



May 27, 2016

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
P.O. Box 2319, 27th Floor
2300 Yonge Street
Toronto, ON M4P 1E4

**Re: Rate Design for Electricity Commercial and Industrial Customers
AMPCO Comments
Board File No. EB-2015-0043**

Dear Ms. Walli:

Attached please find AMPCO's comments on Board Staff's Discussion Paper "Rate Design for Commercial and Industrial Customers: Aligning the Interests of Customers and Distributors" dated March 31, 2016.

Please do not hesitate to contact me if you have any questions or require any further information.

Sincerely yours,

A handwritten signature in blue ink, appearing to read 'Mark Passi'. The signature is fluid and cursive, with a large initial 'M' and 'P'.

Mark Passi,

Chairman, Board of Directors
Association of Major Power Consumers in Ontario

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Board Staff's discussion paper "Rate Design for Commercial and Industrial Customers: Aligning the Interests of Customers and Distributors" dated March 31, 2016, sets out a series of options for a new design of electricity rates for commercial and industrial customers.

AMPCO's members represent Ontario's major industries: forestry, chemical, mining and minerals, steel, petroleum products, cement, automotive and manufacturing and business consumers in general. AMPCO members are customers whose average monthly maximum demand is greater than or equal to 1,000 kW (Intermediate customers), with many members whose average monthly maximum demand is greater than or equal to 5,000 kW (Large Use customers). AMPCO members value price, adequacy, reliability and quality of electricity service. Predictability in rates is important to AMPCO members, as is flexibility in managing the timing of energy use.

AMPCO has reviewed Board Staff's discussion paper and new rate design options and makes the following comments.

General

Board Staff indicates that the biggest cost drivers of the distribution system are customer numbers and demand, both connection and peak. AMPCO agrees that a new rate design should align with these costs drivers. AMPCO submits that the options put forward by Board Staff consider both connection and peak demand, whereas the current rate design does not. Under the current rate design, commercial and industrial customers are charged a fixed Monthly Service Charge (MSC) and a variable rate based on maximum demand (peak monthly kW) regardless of when it occurs. Customers pay peak prices in non-peak periods. AMPCO agrees the current rate design is out of sync and not sending the proper signals. Prices need to differentiate and value demand on-peak. Higher on-peak prices will incent customers to shift load and avoid peak periods.

AMPCO supports the Board's objective to increase the link between how customers use the system and how they pay for it. Large customers/Industrials vary in their use of the grid and as such it makes sense that they be charged for electricity in different ways that better reflect their energy use patterns and allow flexibility to control costs. Some Large customers use energy at peak periods whereas others who run their operations 24/7, 365 days a year have a base load, not a peaking load. Many customers have a higher off-peak load than on-peak load. Many AMPCO members are active customers and wholesale market participants who monitor peaks and manage their use to avoid the peak. These customers want the flexibility to actively

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manage their use in response to price signals. Some customers can start up and shut down easily. Others cannot. A new rate design needs to consider and respond to these differences.

AMPCO agrees in principle with current OEB thinking that providing incentives to customers to reduce peak capacity optimizes use of the current system and optimizes investment needs for long term cost containment. However, AMPCO wishes to make the point that this incentive is at odds with the current return on investment incentive distributors have which rewards distributors for making asset investments. Until such time as customer and distributor incentives are better aligned, AMPCO submits better system utilization and efficiencies will not be fully realized.

AMPCO notes the outcome of the proposed rate designs results in winners and losers in terms of bill impacts; some customers will see bill increases and others will see bill decreases. For Intermediate customers, the increases and decreases are more symmetrical; whereas for Large customers, three out of the four proposed rate design options result in 73% of customers with a rate increase. AMPCO has included a summary of bill impacts as Appendix B to assist its members in reviewing the options.

AMPCO members are very sensitive to price impacts and concerns were raised about the impact a new rate design could have on energy costs. Many AMPCO members are finding it increasingly more difficult to remain competitive in Ontario. Electricity rate increases year over year that are not competitive with other jurisdictions quickly erodes the business success of AMPCO members. In addition, AMPCO predicts that market prices are expected to increase as nuclear power plants go offline and more renewable energy and natural gas supplies comes online. All of these factors need to be carefully considered before rate design changes are finalized and implemented .

To be helpful to the Board AMPCO has provided comments on the Board's proposed rate design options but would find it of great assistance if the Board were to provide a better mechanism for AMPCO to be able to undertake additional analysis with it's membership on the impact of each of the options in comparison to the status quo.

New Rate Design

All of the new rate design options put forward by Board Staff continue to include a fixed Monthly Service Charge. AMPCO supports the inclusion of a fixed charge as part of the rate design to reflect fixed costs separate from capacity costs. AMPCO's comments on Board Staff's approach to determine the fixed charge are discussed below.

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For both Intermediate and Large customers, Board Staff proposes the same new rate design options: Three Part Demand Rate & Time of Use Rate.

The Three Part Demand Rate option has two different peak periods for consideration, compared to a Time of Use Rate option that has on-peak and off-peak rates, with a further option that sets the off-peak rate to zero. In AMPCO’s view, both options provide some benefits to customers and distributors that better align the interests of customers and distributors than the current rate design. However, there are some features in the rate design options that are less desirable than others.

For the reasons discussed below AMPCO ranks the current Board Staff rate design options according to AMPCO’s preference as follows. AMPCO includes a Table summarizing the Board’s rate design options as Appendix A.

	Design Options	AMPCO Ranking
5a	Three Part Demand Rate <ul style="list-style-type: none"> • Fixed part based on OEB’s Cost Allocation Model Minimum System with PLCC adjustment • Variable 1 based on maximum demand during peak period • Variable 2 based on maximum demand at any time • Peak is 7 am to 7 pm 	1
5b	As 5a <ul style="list-style-type: none"> • Peak is 3pm to 9 pm 	AMPCO does not support
6a	Time of Use (TOU) Rate <ul style="list-style-type: none"> • Fixed part based on OEB’s Cost Allocation Model Minimum System with PLCC adjustment • Variable 1 based on maximum demand during peak period • Variable 2 based on maximum demand during the off-peak period • Peak is 7 am to 7 pm 	2
6b	As 6a <ul style="list-style-type: none"> • Variable 2 is 0 (off-peak is free) 	AMPCO does not support

AMPCO ranks Option 5a: Three Part Demand Rate with a 7 am to 7 pm peak, as its first preference.

Option 5 – Three Part Rate

Option 5 captures three distinct cost drivers:

- Fixed monthly service charge (MSC) for minimum system (\$)
- Rate 1: Coincident demand for peak/capacity demand (\$/kW)
- Rate 2: Non-coincident rate for design demand – anytime demand (\$/kW)

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Distribution Bill = MSC + Maximum Peak Demand (kW) x Peak Rate + Maximum Monthly Demand (kW) x Anytime Rate

The first part of the rate is a fixed monthly service charge. As discussed below, AMPCO supports Board Staff's proposed fixed monthly service charge approach to reflect the direct customer costs.

The second part of the rate is two demand measures: connection demand and peak/capacity demand. Customers pay for customer connection to the grid (cost of assets dedicated to the customer) and contribution to peak capacity separately.

Customers are identified as either "peaking" or "non-peaking" depending on whether their maximum demand in the coincident period is greater than or equal to their maximum demand in the anytime period (any hour in the day). If a customer has its maximum demand during the peak hours, the same demand value applies to both rates. If a customer has its maximum value outside the peak hours then the peak is less (or zero), whatever is measured during the period.

In AMPCO's view, this rate design option best responds to cost causality and the uniqueness of customers and how and when they use energy and the distribution system, while still sending the right price signals to appropriately incent customers to use the grid more efficiently and shift demand to off-peak periods. Some AMPCO members (Intermediate/Large Use customers) use more energy during the peak and others use more energy off-peak and their contribution to the peak varies. Some customers use energy at a steady rate, for example, 24/7 and 365 days a year. This rate design recognizes the differences between customers and in AMPCO's view is fairer and leads to better economic outcomes for customers. Board Staff indicates that this option is expected to be fairer and provide more revenue stability than peak and off-peak alone.¹ AMPCO submits this option is the most cost-effective.

This Option also provides more accurate price signals in that it reflects connection demand and capacity demand, two of the main distribution system cost drivers and it differentiates between the two. Active customers are rewarded for reducing peak capacity. In comparing Option 6a to Option 5a, AMPCO does not see Option 5a as being significantly more complex for customers than Option 6 which is based on a simpler on-peak and off-peak rate design. Based on Board Staff's analysis, Option 5 provides opportunities for customers using most of their energy off-peak to see decreases, and % increases are smaller than Option 6 TOU rates. Under Option 5, two peak period examples are considered. Option 5a has a Broad Peak, 7 am to 7 pm to match the transmission peak; Option 5b is a Narrow Peak, 3 pm to 9 pm. The Narrow Peak example

¹ Board Staff Discussion Paper Page 28

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represents a distribution summer peak with more significant solar penetration, causing the peak load to shift to later in the day. Board Staff has provided this option to illustrate a possible variation in the structure to show how the link to costs could be more specific by allowing the distributor the flexibility to set their own peak period, at different peak times in different seasons.

Distributor peaks and system peaks are not always the same, especially farther way from Toronto. For the benefit of the system generally, AMPCO submits that for distributors there should be a uniform definition of peak across the province that is aligned as closely as possible with the system peak. This will provide a price signal to customers that is consistently clear and aligned with overall system benefits. If distributors are permitted to set demand-base charge determinants based on local or feeder peaks, the result could be conflicting incentives between minimizing distribution and energy costs. A Narrow Peak period 3 pm to 9 m is not aligned with the transmission charge determinant, and will likely not be aligned with the actual system peaks. If a 3 pm to 9 pm period is implemented, the same period should be considered for transmission.

AMPCO does not support Option 5b.

Option 6: Time of Use (TOU) Rate

Under Option 6, Time of Use Rate, there is a peak charge and an off-peak charge (instead of an anytime charge as in option 5).

As shown in Appendix B, bill impacts for Option 6 Time of Use Rate Design are generally larger in both dollar and percentage than Option 5 Three Part Demand Rate.²

The rate includes three distinct cost drivers:

- A fixed monthly service charge (MSC) for minimum system (\$)
- Rate 1: Maximum demand during peak period (\$/kW)
- Rate 2: Maximum demand during off-peak period (\$/kW)

Distribution Bill = MSC + Maximum Peak Demand x On-Peak Rate + Maximum Off-Peak Demand x Off-Peak Rate

The first part of the rate is a fixed monthly service charge. As discussed below, AMPCO supports Board Staff's proposed fixed monthly service charge to reflect the direct customer

² Board Staff Discussion Paper Page 33

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costs.

Customers are grouped depending on whether their average monthly maximum on-peak demand is greater than or equal to their average monthly maximum off-peak demand.

Board Staff provides two options for the off-peak charge: Option 6a where there is an off-peak charge that may or may not represent connection demand; and Option 6b where off-peak has no value and is set to zero. Under Option 6, a Broad Peak is selected from 7 am to 7 pm to match the transmission peak network service rate calculation. AMPCO supports the proposed 7 am to 7 pm broad peak on his basis.

For intermediate customers, setting the off-peak to zero results in the highest on-peak charges and the highest % of customers with bill increases. For Large customers, setting the off-peak to zero also results in the highest on-peak charges and one of the options with the highest % of customers with bill increases.

AMPCO supports a rate design that values both on-peak and off-peak capacity, with lower off-peak prices to better incent customers to make better use of existing distribution system assets.

AMPCO does not support setting the off-peak charge to zero. Although this design would likely encourage rate shifting, since demand can be used for free in off-peak hours and off-peak commodity pricing is also providing a further incentive, AMPCO agrees that this option is risky for the distributor due to the lack of off-peak revenue except for the fixed charge, potential for load shifting and large amounts of net metering that could result in significant revenue losses. AMPCO also notes this option results in the most extreme rate increases for intermediate customers (some over \$2,000/month)³ due to the high increase in the on-peak charge that is being felt by peak users which is not a desirable outcome. The potential rate decreases under a free off-peak charge are less than Options 5a, 5b and 6a.

There are distribution system costs off-peak. Thus, AMPCO supports a rate design that matches the cost drivers and includes an off-peak charge.

AMPCO rates Option 6a as its second rate design preference. AMPCO rates Option 6b as an option it can't support.

Other Options

³ Board Staff Discussion Paper Page 30

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Some AMPCO members have indicated a preference for a rate design option that is price signal driven, that allows customers to buy a certain number of hours at peak to be able to monitor their usage in order to stay under the limit or pay a penalty if the limit is exceeded.

AMPCO would be interested in exploring the benefits of this option further.

Fixed Charge

Each of Board Staff's rate design options discussed above include a fixed Monthly Service Charge (MSC).

Board Staff indicates that in comparison with other rate classes, the current rates for Large Users have a relatively high fixed charge.⁴ The current fixed monthly charges vary significantly between distributors. As seen on page 18 of Board Staff's Discussion Paper, the current monthly fixed charge for Enersource, Hydro Ottawa and Veridian for Intermediate customers is \$1,538.27, \$4,193.93 and \$5,415.56, respectively. This is also true for Large customers.

Board Staff indicates that the percentage of revenue collected on a fixed basis versus demand basis varies significantly between distributors. Depending on their type of operation and hours of operation, some AMPCO members prefer more certainty and therefore a higher percentage of the bill set on a fixed basis, whereas others prefer a higher percentage of the bill set on a demand basis.

The OEB currently uses the minimum system as part of the basis for the monthly customer service charge to reflect the assets that connect all customers to the network without any capacity; poles, wires, transformation and meters that carry no current. Minimum system also includes costs such as a Customer Information System, billing customers & processing payments, and maintaining a Call Centre. These types of costs do not vary except for the overall number of customers. The OEB's Cost Allocation Model calculates the Minimum System with Peak Load Carrying Capacity (PLCC) adjustment to avoid double counting some demand capacity.

Over the last few years, for many distributors and classes, the current fixed charge has been set to the OEB's Cost Allocation Model Minimum System with Peak Load Carrying Capacity (PLCC) adjustment. However, for Large customers, the fixed rate was in most cases set significantly higher than the Cost Allocation Model Minimum System with PLCC adjustment, based on limited analysis. In AMPCO's view, the large spread in fixed costs for Large customers is

⁴ Board Staff Discussion Paper Page 31

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indicative of inconsistencies between distributors in determining fixed costs. A new rate design should address these inconsistencies.

In analysing the options, Board Staff used the OEB's Cost Allocation Model Minimum System with Peak Load Carrying Capacity (PLCC) adjustment as the fixed charge for each class, with some adjustments to avoid perverse incentives at the boundary of Intermediate classes. This approach means that in the new rate design options, the new fixed charge in many cases will be less than the current approved fixed charge, specifically for Large customers. For many AMPCO members specifically, this will mean a significantly lower fixed charge than the current approved fixed charge and a significant decrease in the fixed portion percentage of the bill. As with any rate design proposal, there will be some winners and some losers. Given the customer benefits derived from the new demand charges, that will in most cases make up a higher percentage of the bill, AMPCO supports the Board's proposed fixed charge proposal. AMPCO submits Board's Staff's proposed measure appropriately reflects direct customer costs and better aligns with the principle that the rate design should match the cost drivers.

AMPCO did not support a 100% fixed charge for Intermediate and Large customers as it does not provide any incentives for customers to use the system more cost-effectively and efficiently, thereby driving up longer term investment costs for distributors. AMPCO is pleased that a fully fixed charge has not been put forward as an option for consideration in the new rate design.

Distributed Energy Resources (DER)

Some DER may have supply characteristics that are more closely matched to the load characteristics of local Large and Intermediate users than to Residential load patterns. In these cases, specific incentives in the Intermediate and Large Use rate class may speed up economic adoption of DER to reduce peak demand.

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**Appendix A
Current & New Distribution Rates**

Intermediate Customers⁵

(257 Intermediate customers in Sample Size; on year hourly consumption date provided by CLD)

Option	Current Fixed (\$/month)	Current Variable (\$/month)	New Fixed (\$/month)	New Non-Peak Rate (\$/kW)	New Peak-Rate (\$/kW)	% customers bill increase	% customers bill decrease	Bill Difference
<i>Option 5 Three Part Demand Rate</i>								
5a Broad Peak						39%	61%	99% +/- \$1,000
Enersource	1,538.27	2.01	1,401.47	0.73	1.49			
Hydro Ottawa	4,193.93	3.49	1,634.52	1.52	3.07			
Veridian	5,415.56	2.01	3,152.65	0.86	1.73			
5b Narrow Peak						48%	52%	89% +/- \$500
Enersource	1,538.27	2.01	1,529.07	0.70	1.46			
Hydro Ottawa	4,193.93	3.49	1,731.02	1.51	3.20			
Veridian	5,415.56	2.01	2,874.63	0.89	2.03			
<i>Option 6 Time of Use Demand Rate</i>								
6a Off-Peak Charge						45%	55%	87% +/- \$1,000
Enersource	1,538.27	2.01	1,241.78	0.58	1.31			
Hydro Ottawa	4,193.93	3.49	534.95	1.68	2.92			
Veridian	5,415.56	2.01	373.23	1.09	1.85			
6b Off-Peak is Free						67%	33%	77% +/- \$1,000
Enersource	1,538.27	2.01	701.15	0.00	3.25			
Hydro Ottawa	4,193.93	3.49	534.95	0.00	5.07			
Veridian	5,415.56	2.01	373.23	0.00	3.31			

⁵ Board Staff Discussion Paper Pages 18-21

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Large Customers⁶

(78 Large customers in Sample Size)

Option	Current Fixed (\$/month)	Current Variable (\$/month)	New Fixed (\$/month)	New Non-Peak Rate (\$/kW)	New Peak-Rate (\$/kW)	% customers bill increase	% customers bill decrease	Bill Difference
<i>Option 5 Three Part Demand Rate</i>								
5a Board Peak	7,716.51	4.048	7,716.51	1.349	2.755	73%	27%	85% +/- \$1,000
5b Narrow Peak	7,716.51	4.048	7,716.51	1.349	2.823	73%	27%	77% +/- \$1,000
<i>Option 6 Time of Use Demand Rate</i>								
6a Off-Peak Charge	7,716.51	4.048	7,716.51	1.349	2.264	54%	46%	81% +/- \$5,000
6b Off-Peak is Free	7,716.51	4.048	7,716.51	0.000	4.135	73%	27%	78% +/- \$1,000

⁶ Board Staff Discussion Paper Pages 22-25

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Appendix B

Customer Bill Impacts

Rate Design Option	Intermediate Customers	Large Customers
5a Three Part Demand Broad Peak	39% bill increase; 61% bill decrease Most customers see less than 5% change in bill ⁷	73% bill increase; 27% bill decrease. Most bill increases less than 3%; Customers using most energy off-peak see decreases up to 12% but typically less than 5% ⁸
5b Three Part Demand Narrow Peak	48% bill increase; 52% bill decrease; Dollar value is generally less than 5% ⁹	73% bill increase; 27% bill decrease. More extreme impacts; some see large decrease up to \$10,000 but typically less than 30% ¹⁰
6a TOU Rate (off-peak charge)	45% bill increase; 55% bill decrease Changes up to 15% of bill ¹¹	46% bill increase; 54% bill decrease. Decreases up to 20%; increases up to 8% ¹²
6b TOU Rate (off-peak = \$0)	67 bill increase; 33% bill decrease First time rate increases exceed 20%; increase in on-peak charge is being felt by peak users ¹³	73% bill increase; 27% bill decrease Increases mostly less than 10%; decreases less than 5% ¹⁴

⁷ Board Staff Discussion Paper Page 29

⁸ Board Staff Discussion Paper Page 32

⁹ Board Staff Discussion Paper Page 29

¹⁰ Board Staff Discussion Paper Page 32

¹¹ Board Staff Discussion Paper Page 30

¹² Board Staff Discussion Paper Page 33

¹³ Board Staff Discussion Paper Page 30

¹⁴ Board Staff Discussion Paper Page 33