Metro District Energy System Advisory Board
Regularly Scheduled Meeting of

August 18, 2022

Minutes of Meeting

The meeting was held in person at the Sonny West Conference Center and via WebEx teleconference.

<u>Facilitators</u>: Dan Coyle, DES Project Contract Administrator and Kevin Jacobs, Thermal Engineering Group (TEG)

<u>Board Members Present:</u>

Freddie O'Connell
Brian Taylor
Laurel Creech *(on behalf of Velvet Hunter)*
Heidi Hoeffner *(on behalf of Kelly Flannery)*
Ann McGauran
Bill McKnight

<u>Others Present:</u>
Dan Coyle, TEG
Kevin Jacobs, TEG
Carl Avers, TEG
Randy Pomeroy, Pomeroy Marketing/Communications
Tim Hestle, Constellation
John Schaffer, Constellation
Mats Bergquist, Constellation
Bill Purcell, Frost Brown Todd LLC
Ron Graham, Siemens
Sonia Allman, MWS
Adrienne Fancher, MWS
Charda Johnson, Metro ITS (Webex host)

Freddie O'Connell, Board Chair, called the meeting to order at 10:12 a.m., and confirmed that quorum was in attendance. Mr. O'Connell proposed accepting the minutes of the previous meeting. Heidi Hoeffner moved to accept the minutes and Brian Taylor seconded the motion. The minutes were approved unanimously by verbal acceptance.

Kevin Jacobs reviewed the Customer Sales. Mr. Jacobs noted that no customers were in arrears. In reviewing the Customer Cost Comparison, the increase in Steam costs was due to increased fuel prices. Chilled Water sales were above the 5-year average. Similarly, Steam sales were below the 5-year average. Mr. Taylor asked if it is possible to show the impact of new facilities joining or leaving the system. Mr. Jacobs responded that the impact is relatively too small to see on the sales graphs.

In reviewing the operator's performance, Constellation Energy Solutions (CES) did not meet all 5 of the performance metric criteria for every quarter of FY22. That is, there was at least one month each quarter in which at least one criterion was not met. Mr. Jacobs explained the financial costs and benefits of the performance guarantees. He noted that for FY22, CES earned $12,007 for the Fuel Efficiency Adjustment (FEA). The steam plant efficiency [fuel to sendout] guarantee was missed most months, but the values were very close. The steam efficiency is not constant each month due to variation in the condensate return. The FEA was -$19,344. The steam water conversion guarantee exceedances may have been due to meter error in August and September. Otherwise, the actual values were very close to the guarantee, such that the FEA was -$3,679. The chilled water electric conversion guarantee was exceeded once during the year. The FEA earned was $86,014. The chilled water water conversion was improved with the completed leak repair in January, but there is a small persisting leak that is under investigation. The FEA earned was -$13,283. After the annual true-up for the FEA, CES earned a net $71,600.

Regarding water treatment, there have been no adverse issues. The sidestream filter installation was scheduled for this Fall, but due to equipment delivery delays, it will most likely be late second quarter or third quarter of FY23. The sidestream filter will improve solids removal in the chilled water return and improve water quality for the customers.

Mr. Jacobs stated that based on the quarterly EGF Walkthrough, Constellation continues the improved cleaning of the plant, improving the grounds, and continues to maintain the EGF equipment well. The performance of the chiller plant has improved with CES's regular maintenance of the chiller system.

Dan Coyle discussed the EDS Walkthrough. Mr. Coyle noted overall system still has room for improvement in the cleanup and maintenance of tunnels and vaults. Additional work remains for corrosion and repairs.

Mr. Jacobs reviewed the natural gas purchasing. He noted that steam send-out, gas consumption, and plant efficiency were below expected levels. However, the cost of natural gas was much higher than expected. Natural gas prices spiked during the year. The budget is based upon market forecasts that proved to be too low. The budget illustrated in Figure 5 reflects pre-contingency budget. The difference between actual costs and market prices reflects the protective benefit of the hedging policy. Mr. O'Connell commented that while the budget appears significantly below the market price, it is reassuring to see the net savings yielded in the actual cost. Mr. Coyle also noted that DES' interruptible gas supply allows DES to pay much less than the $10 spot market price that a "regular" customer would incur – thereby saving DES customers money – which makes DES competitive on fuel costs.

Mr. Jacobs reviewed the FY2022 Costs to Date, noting that water and chemical costs exceed the budget due to the significant chilled water leak repaired in January plus small condensate leaks/discharges to facilitate repairs. We are currently dumping condensate at one customer due to hardness from a leak on the customer's side of the heat exchanger. CES monitors iron and hardness to protect the plant boilers and searches for the sources. Repairs of this nature are the customer's responsibility; therefore, the condensate is discharged until the issue is resolved. All of the fuel contingency has been used, yet electricity usage was below budget expectation.

Mr. Taylor asked if the customers have a contractual obligation to resolve issues like condensate hardness within a specified period. Mr. Jacobs responded that while resolution of these problems generally does not take a long time, the customers are required to return 100% of the condensate and maintain water chemistry on their side of the heat exchangers. Mr. Taylor followed with a question about repercussions for failing to meet these requirements. Mr. Jacobs responded that all customers would face increased chemical and water costs for one customer's failure. He added that most customers repair the problem within one month of notification, and DES has the option to disconnect a customer that threatens the operation of the plant. Mr. Coyle added that the failing customer must dump the condensate into their building and pay for increased makeup water from Metro Water Services (MWS); additionally, DES has the option to disconnect a customer that fails to meet its contractual obligations. This is not a common problem.

Mr. Jacobs noted that all of the Metro Funding Amount (MFA) was transferred. Metro has decided to cap the costs that can escalate at 5% [even though the actual costs may have increased by 9.1% CPI] – which all customers pay. Administrative costs have increased; a contingency was added to cover the potential transition to a new Project Administrator and additional Metro Incremental Costs. Those costs will be tracked through the year to observe any significant rise in costs to take interim action with customers to avoid a significant end-of-year true-up. The goal is to have a $0 true-up. Last year the true-up was approximately $30 thousand; this year it will hopefully be approximately $10-$15 thousand allocated across all customers. Mr. O'Connell noted that the MFA had declined significantly and asked if the downward trajectory would continue. Mr. Jacobs responded that the MFA coincides with the bond repayment schedules, and while this year the debt repayment is at a low, we can anticipate an increase next year due to the debt schedule of a bond that will be retired soon [effectively a "balloon payment"]. Consequently, the MFA may increase next year. Mr. O'Connell observed that the MFA has been reduced intentionally through management efforts, and he asked for confirmation that those efforts would continue. Mr. Jacobs responded that it is our hope to continue those reduction efforts. Mr. Jacobs noted that the MFA was approximately $3 million in the first year of operations and had been driven down to the current low of $374 thousand, but the MFA next year is not certain. Mr. Taylor recalled the MFA at $1.5 million a decade ago, and Mr. O'Connell agreed that the MFA is much below levels of 7 years ago. Mr. Jacobs commented that the goal is for DES to be self-sustaining, but the infusion of capital needed for the system to maintain service and growth incurs debt service.

For additional budget notes, Mr. Jacobs commented that the FY23 budget Fuel Base plus Contingency is $400 thousand higher for this year than the actual costs for FY22. Mr. Jacobs directed attention to the Operating Reserve Fund (ORF) Deposit line item – due to bond indenture – which requires a reserve fund of 4 months of operating costs [approximately $4 million]. Payment to that fund was made this year due to increased gas costs to maintain the fund. If that money is not required, it can be used in the future.

To update the Marketing efforts for Lot K [Peabody Union] located immediately east of the EGF, Mr. Jacobs noted that construction is proceeding with blasting since July 1st that should continue through the winter. There has been no damage at the plant to date.

Mr. Coyle presented information on the International District Energy Association (IDEA) Journal article that will be written about Nashville in the first quarter of next year. One of the magazine's representatives will visit Nashville in September to collect information for the article. We can arrange for the reporter to meet Advisory Board members and other local officials. Mr. Coyle noted that this will be a good opportunity to showcase both the city and Nashville's district energy system.

Mr. Jacobs continued the Marketing presentation by highlighting several projects and prospective clients that are still interested in district energy, but not sufficiently advanced in the design process and/or have not yet committed.

Adrienne Fancher provided a brief update of proposals to install district energy for the East Bank developments. Ms. Fancher noted that many of the plans for district energy are still in very early/preliminary stages. She noted that the DES team is tracking developments on the East Bank – in particular, ongoing discussions with the Titans are focused on providing chilled water and hot water to the new domed stadium. Additional plans are developing to serve the River North neighborhood, which will include a new MWS sewer pumping station and the Oracle campus. Ms. Fancher also mentioned a potential grant from the Department of Energy that could support geoexchange projects. Mr. O'Connell asked how the cost of the East Bank facilities will impact the capital plan. Ms. Fancher noted that the East Bank Technical Advisory Committee would be releasing an updated plan in the coming week, and that update would inform the DES plans.

Mr. Jacobs highlighted the Capital Expenditures through FY22. He noted that the R&I projects are either at the customers' connections or in the distribution system. Mr. Jacobs briefly highlighted some of the capital projects in progress. Mr. Jacobs noted that Project DES-163 was initially set up to add Peabody Union as a customer, but since they declined to join the system, this project number is used for tracking blasting activities on the site. Mr. Jacobs also noted that the dirt behind the retaining wall separating the properties has been excavated, and the wall is freestanding. For Project DES-192, a surveyor has mapped Peabody Street west of the plant to locate new hot water [rather than steam for lower capital and maintenance costs] and chilled water lines. For Project DES-200, delivery of the equipment for the sidestream filter has been delayed to December or January. Mr. Coyle provided an update of the distribution system capital projects related to steel corrosion repair and prevention, primarily in manholes. Mr. Coyle noted that Project DES-196 is an exploratory excavation to locate a leak.

The System Operator, Constellation Energy Solutions (CES), presented an update for the Advisory Board. Referring to Mr. Coyle's comments about the IDEA Journal article, John Schaffer noted that the Nashville system has won two awards from IDEA, including "System Of The Year." Mr. Schaffer introduced CES Principal Technical Sales Manager Mats Bergquist, who has been associated with Nashville DES since its inception in 2002. Mr. Schaffer highlighted the safety program at the plant and time without incidents. Regarding the contractual performance guarantees, he highlighted improvements that led to a performance bonus earned that saved money for the Customers. Mr. Schaffer commented that CES is working with ICT and Siemens to improve operations.

Mr. Jacobs continued the presentation with a proposed business plan for DES. He noted that much of the distribution system pipe, a legacy of the Nashville Thermal Transfer Corporation system, is 50 years old and in good condition. The EGF is 19 years old. Planning for the future of DES operations, this business plan projects Customer savings in the range of $190 million over the next 30 years. The Plan proposes a three-step program: (1) updated customer contracts, (2) energy saving equipment improvements, and (3) customer expansion.

Mr. Coyle noted that even with favorable electric rates and efficient operation, DES is challenged to compete for developers selecting new, high-efficiency chiller technology that can save up to 30% of chilled water production energy costs. With 10 years remaining on many of the customer contracts, DES has an opportunity to modify the customer contracts to channel savings into capital improvements without raising customer costs. Additionally, more efficient equipment will increase capacity to add more customers. If DES continues the status quo, then at the end of the 30-year contracts, DES will essentially "start over." However, if DES begins to replace equipment incrementally with newer technology and add customers, the revenue required to maintain the system will be significantly reduced.

Mr. Coyle continued to describe the proposed contract changes [Step 1] that would effectively have customers pay the same charges while paying in a different way. Mr. Coyle also highlighted a variety of equipment and operational changes that would improve energy efficiency [Step 2]. Mr. Coyle acknowledged that there will be a cost for the capital improvements, and he described how the projects already planned are allocated over a 20-year planning horizon. Mr. Coyle also described how the increased capacity through these improvements will allow system expansion [Step 3]. Mr. Coyle noted that without affirmatively growing the system, operational costs are likely to increase as the system sustains the existing service.

Under Other Board Member Items, Mr. Coyle commented that the Project Administrator contract was nearing expiration and that the contract renewal process was in progress. Mr. Coyle also noted that Michael Adcock of Brookfield Properties has joined the Advisory Board as the Private ISC Board Member Representative to complete previous Board member Chris Proctor's term.

Mr. O'Connell expressed appreciation for the Business Plan summary that addresses the long-term efficiency and cost-reduction for DES, and he would like to see more details after the consultant contract is resolved. While reluctant to advance a Resolution for support of the Plan without additional detailed information and analysis, Mr. O'Connell invited other Board members to discuss information presented. Laurel Creech agreed that she would like to see a more detailed plan, and she asked if a pending TVA rate increase would impact the Plan. Mr. Jacobs responded that the budget for next fiscal year includes an increase for energy, and the Plan should benefit by added savings from higher electric rates. Mr. Coyle added that the Plan does not reflect current price spikes in electric costs, but it is likely that these price spikes will be short-term. Mr. Taylor agreed that there are several issues to resolve, including the Project Administrator contract. Mr. Taylor inquired about the timeline for resolving the contract. Ms. Fancher responded that the contract process is with Metro Purchasing and is anticipated to be resolved prior to the current contract expiration on October 26th. Mr. Taylor appreciated having a plan articulated regardless of the Administrator, and he suggested a Call Meeting to focus on the details of this plan prior to making a

Resolution. Mr. O'Connell agreed that it would be useful to have a thorough understanding of the Business Plan by the November meeting, contingent upon the resolution of the PA contract. Following a discussion of the logistics of a detailed review of the Plan, it was decided to schedule a meeting in early- to mid-October if the PA contract is resolved in September.

With no further concerns from other Board members, Mr. O'Connell adjourned the meeting at 11:34 a.m.

The next regular Board Meeting will be held Thursday, November 17, 2022, at 10:00 a.m.

These minutes were approved on 11/17/22.