

Industrial Conservation Initiative

Class A Methodology for Billing the Global Adjustment

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Section 1: Global Adjustment

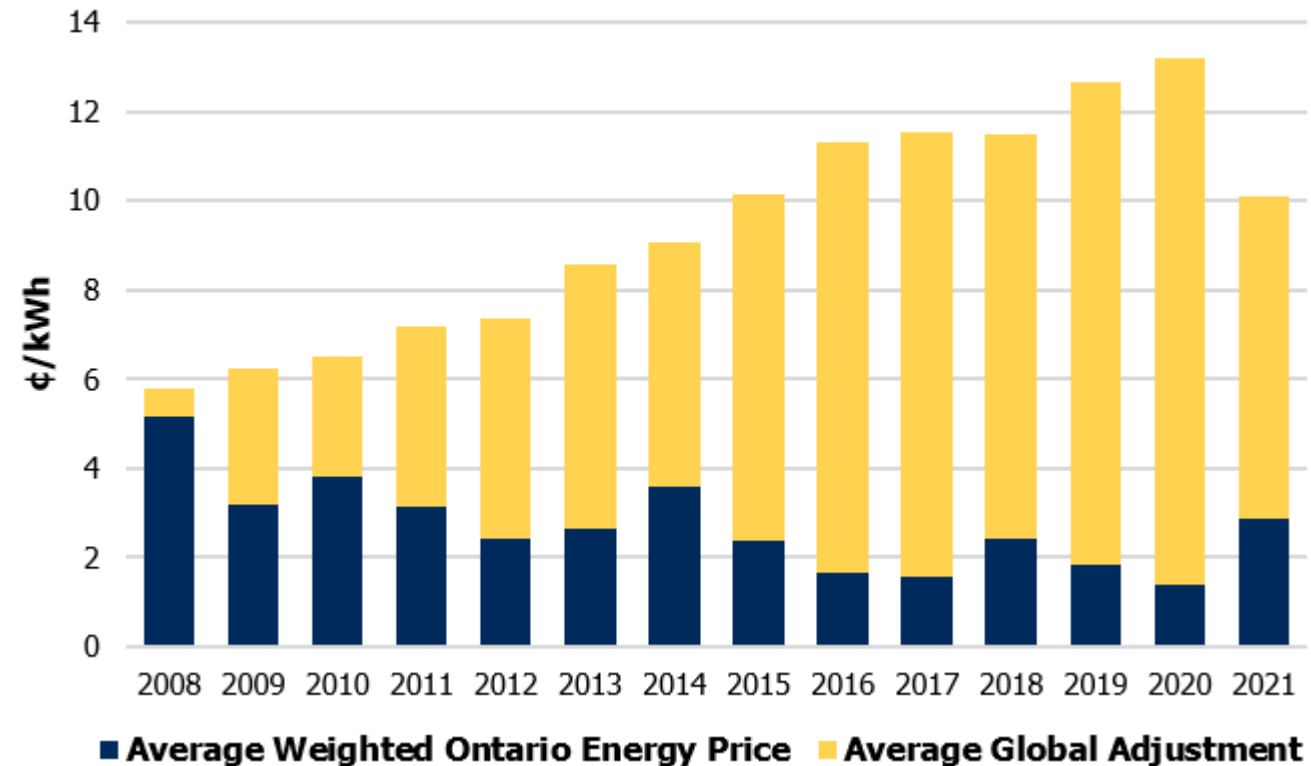
What is Global Adjustment?

- The Global Adjustment is designed to reflect the difference between the Hourly Ontario Energy Price (HOEP) for electricity and the guaranteed rates paid for regulated and contracted generation
- This includes the cost to deliver conservation and demand management programs
- All electricity consumers have to pay a share of the Global Adjustment either bundled within the regulated price plan or as a separate line item on the bill

What is Global Adjustment?

- Global Adjustment varies from month to month, responding to changes in the HOEP compared to contract prices
 - GA and HOEP have an inverse relationship
- GA can also increase as new generation projects come into service, contract payments take effect, or as a result of a high demand for electricity

Average HOEP plus Average GA



Reference: [Global Adjustment \(GA\) \(ieso.ca\)](https://www.ieso.ca)

What is Global Adjustment?

- Components of Total GA Cost:

The three values below represent the main components of global adjustment used by the IESO to calculate the monthly global adjustment rate:

1. Contracts administered by the Ontario Electricity Financial Corporation with existing generation facilities
2. Ontario Power Generation nuclear and baseload hydroelectric generating stations
3. Contracts with the IESO (and with the former Ontario Power Authority) for new gas-fired generation, renewable facilities, energy from waste and biomass, nuclear refurbishments, as well as conservation programs.

GA-OEFC-
NUG (M\$)

GA-OPG
(M\$)

GA-OPA
(M\$)

Total GA
(M\$)

Reference: <https://www.ieso.ca/sector-participants/settlements/global-adjustment-components-and-costs>)

Billing for GA – Class B

- Class B Methodology:

Total adjusted for loss consumption (kWh) for the billing period x 1st Estimate of Global Adjustment =
\$ Amount showing on your invoice

The 1st Estimate is comprised of three components:

1. Estimate of the GA costs based on the preceding month
2. Estimate of Ontario's demand for the given month
3. A true-up for the difference between the previous month's 1st Estimate and the Actual rate

Billing for GA – Class B



Example:

Billing Period is February 11 to March 14 and total usage is 497,094.65 kWh

- 10.559 ¢/kWh – 1st Estimate February
- 8.409 ¢/kWh – 1st Estimate March

Billing Period:	Total kWh	1st Estimate	Total
February 11 to 28	355,196.82	\$ 0.10559	\$ 37,505.23
March 1 to 14	141,897.84	\$ 0.08409	\$ 11,932.19
February 11 to March 14	497,094.65	\$ 0.09945	\$ 49,437.42

Section 2: What is ICI and Class A Eligibility

What is ICI – Class A?

- The ICI is designed to help large energy users manage their Global Adjustment costs through reducing demand during peak hours
- Class A customers are assessed and billed based on their % contribution to the five highest system peaks
- The more accurately that a Class A customer can predict the top five peak hours and shift their demand accordingly, the more they will be able to benefit through this initiative

Determination of Top 5 Peaks



- The top 5 peaks are determined using the **Ontario Demand** (i.e. the 5 hours during the base period in which the greatest volume of electricity was dispatched through the IESO-administered markets for the purpose of supplying Ontario demand).
- The IESO is required to publish the total volume of electricity dispatched in an hour within 60 minutes after the end of that hour and must be based on the information and data available to the IESO at the time.
- The associated hourly quantities that are used to determine the system-wide consumption during the five peak hours are based on the adjusted AQEW (allocated quantity of energy withdrawn), embedded generation (MWh) and energy storage injections (MWh).

Base Period: May 1, 2022 to April 30, 2023

Original Rank	Date	Hour Ending (EST)	Allocated Quantity of Energy Withdrawn (MWh)	Embedded Generation (MWh)	Energy Storage Injections (MWh)	Total* (MWh)
1	July 19, 2022	18	22,127.030	815.483	0.683	22,941.830
2	June 22, 2022	17	21,340.494	1,410.807	1.275	22,750.026
3	August 29, 2022	17	21,169.932	1,148.688	1.520	22,317.100
4	July 20, 2022	16	21,394.446	1,382.112	0.010	22,776.548
5	August 7, 2022	17	21,073.300	906.349	0.932	21,978.717

*The value in the Total (MWh) column is the number used to calculate a customer's Peak Demand Factor.

Eligibility

Eligibility Assessment:

1. Average of your monthly adjusted for loss peaks during the Base Period of May 1 to April 30
2. By Calendar Month, not billing periods
3. By adjusted for loss peak kW, not kVA (which takes power factor into consideration)
4. Facility must be in service by start of Base Period (by May 1)
5. Facility must not be a net generator

Eligibility

Assessed Facility Size	Industry Classification Restrictions	Response Required
>500 kW <1000 kW	Service must be classified under NAICS code commencing with: "31", "32", "33" - manufacturing "1114" - greenhouse, nursery, floriculture production	Opt-In
>1000 kW	N/A	Opt-In
>5000 kW	N/A	Opt-Out

NOTE: All applicants must provide written consent to the distributor for releasing certain information to the Ministry of Energy and IESO. This is part of the eligibility requirements.

Load Facility Aggregation:

- Peak demand is determined at the aggregate of all interval meters at the load facility level. A load facility may comprise multiple meter points and buildings as long as they are located on the same property and associated to the same consumer.
- A single load facility may straddle a property line and may have more than one municipal address. A property cannot however, be bifurcated by an alternate parcel of land or public roadway.
- The aggregate demand as measured by all interval meters at a load facility must be used to determine if the facility is eligible as well as in the calculation of the Peak Demand Factor

Load Facility Aggregation - Additional Ancillary Services:

- Additional small ancillary services (<50kW) which are supplied separately from the main service(s) at the load facility can be included as part of an aggregation if deemed integral to the load facility.
- These meters however are required to be replaced/upgraded to Interval meters at the customer's expense

Eligibility

Continued Status:

- Existing Class A customers that participated in one or more of the programs specified in Section 6.2 of [O. Reg 257/22](#) (adjustments under Section 25.33 of Ontario Regulation 429/04) and dropped below the peak demand threshold during a base period for an adjustment period may be eligible to opt back into the initiative.
- Any existing Class A customer that has fallen below the eligibility threshold will be contacted to determine if they have participated in any applicable conservation programs.

Section 3: Peak Demand Factor

Peak Demand Factor

- Sum of Customer's five coincident peaks divided by sum of five Ontario system peaks

How We Calculated Your Peak Demand Factor

Your Peak Demand Factor (PDF) is calculated by dividing your total five coincident peaks by the total five system peaks over the period

Date Highest Peaks for Ontario from May to April	Hour (EST) Hour Ending for the Highest Peak	Coincident Peak (kW) Customer's Coincident Use	Coincident Peak (MW)	Ontario System Peaks (MW)
Date 1	Hour	Customer Coincident Peak 1	Customer Coincident Peak 1 (in MW)	Ontario System Peak 1
Date 2	Hour	Customer Coincident Peak 2	Customer Coincident Peak 2 (in MW)	Ontario System Peak 2
Date 3	Hour	Customer Coincident Peak 3	Customer Coincident Peak 3 (in MW)	Ontario System Peak 3
Date 4	Hour	Customer Coincident Peak 4	Customer Coincident Peak 4 (in MW)	Ontario System Peak 4
Date 5	Hour	Customer Coincident Peak 5	Customer Coincident Peak 5 (in MW)	Ontario System Peak 5
TOTALS		Sum of Coincident Peaks (in kW)	Sum of Coincident Peaks (in MW)	Sum of Ontario System Peaks (in MW)
Peak Demand Factor		Sum of Coincident Peaks (in MW)	divided by	Sum of Ontario System Peaks (in MW)
JULY to JUNE (Adjustment Period)		Customer Peak Demand Factor		

- Top 5 System Peaks will be determined using the "Ontario Real-time Demand" (dispatched through IESO) instead of the AQEW (Allocated Quantity of Electricity Withdrawn) ie. Metered values published 20 business days later

Section 4: Opting in to ICI

ICI Key Dates



- **April 1 – April 19:** LDCs submit their embedded generation and energy storage injection volumes through the Coincident Peak form in Online IESO
- **April 30:** Current base period ends
- **May 3:** The IESO will post the total volume of electricity withdrawn from the IESO controlled grid for the peak hours so that LDCs can begin calculating their customers' PDFs
- **May 31:** Deadline for LDCs / IESO to provide eligible customers their PDF
- **June 15:** Deadline for eligible customers to opt-in/opt-out of the ICI
- **June 15 – June 24:** Deadline for LDCs to submit their Class A consumer consumption based on their customers' opt-in / opt-out decisions
- **June 30:** Deadline for IESO to provide LDCs their PDFs
- **July 1:** Adjustment period starts
- **August 19:** Deadline for LDCs to submit their Class A consumer data

Timeline of ICI

- On an annual basis, eligible customers will be presented the option of Opting in to the ICI

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Previous Year					BASE PERIOD ----->							
Current Year	BASE PERIOD CONTINUED ----->				OPT IN / OUT (By June 15)		ADJUSTMENT PERIOD ----->					
Next Year	ADJUSTMENT PERIOD CONTINUED ----->											

ICI Eligibility Notice



By the end of *May*, all eligible customers will be sent an email containing their eligibility assessment and calculated Peak Demand Factor.

Notice Contents:

- How Eligibility Is Determined
- Peak Demand Factor Calculation
- Estimated Class A vs B Comparison
- How to Opt In or Out via our online form

Opting In to Class A

- Eligibility notice contains a link to the Online Opt In Form
- Form must be completed online no later than June 15
- Customers with an average peak demand of above 5 MW are automatically considered Class A and must opt-out if they choose not to participate
- Authorization will be required, from the customer, to Hydro One, to release business information such as legal name, facility address, GPS coordinates and NAICS code, to the Ministry of Energy and IESO
- Customers that opt in to Class A will be locked into this methodology for the duration of the adjustment period (July 1 – June 30)

Information Disclosure



- All Class A opt-in customers must provide written consent to their distributor to provide the following information to the IESO and Ministry of Energy and for this information to be published
 - Legal name and the name under which it carries on business in respect of each of its Class A load facilities
 - The address, geographic location and NAICS code of each of the consumer's Class A load facilities
- All Class A opt-in customers must provide written consent to provide the following anonymized information to the Ministry and IESO:
 - kWh consumption during the base period
 - Average monthly peak demand during the base period
 - Peak Demand Factor
 - NAICS code

Class A vs Class B Methodologies

- Class A vs B comparison – based on historical data
- Class B: kWh x 1st Estimate GA Rate
- Class A: PDF x GA \$ Total

Comparison	Class B - Global Adjustment			Class A - Global Adjustment			% Change
	MWh	1st Estimate Global Adjustment Rate (\$/MWh)	Global Adjustment Bill	Peak Demand Factor	Global Adjustment \$/Month	Global Adjustment Bill	
May-22	253.350	\$59.68	\$15,119.93	0.00001972	\$772,436,247.22	\$15,232.44	0.74%
Jun-22	205.233	\$82.93	\$17,019.97	0.00001972	\$762,782,304.03	\$15,042.07	-11.62%
Jul-22	211.687	\$84.75	\$17,940.47	0.00001972	\$433,865,823.80	\$8,555.83	-52.31%
Aug-22	218.350	\$48.71	\$10,635.83	0.00001972	\$55,316,130.04	\$1,090.83	-89.74%
Sep-22	235.560	\$40.08	\$9,441.24	0.00001972	\$293,934,471.75	\$5,796.39	-38.61%
Oct-22	222.350	\$4.99	\$1,109.53	0.00001972	\$513,238,908.01	\$10,121.07	812.20%
Nov-22	256.870	\$47.39	\$12,173.07	0.00001972	\$650,887,415.00	\$12,835.50	5.44%
Dec-22	277.158	\$59.62	\$16,524.16	0.00001972	\$370,565,483.95	\$7,307.55	-55.78%
Jan-23	279.597	\$31.38	\$8,773.75	0.00001972	\$579,451,714.08	\$11,426.79	30.24%
Feb-23	229.852	\$62.85	\$14,446.20	0.00001972	\$825,026,711.98	\$16,269.53	12.62%
Mar-23	240.899	\$69.89	\$16,836.43	0.00001972	\$829,494,371.50	\$16,357.63	-2.84%
Apr-23	248.621	\$82.49	\$20,508.75	0.00001972	\$876,019,809.94	\$17,275.11	-15.77%
			\$160,529.33			\$137,310.74	-14.46%
		Savings on Class A	\$23,218.59				
		Savings Including HST	\$26,237.01				

Important Items for Consideration

- Reminder: you will be billed on your assessed PDF for the entirety of the adjustment period July 1 – June 30
- Are you expecting your load requirements to decline over the adjustment period?
For example:
 - as a result of implementing efficiency measures at the facilities,
 - parceling off a section of the facility for an alternate entity or,
 - an expected general decline in business activities at the location.

Section 5: Getting the most out of ICI

Getting the most out of the ICI



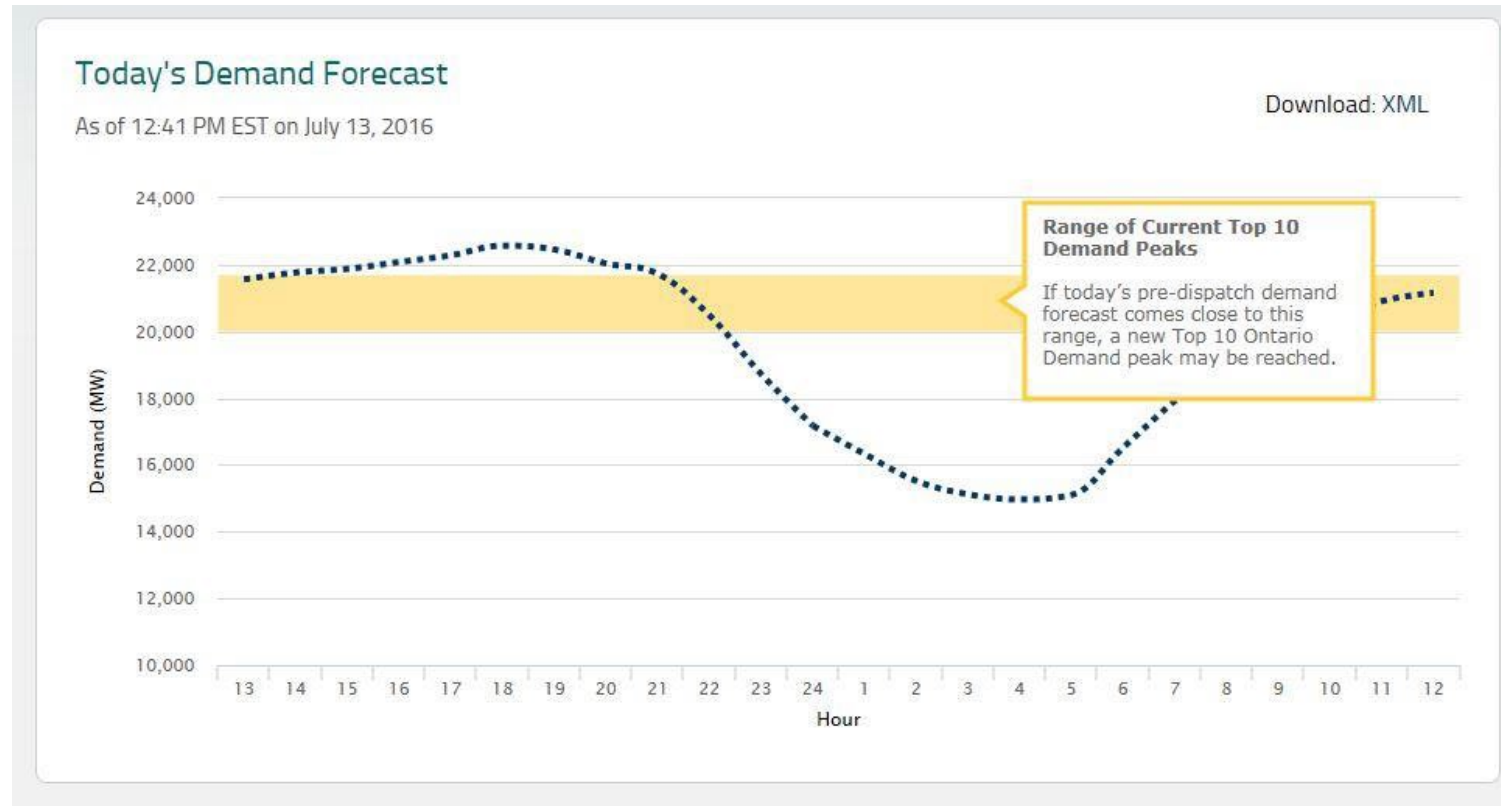
- The more accurately that a Class A customer can predict and reduce their consumption during the top five Ontario peak demand hours, the more they will be able to reduce their overall electricity charges.
- There are certain factors that drive the possibility of system peaks occurring:
 1. Weather/Climate: Peaks tend to occur during “heat wave” conditions in the summer or “polar vortex” conditions in the winter
 2. Time of Day/Day of Week: Peaks tend to occur on weekdays when businesses are in operations and time of day can vary by season:
 - Summer: late afternoon when cooling is most required
 - Winter: early evening when heating required

Note: although historically rare, peaks can occur on weekends/holidays

Note that best practice may involve the use of operational curtailment or the use of Distributed Energy Resources (DER's).

Forecasting Tools

- IESO Peak Tracking Tool - Demand Forecast from July 13, 2016 (May 2016 – April 2017 base period)



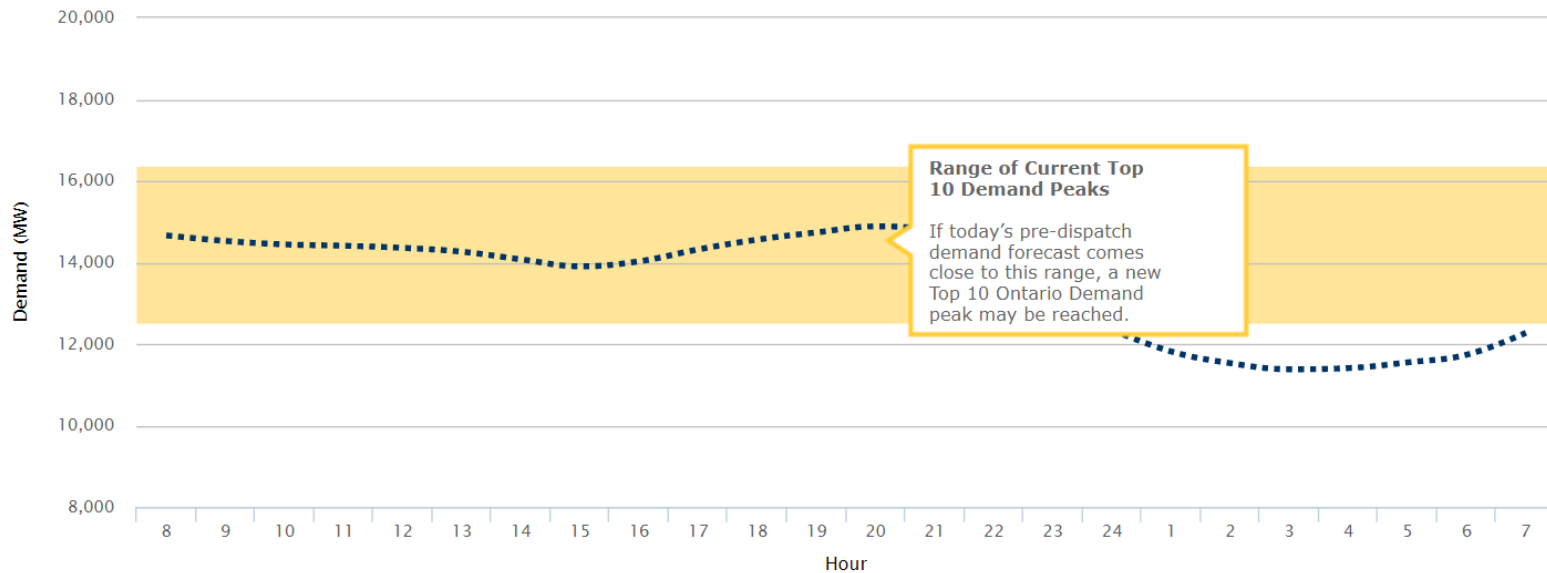
Forecasting Tools

- IESO Peak Tracking Tool - Demand Forecast from May 6, 2022 (May 2022 – April 2023 base period)

Today's Ontario Demand Forecast

The graph below identifies the forecasted Ontario demand for the next 24 hours and whether it could be a top 10 ICI Ontario demand peak during the current base period.

As of 7:02 AM EST on May 06, 2022



Forecasting Tools

- For Current Base Period, IESO posts:
 - Forecasted Demand for next 24 hours
 - Forecasted Demand for next 6 days (highest hour of each day)
 - Top 10 Demand Peaks to Date
 - ICI Ontario Demand Peak Tracker
 - Provides a real-time snapshot of the top 10 peak hours and ICI Ontario demand values with coincident adjusted AQEW values for the current base period. This information can be used by ICI customers to track ICI Ontario demand peaks and estimate their GA allocation for the peak hour.
<https://www.ieso.ca/peaktracker>

Forecasting Impacts

- 15% curtailment across five coincident peaks

Date Highest Peaks for Ontario from May to April	Hour (EST) Hour Ending for the Highest Peak	Coincident Peak (kW) Customer's Coincident Use	Coincident Peak (MW)	Ontario System Peaks (MW)
19-Jul-22	18	475.874	0.476	22,941.83
22-Jun-22	17	429.913	0.430	22,750.03
29-Aug-22	17	389.027	0.389	22,317.10
20-Jul-22	16	431.981	0.432	22,776.55
7-Aug-22	17	551.631	0.552	21,978.72
TOTALS		2,278.426	2.278	112,764.22
Peak Demand Factor JULY 2023 to JUNE 2024		2.278	divided by	112,764.22
		0.00002021		

Date Highest Peaks for Ontario from May to April	Hour (EST) Hour Ending for the Highest Peak	Coincident Peak (kW) Customer's Coincident Use	Coincident Peak (MW)	Ontario System Peaks (MW)
19-Jul-22	18	404.493	0.404	22,941.83
22-Jun-22	17	365.426	0.365	22,750.03
29-Aug-22	17	330.673	0.331	22,317.10
20-Jul-22	16	367.184	0.367	22,776.55
7-Aug-22	17	468.886	0.469	21,978.72
TOTALS		1,936.662	1.937	112,764.22
Peak Demand Factor JULY 2023 to JUNE 2024		1.937	divided by	112,764.22
		0.00001717		

Forecasting Impacts



- 15% curtailment financial impact

Comparison	Class B - Global Adjustment			Class A - Global Adjustment			% Change
	MWh	1st Estimate Global Adjustment Rate (\$/MWh)	Global Adjustment Bill	Peak Demand Factor	Global Adjustment \$/Month	Global Adjustment Bill	
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Jun-22	205.233	\$82.93	\$17,019.97	0.00001972	\$762,782,304.03	\$15,042.07	-11.62%
Jul-22	211.687	\$84.75	\$17,940.47	0.00001972	\$433,865,823.80	\$8,555.83	-52.31%
Aug-22	218.350	\$48.71	\$10,635.83	0.00001972	\$55,316,130.04	\$1,090.83	-89.74%
Sep-22	235.560	\$40.08	\$9,441.24	0.00001972	\$293,934,471.75	\$5,796.39	-38.61%
Oct-22	222.350	\$4.99	\$1,109.53	0.00001972	\$513,238,908.01	\$10,121.07	812.20%
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Dec-22	277.158	\$59.62	\$16,524.16	0.00001972	\$370,565,483.95	\$7,307.55	-55.78%
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Mar-23	240.899	\$69.89	\$16,836.43	0.00001972	\$829,494,371.50	\$16,357.63	-2.84%
Apr-23	248.621	\$82.49	\$20,508.75	0.00001972	\$876,019,809.94	\$17,275.11	-15.77%
			\$160,529.33			\$137,310.74	-14.46%
			Savings on Class A				
			Savings Including HST				

Comparison	Class B - Global Adjustment			Class A - Global Adjustment			% Change
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May-22	253.350	\$59.68	\$15,119.93	0.00001717	\$772,436,247.22	\$13,262.73	-12.28%
Jun-22	205.233	\$82.93	\$17,019.97	0.00001717	\$762,782,304.03	\$13,096.97	-23.05%
Jul-22	211.687	\$84.75	\$17,940.47	0.00001717	\$433,865,823.80	\$7,449.48	-58.48%
Aug-22	218.350	\$48.71	\$10,635.83	0.00001717	\$55,316,130.04	\$949.78	-91.07%
Sep-22	235.560	\$40.08	\$9,441.24	0.00001717	\$293,934,471.75	\$5,046.85	-46.54%
Oct-22	222.350	\$4.99	\$1,109.53	0.00001717	\$513,238,908.01	\$8,812.31	694.24%
Nov-22	256.870	\$47.39	\$12,173.07	0.00001717	\$650,887,415.00	\$11,175.74	-8.19%
Dec-22	277.158	\$59.62	\$16,524.16	0.00001717	\$370,565,483.95	\$6,362.61	-61.50%
Jan-23	279.597	\$31.38	\$8,773.75	0.00001717	\$579,451,714.08	\$9,949.19	13.40%
Feb-23	229.852	\$62.85	\$14,446.20	0.00001717	\$825,026,711.98	\$14,165.71	-1.94%
Mar-23	240.899	\$69.89	\$16,836.43	0.00001717	\$829,494,371.50	\$14,242.42	-15.41%
Apr-23	248.621	\$82.49	\$20,508.75	0.00001717	\$876,019,809.94	\$15,041.26	-26.66%
			\$160,529.33			\$119,555.04	-25.52%
			Savings on Class A				
			Savings Including HST				

Section 6: Transferring a Class A load facility

Transferring Class A Load Facility



- Transfer of a Class A load facility process:
 - Hydro One requires formal written notice of the Class A change of ownership using a template form. The form includes the following information:
 - The transferor
 - The transferee
 - Date of transfer
 - Address of Class A facilities
 - Request for transferee to assume the PDF of the transferor as well as the potential coincident peaks for the current base period for the following adjustment period
 - Transfer details will be reviewed and customer will receive formal written notice via email from Hydro One
 - Effective date of the transfer is 10 business days after notice is received (there can be no retroactive adjustments to the effective date)

Transferring Class A Load Facility

- Section 8 of [O. Reg 257/22](#) (adjustments under Section 25.33 of Ontario Regulation 429/04) was amended to allow Class A consumers the ability to transfer a portion of a Class A load facility
- Must apply to a separately metered portion of an existing Class A facility
- In addition to the formal written request for a Class A Load Facility transfer, a copy of a formal written agreement between the transferor and the transferee is required
- The agreement requires the following information:
 - The PDF of the transferor and the transferee for each adjustment period (determined as a percentage of the PDF that would be calculated for the transferor in respect of the load facility for that adjustment period if the transfer did not occur)
 - The sum of the peak demand factor of the transferor and the transferee for each such adjustment period must be equal to the peak demand factor that would be calculated for the transferor in respect of the load facility for that adjustment period if the transfer did not occur.

Additional Notes

- Customers that move to Class A, will also be moved to Calendar Month Billing (if not already)
- Regulatory Charges – how you bill on Capacity Based Recovery changes from per kWh rate to PDF x Total:

MONTHLY RATES AND CHARGES – Regulatory Component

Wholesale Market Service Rate - not including Capacity Based Recovery (see Note 12)	\$/kWh	0.0032
Capacity Based Recovery (CBR) – applicable for Class B customers (see Note 12)	\$/kWh	0.0004

QUESTIONS?

1.866.922.2466
CICR@HydroOne.com