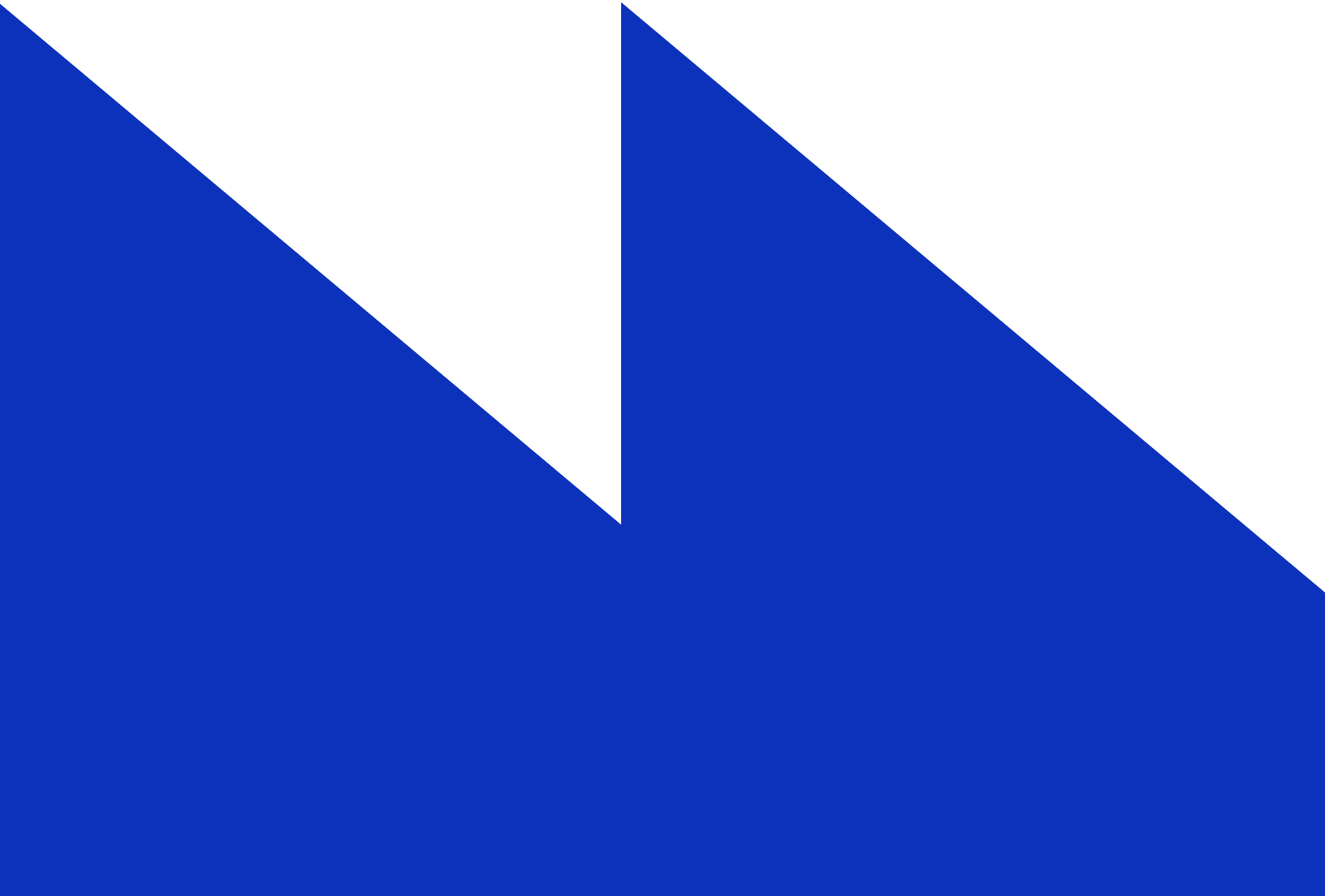


DR Leeway Option

Determining the power demand reduction for a peak demand event



This document explains how the power demand reduction for each peak demand event is determined. The power demand data recorded during these events is used to:

- Define the reference power curves
- Establish the reference power for the event
- Confirm the real power observed during the peak demand event
- Calculate the power demand reduction for the event

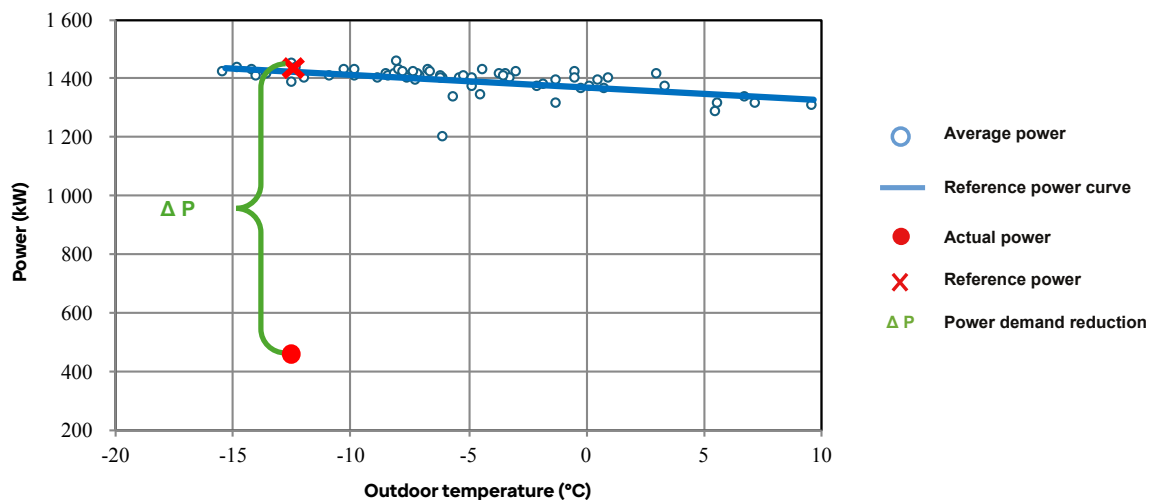


Figure 1: Reduction in power demand during a peak demand event

NOTE: Only data from the current winter period is used. The reference power for each peak demand event can be accurately determined only once the winter period has ended.

To explain how the credit for weekday peak demand events is calculated, additional information describes the method used to determine the effective interruptible power required for the calculation.

1. Defining the reference power curves

For each service contract, at least four¹ reference power curves are defined to account for:

- Type of day (weekday or weekend)
- Applicable peak hours (6 to 9 a.m. or 4 to 8 p.m.)

To establish each curve:

- The average power and average temperature are calculated for each day of the winter period.
- The reference power curve is determined using these values.

Hydro-Québec may establish more than four reference power curves "to better reflect the customer's normal consumption profile."² This improves the accuracy of the reference power for atypical profiles, reducing the risk of overestimating or underestimating the reduction in power demand and ensuring a fairer credit. Hydro-Québec also uses statistical indicators to identify service contracts that require optimization.

Once established, the reference power curves are used to determine, for each peak demand event, the power demand that would have been expected during under the observed conditions.

¹ When the service contract is not enrolled in the WE (weekend) sub-option, at least two reference power curves are established, one for each applicable weekday reference period.

² Excerpt from the definition of weekend reference power or weekday reference power in the *Electricity Rates*.

1.1. Calculating average power demand and average temperature

The average power demand associated with a reference period is calculated using the average hourly energy consumption recorded by communicating meters during the reference period. Similarly, the average temperature is calculated using the outdoor temperatures recorded during the time ranges in question at the weather station nearest the delivery point. Each average power demand value is paired with the average temperature calculated for the same reference period.

For example, Figure 2 shows that two pairs of values are obtained for December 1: one for the period from 6 to 9 a.m. and another for the period from 4 to 8 p.m.

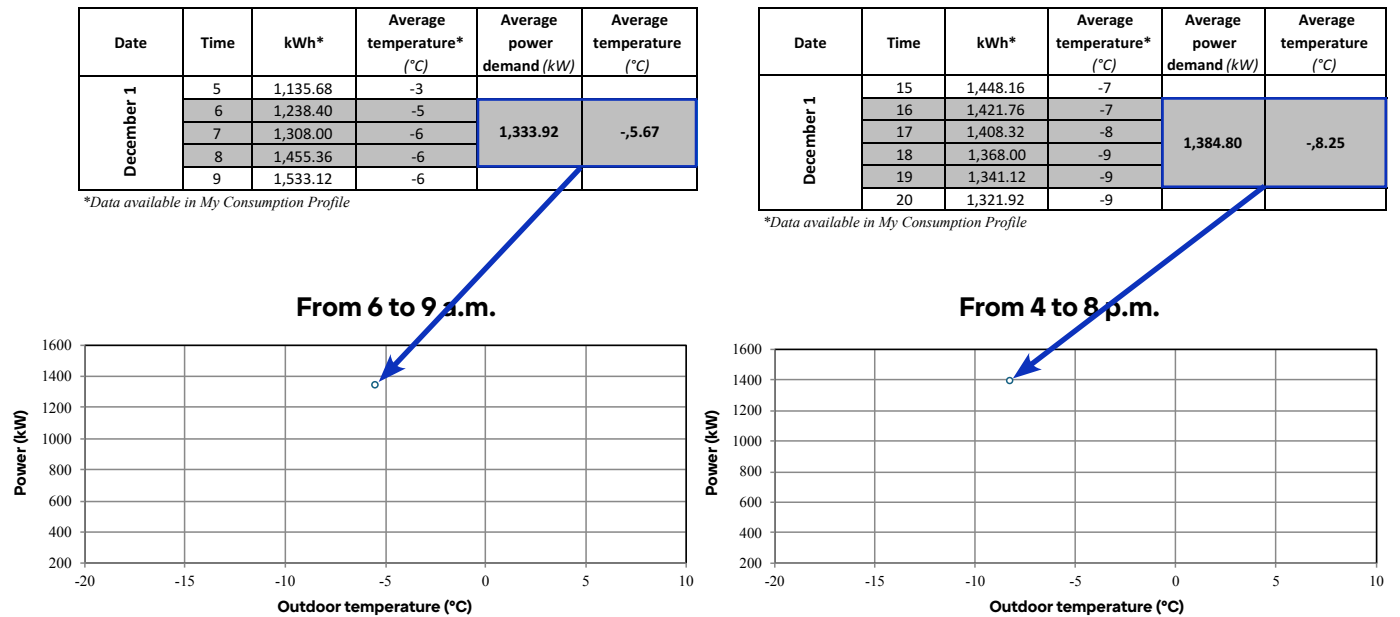


Figure 2: Average power demand associated with the average outdoor temperature

These calculations are made for every day of the winter period.³ However, days when the average temperature exceeds 10°C are excluded when defining the reference power curves. The results are then grouped by type of day (weekday or weekend) and by the corresponding reference period (6 to 9 a.m. or 4 to 8 p.m.). Figure 3 provides an example of the average power demand values calculated for the winter period.

³ Excluding December 24, 25, 26 and 31, January 1 and 2, and Good Friday and Easter Monday when they fall within the winter period.

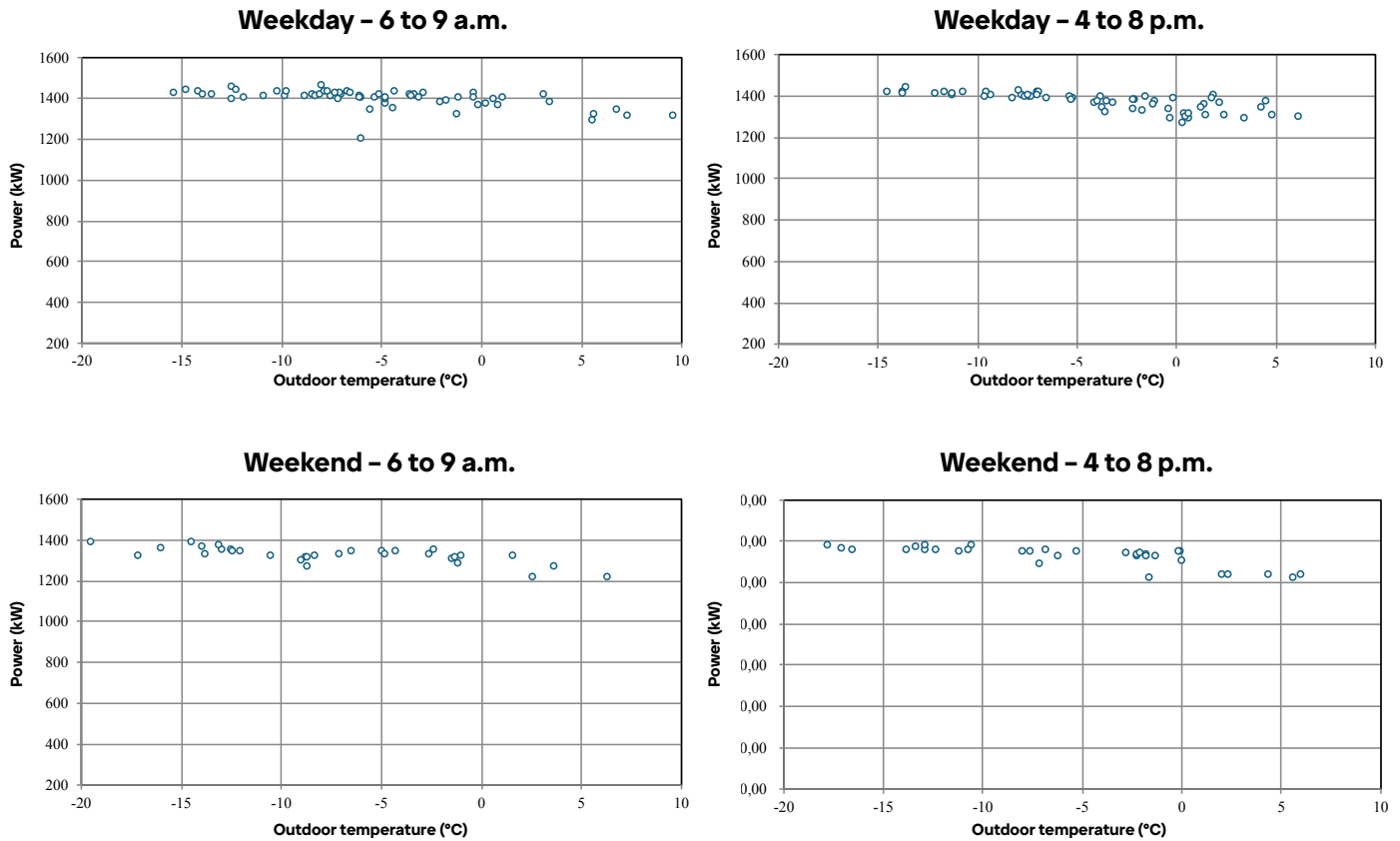


Figure 3: Average power values for the winter period

If the service contract is not enrolled in the WE sub-option, weekend data is excluded from the calculations. Only weekday data is used to define the applicable reference power curves.

Did you know you can download your hourly energy consumption history (kwh) and the average hourly outdoor temperature for each billing period from [Your Consumption Profile](#) (see figure 4).

Historique

Période du 16 novembre au 15 décembre 2025

Type de données

☐ Énergie et puissance par jour

☒ Énergie par heure

☐ Puissance par 15 minutes

[↓ Télécharger \(CSV\)](#)

Figure 4: Excerpt from the *Your Consumption Profile* page.

1.2. Establishing the reference power curve

Each reference power curve represents the linear regression relationship between the average power values and the corresponding average temperatures.⁴ This linear relationship shows how the outdoor temperature affects demand and is used to estimate the reference power for each peak demand event.

Figure 5 provides an example of a reference power curve obtained through linear regression.

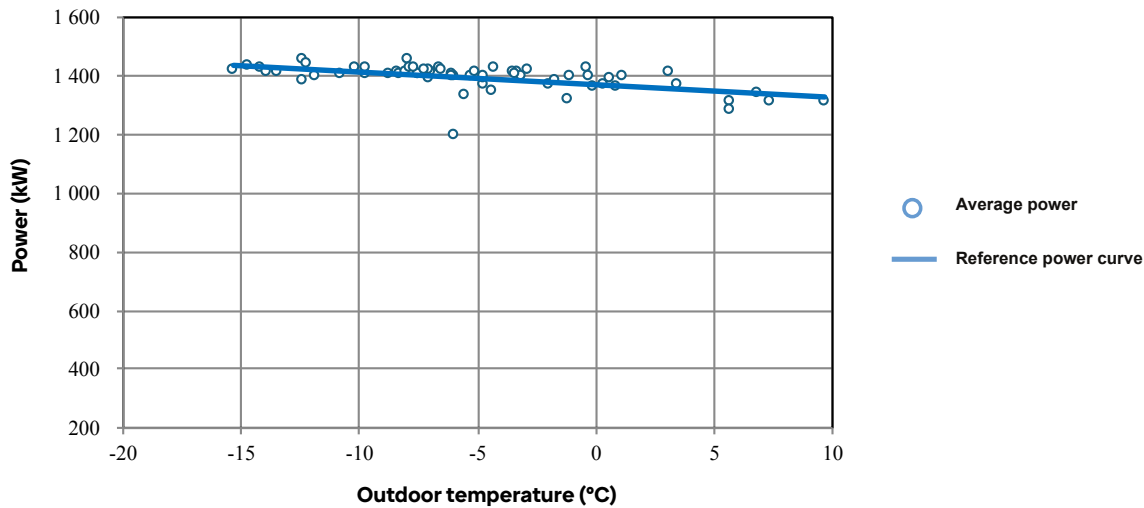


Figure 5: Reference power curve obtained through linear regression using all average power values

As explained in the previous section, at least two reference power curves are defined for a service contract that is not enrolled in the WE sub-option and at least four are established for one that is. Additional curves may also be established to better reflect the customer’s normal consumption profile.

The following section explains how the appropriate curve is used to determine the reference power for a specific peak demand event.

⁴ Peak demand event days are excluded.

2. Determining the reference power for a peak demand event

The reference curve used for a peak demand event corresponds to the same type of day (weekday or weekend) and same reference period (6 to 9 a.m. or 4 to 8 p.m.). The reference power⁵ is then determined based on the average outdoor temperature recorded during the peak demand event.

In Figure 6, it is represented by the point marked with a red X.

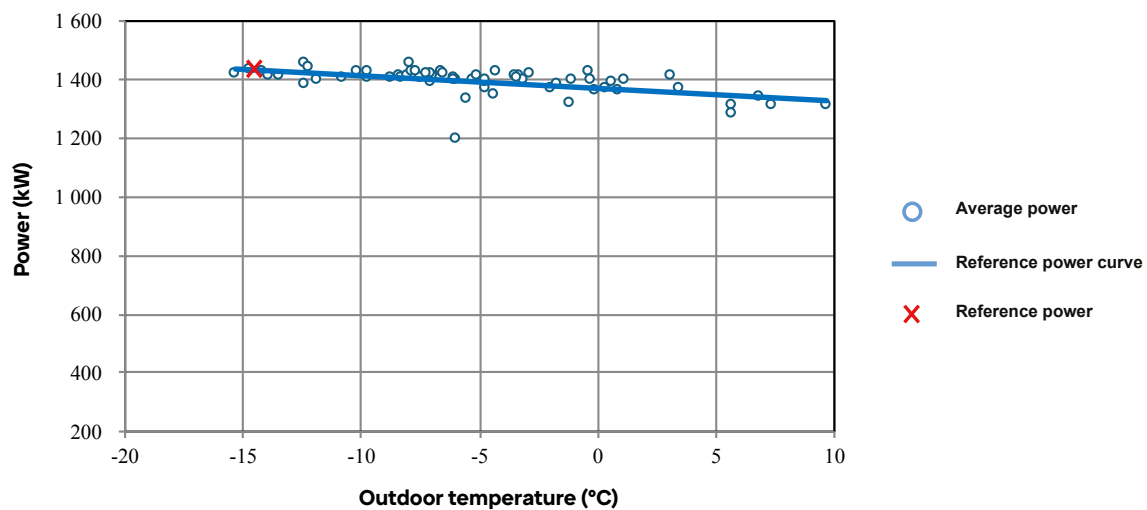


Figure 6: Reference power for a peak demand event

The reference power is the benchmark against which the actual power reduction achieved during the peak demand event is measured.

⁵ Reference power will be determined for each peak demand event.

3. Determining the actual power demand during a peak demand event

The actual power demand during a peak demand event is calculated based on the average hourly energy consumption recorded by communicating meters throughout the event. In Figure 7, the red circle represents the actual power demand.

Date	Time	kWh*	Average temperature* (°C)	Average power (kW)	Average temperature (°C)
January 29	5	1,225.92	-13		
	6	,393.60	-14	,462.24	-,14.00
	7	,464.64	-14		
	8	,528.48	-14		
	9	1,395.84	-13		

*Data available in My Consumption Profile

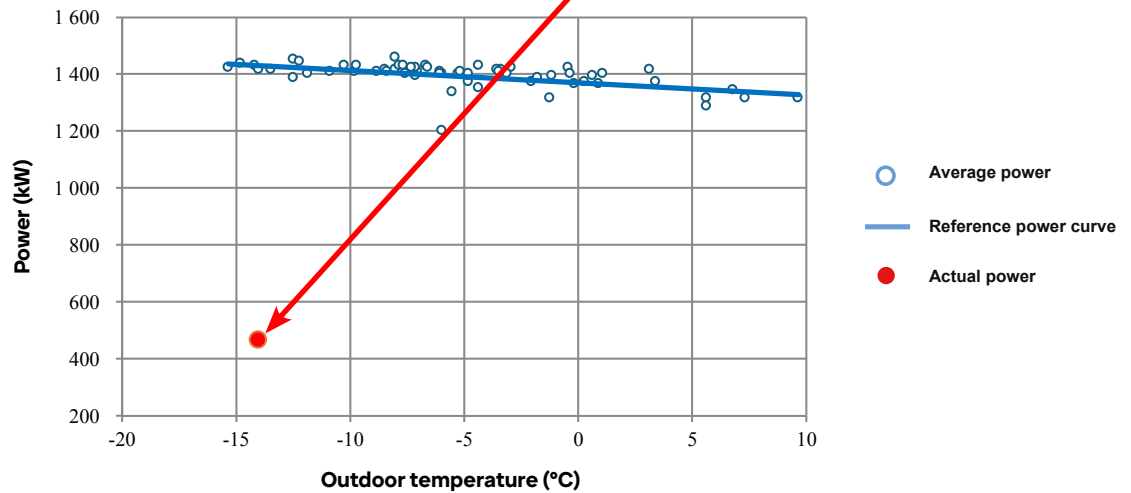


Figure 7: Actual power during a peak demand event

The power demand reduction during the peak demand event can then be calculated by comparing the reference power and actual power.

⁶ The same method is used for each peak demand event.

4. Calculating the reduction in power demand for a peak demand event

The power demand reduction for a peak demand event is calculated by subtracting the actual power from the reference power for the event. This value, which is always greater than or equal to zero, is determined for each peak demand event. In Figure 8, the symbol ΔP represents the power demand reduction.

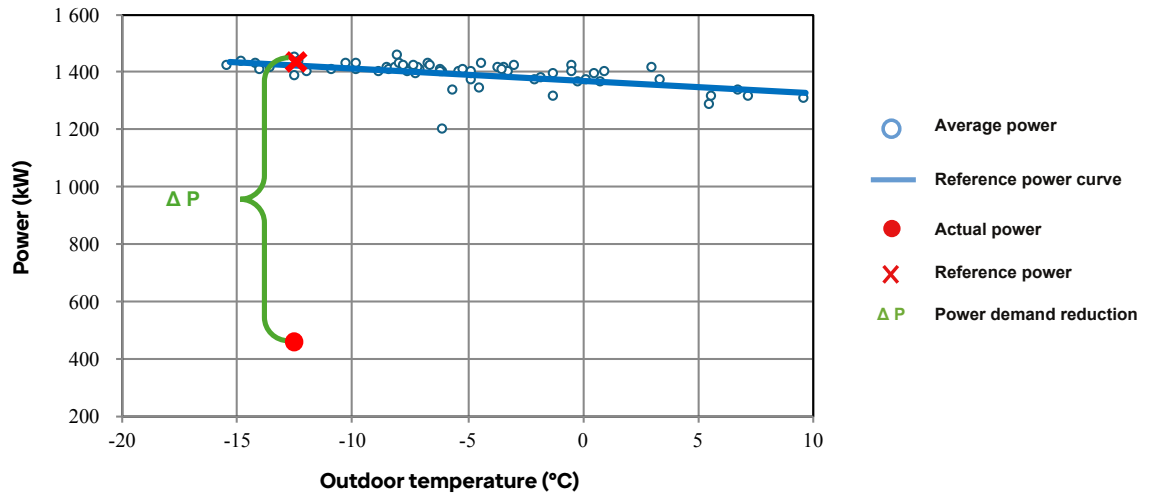


Figure 8: Power demand reduction for a peak demand event

The power demand reduction calculated for each event helps determine the applicable credit. For service contracts enrolled in the WE sub-option, this value is used directly to determine the credit for a weekend peak demand event based on the duration of the reduction. For weekday peak demand events, an additional step is required: calculating the effective weekday interruptible power, as described in the following section.

Additional information – Calculating the effective weekday interruptible power

The effective weekday interruptible power is calculated by averaging the power demand reductions achieved across all weekday events during the winter period. This value is required to determine the credit applicable to weekday peak demand events.

Table 1 provides an example of the data used to calculate the effective weekday interruptible power.

Date	Peak demand event period	Reference power (kW)	Actual power (kW)	Power demand reduction (kW)	Effective weekday interruptible power (kW)
December 3	4 to 8 p.m.	1,350.3	488.0	862.3	957.8
December 5	6 to 9 a.m.	1,431.3	452.8	978.5	
December 8	6 to 9 a.m.	1,445.0	494.5	950.5	
December 9	6 to 9 a.m.	1,436.9	470.5	966.4	
December 15	6 to 9 a.m.	1,429.4	464.6	964.8	
December 15	4 to 8 p.m.	1,394.8	462.4	932.4	
January 26	6 to 9 a.m.	1,432.0	463.6	968.4	
January 27	6 to 9 a.m.	1,449.0	441.2	1,007.8	
January 28	6 to 9 a.m.	1,444.4	460.3	984.1	
January 29	6 to 9 a.m.	1,430.2	462.2	968.0	
January 30	6 to 9 a.m.	1,460.8	460.0	1,000.8	
February 2	6 to 9 a.m.	1,440.2	532.4	907.8	
February 3	6 to 9 a.m.	1,422.5	446.5	976.0	
February 6	6 to 9 a.m.	1,434.8	450.8	984.0	
February 9	6 to 9 a.m.	1,452.0	460.4	991.6	
February 10	6 to 9 a.m.	1,417.2	487.0	930.2	
February 25	6 to 9 a.m.	1,409.0	441.7	967.3	
March 2	6 to 9 a.m.	1,443.5	455.2	988.3	
March 18	6 to 9 a.m.	1,416.4	545.7	870.7	

Table 1: Calculating the effective weekday interruptible power

Summary of key points

In summary, the key elements of the calculation method presented in this document are as follows:

- The power demand reduction is determined for each peak demand event by comparing the reference power with the actual power demand.
- The reference power is determined using reference power curves established for each service contract.
- These curves account for the type of day (weekday or weekend) and applicable reference period (6 to 9 a.m. or 4 to 8 p.m.).
- The actual power corresponds to the average hourly energy consumption recorded during the peak demand event.
- The calculated power demand reduction is the basis used to determine the applicable credit.
- For weekday peak demand events, the effective weekday interruptible power is calculated by averaging the power demand reductions observed over the entire winter period.

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