engaged in the District Energy business. Mr. Ragsdale also mentioned that there have been some discussions with Constellation and other District Energy businesses about private development of District Energy in downtown Nashville and possible utilization of the DES infrastructure; however, there has been no strong interest to date.

Chair commented, with the anticipated growth south of Broadway; how can a determination for expanding District Energy be made? The Chair continued with, from the stake holder's point-of view: what would be options to invest in additional infrastructure, and apply more resources to expand District Energy for the city or remain in the business?

Mr. Ragsdale discussed the benefits of the Co-Generation project. Mr. Ragsdale talked about the difficulty to give private entities sufficient incentives to take over the existing DES facilities under the current customer contract arrangement which offer little to no profit to the investor. With some other discussion and comments; the meeting discussion was directed to marketing and growth opportunities.

The Chair asked if the Board can make a recommendation to the city for evaluation options for District Energy. Mr. Lackey stated that the recommendation would go to the Mayor. With some other discussion and comments, the meeting discussion was directed to timing for growth in Downtown Nashville. The Chair discussed several options to consider; one, run as status quo and know what existing limitations are; second, Metro still serves as the DES entity and commits to expanding the District Energy business and third, take the opportunity to solicit bids from private entities to take over the District Energy system.

Mr. Lackey asked if the Chair was making a recommendation to the Board to pursue the three (3) options presented and how he wants it considered; bringing information back to Board by Special Sessions or at the next meeting? The Chair wants the information gathered on the options presented to him prior to next Board Meeting so that he can determine whether it should be taken to the Mayor's office. With some other discussion and comments the discussion was directed to a Motion to approve gathering information on options presented by Chair. Information will be submitted in advance of the next Board Meeting to Chair for additional conversation.



A motion to approve was offered and it was seconded by the Vice Chair. The Board voted and approved.

Mr. Jacobs and Mr. Ragsdale continued and reviewed Natural Gas Purchasing for FY16. Steam sales are down and the gas budget is good. Mr. Jacobs stated \$70,000 worth of propane gas was pre-purchased and stored off-site. The purpose of the stored propane was in case of a gas curtailment. Propane that was purchased was sold back for \$52,000.00 so the actual cost for the "fuel assurance" was \$18,000.00.

Mr. Jacobs continued with the Actual and Projected Gas Cost Comparison History report; stating DES is paying slightly more than market but is staying in budget.

Mr. Jacobs and Mr. Ragsdale continued with the FY16 Operating Cost to Date report; all of Metro Funding (MFA) has been deposited and we are on track with the budget. The MFA has seen a steady decrease of not less than 3% over the last several years. The FY17 budget is approximately 5.7% lower than the FY16 budget.

Mr. Jacobs continued with the Capital Expenditure Update report; the R&I fund has a remaining balance of \$18,318, the 2010 Bond Fund has \$168,700 remaining, bond fund 49107 has \$1,746,134 remaining and bond fund 49116 for the CHP project is available if it is economical and feasible to continue.

Mr. Jacobs reviewed the Active Capital Projects Review report stating DES 061 is for cleaning up steel and corrosion in vaults also doing some repairs. DES 104 is the TOU project and is about to be completed. DES 110, the Alternate Fuels Evaluation, it was found in the evaluation that converting to fuel oil was cost prohibitive and installing a second propane storage tank would eliminate too many parking spaces; CNE's plan for off-site propane storage proved most acceptable. Mr. Jacobs continued with DES 111 Combined Heat Power stating an engineering firm has been selected and is preparing a preliminary evaluation. Mr. Jacobs continued with DES 121-124 and 127 are all in design or construction phases. DES 125 and 126 have been closed; however during the upcoming Customer Meeting, discussions regarding the potential of leaks within the customer's facilities will be conducted.

The Board moved to approve minutes from February 8th, 2016 Board Meeting. There being no additions, comments or edits to the minutes, Chair made a motion to approve, it was seconded. The Board voted and approved the February 8th, 2016 minutes.

Without further discussion, and upon a motion, the meeting was adjourned at 11:21 A.M.

The next Board Meeting will be held Thursday, September 01, 2016 at 10:00 A.M.

Prepared by: Jamie Hunter Approved: Freddie O'Connell

Jamie Hunter, Board Recording Secretary

Freddie O'Connell, Chair, DES Advisory Board

Date: 5-18-17

Date: 18 May 2017

Approved: Bob Lackey

Bob Lackey, DES Liaison

Date: 5-18-17