DES Advisory Board Meeting
Third Quarter FY14
May 15, 2014
1. Call to Order
2. Review & Approval of Previous Meeting Minutes
3. Customer Sales
4. Review of DES Contractor Performance
5. Natural Gas Purchasing Status
6. FY14 Costs to Date
7. Capital Projects Review & Status Report Update
8. DES Internal Audit
9. Other Board Member Items
10. Adjourn
1. Call to Order

2. Review and Approval of Previous Meeting Minutes
3. **Customer Sales**

- Table 3: Customer Cost Comparison
- Figure 3A: FY14 CHW Consumptions
- Figure 3B: FY14 Steam Consumptions
- Figure 3C: Degree Day Day Comparison
## Summary Table 3: Customer Cost Comparison for the Previous 12 Months

<table>
<thead>
<tr>
<th></th>
<th>Steam - Rolling 12 Month</th>
<th>Chilled Water - Rolling 12 Month</th>
<th>% Diff.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Private</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost</td>
<td>$1,337,722</td>
<td>$1,483,949</td>
<td>10.93%</td>
</tr>
<tr>
<td>Usage (lbs or tonhrs)</td>
<td>84,520,591</td>
<td>92,899,687</td>
<td>9.91%</td>
</tr>
<tr>
<td>Unit Cost</td>
<td>$15.83</td>
<td>$15.97</td>
<td>0.9%</td>
</tr>
<tr>
<td><strong>State</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost</td>
<td>$1,836,030</td>
<td>$2,114,416</td>
<td>15.16%</td>
</tr>
<tr>
<td>Usage (lbs or tonhrs)</td>
<td>105,502,775</td>
<td>121,369,414</td>
<td>15.04%</td>
</tr>
<tr>
<td>Unit Cost</td>
<td>$17.40</td>
<td>$17.42</td>
<td>0.1%</td>
</tr>
<tr>
<td><strong>Metro</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost</td>
<td>$2,034,136</td>
<td>$2,797,364</td>
<td>37.52%</td>
</tr>
<tr>
<td>Usage (lbs or tonhrs)</td>
<td>152,601,345</td>
<td>198,953,156</td>
<td>30.37%</td>
</tr>
<tr>
<td>Unit Cost</td>
<td>$13.33</td>
<td>$14.06</td>
<td>5.5%</td>
</tr>
<tr>
<td><strong>Aggregate</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost</td>
<td>$5,207,888</td>
<td>$6,469,935</td>
<td>24.23%</td>
</tr>
<tr>
<td>Usage (lbs or tonhrs)</td>
<td>342,624,711</td>
<td>416,787,726</td>
<td>21.65%</td>
</tr>
<tr>
<td>Unit Cost</td>
<td>$15.20</td>
<td>$15.52</td>
<td>2.1%</td>
</tr>
</tbody>
</table>

MFA not included in values shown
Figure 3A: Historic CHW Consumptions
Figure 3B: Historic Steam Consumptions

FY14:
Private 23.6%
State 31.1%
Metro 25.7%
MCC 19.5%
Figure 3C: Degree Day Comparison
4. Review of DES Contractor Performance

Contractor (CNE) is in compliance with their contractual obligations for FY14.

- Excellent Performance – No Improvement Necessary
- Satisfactory Performance – Some Improvement Could Be Made
- Poor Performance – Much Improvement Necessary
Performance Measurement FY14: Steam Electric Conversion

![Graph showing steam to electric conversion efficiency over months]

- GMQ Elec to Steam FY13 - FY14
- Actual Elec to Steam FY13 - FY14
Performance Measurement FY14: Steam Plant Efficiency

![Graph showing steam plant efficiency over months from April to March]

- GMQ Fuel to Steam FY13 - FY14
- Actual Fuel to Steam FY13 - FY14
Performance Measurement FY14: Steam Water Conversion

[Line graph showing the usage of gallons of water from April to March, with two lines indicating GMQ Water Usage FY13 - FY14 and Actual Water Usage FY13 - FY14.]
Performance Measurement FY14: CHW Electric Conversion

Graph of kWh/ton/hr from April to March:
- Blue line: GMQ Elec to CHW FY13 - FY14
- Red line: Actual Elec to CHW FY13 - FY14
Performance Measurement FY14: CHW Water Conversion

![Graph showing water conversion from April to March with blue and red lines representing different data sets.](image-url)
Water Treatment

- Steam and Condensate
  - Corrosion
  - Iron
  - Hardness
  - Chlorine/Sulfite

- Condensing Water
  - Conductivity
  - Biologicaals

- Chilled Water
  - Hardness
  - Corrosion
  - Biologicaals
EGF Walkthrough

✓ Equipment Maintenance
✓ Operations
✓ Electrical
✓ Housekeeping
✓ Building Structure
✓ Building Exterior and Grounds
EDS Walkthrough

- Vault/Tunnel Housekeeping

- Maintenance Items
  - Insulation Repair/Replacement
  - Water Infiltration
  - Corrosion of Structural Metal Components

- Safety Items

(Note: Above based upon EDS 2nd Quarter FY14 review)
5. Natural Gas Purchasing

- Natural Gas Purchasing Review
  - Table 5: FY14 Gas Spending & Budget Comparison
  - Figure 5: Actual and Projected Gas Cost Comparison
Table 5: FY14 Gas Spending & Budget Comparison

<table>
<thead>
<tr>
<th></th>
<th>Actual FY14 To date (Mar 31)</th>
<th>Budget FY14</th>
<th>Percent Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steam Sendout (Mlbs)</td>
<td>385,059</td>
<td>305,696</td>
<td>-26.0%</td>
</tr>
<tr>
<td>Fuel Use (Dth) (includes propane)</td>
<td>529,621</td>
<td>428,280</td>
<td>-23.7%</td>
</tr>
<tr>
<td>Plant Eff (Dth/Mlb)</td>
<td>1.375</td>
<td>1.401</td>
<td>1.9%</td>
</tr>
<tr>
<td>Total Gas Cost (includes propane)</td>
<td>$2,805,580</td>
<td>$1,995,785</td>
<td>-40.6%</td>
</tr>
<tr>
<td>Unit Cost of Fuel ($/Dth)</td>
<td>$5.297</td>
<td>$4.660</td>
<td>-13.7%</td>
</tr>
</tbody>
</table>

Excludes consultant fees and FEA and budget contingency
Figure 5. Actual and Projected Gas Cost Comparison History
6. **FY14 Costs to Date**

<table>
<thead>
<tr>
<th>Item</th>
<th>FY13 Actual</th>
<th>FY14 Budget</th>
<th>FY14 Actual to date</th>
<th>Percent of FY14 Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FOC's</strong></td>
<td>$ 4,401,100</td>
<td>$ 4,583,500</td>
<td>$ 3,344,945</td>
<td>72.98%</td>
</tr>
<tr>
<td><strong>Pass Throughs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Energy</td>
<td>$ 937,672</td>
<td>$ 1,091,000</td>
<td>$ 479,373</td>
<td>43.94%</td>
</tr>
<tr>
<td>Water/Sewer</td>
<td>$ 501,903</td>
<td>$ 714,300</td>
<td>$ 366,487</td>
<td>51.31%</td>
</tr>
<tr>
<td>Natural Gas Base</td>
<td>$ 2,491,106</td>
<td>$ 2,515,126</td>
<td>$ 2,224,749</td>
<td>88.45%</td>
</tr>
<tr>
<td>Natural Gas Contingency</td>
<td>$ -</td>
<td>$ 640,974</td>
<td>$ 640,974</td>
<td>100.00%</td>
</tr>
<tr>
<td>Electricity</td>
<td>$ 5,277,414</td>
<td>$ 6,585,000</td>
<td>$ 3,686,190</td>
<td>55.98%</td>
</tr>
<tr>
<td><strong>Debt Service</strong></td>
<td>$ 4,209,145</td>
<td>$ 5,518,700</td>
<td>$ 2,847,644</td>
<td>51.60%</td>
</tr>
<tr>
<td><strong>Total Expenses</strong></td>
<td>$17,818,340</td>
<td>$21,648,600</td>
<td>$13,590,361</td>
<td>62.78%</td>
</tr>
<tr>
<td><strong>Total Revenues</strong></td>
<td>$16,739,403</td>
<td>$19,690,300</td>
<td>$14,000,701</td>
<td>71.10%</td>
</tr>
<tr>
<td><strong>Metro Funding Amount</strong></td>
<td>$ 1,078,937</td>
<td>$ 1,958,300</td>
<td>$ 1,468,725</td>
<td>75.00%</td>
</tr>
</tbody>
</table>
7. **Capital Expenditure Update**

<table>
<thead>
<tr>
<th>Project</th>
<th>Spent to End of FY13</th>
<th>FY14 Spending</th>
<th>Balance to Date (04/18/14)</th>
</tr>
</thead>
<tbody>
<tr>
<td>R&amp;I Projects</td>
<td>$2,181,091</td>
<td>$104,869</td>
<td>$148,623</td>
</tr>
<tr>
<td>49109-2010 Bond</td>
<td>$1,888,400</td>
<td>$2,857</td>
<td>$518,743</td>
</tr>
<tr>
<td>49107-Customer Connection Fund</td>
<td>$5,825,733</td>
<td>$688,165</td>
<td>$1,986,102</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$9,895,224</strong></td>
<td><strong>$795,891</strong></td>
<td><strong>$2,653,468</strong></td>
</tr>
</tbody>
</table>

Capital Projects Review

Active Capital Projects

- DES 061: MH & Tunnel Steel Corrosion Repair & Prevention – ongoing
- DES 091: TOU and Thermal Storage – developing TOU invoicing changes
- DES-103: Sheraton CHW Modifications – Bid & Awarded late 2nd Quarter; exterior construction completed during 3rd Quarter; in close out
Capital Projects Review

Capital Projects in Close-out

- DES 100: MH-10 Sump Pump and Roof Replacement
- DES 103: Sheraton CHW Modifications
8. DES Internal Audit

• **Audit Objectives**
  - Determine if contract performance requirements were monitored by TEG
  - Determine if transactions for energy purchases, capital projects, engineering services, metering, billing, and collections, and DES marketing were in accordance with contract terms
  - Audit scope included fiscal years ended June 30, 2012 and June 30, 2013

• **Audit Observations**
  - TEG provided the required oversight on behalf of MNDES and contract performance requirements were being monitored
  - CNE operated, maintained, and managed the facility as required within contractual terms for daily operations
  - State sales tax was paid by CNE and Metro for industrial machinery and other items during the audit period. The TN Department of Revenue allows a qualified manufacturer and/or their contractor to make application for an industrial machinery tax exemption.
  - No major findings

• **Audit Recommendations**
  - Develop contract monitoring plan and checklist to review Contract Administrator invoices
  - Ensure more timely contract change authorizations to cover additional costs outside the Contract Administrator’s operations contract
  - Submit application for a qualified manufacture/producer and industrial machinery tax-exemption certificate with the Tennessee Department of Revenue
  - DES concurs with the audit recommendations and is in the process of developing and implementing recommendations
9. Other Board Member Items

Customer Meeting / DES 10\textsuperscript{th} Anniversary
May 22, 2014, 11:30 am at Downtown Partnership
10. Adjourn

- Advisory Board Meeting Schedule
  - FY14 – 4th Quarter Meeting – August 21, 2014
  - FY15 – 1st Quarter Meeting – November 20, 2014
  - FY15 – 2nd Quarter Meeting – February 19, 2015
  - FY15 – 3rd Quarter Meeting – May 21, 2015