# Energy and Utility Bill Analysis

Utility-bill analysis for the facility was conducted by compiling 12 months of electricity bills from North Georgia Electric Membership Corp (Account# 447888001) and 12 months of water bills from Dalton Utilities (Account#: 0005668601).

## Table D.1: Monthly Electricity and Water Consumptions and $ Charges

|  |  |  |  |
| --- | --- | --- | --- |
| kwh\_usage | peak\_usage | kwh\_charge | peak\_charge |
| 41700.0 | 198.5 | 3769.41 | 2949.71 |
| 45800.0 | 228.5 | 4001.66 | 3395.51 |
| 65200.0 | 298.2 | 4886.55 | 4431.25 |
| 55900.0 | 297.9 | 3903.2 | 4426.79 |
| 49900.0 | 261.5 | 3720.8 | 3885.89 |
| 59800.0 | 277.3 | 4613.85 | 4384.11 |
| 47400.0 | 275.1 | 3849.89 | 4349.33 |
| 57200.0 | 274.4 | 4447.11 | 4338.26 |
| 52600.0 | 287.3 | 3992.8 | 4542.21 |
| 50400.0 | 312.7 | 3815.32 | 4950.04 |
| 39700.0 | 288.7 | 3715.47 | 4570.34 |
| 39100.0 | 273.7 | 3714.13 | 4332.67 |

## Table D.2: Monthly Electricity Rate Charges

|  |  |
| --- | --- |
| Monthly Water Charges ($) | Monthly Sewer Charges ($) |
| 288.49 | 114.0 |
| 301.51 | 121.08 |
| 333.26 | 131.1 |
| 381.51 | 131.1 |
| 341.92 | 131.1 |
| 378.62 | 131.1 |
| 414.91 | 131.1 |
| 349.1 | 131.1 |
| 547.25 | 131.1 |
| 271.73 | 131.1 |
| 299.06 | 131.1 |
| 290.93 | 131.1 |

The analysis of electricity bills shows that the facility is charged based on less or above 15000 kWh usage. Table D.2 outlines the detailed breakdown of electricity charges for the year 2023 incorporating energy charges TVA (Tennessee Valley Authority) Power Generation Fuel Charges and demand charges. The first two columns distinguish between energy charges for usage below and above 15000 kilowatt-hours (kWh) respectively. The subsequent columns provide insights into TVA Power Generation Fuel Charges with distinctions for usage ranges. Additionally, demand charges are specified for both consumption categories.  
  
In January to March, the energy charges remain consistent at $ 0.08226 for usage below 15000 kWh and $ 0.03511 for usage above 15000 kWh. The TVA Power Generation Fuel Charges exhibit a declining trend starting at $ 0.0349 for both usage categories in January and February, dropping to $ 0.02741 and $ 0.02182 in March. Subsequent months follow a similar pattern with May seeing a slight increase in TVA Power Generation Fuel Charges. Notably, June introduces an increase in both energy charges and TVA Power Generation Fuel Charges. The demand charges persist at $ 14.86 until May, after which they rise to $ 15.81, maintaining consistency throughout the rest of the year. The latter part of the year sees marginal variations in energy charges and TVA Power Generation Fuel Charges, with demand charges experiencing slight increases in November and December. Overall, the table illustrates a nuanced interplay of energy pricing components reflecting adjustments influenced by factors such as fuel costs and energy demand.  
  
For this report, we have used the blended $0.086 per kWh + $15.44 per Peak KW rate for electricity reduction improvements in Section E. The blended $ per kWh is the total annual electricity $ charges divided by total annual kWh consumption. For the water charges, an average rate of $5.65 per thousand gallons of water was found based on the Dalton Utilities bills.