



Current Comments

Energizing South Central Nebraska



SOUTH CENTRAL PUBLIC POWER DISTRICT, NELSON, NEBRASKA

OBJECTIVE: To make electricity available at the lowest cost consistent with sound economy and good management.



Manager's Column

By
Max Van Skiver

ONLY GOOD NEWS

As has been our practice for Decembers in the past, "Current Comments" will report only good news this month.

I hope that all of our readers and consumers find themselves in good health and good spirits during the holiday season. The Christmas season can be one of the most glorious times of the year, if we simply slow down and allow ourselves to experience it. I hope that you will be able to push your daily challenges to the back of your mind and be thankful for the gifts you were given during 2016.

2016 ELECTRIC RATES

Retail electric rates for 2016 were unchanged from 2013, 2014, and 2015. This was the first time since 1995-2000 that rates were the same for more than two years. This is good news!

2017 ELECTRIC RATES

As reported last month, NPPD plans to leave wholesale electric power production rates unchanged for 2017 and that is good news. While production rates are the largest component of wholesale power costs,

NPPD's production rates do not cover the total cost of delivering electricity to South Central.

There are also costs associated with the ownership and operation of the regional (Southwest Power Pool) and NPPD transmission systems. Those costs are recovered through NPPD's transmission rates and transmission rates are going up by about 5% for 2016, continuing a pattern established a couple of years ago.

The net impact will be roughly a 0.6% increase in South Central's power costs for 2017 relative to 2016.

As also reported last month, while we will not calculate our revenue requirements for 2017 until after the 2016 books are closed, I expect that we will once again be able to absorb the modest increase in wholesale rates without having to raise retail electric rates across the board. I will keep you posted as we work through our normal budgetary and rate requirements processes, but I expect to be able to report more good news early next year.

NATIONAL ELECTRICITY COSTS

The Energy Information Administration (EIA) releases monthly data comparing the average residential price of electricity for the 50 states and the District of Columbia. Monthly data is of little value, as some states have seasonal rates and unseasonable weather can easily drive the numbers away from the norm for any given month.

I like to look at annual data, as doing so removes much of the seasonal rate and weather variability. Trended annual data is better yet. For the most recent year for which annual data is available, 2015,

the highest cost state was Hawaii, with an average residential cost of 29.61 cents per kilowatt-hour, as compared to 37.04 in 2014, 36.98 in 2013, and 37.34 in 2012. Hawaii has no coal, natural gas, or oil resources. Efforts are underway to develop wind and solar resources for Hawaii. I would expect that renewables could prove economic in Hawaii. A quick check on the internet revealed that the lower prices for 2015 largely reflected the lower cost of oil, but also to a lesser extent additional renewable generation. Hawaii's renewable resources include; solar, wind, biomass/biofuel, geothermal (volcanic heat), and hydroelectric.

The lowest cost state for 2015 was Washington with an average residential cost of 9.00 cents per kilowatt-hour, as compared to 8.71 in 2014, 8.70 in 2013, and 8.53 for 2012. Like Washington, electric rates in most states are on a slow upward progression. For example, in 2010, 12 states delivered electricity to residential customers for less than 9 cents per kWh on average. None did in 2015. The National average residential cost for electricity was 11.54 cents per kWh in 2010 and increased annually to 12.67 cents per kWh by 2015.

There are exceptions to the slow upward progression of electricity cost. Take Louisiana, for example. Between 2010 and 2015, Louisiana's ranking moved from 12th, to 4th, to 1st, back to 4th for 2013 and 2014, before climbing back to 2nd for 2015 at 9.22 cents per kWh. Louisiana is probably benefiting from the surplus of natural gas created by the implementation of fracking technology there and in Texas. Price volatility should be a concern going forward. Oklahoma, another state benefiting from fracking, moved from 14th to 6th over the 6 years.

Washington always ranked either 1st or 2nd over the 6-year span. North Dakota always ranked between 2nd and 4th over the 6-year span. Washington is blessed with tremendous amounts of federally generated hydroelectric power. Roughly 75% of North Dakota's electricity is generated by combusting coal.

Over time from 2010 through 2015, Nebraska moved from 10th, to 9th, 12th, and 13th before working back to 11th in 2014 and 2015 with a 2015 value of 10.79 cents. Coal generates a little over half of Nebraska's electricity, while nuclear accounted for about 20%.

If South Central Public Power District were a "state", it would have ranked 3rd lowest in 2015 with an average residential charge of 9.31 cents per kWh! This is good news!

THE NEIGHBORHOOD

Sticking to residential retail electric rates, here are the ANNUAL averages for the past few years for Nebraska, its neighbors, South Central, and the nation – sorted for 2015 from lowest to highest.

	2010	2011	2012	2013	2014	2015
South Central	\$0.0815	\$0.0845	\$0.0911	\$0.0927	\$0.0911	\$0.0931
Nebraska	\$0.0894	\$0.0932	\$0.1004	\$0.1031	\$0.1044	\$0.1079
South Dakota	\$0.0897	\$0.0935	\$0.1007	\$0.1026	\$0.1051	\$0.1094
Wyoming	\$0.0877	\$0.0911	\$0.0985	\$0.1016	\$0.1053	\$0.1097
Missouri	\$0.0908	\$0.0975	\$0.1017	\$0.1060	\$0.1059	\$0.1099
Iowa	\$0.1044	\$0.1046	\$0.1082	\$0.1104	\$0.1135	\$0.1187
Colorado	\$0.1104	\$0.1127	\$0.1146	\$0.1193	\$0.1218	\$0.1198
Kansas	\$0.1003	\$0.1065	\$0.1124	\$0.1164	\$0.1213	\$0.1231
U.S. Average	\$0.1154	\$0.1172	\$0.1188	\$0.1213	\$0.1250	\$0.1267

Nebraska offered the lowest residential rates in the region last year and South Central Public Power District's rates were well below the Nebraska average. Every state in the region was below the national average.

Average residential electricity costs for 2015 for Nebraska (11), South Dakota (12), and Wyoming (14) were among the 15 lowest of the 50 states in 2015.

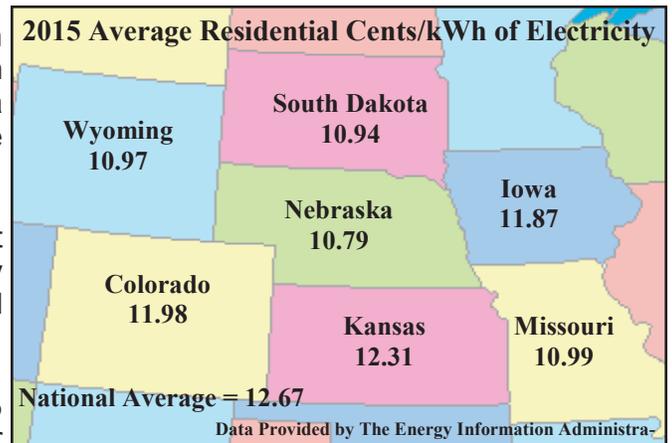
I took a look at EIA graphics with regard to energy resources for electricity generation in the “Neighborhood”. For Nebraska and the six states (sorted from lowest residential cost to highest) that touch it, the top three energy resources for electricity generation (sorted from most significant to third) were as follows:

Nebraska	Coal	Nuclear	Renewable
South Dakota	Hydroelectric	Renewable	Coal
Wyoming	Coal	Renewable	Hydroelectric
Missouri	Coal	Nuclear	Natural Gas
Iowa	Coal	Renewable	Natural Gas
Colorado	Coal	Natural Gas	Renewable

Nothing very surprising in the above other than that Iowa relies heavily on coal for electricity generation in spite of all the credit the state gets in some of the media for renewables. All of the above states have residential rates below the national average and all but South Dakota rely on coal more than any other resource to produce electricity. South Dakota relies heavily on hydroelectric generation.

Four of the states have at least one nuclear power plant within their boundaries and nuclear shows up as significant in Nebraska, Missouri, and Kansas. The nuclear plant in Iowa did not generate enough energy to break into the top three resources for Iowa during 2015, but it was fourth.

Missouri was the only state in which renewables did not rank among the top three energy resources for electricity production. In fact, renewables ranked fifth, behind hydroelectric generation, in Missouri.



Nationally, coal and natural gas were tied, both providing 33% of the electricity generated in the United States, while nuclear power was third at 20%. Hydroelectric and renewable generation were tied for fourth.

CAVEATS, COMMENTS AND OBSERVATIONS

The EIA collects a huge amount of information regarding every aspect of energy production and use in the United States. The quality of the data provided and how the data is managed by the EIA determines the quality of the database created.

On the retail side of the electric industry, EIA tracks sales to residential, commercial, industrial, and transportation classes of consumers. Looking at that list, one has to wonder where uses like irrigation, livestock operations and on-the-farm grain drying belong. Most agricultural uses can be reported as “commercial” which makes some sense, while irrigation sales are reported as “Industrial”.

For decades, before EIA decided to replace it, EIA had a category called “other” where I reported irrigation sales. Transportation is largely reserved for reporting sales to electrified railways – not many of those in Nebraska. The problem here is obvious. Reporting irrigation sales as industrial greatly distorts the apparent cost of energy for industrial uses in Nebraska, the state with the most irrigated acres in the nation. After all, the cost to serve a 5 to 80 kW load that only operates during the summer will be much higher than for a 5,000 kW load that operates virtually all-day 365 days a year. Nor do the two loads have any commonalities.

Another issue relates to the huge volume of data. When the 2014 retail data was first released, I noticed that the 2013 residential values reported for both Nebraska and Missouri were significantly higher than those originally reported a year ago. Assuming that they had experienced corruption of their database, I e-mailed them to ask. Sure enough, a month later, the erroneous values had been replaced by those originally reported for 2013. In all the years that I have reviewed EIA statistics, that was the first time I identified an error. Perhaps the lesson is that the longer one waits to pull down the information, the more likely it is to be correct.

A number of factors affect the values reported by utilities. In general, the more electricity a residential consumer uses, the lower the cost per kWh consumed. States where electricity is virtually the only energy source available for heating and cooling should sell more energy per household. If metered separately, apartments could be expected to use less energy than houses.

Most utilities offer retail rates either based on declining rate blocks (South Central's approach) or a customer charge plus a flat rate or declining rate blocks. In some parts of the country, there is considerable variability in energy production cost between the seasons. In such cases, it is common to see retail energy costs that vary seasonally.

Here in Nebraska, NPPD moved to seasonally differentiated wholesale electric rates in 1992 after the differential in production costs between summer and the rest of the year became too great to ignore. Since our retail rates need to reflect wholesale costs, we moved to seasonal rates that same year.

Depending on weather patterns, seasonal rates can have a significant impact on the annual average cost. For example, **the average annual price paid by South Central's residential customers fell from 9.27 cents per kWh for 2013 to 9.11 cents per kWh for 2014 only to rise to 9.31 cents per kWh for 2015 in spite of the fact that the rates for taking service were the same all three years.**

Simply said, when you use power can be just as important as how much you use.

The highest priced kWh to deliver is the first one and the lowest cost kWh delivered is the last one each month. The electric infrastructure to deliver electricity has to be in place and energized 24 hours a day, 7 days a week, if you want light when you turn the

switch on. The cost to build, operate and maintain electric infrastructure has to be recovered whether you leave that light on all month or only for an hour each month.

As someone recently correctly pointed out to me, "If I conserve electricity, I actually raise the average cost of the kilowatt-hours I purchase." That is true, but conservation does reduce your total electricity bill from what it would have been.

ANOTHER FACTOR

Most of this article focused on costs and cost is very important. However, I would offer that reliability is even more important. Cheap electric energy is of little value if it is off frequently. We do our best to keep your lights on, but we realize that even our best efforts cannot be enough to guarantee that the lights never go off.

Since we cannot guarantee continuous service, we have some planned redundancy built into both the transmission and distribution systems. In many cases, tie lines allow us to restore electricity to parts of the system from other undamaged parts of the system when outages occur. This can greatly reduce outage time for many consumers, but does come at a cost.

THE BENEFITS OF EXPERIENCE

Your power district is blessed with dedicated employees, many of which have years of experience.

Experience is especially important in the field. The line personnel who routinely respond to your outages average nearly 20 years of experience here at South Central (some had previous experience before coming here). The District operates enough power lines to reach from Baltimore to San Francisco if strung end to end. The better we know those lines and the county roads necessary to access them, the better we can respond to your needs.

Speaking for myself, and I am sure other employees, it is a privilege to be able to work to provide electric service to the people of south central Nebraska. We know how important electricity is in your lives and we truly want to make electricity available at the lowest cost consistent with sound economy and good management.

I hope you have a Merry Christmas and a Happy New Year!

CURRENT COMMENTS
Newsletter of the
SOUTH CENTRAL
PUBLIC POWER DISTRICT
Nelson, Nebraska
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Nelson Office Hours
(8 a.m. to 5 p.m., Monday through Friday)
402-225-2351 or 1-800-557-5254

For Billing Questions, please call:
(M-F, 8am-5pm)
402-225-2351 or 1-800-557-5254

For Power Outages, please call:
(Any time of the day or night)
402-225-2351 or 1-800-557-5254

NOTICE
The regular meeting of the board of directors of South Central Public Power District is held the third Tuesday of each month at 9 a.m. at the district's office in Nelson, Nebraska.

Newsletter Editor: Royce Schott