

Rocky Mountain Power Back-Up Rate Model

A model was created that estimates the monthly charges incurred by a Rocky Mountain Power (“RMP”) customer utilizing on-site generation under Electric Service Schedule No. 31 Back-Up, Maintenance, and Supplementary Power with Primary and Transmission level voltages analyzed. Supplemental power in excess of on-site generation is served under applicable standard tariffs. The two supplemental power rate schedules analyzed in the model are: (1) Large General Service Schedule No. 8 at Primary Voltage and (2) General Service Schedule No. 9 at Transmission Voltage. In addition, there are several riders that must be applied to each scenario.

The model requires the user to input eleven fields, either manually or from a drop down list:

- Season (choice of either May through September or October through April);
- Customer’s peak demand;
- Customer’s load factor;
- Net capability of the on-site generator;
- Load Factor of the on-site generator;
- Start day of the week of the forced outage;
- Start hour of the day of the forced outage;
- Forced outage duration;
- Start day of the week of the maintenance outage;
- Start hour of the day of the maintenance outage; and
- Maintenance outage duration.

Based on these user-provided inputs, the model determines the amount of energy and power to be charged in four separate categories: Standby, Maintenance, Backup, and Supplemental.

The Standby charge is the charge associated with the capacity that RMP must have available in case of either a forced outage (unscheduled) or a maintenance outage (scheduled) of the on-site generator. In this model, charges incurred in this category consist of the monthly Customer charge, the monthly Facilities charge based on the demand of the on-site generator, and other applicable riders.

Maintenance charges are the charges associated with the capacity and energy that RMP must provide for the duration of a planned outage. The customer must notify RMP at least 18 months in advance of the planned maintenance, and may not exceed 30 days per year. The costs related to maintenance are based on the demand of the on-site generator, a daily on-peak Maintenance demand charge, a seasonal Maintenance energy charge and all other applicable riders.

Backup charges are the charges associated with demand and energy that RMP must provide during a forced or unplanned outage. Backup demand charges for a forced outage are greater than those of the Maintenance charges because of the unexpected nature of an unplanned outage. The costs related to forced outages are based on the demand of the on-site generator, a daily on-peak Backup demand charge, a seasonal energy charge that is applied to the lost generation output and other applicable riders. Backup energy is priced the same as Maintenance energy.

Supplemental charges cover the costs of electricity needed to fulfill the remainder of the customer load, i.e., the load less the on-site generation. Rates for supplemental usage are found in general Rate Schedules 8 and 9 with costs for demand, energy, plus all applicable riders. Also note that the on peak and off peak energy charges have been aggregated into a single charge. This is due to the fact that without load and generation profiles, the proper allocation of energy cannot be achieved.

The model has a tab for the two customer classes. On each tab, the charges for the four categories are shown in both detail and summarized. Each category has the charges broken into five rate components: customer, facilities, power, energy, and riders. These cost are then totaled, allowing for a per unit cost (\$/kWh) to be calculated for each category. The bottom left of each class tab has the grand total of all charges.

Instructions for Using the Model

1. On the inputs tab, fill in all of the orange boxes.
2. Make sure the file calculates. Press F9 to calculate, if necessary.
3. Tabs "Schedule 8" and "Schedule 9" model will now have calculated the costs for the various categories.
4. To evaluate various scenarios, alternative charges or rates will have to be inserted in the applicable "Rates and Riders" tab (Input Tab) which is discussed below.

Definition of Inputs

- **Season** – May through September or October through April
- **Peak Demand** – The maximum demand in kilowatts that is required to fulfill the customer's entire load.
- **Load Factor** – The ratio of average demand to peak demand over a period of time. For this model, that period of time is 730 hours. Can be calculated as the average monthly energy for the season divided by the peak demand times 730 hours.
- **Generator Net Capability** – The net capacity of the on-site generator in kilowatts. Generally, the nameplate capacity of the unit less any environmental adjustments.
- **Generator Load Factor** - The ratio of average generation to net capability over a period of time. For this model, that period of time is 730 hours. Can be calculated as the average monthly energy for the season divided by the net capability times 730 hours.
- **Forced Outage Start Day** – The day of the week in which the forced outage begins.
- **Forced Outage Start Hour** – The hour of the day in which the forced outage begins. Choose a number from 1 to 24. 1 corresponds to the hour ending at 1 AM.

- **Forced Outage Duration** – The number of hours in the month in which the generator will be offline due to an unexpected outage. The combined forced and maintenance outages must be less than 730 hours.
- **Maintenance Outage Start Day** – The day of the week in which the maintenance outage begins.
- **Maintenance Outage Start Hour** – The hour of the day in which the maintenance outage begins. Choose a number from 1 to 24. 1 corresponds to the hour ending at 1 AM.
- **Maintenance Hours** – The number of hours in the month in which the generator will be offline due to a planned outage. The combined forced and maintenance outages must be less than 730 hours.

Other Tabs

The model has the following three other tabs:

- **Rates and Riders:** Contains the back-up and maintenance on-peak days.
- **Schedule 9:** Contains charges for Schedules 31 & 9 and the applicable riders. Displays the calculated costs for Standby, Maintenance, Backup and Supplemental capacity and energy.
- **Schedule 8:** Contains charges for Schedules 31 & 8 and the applicable riders. Displays the calculated costs for Standby, Maintenance, Backup and Supplemental capacity and energy.
- **Outage Table:** Calculates the back-up and maintenance on-peak days.