Muni Utility

Excellent Reliability

Addition of major industries through the recession years - Continues to have current businesses grow and attracting
The Utility Spans All Services

Water
Electric Power
Communications/Internet
Waste Water

Residential
Industrial/Commercial
Developments - Tour

- Rochelle
- Technology Center at Rochelle Tech Park
- Bio-Gas Plant at Landfill – 4.8 MW
- Solar Plant being built at treatment plant –
Waste Water Treatment History

The first Activated Sludge plant was built in 1935 and expanded in 1953. In 1960, when Swift and Company brought a hog and cattle slaughter operation to Rochelle, a 3 million gallon per day, three stage Trickling Filter plant was built. This was designed to handle the Swift & Company slaughter operations and the wastewater from Caron International, a yarn dyeing operation.

Work on a new anaerobic lagoon was begun in 1990, and the lagoon began filling on June 15, 1991 with flow from Rochelle Foods. A further plant upgrade was begun in November of 1992, and completed in August 1993. This upgrade consisted of four nitrification tanks with a total volume of 6.68 million gallons, two clarifiers, each holding 822,000 gallons, tertiary sand filters, chlorination and dechlorination. On September 19, 1997, the Illinois Environmental Protection Agency granted the City a revised design capacity based upon the plant's proven ability to remove BOD and TSS. Present capacity is:

* Design average flow: 4.87 MGD
* Design maximum flow: 8.76 MGD
* BOD loading: 18,690 pounds per day
* TSS loading: 13,180 per day
* Ammonia loading: 2915 pounds per day
Generation Assets

RMU owns and operates three generating stations, totaling 22 Mw of generating capacity.

Our 9th Street station has been in operation since 1955, which houses 8 fully operational units. Our second station located on Caron Road houses two units, fully operational at 3Mw. These run on Natural Gas.

6 MW of additional generating peak shaving capacity using diesel for an internal black start has been added

*RMU is currently looking at expanding the solar plant as well as a plant at the landfill using a PPA model including battery storage for frequency regulation services*
Bio Gas Plant

Evensol Energy, LLC and Rochelle Municipal Utilities are two of the partners in a Bio-Gas Landfill-Gas-To-Energy Facility in Rochelle, IL.

In cooperation with RMU and Rochelle Waste Disposal, William Charles Energy, LLC (the original developer) has developed the Rochelle Energy Center, a state-of-the-art 4.8 megawatt renewable energy facility located at Rochelle Municipal Landfill #2 in Rochelle, IL. RMU purchases the power produced at the energy center and retains all of the renewable energy credits associated with the electricity production. The plant started commercial operation in December 2011.

The Rochelle Energy Center uses three Caterpillar G3520 reciprocating engine generator sets, each rated at 1.6 megawatts.

The Rochelle Energy Center meets the total electrical energy needs of approximately 4,000 homes. The power is produced and consumed locally.
Simple Electric Rates

Rate130 - Small General Service Rate - Commercial
Rate140 - Small General Service with Demand
Rate150 - Large General Service Commercial
Rate 151 - Large General Service Interruptible
Rate160 - Large General Service - Time of Day – Commercial
Rate163 - Data Center - Time of Day – Commercial
Rate165 - 5MW Demand and Above Time-of-Day
Rate170 - Municipal Street Lighting
Rate 175 - Street, Highway & Traffic Signal Lighting Rate
Rate180 - Security Lighting
Rate 195 - Industrial Development
Current Focus

Reduce Capacity/Demand Charges

Roof Top Controls for Large Users
Potential Assets

- 8 Million sq feet of industrial/commercial roof tops in Rochelle City

- 2% of which would produce 10 MW Solar

Why worry about this?
Utility Business Case - Different

- Manage both energy and capacity costs
- Capacity (= demand) costs of electrical service has gone up five times last two years
- Larger part of end consumer bill
- Utilities can shave local demand - Generation
- Adds to Solar business case
- Solar Renewable Energy Credits – Aggregator PA
- Result: less investment needs in Distribution Infrastructure
Rochelle Residential Energy Use by Hour

Tue July 17 4 pm
Solar Output and Summer Peak Demand Coincides

Day 1

Day 2

Day 3

Day 4

Individual days

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RMU Solar Farm

RMU Solar Plant Opening
November 7, 2014
Rochelle, Illinois
Rochelle's 312 kW Solar Photovoltaic Plant with 1240 panels is currently producing approximately 800 kwh per day. It covers 220 kW of the Water Treatment Plant's summer peak of 420 kW, about 45% of summer months requirements in kwh's. The plant is 60% funded by a grant from the Illinois Clean Energy Foundation and was completed in less than six months from the time of the grant award.

Rochelle Municipal Utilities is unique in that it includes the grid Capacity cost savings and the solar energy credits marketing in the Pennsylvania market into the business case. The payback period is 4.2 years. With the useful life of the plant being approximately 20 years, 15 years of free solar energy will result in a reduction the cost of producing clean water.

Our treatment plant operates mainly day hours, where Solar energy offsets the peak energy requirements of the Plant. This plant is strategically placed in a floodplain area which otherwise would not be used.

Solar Photovoltaic plants work best in cool weather as the electrons can pick up the sun's energy better than when it is hot.
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Matching Supply and Demand?

[Graph showing power demand over time]
Things to consider

- Roof Snow Loading Requirements in IL
  - Make new rules for Solar Panels

- Know your contractor
  - Former experience is key

- Talk to your comparables
  - Muni benchmarking is awesome

- Don’t do the German thing – Policy must be founded in reality

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