Electricity Index Methodology Guide

ICE NGX Canada Inc.

1 December 2025

ICE NGX Electricity Index Methodology Guide

1. Introduction

This document sets out the methodology for the ICE NGX Electricity Indices.

1.1. Definitions and Interpretation

The following words and phrases when used in this Methodology Guide have the meaning set out below.

"business day" means a day that is not a weekend or a statutory holiday in Alberta;

"CPA" means the ICE NGX Contracting Party Agreement, which functions as the rulebook for ICE NGX's exchange and clearinghouse operations, the current version of which is available on the Regulation page of the ICE NGX website (**www.ice.com/ngx/regulation**);

"ICE NGX Clearing System" has the meaning given to it in the CPA;

"ICE NGX Trading System" has the meaning given to it in the CPA;

"Index Period" has the meaning set out in section 2 of this document;

"Subscriber" means anyone who has access to the Price Indices;

"Third Party Information" means information of third parties that is licensed to ICE NGX for the development of the Indices;

"Transaction" means a Financially Settled Power Futures Transaction as defined in the CPA;

"weekend/holiday day" means a day that is a weekend or a holiday for trading purposes on the ICE NGX exchange, as set out on ICE NGX's website (**www.ice.com/ngx**) and/or by notice published by ICE NGX;

1.2. Intellectual Property Rights

ICE NGX owns the right, title and interest in and to the following Electricity Indices.

ICE NGX Alberta Flat Electricity RRO Index
ICE NGX Alberta Extended Peak Electricity RRO Index

ICE NGX Alberta Super Peak Electricity RRO Index

Third Party Information is provided as part of and in connection with the ICE NGX Indices and can be used by a Subscriber solely in relation to the Subscriber's subscription to the Indices and for no other independent purpose and, without prejudice to the generality of this statement, the Subscriber is prohibited from redistributing the Third Party Information and any information derived there from independently and separately from the Indices.

2. Methodologies

2.1. Overview

ICE NGX generates three near-month Alberta Electricity RRO Indices based on "on-screen" market activity that occurs during the ICE NGX regular trading day.

- ICE NGX Alberta Flat Electricity RRO Index
- ICE NGX Alberta Extended Peak Electricity RRO Index
- ICE NGX Alberta Super Peak Electricity RRO Index

The methodology for the ICE NGX Alberta Electricity RRO Indices is unique in that it incorporates Transactions as well as bid/offer spreads in the relevant Index source products in the determination of the Indices. The ICE NGX Alberta Electricity RRO Indices were created to ensure a fair representative index price is available, even on a market day when there are no relevant Transactions.

2.1.1. Index Data Source

The ICE NGX Alberta Electricity RRO Indices incorporate Transactions and bid/offer spreads in the determination of the Indices. All implied spread Transactions and implied spread bids or offers in the underlying Product will be included in the calculation of the ICE NGX Alberta Electricity RRO Indices. However, all spread legs generated by the ICE NGX Trading System as a result of time spread Transactions in the underlying Product will not be included in the calculation of the relevant ICE NGX Alberta Electricity RRO Index.

2.1.2. Index Period

See the description under Monthly Index Interval below.

2.1.3. Index Hours

All Transactions executed during ICE NGX market hours during the Index Period, and all bid/offer spreads during ICE NGX market hours during the Index Period are included in the Indices.

2.1.4. Statutory and Other Holidays

The Index source Products for the ICE NGX Alberta Electricity RRO Indices are not offered for trading on weekend/holiday days. Accordingly, there is no change to the methodology to reflect weekend/holiday days.

2.1.5. Reference Unit

The Alberta Electricity RRO Indices are expressed in CAD/MWh.

2.2. Methodology

2.2.1. Combined Index Generation

The Daily Combined Index Price is made up of a time weighted average of qualifying spreads and a weighted average of Transactions, which occur on a specific trading day. Each trading day, a daily post price and daily post volume are calculated to a time weighted average and then combined with the weighted average of ICE NGX Transactions for that day. This result is a weighted average Daily Combined Index Price for that day.

2.2.2. Qualifying Trades

All Transactions in the Index source Products executed during an ICE NGX Trading Day are used in the calculation of the Trade Data weighted average.

2.2.3. Qualifying Spreads

Only spreads made up of the best bid and best offer and that meet the predetermined criteria will be included when calculating the daily post price and daily post volume. These qualifying spreads must meet the requirements set out in Table 1.0.

Table 1.0 - Qualifying Spread Requirements

Spread Requirement	Baseload (FLAT)	Extended Peak	Super Peak
Minimum bid/offer Volume	5 MWh	5 MWh	5 MWh
Max Spread Post Volume per Day	25 MWh	25 MWh	25 MWh

Max Spread	$2.00/MWh	$5.00/MWh	$10.00/MWh
Min Minutes per Day	60 Minutes	60 Minutes	60 Minutes
Weighted Average Time	Fraction of hours	Fraction of hours	Fraction of hours
Weighted Average Volume	Lesser of bid/offer	Lesser of bid/offer	Lesser of bid/offer
No Qualifying Spreads	Use Volume of 0 for the day	Use Volume of 0 for the day	Use Volume of 0 for the day

To determine the daily post price, only bid/offer spreads with a minimum volume of 5 MWh will be used. The bid/offer spread must be equal to or less than $2.00/MWh, $5.00/MWh or $10.00/MWh in the underlying Baseload, Extended Peak and Super Peak products, respectively, for the spread to qualify. Finally, all the qualifying spreads in the day must have a total duration of 60 minutes for the time weighted average post price to be eligible for inclusion into the Index; otherwise a volume of 0 will be used. If there are qualifying spreads in the day in excess of 25 MWh, a maximum of 25 MWh will be used when calculating the weighted average index price.

2.2.4. Calculating the Daily Post Price Using Spreads:

The daily post price is calculated using a time weighted average as follows:

$$\text{Spread duration in Hours} = \frac{\text{End Time} - \text{Start Time (sec)}}{60 \text{ min/hr} * 60 \text{ sec/min}}$$

$$\text{Post volume} = \text{Spread duration in Hours (see above)} * \text{Min (bid volume, offer volume)}$$

$$\text{Post price} = \text{Midpoint of the bid/offer spread}$$

$$\text{Time weighted average daily index} = \frac{\text{SUM (Post volume} * \text{Post price)}}{\text{SUM (Post Volume)}}$$

See Appendix I for an illustrative example of calculating a spread daily post price.

2.2.5. Calculating the Daily Traded Price Using Trades:

The daily traded price is a weighted average of trades, calculated as follows:

$$\textit{Weighted average} = \frac{\textit{SUM (Traded volume * Traded price)}}{\textit{SUM (Traded Volume)}}$$

2.2.6. Calculating the Daily Combined Index Price Using Spreads and Trades:

If both trades and qualifying spreads occur on a given day, the daily combined index price becomes a weighted average of the traded price weighted average and the spread time weighted average as follows:

$$\textit{Daily Price} = \frac{\textit{(Spread Post Price * Spread Post Volume) + (Traded Volume * Traded Price)}}{\textit{Spread Post Volume + Trade Volume}}$$

2.2.7. Example of Calculating a Daily Combined Index Price:

Given the following spread and trade data, the daily index is calculated as a weighted average.

Spread Post Price: $68.25

Spread Post Volume: 13.83 MWh

Trade Post Price: $67.75

Trade Volume: 100 MWh

Daily Price: $\frac{(\$68.25 * 13.83 \text{ MWh}) + (\$67.75 * 100 \text{ MWh})}{100 \text{ MWh} + 13.83 \text{ MWh}} = \$67.81$

Daily Volume: 100 MWh + 13.83 MWh = 113.83 MWh

2.2.8. Monthly Index

A weighted average of all Daily Combined Index prices in the interval is then used to calculate the monthly index. Therefore, the monthly index can be made up of a combination of qualifying bid/offer spreads and on-screen trades.

2.2.9. Monthly Index Interval

There will be two monthly indices calculated using two different methodologies:

The 45 day monthly index will be established using market activity (trades and spreads) starting on the 45th calendar day prior to each month, and ending on the 6th trading day prior to each month for which the index is being set.

For example, the Aug 2006 monthly index will be set based on the weighted average of the posted spreads and traded prices starting on June 17th, 2006 and ending on July 21st, 2006, inclusively.

The 120 day monthly index will be established using market activity (trades and spreads) starting on the 120th calendar day prior to each month, and ending on the 6th trading day prior to each month for which the index is being set.

For example, the Dec 2013 monthly index will be set based on the weighted average of the posted spreads and traded prices starting on August 3rd, 2013 and ending on November 20, 2013, inclusively.

2.2.10. Monthly index calculation

The monthly index is calculated using a weighted average as follows:

$$\text{Weighted average monthly index} = \frac{\text{SUM (Daily Index Volume * Daily Index Price)}}{\text{SUM (Daily Index Volume)}}$$

2.2.11. Monthly Index Generation Days

The monthly index will not be generated on Saturday, Sunday, NERC Holidays or statutory holidays in the Province of Alberta. It will be generated every business day, Monday to Friday unless a NERC Holiday or statutory holiday in the Province of Alberta falls on an index generation day.

3. Criteria and Procedures for Determination

3.1. Relative Importance assigned to Criteria used in Determination

The ICE NGX Electricity Indices are calculated based on Transactions and bid/offer spreads in the Index source Products. Each trade is given the same importance, subject to the weighted average calculation.

3.2. Input Data

The ICE NGX Electricity Indices are calculated based on Transactions and bid/offer spreads in the Index source Products. The input data for the Indices is transaction data from relevant Trades and market activity in the Index source Products.

3.2.1. Input Data Source

After a trade is matched in the ICE NGX Trading System, a trade file containing the transaction data is automatically generated in near real time and is sent to ICE NGX for consumption by the ICE NGX Clearing System.

Bid/offer information in the Index source Products is entered by participants of the ICE NGX exchange directly into the ICE NGX Trading System

3.2.2. How Input Data is Used

The ICE NGX Clearing System consumes the transaction data and the bid/off information and calculates the Indices.

3.2.3. If Input Data is not Satisfactory or Sufficient

In the event no Transactions are executed in the Index source Products, the Indices are calculated based on bid/off spreads in the Index source Products

3.3. Inclusion of Transaction Data

The input data for the ICE NGX Electricity Index is transaction data from all relevant Transactions as well as bid/offer spreads in the Index source Products.

3.3.1. Minimum Quantity of Transaction Data

Because the ICE NGX Electricity Indices are calculated based on Transactions and bid/offer spreads in the Index source Products, there is no minimum quantity of Transaction Data.

3.3.2. Exclusion of Trades in Error

The CPA sets out ICE NGX's trade in error policy and procedures.

The CPA defines the method by which ICE NGX determines if a Trade in Error has occurred in a Transaction and outlines the consequences and notification process for such an event.

If ICE NGX determines that a trade in error has occurred on the ICE Trading System as outlined in the CPA, the trade in error will be cancelled in accordance with ICE NGX's policies and procedures. Once cancelled, the trade in error is no longer included in the source data files discussed above and therefore is not included in the calculation of the Indices.

3.3.3. Exclusion of Transaction Data

ICE NGX will have the right to exclude any data from inclusion in the source data, which appears to be irregular to the then prevailing market prices, during the period of investigation of any such Transaction. All such market data will be included in the source data on satisfactory resolution of such investigation, provided that ICE NGX resolves the investigation prior to the opening of the ICE Trading System on the next Trading Day.

ICE NGX may, in its sole discretion, exclude input data including in the following circumstances.

- ICE NGX is aware or reasonably believes there are or may be errors, mis-statements or omissions in the input data

- ICE NGX reasonably believes that including the input data in the Index would be a violation of, or improper in the context of, ICE NGX's regulatory obligations as administrator of the Index

-

3.3.4. Identification and Correction of Errors

Any errors discovered in an ICE NGX Electricity Index on or prior to the date that is 30 days following the determination of the Index will be corrected by ICE NGX. ICE NGX will post a notice to inform users of any correction to the affected Index.

If an error is discovered after the 30-day deadline, the Index will not be corrected and will remain as published.

3.3.5.

3.4. Calculation of Averages

3.4.1. Volume Weighted Average

See above.

3.5. Assumptions

Because the ICE NGX Electricity Indices are calculated according to the respective methodology set out in this document and based on transaction data from all relevant trades executed in the ICE NGX Trading System, no assumptions are made and no extrapolation or interpolation of the Index Data is made.

3.6. Expert Judgment

Because the ICE NGX Electricity Indices are calculated according to the respective methodology set out in this document and based on Transactions and bid/offer spreads in the Index source Products, there is no exercise of expert judgment in normal course determinations of the Electricity Indices.

4. Limitation of Liability, Complaints

4.1. ICE NGX Trading System Availability

4.1.1. Individual Users

During the operation of the ICE NGX Trading System, a system that connects several hundred remote users, it is possible that certain individual users may experience connectivity problems from time to time. A loss of accessibility to the ICE NGX Trading System, however, will not prevent individuals from consummating trades for inclusion in the Indices. In the event that an individual user or an individual group of users cannot access the ICE NGX Trading System to submit orders, ICE NGX is prepared to accept orders via telephone instructions. These orders will be posted by order entry agents internally at ICE NGX based on the instructions provided by the user. Any Transactions that occur which include these orders will also be included in the source data file used to generate the Indices as if the users entered the orders in the normal manner.

4.1.2. Aggregate User Base

The ICE NGX Trading System may experience technological problems that require the temporary halting of trading capability or a temporary shut-down of the ICE NGX Trading System. Both of these situations will make it impossible to continue to build the source data file for the indices in the usual manner as described in this document. While these periods of ICE NGX Trading System downtime have traditionally been infrequent and traditionally quite brief, ICE NGX has developed procedures to ensure that the impact of system outages are not detrimental to the generation of the Indices. These procedures will allow ICE NGX to provide order entry, trading and clearing services manually via telephone instructions and confirmations during any system outages. Trades consummated on the ICE NGX Trading System or via telephone orders during these system outages will be included in the resulting source data file used to generate the Indices. The Transactions will then be entered into the ICE NGX Trading System once it is again available and all problems have been resolved. Any Transactions that were consummated manually during the outage, and therefore included in the source data file, will be published by ICE NGX to ensure transparency.

4.1.3. ICE NGX Systems

The ICE NGX systems may experience technological problems that require the temporary halting of data collection or calculation capability. This situation may prevent ICE NGX from determining the Indices in the usual manner as described in this document.

4.2. Not Fair Market Value

ICE NGX does not make any representation to any person that the Indices derived from market activity on the ICE NGX Trading System represents fair market value or is indicative of fair market value.

4.3. Trading Irregularities

As a regulated exchange, ICE NGX is required to, among other things, monitor trading activity on the exchange platform and to have an effective program of market surveillance to identify, investigate and, where appropriate, sanction disorderly trading and fraudulent or manipulative conduct and market abuses.

Each of the Indices covered under this Methodology Guide is based on transactions executed pursuant to the rules of exchange, i.e., the ICE NGX Contracting Party Agreement ("CPA"). The CPA prohibits participants from engaging in irregular trading activity, whether alone or in association with others, including activity that may comprise manipulative activity or activity aimed at manipulation of prices.

4.4. Limitation of Liability

Neither ICE NGX nor its agents, directors, officers and employees shall be liable to any person for any losses, costs or expenses arising from any matter relating to the calculation, methodology of calculation, compilation, or publication of any Index administered by ICE NGX and used for any purpose including the settlement of any transaction. ICE NGX does not make any express or implied warranties in respect of the results which may be achieved through the use of any Index or in respect of the value of any of Index at any given time, nor that any settlement prices established are at a fair, proper or correct amount. Neither ICE NGX nor its agents, directors, officers and employees shall, under any circumstances, be liable for errors or deficiencies in the calculation, methodology of calculation or publication of any Index nor shall ICE NGX be obligated to provide notice of, or publish, errors in any Index in any manner.

ICE NGX does not make any express or implied warranties in respect to the results which may be achieved through the use of any Index or in respect of the values of any of Index at any given time, nor that any settlement prices so established are at a fair, proper or correct amount.

4.5. Complaint Procedures

Any concerns or complaints regarding ICE NGX Indices can be directed to **TO-ICENGX@ice.com** or **Legal-ICENGX@ice.com**.

5. Governance and Review of Methodology

5.1. Internal Review

This Methodology Guide is reviewed at least annually. This review is designed to ensure that each Index determined under this Methodology Guide accurately and reliably represents the value of the underlying interest of the Index for part of the market the Index is intended to represent.

5.2. Changes to Methodology

ICE NGX may make non-significant changes to this Methodology Guide in such manner and with such notice to any person as it may determine in its sole discretion.

For information relating to significant changes, see the ICE NGX Consultation Policy, available on the ICE NGX website at **www.ice.com/ngx/index**.

5.3. Approval of Changes to Methodology

A change to this Methodology must be approved by the ICE NGX President.

5.4. Revision History

Version	Date	Summary of Changes
1.0	December 1, 2025	New document

Appendix 1 - Illustrative Examples

1. Example of Calculating a Daily Spread Post Price *(Baseload Power Market)*

Date	Month	Start Time	End Time	Spread Duration	Bid Volume	Offer Volume	Best Bid Price	Best Offer Price	Spread	Post Volume	Post Price	Daily Index
Day 1	June 2006	8:45:00	10:50:00	2.08*	25	25	67.50	69.00	1.50	52.08**	68.25***	25 MWh @ $68.25*****
Day 2	June 2006	10:44:00	11:44:00	1.00	5	10	67.00	68.50	1.50	5.00*	67.75	10.83 MWh @ $67.08***
Day 2	June 2006	14:50:00	16:00:00	1.17	5	5	65.50	67.50	2.00	5.83*	66.50	
Day 3	June 2006	11:35:30	11:45:45	0.17	5*	15	66.00	67.00	1.00	0.85	66.50	12.65 MWh @ $66.50**
Day 3	June 2006	11:45:45	12:56:45	1.18	10*	15	66.00	67.00	1.00	11.80	66.50	
Day 4	June 2006	9:06:30	9:10:30	0.067*	10	15	66.10	66.45	0.35	0.67	66.275	0 Volume used to calculate the daily index
Day 4	June 2006	10:15:45	10:37:00	0.35*	15	10	66.25	66.50	0.25	3.54	66.375	
Day 4	June 2006	11:02:10	11:21:20	0.32*	15	5	66.35	66.65	0.30	1.60	66.50	
Day 4	June 2006	11:34:10	11:56:40	0.38	5	10	65.00	67.15	2.15**			

Day 1:

* Spread Duration = 2 hrs and 5 minutes duration = 125 minutes/60 minutes/hour = 2.08333

** Post Volume = Min (bid volume, offer volume) * Spread Duration = 25 MW * 2.08333 = 52.08

*** Post Price = Midpoint (bid price, offer price) = $68.25

**** The post volume for the day is 52.08, which is greater than the maximum allowed, 25 MWh.

Therefore, use the maximum of 25 MWh for post volume.

Day 2:

The Day 2 post price volume is the sum of the volumes of the qualifying spreads as follows:

Spread Duration = 1.00 hr + 1.17 hr = 2.17 hr

* Post Volume = 5.00 MWh + 5.83 MWh = 10.83 MWh

** Daily Index post price is the weighted average of the Post Volume and Post Price = [(5.00 MWh * $67.75) + (5.83 MWh * $66.50)] / 10.83 MWh = $67.08

*** Since the post volume is less than 25 MWh, the index will use the actual value, 10.83 MWh.

Day 3:

* The spread volume has changed, however the price has not changed. Each volume is counted as a separate spread.

** Daily Index is the weighted average of the Post Volume and Post Price = [(0.85 MWh * $66.50) + (11.80 MWh * $66.50)] / (0.85 MWh + 11.80 MWh) = $66.50

Day 4:

* Spread Duration = 0.067 hr + 0.35 hr + 0.30 hr = 0.717 hr, which is less than the required 1 hour, so the Daily post volume will be 0.00 MWh.

**This spread is greater than $2.00 and thus does not qualify. Only spreads less than or equal to $2.00/MWh for Baseload, less than or equal to $5.00/MWh for Extended Peak and less than or equal to $10.00/MWh for Super Peak contracts will be included as a qualifying spread.