BEC COSA/Rate Design Project
Questions & Answers – Set 1
April 1, 2020

This document has been generated to capture important issues discussed during the BEC Risk Management Committee’s rate design project.

Q1. Initially, the committee discussed three basic rate designs for BEC’s Residential and Small Commercial classes; 1) the current rates (2-part rate), 2) the addition of a system demand charge to the rates (3-part rate), and 3) a minimum bill rate structure. Are there other Residential and Small Commercial rate designs that were considered?

Answer:

There are many other rate designs in place at other utilities. However, it is important to understand the rationale and motivation behind any rate design to determine the suitability for BEC and its members. A rate design should reflect the specific strategic direction of the utility, driven by industry trends, power supply contracts, financial stability, equity, and fairness within a member class, etc.

Below is a list of several rate designs, but not the only list of rate designs for consideration. Imagination is the only limitation in what may be considered. (Additional discussion of rate design alternatives can be found in the EES, October 24, 2019, Rate Design Analysis presentation to the Risk Management Committee.)

Here is a list of several rate designs—keep in mind, each has a specific impact on members and the utility.

<table>
<thead>
<tr>
<th>Rate Design</th>
<th>Description</th>
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<tr>
<td>1-Part Rate</td>
<td>All Energy Rate (no base charge, no demand)</td>
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<tr>
<td>1-Part Rate</td>
<td>All Demand Rate (no energy, no base charge)</td>
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<tr>
<td>2 or 3-Part Rate</td>
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<tr>
<td>MultiPart Rate</td>
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<tr>
<td>2-Part Rate</td>
<td>Increasing Block Rate (2 to 4 steps)</td>
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<tr>
<td>2 or 3-Part Rate</td>
<td>Peak Pricing Rate</td>
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<td>Multi Part Rate</td>
<td>Critical Peak Price Rate (A high price defined in advance that takes effect on a day-ahead notice basis.)</td>
</tr>
<tr>
<td>Multi Part Rate</td>
<td>Real-Time Price Rate (A price that is set by the market and may change with one-hour not.)</td>
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The committee discussed the following factors for consideration in the process to determine which rates to evaluate:

- BEC has full requirements (load following) power contracts through 2027 billed strictly on energy (kWh), with no charge for demand (KW). Future power contracts may have a demand component. A demand component is frequently included in wholesale power contracts.
- Historically, the weather has impacted kWh sales, and as a result, members’ bills and BEC’s margins. Reducing dependence on kWh sales will provide more stable bills for members and margins for BEC.
• The electric utility industry is changing with increased penetration of net-metering and
distributed generation (DG). These technologies reduce kWhs purchased from the utility. In
addition, these technologies also may not fairly compensate the utility for the use of the
electric grid as a reserve source of supply when the net-metering resource or DG is not
generating.
• Encouraging conservation and renewables while relying on cost recovery through kWh sales
may undermine the financial stability of BEC.

Q2. **Currently, BEC has in place 3-part rates for Large Commercial, Industrial and Irrigation rate classes. Are there other Large Commercial, Industrial or Irrigation rate designs we should be evaluating?**

**Answer:**

Many of the rate designs presented in Q1 may be applicable to Large Commercial and Industrial. Large Commercial and Industrial members with a high load factor may prefer high demand rates with lower kWh charges. System demand charges are a long-standing part of traditional large commercial, industrial and irrigation rate design.

The focus of future BEC rate design for these, as well as all rate classes, is the fair allocation of costs. Currently, BEC’s large commercial, industrial, and irrigation rate classes are assigned the same system demand charge, while the energy rate varies. There are three separate rate classes because each rate class has different load and customer characteristics, it is therefore implausible for the demand-related costs to be the same for each class. However, given the nature of BEC’s wholesale power contracts, it would appear to make sense for the energy rate to be the same for these classes.

BEC currently bills irrigation six-months of the year for the base, system demand and kWh charges. Each April, there is a six-month energy true-up for demand and energy consumed from the previous October. There may be other rate designs that are more appropriate for this rate class, such as:

• 3-Part, 6-month Rate
• 3-Part, 12-month Rate
• 3-Part, 6-month or 12-month Rate with Demand Ratchet

Q3. **Should the committee look at adjusting (raising/lowering) the three rate components (base, system demand and energy) for Large Commercial, Industrial, and Irrigation while maintaining revenue neutrality (same total revenue for each class)?**

**Answer:**

• Yes. BEC’s focus should be to create revenue-neutral rate design changes in order to move toward cost of service for each of the 3-part rate components in each of these three classifications.

Q4. **Do we need to look at the rate design for the Security Light class?**

**Answer:**
• BEC has only one municipal lighting system. It is metered from a single point at the commercial rate.
• BEC requires a Security Light Rate for the new LED fixtures being stocked. A discussion needs to take place regarding whether these are billed energy only or requires a rate design that includes fixtures, poles and O&M.

Q5. **How does each rate design measure up against our rate design criteria (Bonbright principles)?**

**Answer:**

This question is addressed in the EES, October 24, 2019, Rate Design Analysis presentation (slides 10, 15 and 21) and the EES, November 21, 2019, Residential Bill Impacts Analysis presentation (slide 16).

Q6. **We do not have 12 months of system demand data for the Residential and Small Commercial classes on the new metering system. How do we manage this uncertainty?**

**Answer:**

• A review of the actual data collected from the old Turtle system determined that system demand data was reported for all rate classes in the meter data. However, the system demand data was not pushed through to billing data. The Turtle system meter data is difficult to access and impractical to process for large numbers of accounts.
• Historic energy use and system demand data have been extracted for a limited number of accounts across the residential rate class to facilitate bill impact analysis for various rate designs. These accounts were selected to ensure that a wide range of member types were included, i.e., high/average/low use, low income, seasonal, weekenders, net-metered, stock wells, etc.
• BEC should limit dependence on system demand charge revenues until a full set of monthly system demand data is available from the new meter data management (MDM) system for at least a year.

Q7. **How do we obtain good system demand data/estimates for seasonal, weekend and net-metered bill impact examples?**

**Answer:**

System demand data from the old Turtle system was extracted for selected accounts as discussed in the answer to Q6.

Q8. **Which rate designs should be run through the bill impact analysis?**

**Answer:**

At its October 24, 2019 meeting, the Risk Management Committee decided to conduct billing impact analysis on the following rate designs for the Residential rate class. The results were
Q9. What cost allocators (member, energy, Coincident Peak (CP), Non-Coincident Peak (NCP), etc.) were used for each cost category in the COSA?

Answer:

See Attachment 9a and Attachment 9b, which include Schedule 3.1 for expense allocators and Schedule 4.1 for plant allocators, respectively, used for the Minimum System Approach for the COSA.

Q10. For distribution costs, are we using 1 NCP or 12 NCP for the allocator?

Answer:

The COSA used the Minimum System approach and the 100% Demand approach to distribution costs with 1 NCP for the demand allocator.

Q11. Each month BEC has a large number of accounts (25%) that are billed less than $50. What do we know about these low usage accounts?

Answer:

- Additional review would be needed to better understand the types of users represented.

Q12. If we decide to move to 3-part rates, is the ultimate objective to have rates equal to COSA unit costs? If so, how long is the phase-in period?

Rates that reflect COSA unit costs will equitably allocate costs between classes and among members within classes. Fair cost allocation is one of the criteria to be used in evaluating rate design alternatives. At the December 16, 2019 Risk Management Committee meeting, the committee reached consensus on a recommendation for BEC to implement 3-part rates for the Residential and Small Commercial classes with a small initial system demand charge. A majority of the committee favored setting the initial system demand charge at $2/kw.

The committee took no position on whether or not the ultimate objective is to have rates equal COSA unit costs, or on what an appropriate phase-in period might be. These questions would be considered in future BEC rate design processes.

Q13. How might costs be reflected in a 3-Part Rate?

Answer:
BEC has identified three rate components that can be logically explained to members. The **Base Charge** reflects the cost of metering, billing, customer service and administration to run the cooperative without delivering a single KW or kWh. The **System Charge** includes the costs to construct, operate and maintain a safe, reliable electric system. This charge would be billed on the member’s peak KW (aka system demand) each month to reflect the proportional load placed on the electric system. The **Energy Charge** (kWh) would reflect wholesale power costs and the costs paid to NorthWestern Energy to deliver that energy to BEC’s substations.

**Q14. How have other Montana co-ops implemented demand charges for Residential and Small Commercial accounts?**

**Answer:**

See information in Attachment 14a and Attachment 14b.

**Q15. What is our member communication plan? Assuming any rate changes will be voted on in Q2 2020 and fully implemented in Q2 2021, when do we need to provide information to members? What information should we be providing?**

**Answer:**

- BEC will utilize all existing communication channels to provide timely information and encourage member engagement/participation in the rate design process.
- BEC will begin a member direct mail campaign in April 2020 and continue as implementation occurs.
- A direct mail brochure (similar to what we implemented for the new meter roll-out) will be mailed prior to Board approval of any rate changes.
- A rate comparison tool will be implemented on our website when and if a Board decision is made to adopt any new rate designs.

**Q16. If BEC decides to move to 3-part rates, should the system demand charge apply to all hours of the day or only some hours (i.e., no demand charge for nighttime hours)?**

**Answer:**

- BEC’s current power supply contract does not include a system demand component. Consequently, there are no hours that we incur higher power costs. However, NWE bills monthly transmission services on coincident peak demand.
- Inspection of substation load data indicates that monthly substation peaks can (and do) occur on all days of the week, including Saturdays and Sundays. Monthly substation peaks are concentrated in the morning (breakfast) hours and evening (dinner and later) hours. See Attachment 16.

**Q17. If we adopt new rate designs, should some accounts (i.e., net-metered accounts) be**
grandfathered under the current rate designs? If so, for how long?

Answer:

On the one hand, equitability and fairness to all members might suggest that these accounts should be switched to current rate designs at the time of implementation of any new rates. On the other hand, it could be argued that net-metered members invested in behind-the-meter generation systems before BEC was considering new rate designs. At the December 16, 2019 Risk Management Committee meeting a majority of those present (committee members, Board members and staff), felt that new rates, if approved, should apply to all members with no grandfathering.

Q18. Should we develop a primary service rate? If so, how and for what classes?

Answer:

Yes, there should be a primary service rate for secondary voltages with 600 amp panels or greater to multiple points of delivery; single-phase primary voltage where it is impractical for BEC to extend its primary distribution; and three-phase primary voltage where it is impractical for BEC to extend its primary distribution system.

Q19. Should we develop additional information to support (or not) our decision to maintain the current revenue requirement for the Irrigation class?

Answer:

The board has accepted the COSA and agreed that each class should continue to contribute the same revenues as they do at current rates. This issue may be revisited in the future.

Q20. What is our definition of fairness? Are some members underpaying or overpaying? How do we know/measure that? Are we looking at rate design change to address that?

Answer:

• Fairness and equity within a rate class can be best achieved with well-designed rates. Every member within a rate class should be paying their fair share to cover the cost of their service. The COSA provide a solid starting point for designing rates that reflect cost of service. The current rate design does not necessarily result in a fair allocation of costs to each member.
• Unfortunately, with any change of rate design, some accounts will pay more, and some will pay less even if overall revenues for BEC remain the same. A billing impacts analysis was prepared to quantify the impacts on different types of consumers.

Q21. Will a new rate design improve administrative efficiency? Will the bill be easier to process? Will the co-op save administration costs?

Answer:
• There should not be any difference in administrative or processing costs. If new rate designs are implemented, the new rates will be programmed into the billing system, and bills will be produced and mailed as they are now.
• The new meter technology allows us to reduce operating costs by remotely connecting and disconnecting meters and allows us to introduce new options, such as SmartHub and Prepay, that will lead to lower administrative costs.
• A new Billing Statement is being designed that will contain additional information to help members better understand how and when they use electricity.

Q22. What are the risks of changing (or not) to new rate designs?

Answer:

New rate designs, if properly designed, would have these benefits:

• Fairly allocate costs among members within a rate class.
• Reduce the impacts of weather on member’s bills and stabilize co-op finances.
• Provide more information and send proper price signals to members to control (increase or decrease) or diversify their energy use.
• Allow BEC to support energy efficiency and distributed generation by members without adversely impacting co-op finances.

The biggest challenge with implementing any new rate designs will be communicating with members to explain the changes and earn member acceptance/support.

Q23. Does the system demand definition differ between member bills and the COSA?

Answer:

System demand reflects the actual electrical load placed onto BEC’s electrical grid during any 15 minute period during the billing period. It will be measured the same for any of BEC’s rates. While it will be measured the same, it will not be billed at the same rate ($/KW) because the cost of providing service to each member classification is different.

The COSA allocated system demand costs to classes based on the annual peak (1 NCP). Bills use monthly peaks (12 NCP) for each account. This is the primary reason why a simple 3-part rate design may not collect appropriate revenues from seasonal accounts.

Q24. Do we pay any premiums for high demand time energy? Which costs in the COSA calculations are attributed to system demand?

• We have a load-following wholesale power contract. It bills only on kWhs delivered to our electric distribution grid. The cost per kWh does not change throughout the day. No power costs were allocated to demand in the COSA.
• NWE transmission costs are paid based on BEC’s demand at the time of NWE’s system peak and were allocated based on monthly demand (12 CP) in the COSA.
• The costs associated with the distribution system including substations, poles & wires, line personnel, engineering staff, line trucks, tree trimming, line materials, etc. were allocated based on annual demand (1 NCP) in the COSA.

Q25. What does base charge cover, and exactly how does that differ from the system demand?
charge?

Answer:

In a well-designed 3-part rate, the Base Charge would cover only those Administration and General Costs (A&G) and business functions necessary to run BEC without delivering a single KW or kWh. These include administration salaries, office expenses, member services, marketing and advertising, billing and accounting systems, mailing, the office portion of the Red Lodge facility, etc.

Currently, for the Residential class, the Base Charge covers the costs discussed above and a significant portion (approx. 30%) of BEC’s distribution system costs. The balance of BEC’s distribution system costs (approx. 70%) are currently collected in the Energy Charge. A System Charge would be used to collect a portion of distribution system costs and reduce the amount of these costs collected in the Base Charge and Energy Charge.

Q26. Why would the energy rate ever vary across classes?

- BEC’s wholesale power costs are the same for all members in all classes. Energy rates currently vary among the rate classes because those rates also include a portion of distribution system costs.
- New rate designs should better reflect the actual costs to serve each member. Ultimately, that could result in the energy rate being the same for all classes.

Q27. Minimum bill- Who benefits? Who loses? How much does this increase revenue from seasonal members, and how much does that benefit others in the residential class? If the increased revenue benefited all members wouldn’t the COSA need to be redone?

The “minimum bill” approach was not among the rate designs selected by the committee for further analysis at the Committee’s October 24, 2019 meeting.