



Stillwater Utilities Authority

Electric Vehicle Charging Rate Design

June 1, 2020

Overview of Work Performed

- Development of New SUA Rate for Electric Vehicle Charging Stations

Background

- Four EV Charging Stations Currently in SUA Service Territory
- Very Little Electric Load on Any Meter
- Currently on General Service Rate
- Were Informed that New EV Charging Rate Would Be Developed and that They Would Be Transitioned
- SUA Spent \$83,000 in Materials Costs to Supply Service to Charging Stations

Analysis

- Public EV Charging Different than Home EV Charging
 - Public Charging More Likely to Be at Time of SUA System Peak
- Public EV Charging Is Usually Low Load Factor
 - Short Bursts of Large Usage and Long Periods of No Usage
- SUA Pays Its Wholesale Supplier Based (in Part) on Maximum System Peak During a Month
- These Three Factors Suggest Need for Demand Rate as Part of Tariff

Proposed Rate

- Cost of Service Based Rate is Impractical
 - Not Enough Customers
 - Not Enough Usage
 - High Service Installation Costs
- Customer Charge: \$35 per Month
 - Higher than General Service Rate (\$18.04)
 - Much Lower than SUA's Current Lowest Demand-Based Customer Rate (\$226.88)

Proposed Rate

- Demand Charge: \$9.53 per kW-month for all months
 - Same as Current Power & Light – Secondary Demand Charge for Winter Months
- Energy Charge: \$0.05529 per kWh
 - Same as Current Power & Light – Secondary Energy Charge
 - Much Lower than \$0.12894 Currently Paying on General Service Rate
- PCA and Taxes Would Also Apply

Effect on Customers

- Only One Customer Has Sufficient Usage on Charging Station to Analyze Rate Effect
- Load Factor Has Ranged from 3.4% to 6.0% During First Three Months of 2020
- Average Electric Rate Has Been \$0.16 to \$0.18 per kWh
- Total Bill Has Ranged from \$89 to \$155

Effect on Customers

- Average Electric Rate at New EV Charging Rate: \$0.35 to \$0.56 per kWh
- Total Bill at New EV Charging Rate: \$197 to \$420
- More Appropriately Recognizes Investment in Service Made by SUA and Costs Imposed on SUA System by Low Load Factor Customer
- Customer Could Reduce Average Rate to Prior Levels by Increasing Charging Station Utilization to 17% to 22%
 - Usage at Higher Levels Would Result in Lower Charge per kWh than Current GS Rate

Questions?

- Thank You!





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