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BULLETIN

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**TO: All Licensed Electricity Distributors
Independent Electricity System Operator (IESO)
All Other Interested Parties**

**RE: Administering the Industrial Conservation Initiative: Load Aggregation,
Calculating the Peak Demand Factor and Determining Peak Demand
Eligibility for Class A Consumers**

This Bulletin provides guidance to electricity distributors on three related issues concerning the Industrial Conservation Initiative (ICI) for the purpose of billing Global Adjustment (GA) charges:

- 1) the conditions under which load aggregation is to be permitted for the purpose of determining ICI eligibility**
- 2) the manner in which a consumer's "peak demand factor" is to be calculated**
- 3) how a consumer's "peak demand eligibility" is to be determined**

Issue 1: Load Aggregation and ICI Eligibility

The ICI allows eligible electricity consumers to lower their GA costs by reducing consumption at times of peak provincial demand for electricity.

The eligibility requirements for the ICI are set out in [Ontario Regulation 429/04](#), "Adjustments under Section 25.33 of the Act" (made under the *Electricity Act, 1998*) (the GA Regulation). Consumers who participate in the ICI are known as Class A consumers.

It has been brought to the attention of the Ontario Energy Board (OEB) that there may be inconsistencies across distributors in terms of how they determine Class A eligibility within the context of load aggregation. This Bulletin provides OEB staff's view regarding

the conditions under which load from multiple meter points are to be aggregated when determining whether a consumer meets the Class A eligibility requirements.

Eligibility depends on average monthly peak demand.¹ Consumers with an average monthly peak demand above 5 MW are automatically treated as Class A unless they opt out. Consumers with an average monthly peak demand of more than 1 MW and up to 5 MW, and those with an average monthly peak demand of more than 500 kW and up to 1 MW whose load facility is identified by a NAICS code commencing with the digits 31, 32, 33 or 1114,² may opt in to Class A. The demand thresholds are calculated in respect of each of the consumer's "load facilities" – a consumer may have one load facility in Class A (which would be subject to the ICI) and another in Class B (which would not).³

The term "load facility" is defined in section 6.1(5) of the GA Regulation as "a facility that withdraws electricity from the distribution system of a licensed distributor." OEB staff interprets this to mean that a facility is a "load facility" even if it withdraws electricity from more than one metered point of supply. Where a distributor installs a second meter at the same facility, there is still only one load facility.

It follows that the distributor must look at the aggregate demand as measured by all of the meters at a consumer's load facility to determine whether that facility is Class A-eligible. The facility will qualify for Class A treatment if the aggregate demand for the facility meets one of the applicable thresholds, even if demand at each meter on its own would not. For instance, a greenhouse facility with two meters, each of them measuring demand at 300 kW, would be considered to have an aggregate demand of 600 kW, thus qualifying for Class A (assuming all criteria other than the demand threshold are also satisfied). In OEB staff's view, a load facility does not need to be a single building – the ordinary meaning of the word "facility" includes, for example, a manufacturing operation with multiple buildings on the same property. However, all meters must pertain to the same consumer (that is, the same account holder) at the same property. A shopping mall, where each tenant has its own account with the distributor, would therefore not be considered a single load facility.

To be clear, the distributor must not aggregate demand of more than one load facility that are owned or operated by the same consumer.⁴ What matters, for the purpose of determining Class A eligibility, is demand at the load facility level – not at the consumer level. A consumer with facilities on separate properties in a distributor's service territory, each of them using less than the applicable eligibility threshold, will not qualify even if, in

¹ More specifically, the average "maximum hourly demand for electricity in a month" over a 12-month base period.

² NAICS is an industry classification system. Each NAICS code represents a certain industrial, manufacturing or other sector. Statistics Canada has a website that describes the NAICS system and the sector corresponding with each NAICS code: www.statcan.gc.ca/eng/subjects/standard/naics/2017/index.

³ GA Regulation, section 6.1(2).

⁴ Section 6.1(1) of the GA Regulation (which applies to default Class A consumers) provides that "a consumer's maximum hourly demand for electricity in a month from the licensed distributor ... shall be determined separately for each of its load facilities." Section 6.1.1(1.1) (which applies to optional Class A consumers) refers to being a Class A consumer in respect of a particular load facility.

aggregate, the threshold is exceeded. Similarly, demand of multiple different customers cannot be aggregated under any circumstances.

The following table provides some examples of when demand must and must not be calculated on an aggregate basis:

SCENARIO	DEMAND CALCULATED ON AGGREGATE BASIS
Auto manufacturing plant that has two separate assembly lines with each separately metered	✓
Retail chain with multiple stores with each having a separate meter	X
Industrial park with multiple tenants that are each separately metered	X
Data centre is renovated and enlarged, requiring installation of second meter	✓

OEB staff notes that although this Bulletin is primarily directed at distributors to assist them in assessing the eligibility of their distribution consumers, the conclusions apply equally in respect of “Class A market participants”, whose eligibility is determined by the IESO.

Issue 2: Measuring Consumption to Determine Peak Demand Factor

The OEB has also become aware that some distributors may be determining a Class A consumer’s “peak demand factor” (PDF) for the purpose of calculating GA charges without having actual hourly consumption data for the customer as measured by an interval meter.⁵ In OEB staff’s view, this is not permitted under the GA Regulation.

Distributors are required to advise each Class A customer of its PDF by May 31st of each year. The PDF is used to calculate a Class A consumer’s GA charge every month (the province-wide GA costs are divided by the consumer’s PDF). OEB staff refers distributors and other interested parties to the [“Industrial Conservation Initiative Backgrounder” published by the IESO in April 2018](#) (the “IESO ICI Backgrounder”). The IESO ICI Backgrounder explains that the PDF measures the consumer’s “percentage contribution to the top five hours of peak demand in the province over a base period.”⁶ OEB staff’s view is that in order to ascertain the consumer’s consumption in each of the provincial “high five” hours, actual metered data for those hours is required. That is, the consumer’s “coincident peaks” must be measured in real time – not estimated or

⁵ An “interval meter” is defined in the Distribution System Code as “a meter that measures and records electricity use on an hourly or sub-hourly basis”.

⁶ Section 14(5) of the GA Regulation specifies that a Class A consumer’s PDF is determined by dividing “the total volume of electricity distributed to the Class A consumer by the licensed distributor during the peak hours in the applicable base period” by the total system consumption during those five peak hours.

otherwise calculated based on longer-term usage patterns. Without an interval meter that records a consumer's consumption on at least an hourly basis, the distributor will not know what the consumer's consumption was during each of the high five hours.

It follows from OEB staff's analysis of Issue 1 that the consumer's consumption is determined on a load facility basis, for the purpose of calculating the PDF. Each load facility that has been classified as Class A will have its own PDF. The coincident peaks for each load facility will include the facility's aggregate consumption as measured at all meters connected to the facility during the high five hours.

In summary, without an interval meter, a distributor cannot measure a load facility's coincident peaks, which must be known in order to calculate the PDF for ICI purposes. A load facility that does not have an interval meter therefore cannot participate in the ICI.

For convenience, OEB staff has included a table from the IESO ICI Backgrounder showing an illustrative calculation of the PDF in the Appendix to this Bulletin.

Issue 3: Calculating a Consumer's Peak Demand for ICI Eligibility

A similar issue to Issue 2 is that some distributors may be determining whether a consumer meets the applicable peak demand eligibility threshold for Class A without having actual metered hourly demand data.

As described above in Issue 1, the GA Regulation provides that Class A eligibility is determined on the basis of a load facility's average monthly peak demand (the average "maximum hourly demand for electricity in a month" – commonly referred to as the average of the non-coincident peaks).⁷ The IESO ICI Backgrounder explains how this calculation is to be done in more detail and includes a table to assist distributors (reproduced in the Appendix below). As the table shows, a facility's average monthly peak demand is derived by adding its peak hourly demand in each month of the annual base period from May 1st to April 30th, and then dividing the sum by 12. Only the hour in each month when the facility's demand was highest is relevant.

In order to ascertain which 12 monthly peak hours to input into the formula, the distributor requires actual hourly demand data. This means that a meter (or meters) that can measure hourly demand must be used. It would not be consistent with the GA Regulation to use data collected over a longer period of time (e.g. 24 hours or a month) in order to derive a consumer's average hourly demand. Only the actual demand during the 12 non-coincident peak hours must be used.

The views expressed in this Bulletin are those of OEB staff and are not binding on the OEB. Any enquiries regarding this Bulletin should be directed to the OEB's Industry Relations email address at IndustryRelations@OEB.ca.

⁷ See sections 6 and 6.1 (default Class A consumers), and section 6.1.1 (optional class A consumers).

APPENDIX**Peak Demand Eligibility Threshold – Example Calculation**

Base Period Months	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Peak hourly consumption for the month (in MW) ¹	3.6	2.8	2.1	3.2	4.8	4.6	4.9	3.8	4.1	5.1	3.7	3.5

$$12\text{-month average} = (3.6 + 2.8 + 2.1 + 3.2 + 4.8 + 4.6 + 4.9 + 3.8 + 4.1 + 5.1 + 3.7 + 3.5) / 12 = 3.85$$

Source: IESO ICI Backgrounder
(reproduced with permission of the IESO).

Peak Demand Factor (PDF) – Example Calculation

Peak	Day	Hour Ending	Customer's Consumption (MW)	Peak System Consumption (MW)*
Peak 1	August 10, 2016	18	3.1	23,209.01
Peak 2	September 7, 2016	17	4.4	23,162.86
Peak 3	August 11, 2016	17	3.9	23,107.66
Peak 4	July 13, 2016	18	4.1	22,941.62
Peak 5	August 12, 2016	17	4.3	22,669.91

$$\text{Total} = 19.8 \text{ MW} \div \text{Total} = 115,091.06 \text{ MW} = 0.00017204$$

In this example, the customer's peak demand factor is 0.00017204.

Source: IESO ICI Backgrounder
(reproduced with permission of the IESO)