

Indiana Michigan Power Company

For this analysis, we model potential outage scenarios for a customer operating his/her own generating equipment. We assume the customer's equipment has a rated capacity of 2 MW.¹ This customer takes service from Indiana Michigan Power Company at its Industrial Power tariff (Sheet No. 14.1). Through Indiana Michigan's Special Terms and Conditions provision, maintenance and backup power is provided at the rates contained in the Industrial Power rate schedule.² Indiana Michigan's Cogen/Small Power Producer tariff limits onsite generation to 100 kW or less, and its Net Metering Services rider limits generation to a capacity of 1,000 kW, therefore neither apply.

Summary

No Outage: \$10,030.20

Scheduled 16 Hours Off-peak: \$10,413.88

Scheduled 16 Hours On-peak: \$16,603.00

Scheduled 8 Hours On-peak, 8 Hours Off-peak: \$16,603.00

Scheduled 32 Hours On-peak: \$17,751.16

Unscheduled, 8 Hours On-peak, 8 Hours Off-peak: \$16,603.00

No Outage

In a month in which the customer takes no backup or maintenance service, he/she is responsible for a minimum monthly charge equal to the sum of the Monthly Service Charge, the product of the Minimum Demand Charge and the monthly billing demand, and all applicable riders.³ The determination of monthly billing demand is typically the highest 15-minute peak demand. However, because this customer would not set a peak demand in a "no outage" month, he or she would be subject to the minimum billing demand provision which states, "the monthly demand so established shall in no event be less than 60 percent of the greater of (a)

¹ This assumption simplifies the analysis so that demand and other charges measured in kVA will be assumed to apply to the kW rating of our hypothetical customer.

² "This tariff is also available to customers having other sources of energy supply but who desire to purchase standby or backup service from the Company. Where such conditions exist, the customer shall contract for the maximum amount of demand in kVA which the Company might be required to furnish, but not less than 1,000 kVA."

³ For the purposes of this analysis, we omit rider charges in order to form a more direct comparison of base charges across outage scenarios.

the customer's contract capacity or (b) the customer's highest previously established monthly billing demand during the past 11 months." For our purposes, we assume both the contract capacity and highest established billing demand to be 2,000 kW, thus the minimum billing demand would be 9,000 kW. In a month in which no energy is delivered, the customer is subject to the Minimum Demand Charge rather than the typical demand charge for primary service. The customer would face the following charges:

- Service Charge: \$171.00/month
- Minimum Demand Charge: $\$8.216/\text{kW} * 60\% * 2,000 \text{ kW} = \$9,859.20$

Total monthly charges would be **\$10,030.20**

Scheduled 16 Hours Off-peak

In this outage scenario, the customer schedules a maintenance outage lasting 16 hours during off-peak times. Indiana Michigan's on-peak period takes place from 7:00am-9:00pm, Monday through Friday. Therefore, this outage would have to take place over the course of two days. Billing demand is determined by peak usage recorded during on-peak periods. The tariff states, "Demand created during the off-peak hours shall be disregarded for billing purposes provided that the billing demand shall not be less than 60 percent of the maximum demand created during the billing month nor less than 60 percent of either (a) the contract capacity or (b) the customer's highest previously established billing demand during the past 11 months." An outage occurring only during off-peak periods would be subject to this minimum billing demand provision. Energy is charged at different rates based on the quantity of energy delivered per kVA of demand. Because the customer's 32,000 kWh falls within $410 * 2,000 \text{ kVA} = 820,000$ all of our customer's energy falls into the first energy block. The customer would face the following charges:

- Service Charge: \$171.00/month
- Demand Charge: $\$7.264/\text{kW} * .60 * 2,000 \text{ kW} = \$8,716.80$
- Energy Charge: $\$0.04769/\text{kWh} * 32,000 \text{ kWh} = \$1,526.08$

Total monthly charges would be **\$10,413.88**

This total is then compared to the minimum monthly charge reflecting billing demand multiplied by the minimum demand charge rate plus the service charge:

Minimum Charge: $1200 * 8.216 + \$171.000 = \$10,030.20$

Since the total monthly charges are greater than the minimum, the total of **\$10,413.88** would apply.

Scheduled 16 Hours On-peak

This scenario would take place over two days during on-peak hours. The only difference from the prior scenario is the billing demand, which would not be prorated.

- Service Charge: \$171.00/month
- Demand Charge: $\$7.264/\text{kW} * 2,000 \text{ kW} = \$14,528.00$
- Energy Charge: $\$0.04769/\text{kWh} * 32,000 \text{ kWh} = \$1,526.08$

Total monthly charges would be \$16,225.08.

This total is then compared to the minimum monthly charge reflecting billing demand multiplied by the minimum demand charge rate plus the service charge:

$$\text{Minimum Charge} = 2000 * 8.216 + \$171.000 = \$16,603.00$$

Since the total monthly charges are less than the minimum, the total of **\$16,603.00** would apply.

Scheduled 8 Hours On-peak, 8 Hours Off-peak

This scenario would take place over one day. The charges are identical to the scenario above.

- Service Charge: \$171.00/month
- Demand Charge: $\$7.264/\text{kW} * 2,000 \text{ kW} = \$14,528.00$
- Energy Charge: $\$0.04769/\text{kWh} * 32,000 \text{ kWh} = \$1,526.08$

Total monthly charges would be \$16,225.08.

This total is then compared to the minimum monthly charge reflecting billing demand multiplied by the minimum demand charge rate plus the service charge:

$$\text{Minimum Charge} = 2000 * 8.216 + \$171.000 = \$16,603.00$$

Since the total monthly charges are less than the minimum, the total of **\$16,603.00** would apply.

Scheduled 32 hours On-peak

In this scenario, the customer uses 480,000 kWh of energy.

- Service Charge: \$171.00/month
- Demand Charge: $\$7.264/\text{kW} * 2,000 \text{ kW} = \$14,528.00$
- Energy Charge: $\$0.04769/\text{kWh} * 64,000 \text{ kWh} = \$3,052.16$

Total monthly charges would be \$17,751.16

This total is then compared to the minimum monthly charge reflecting billing demand multiplied by the minimum demand charge rate plus the service charge:

$$\text{Minimum Charge} = 2000 * 8.216 + \$171.000 = \$16,603.00$$

Since the total monthly charges are greater than the minimum, the total of **\$17,751.16** would apply.

Unscheduled 8 Hours On-peak, 8 Hours Off-peak

This scenario would take place over one day. Under the Industrial Power tariff, there is no provision for scheduled vs. unscheduled outages.

- Service Charge: \$171.00/month
- Demand Charge: \$7.264/kW * 2,000 kW = \$14,528.00
- Energy Charge: \$0.04769/kWh * 240,000 kWh = \$1,526.08

Total monthly charges would be \$16,225.08.

This total is then compared to the minimum monthly charge reflecting billing demand multiplied by the minimum demand charge rate plus the service charge:

$$\text{Minimum Charge} = 2000 * 8.216 + \$171.000 = \$16,603.00$$

Since the total monthly charges are less than the minimum, the total of **\$16,603.00** would apply.