

Cost-of-Service and Rate Design Study for Rochester Public Utilities

Future Rate Recommendations

March 2024



Overview

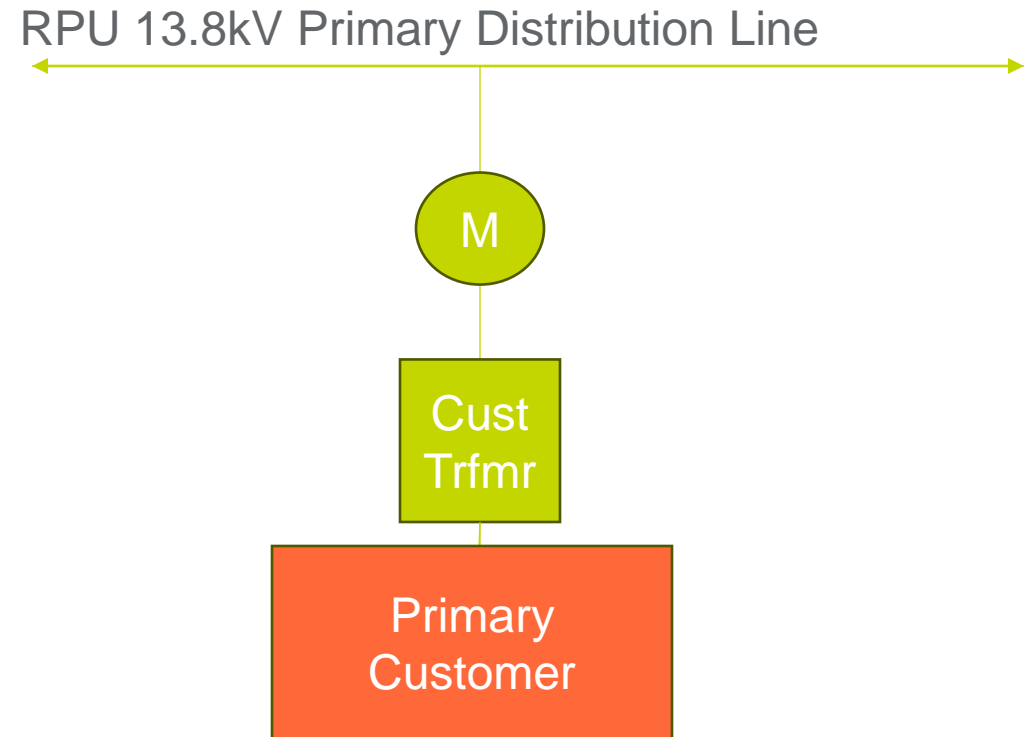
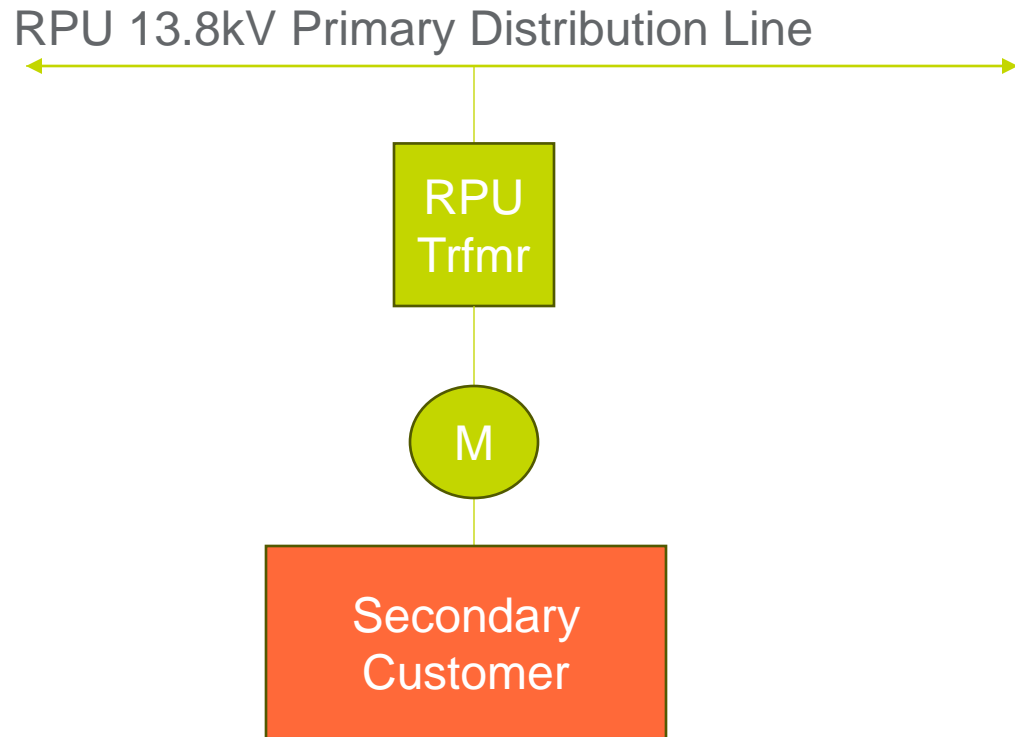
1. Redefine Medium & Large General Service as Primary and Secondary Connected.
2. Solar Grid Access Fee
3. Interruptible Rate Program
4. Cogeneration Stand By Charge
5. Evaluate Commercial TOU + Solar
6. Closed Rate Class Consolidation



Medium General Service (MGS) / Large General Service (LGS) Redefinition

- Recommendation:
 - Redefine Classes as Primary Connected and Secondary Connected.
 - Move MGS/LGS Classes based on the new definition
- Justification:
 - Secondary connected customers in MGS and LGS are provided power at the same voltage.
 - Primary connected customers in MGS and LGS are provided power at the same voltage (13.8kV).
 - Reduce unexpected rate impacts when customers move between classes. (1,000KW)
 - Impacts to customers will be low due to existing rate levels.
 - Primary Connected customers receive Primary Meter Discount – 1.25% demand
 - Primary Connected customers that own Transformer receive a Transformer Credit
- Recommended Implementation:
 - Offer customers option to switch to TOU rate.
 - Move the affected customers to New LGS-Primary Connected (6) and MGS-Secondary Connected (3) rate on 1/1/2025

Secondary vs Primary



Solar Grid Access Charge

- Recommendation:

- Implement a grid access charge for Residential (RES) and General Service (GS). (Future Only < 40KW).
- Follow Minnesota Statute 261B.164 which authorizes this rate policy.
- The Grid Access charge would be for future RES and GS customers adding additional solar.
- Existing RES and GS customers with no additional solar would not be impacted.

- Justification:

- A portion of the fixed distribution and transmission costs are recovered in the energy charge based on average Use.
- Solar customers generate bill savings that are greater than RPU's cost savings which creates a cost shift to Non-Solar Customer in the RES or GS rate classes.
- *As of July 1, 2015, Minnesota Statute 261B.164 authorizes municipal utilities to charge a cost recovery fee on distributed generation facilities (i.e. solar). This enables utilities to recover some of the cost shift that has been occurring between distributed generators and the rest of the utility customers.*

- Recommended Implementation:

- Design solar grid access charge based on the cost of service and review with board.
- Approve a RES and GS solar grid access charge into rate schedules in 2025 to be effective 1/1/2026.

Solar Grid Access Charge

- Grid Access Charge:
 - \$2.33/kW-month based on RPU 2023 Cost of Service Analysis.
 - Value required to recover RPU system investment from future solar customer.
- Future Residential Customer 4.63 kW Solar Example:
 - \$2.33/kW-month GA charge x 4.63 kW solar array = \$10.80 / month

	Avg Residential Without Solar	Avg Residential With 4.6kW Solar	Avg Residential With 4.6kW Solar + GA
Electric Bill \$/month	\$105	\$22	\$33
Bill Savings \$/month	\$0	\$82	\$72
Bill Savings \$/year	\$0	\$989	\$859
Solar Net Investment \$	\$0	\$12,975	\$12,975
Solar Net ROI %		7.62%	6.62%

Interruptible Service Rate Update

- Recommendation:

- The existing interruptible service rate for MGS, LGS, and LIS is not available to new customers.
- Replace existing interruptible service rate with a new demand response (DR) program.
- Apply the \$/kW-month DR credit rider to the measured demand reduction during an RPU peak event.
- Update DR credit paid to match the value provided periodically.

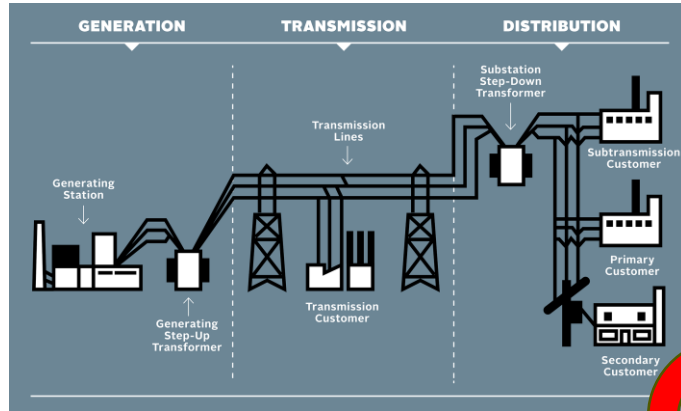
- Justification:

- Interruptible \$/kW-month discount today is different between MGS, LGS, LIS while the value of the peak demand reduction to RPU is the same regardless of the rate class.
- RPU interruption events typically miss the SMMPA peaks rendering it ineffective at reducing SMMPA demand charges in the non-summer months (OCT – MAY).
- The value paid to customers for DR should equal the benefit received by RPU.
- Supports our Resource Plan, Demand Side Reduction goals.

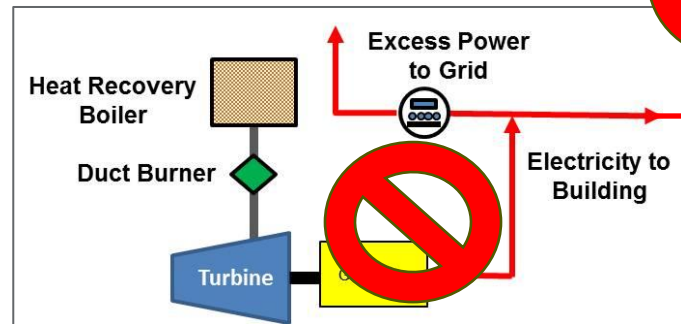
- Recommended Implementation:

- Close existing interruptible service rates
- Draft new program tariff and plan for implementation.
- Validate RPU systems and customers can implement.
- Implement new DR credit program across all customers as soon as the metering and billing system can be configured.

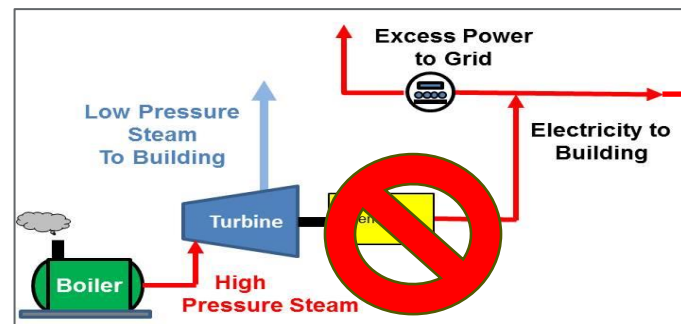
Cogeneration Standby Service Rate



- RPU system and cost remain regardless of usage
- Standby Service Rate pays for system when not in use
- Standby Service Cost: Current Estimate \$8.50/kW-mo



- Plants normally operate 24/7/365
- Plants are shut down for annual maintenance
- Plants experience forced outages
- When plant is down buildings still require RPU power



Cogeneration Standby Service Rate

- Recommendation:

- Implement a new standby rate for all future cogeneration power plants
- Set stand by charge value based on RPU cost to support plant during outages and maintenance
- Existing customer cogeneration power plants would not be impacted.

- Justification:

- Cogeneration plants operate 24/7 and will result in lost revenue under existing rate structure
- Transmission & Distribution system costs remains in place to support the customer load when the plant is offline
- Generation capacity (purchased or built) remains in place to support load when the plant is offline
- Other large utilities in Minnesota have had standby charges for cogeneration plants for many years.

- Recommended Implementation:

- Draft new program tariff and plan for implementation.
- Establish reasonable rates based on RPU costs.
- Communicate rates and tariffs to key future cogeneration customers.
- Implement new stand by rate on 1/1/2025

Evaluate Commercial TOU + Solar

- Recommendation:

- Develop a three period Commercial Time of Use (TOU) rates that considers:
 - Solar generation
 - Small Generation Customers (Energy Only) plus grid access fee
 - Medium General Service (Demand Metered) customers.

- Justification:

- A portion of the fixed distribution and transmission costs are recovered in the energy charge based on average Use.
- Solar customers generate bill savings that are greater than RPU's cost savings which creates a cost shift to Non-Solar Customer within the rate class.
- The three period TOU rate supports RPU's Demand Response goals in the power supply plan

- Recommended Implementation:

- Draft new program tariff and plan for implementation.
- Establish reasonable rates based on RPU costs.
- Communicate rates and tariffs to key future customers.
- Implement new commercial TOU rates on 1/1/2025

Closed Rate Class Consolidation - SGS

- Recommendation:

- Move General Service High Efficiency HVAC rate (i.e. heat pumps) customers (2) into General Service.

- Justification:

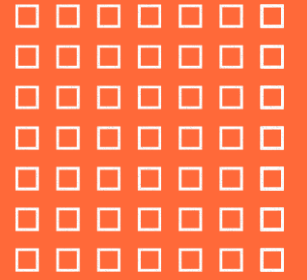
- General Service (<25kW) already has a cost-based less expensive winter rate that benefit electric heating.
- End use rates are challenging to manage and police due to customer fuel switching.
- Less than 0.1% of General Service customers are on this rate schedules.
- Bill impact to these customers will be less than a 10% in winter.

- Recommended Implementation:

- High Efficiency HVAC rate was closed to new customers on 1/1/22.
- Notify customers they will be moved 3 years in advance.
- Offer customers option to switch to General Service TOU rate.
- Move customers to General Service 1/1/27.

Closed Rate Class Consolidation - Res

- Recommendation:
 - Move Dual Fuel rate (i.e. electric heat) customers (19) into Residential Service or TOU.
 - Move High Efficiency HVAC rate (i.e. heat pumps) customers (60) into Residential Service.
- Justification:
 - Residential Service already has cost-based less expensive winter rate that benefits electric heating.
 - End use rates are challenging to manage and police due to customer fuel switching.
 - For a 1,000 kWh/month heat pump customer the impact in the winter months will be less than 5% with no change to the summer bills.
 - Less than .2 % of all Residential customers are on these two rate schedules.
- Recommended Implementation:
 - Dual Fuel and High Efficiency HVAC were closed to new customers on 1/1/22.
 - Notify customers they will be moved 3 year in advance.
 - Offer customers option to switch to Residential TOU rate.
 - Move customers to default Residential Service 1/1/2027



Discussion And Questions

1898 
CO SM

PART OF BURNS  MCDONNELL