

Quarterly Report to the State Building Commission

Metro Nashville District Energy System

Advisory Board Meetings

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Advisory Board Representative of the Government of the State of Tennessee

The following section of the State Building Commission Policy and Procedures sets the reporting requirements:

13.01 METRO NASHVILLE DISTRICT ENERGY SYSTEM

The Commission, in accordance with the Metropolitan Government of Nashville and Davidson County requirements relating to the Metro Nashville District Energy System, will appoint for a term of two years, by name and State title, an individual to serve as the Representative of the government of the State of Tennessee on the Advisory Board for the Metro Nashville District Energy System, and the Representative shall report on the meetings of the Advisory Board to the Commission on a quarterly basis, or at any other such times the Commission requests.

This report addresses the Advisory Board meeting held on September 1, 2016 held at the Energy Generation Facility at 90 Peabody Street in Nashville. Below are key issues that were stated at this meeting:

September 1, 2016 meeting

- Mr. Jacobs and Mr. Ragsdale reviewed the Customer Cost Comparison table for FY16. On an aggregate basis for the previous twelve (12) months, the steam consumptions were down by about 15% and there was a slight increase in aggregate cooling consumption by about 2%; this was due to mild weather conditions this past winter. There has been a decrease in cost of steam because the market price of natural gas averaged \$2.30 per BTU down from last year's \$2.90 per BTU. The increase for chilled water cost is primarily due to the slight increase in the cost of electricity
- Mr. Jacobs and Mr. Ragsdale reviewed Electric Time of Use (TOU) On-Peak /Off-Peak Schedule. The new Time of Use (TOU) billing program will apply to electric bills starting in July of 2016. The billing program was developed to recognize the DES customer peak demand at the same time as NES/TVA charges. Customers who use more chilled water during peak demand periods, will see an increase in their cost and be billed to more accurately reflect their cost of electricity. Notices have gone out to customers with the new change in billing methodology. The goal is to assure all customers are charged correctly and reflect their time of use costs.
- Mr. Jacobs and Mr. Ragsdale continued and discussed Summary TOU Cost Comparison and a Sample Customer Load. A dual analysis of On-Peak and Off-Peak periods under the NES TOU was done. In (6) six months of comparing what customers paid under the previous billing program and would have paid under the TOU billing program, there is about a 6 cent to 9 cent difference in the cost. Some customers would have paid more and some less. Trends show office buildings and event buildings peak cooling load times are different. Mr. Jacobs and Mr.

Ragsdale gave examples of the differences between functional building types. Event buildings like the Bridgestone and Ryman cooling loads are generally outside of the peak electric demand period while office buildings cooling loads occur during peak electric periods. Board members discussed examples and scenarios.

- 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 have been greatly reduced as a result of recent chemical treatment. The Contractors will continue to take samples of the chilled water to track biological presence. The device that was purchased to reduce biologicals on Plate and Frame heat exchangers does not appear to be working as advertised but it will continue to be monitored for its performance as cooler weather approaches. The Contractor's performance for water treatment is still very 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.
- 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 during FY16. The purpose of the stored propane was to assure a secure fuel source 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 and anticipates prices coming down in FY17. Mr. Lackey noted the plan is to purchase gas at market value unless it is recommended by the natural gas consultants to do otherwise based on market indicators of risk.
- 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 \$5,068, the 49109-2010 Bond Fund has \$125,385 remaining and bond fund 49107 has \$1,748,565 remaining. The bond fund 49116 for the CHP project is on hold and the cost to date has been for engineering cost including the study done by IC Thomasson.
- Mr. Jacobs reviewed the Active Capital Projects Review report stating DES 104 is the TOU project and is completed. DES 111 Combined Heat Power is on hold. DES 119 Chilled Water Systems Delta T is the Hydro-flow device that was purchased to reduce biologicals on Plate and Frame Heat Exchangers and it is currently being monitored. Mr. Jacobs continued with noting that projects DES 121, 122, 127, and 128 are Manhole repairs in design or construction phases.

Mr. Jacobs continued with noting that project DES 123 has been closed. Mr. Jacobs and Mr. Ragsdale continued by noting that DES 129 and 130 are Manholes under repair that have been damaged by the cable companies installing underground fiber optics. Mr. Jacobs and Mr. Ragsdale continued noting that DES 131 is for Wildhorse Service Connections Modification is in construction phase and DES 126 is Exploratory Excavation for 3rd Avenue chilled water leak and no leak was found. Whereabouts of the leak is still in progress. Exploratory excavations will continue.

- Mr. Ragsdale reported research done on identifying options of addressing anticipated growth south of Broadway and ways to determine the appropriateness of a District Energy expansion as requested for consideration at the last Board Meeting. Mr. Ragsdale reviewed (3) three options; Status quo, expansion of existing plant, or selling of plant. Mr. Ragsdale explained the significant impacts of concern; 1) financial impact to Metro city, 2) system impact and 3) customer impact. Mr. Ragsdale continued with explanation of benefits and risk for each of the (3) three options as they pertained to each of the (3) three impacts. The Board discussed the options and impacts and the discussion was directed to marketing and growth opportunities as they pertained to the impacts. The Chair asked if the Board had any persuasion on the options and impacts. With more discussion on the options the Chair asked the Board to gather additional information on whether the Board should vigorously pursue the options and evaluate at next Board Meeting.
- Due to the lack of a quorum, the Chair deferred approval of minutes from May 19th, 2016 Board Meeting to next meeting.
- Without further discussion, and upon a motion, the meeting was adjourned at 11:21 A.M.
- The next Board Meeting will be held Thursday, November 17, 2016 at 10:00 A.M.

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