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BY EMAIL and RESS

May 30, 2016
Our File No. 20150043

Ontario Energy Board
2300 Yonge Street
27th Floor
Toronto, Ontario
M4P 1E4

Attn: Kirsten Walli, Board Secretary

Dear Ms. Walli:

Re: EB-2015-0043 – Rate Design for C/I Customers – SEC Submissions

We are counsel for the School Energy Coalition. Pursuant to the Board's letter dated March 31, 2016, this letter constitutes SEC's initial submissions on the Staff Discussion Paper in this matter. We apologize for the late filing of this submission.

Background

Ontario's approximately 5,000 elementary and secondary schools generally fall into the GS<50 (for Hydro One, GSe and UGe) and GS>50 (for Hydro One, GSd and UGd) classes, and comprise just under 2% of the province's electrical load. Because schools have a common function, they tend to cluster around the top end of the GS<50 class (about a third of all schools), and the lower end of the GS>50 class (the other two-thirds). About 85% of the load and demand of schools is in the GS>50 class.

Schools have traditionally been, and continue to be, in the forefront of conservation and energy management, in part because they strive to implement government policy directions, and in part because they have a long time horizon, a commitment to environmental sustainability, and a patient payback period.

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Schools are operated by public and Catholic district school boards, usually in groups of 80-100 or more schools within a single institutional entity. Many school boards have now adopted active (sometimes real-time) monitoring and management of energy use across their service areas, meaning that collectively they offer a potential demand response in the right circumstances. However, in almost every case schools are treated as individual, independent customers in their respective classes. The school board itself, often among the largest customers of a distributor, is not treated as a single customer for rate design purposes.

Schools are also actively engaged in renewable generation, usually under microFIT contracts rather than net billing.

The Process

SEC has three comments about how this process has unfolded to date.

First, the general conduct of the consultation has been thoughtful and well-conceived. The meetings with stakeholders were valuable exchanges of views, and assisted SEC in formulating its thoughts on the issues. OEB Staff took a very constructive approach to the process.

Second, and on the other hand, SEC is concerned about the timing of this consultation. The role of the electricity distributor is entering a state of flux. A lot of changes are likely on the horizon, some of them potentially material.

Rate design is not the obvious first step to respond to fundamental changes to the industry. If those changes were predictable, it might be possible for rate design to anticipate them. The changes coming are not predictable, though, and it would not appear to us to be optimal to make fundamental changes to rate design without a clear idea of what those changes will evoke. The Board will see this concern as a theme in our comments below.

Third, when the Staff Discussion Paper was released, SEC immediately asked for access to the model OEB Staff refers to extensively in the Paper. The simple reason was to test that it produced appropriate and consistent results. The more important reason was that SEC's members wished to use the model to test the various proposals, first for immediate impact, and then for the possible responses that school boards could implement within given structures.

SEC was advised that the model is not available to stakeholders.

We are very concerned about this, for three reasons.

1. We are concerned that the model may not be presenting reliable results in all cases. Some of the rate results the model has produced in Appendix A do not appear to be intuitive. In addition, in at least one case the sample has raised questions.

In the latter case, SEC looked at Figure 1 in the Staff Discussion Paper, which purports to show the relationship between peak demand and average demand for a representative sample of GS>50 customers. We were struck by the fact that the kW demand range of the sample was from a low of 500 kW to a high of about 3,500 kW.

The GS>50 class is heavily dominated by customers at the low end of the 50-5,000 kW range (including all of the schools). This is demonstrated by the following table, which shows the average kW demand for customers in the 50-5,000 range for the six largest LDCs, with about 75% of the GS>50 demand in the province:

Average Demand of GS>50 Customers				
Distributor	**# of Cust.**	**kW Demand**	**Avg. Monthly per customer**	**Notes**
Toronto (2015)	12,494	37,730,820	251.7	GS 50-999 and GS 1000-4999
Hydro One (2015)	8,014	11,542,937	120.0	UGd and GSd
Powerstream (2015)	4,896	12,151,190	206.8	
Enersource (2013)	4,414	11,296,360	213.3	GS 50-499 and GS 500-4999
Ottawa (2016)	3,372	8,875,344	219.3	Four rate classes
Horizon (2015)	2,196	5,117,121	194.2	
Totals	35,386	86,713,772	204.2	

In fact, more than 85% of the 50-5,000 kW demand customers in the province have a monthly demand of less than 500 kW, yet they are apparently not included in the sample used by OEB Staff to show that average demand and peak demand are materially different.

There may be a perfectly good explanation for this, but the appropriate solution would have been to allow stakeholders access to OEB Staff's data and model from the outset.

2. One of the key goals of this rate design process is to elicit responses from customers. Schools are well-positioned to respond to the appropriate price signals, and could have provided detailed input on the extent to which the various options can influence responses. Failure to provide the model used by OEB Staff makes it difficult to do this. While we do attempt to provide some comments below, we have been hampered by lack of access to the data and the model we need to do this.

3. Perhaps most important, the results of the modelling by OEB Staff are presented as "evidence" of particular results, and thus supporting or opposing specific policy options on various bases. SEC has consistently believed that model results and other evidence cannot be relied on by the Board in establishing policies if they are not made available to interested stakeholders.

In this case, it is submitted that the Board should give zero weight to the purported model results, and any conclusions flowing from them.

Principles/Goals

OEB Staff has proposed a number of principles or goals driving this initiative on rate design. In SEC's view, the applicable principles and goals can be summarized in three categories, each of which has issues that need to be considered.

Cost Causality. The Staff Discussion Paper pays appropriate obeisance to the long-standing principle of cost causality, but then proposes a number of options that clearly disengage from that goal.

In SEC's view, cost causality is about fairness, which is at the heart of "just and reasonable" rates. Therefore, SEC submits that the Board should depart from cost causality only in the clearest of circumstances. There should be a compelling alternative goal that can only be addressed by the departure from cost causality, and high confidence that the departure will achieve that goal at the lowest possible damage to the cost causality principle.

In the absence of those exceptional conditions, the cost causality principle should be the primary driver of rate design.

Financial Stability of Distributors. Many distributors, and the Board, are concerned about the so-called "death spiral" facing wires companies in an increasingly distributed, non-centralized world. Ratepayers, including SEC, are also very concerned about this, since the immediate and perhaps even long-term impacts of the death spiral are on the customers.

Our concern, in this context, is that the death spiral still lives in the category of "scary campfire stories", rather than being a real future event that can be the subject of regulatory policy planning. Is there a possibility that customers will desert the distribution system, leading to increasing prices and eventually stranded assets? Most certainly there is. However, we do not at this point have any more than a murky idea of how that could happen, if at all.

Consider this. Who are the customers that will leave the system first? Is it residential ratepayers, secure with batteries in the basement and solar on the roof? Or, is it hospitals and schools, with the same security but more immediate cash needs? Or, is it industry, leaving not because they have solar, but because diesel generators are suddenly cost-effective and carbon policies are way behind schedule?

None of these are likely to be true, but at this point neither the Board nor the regulators have any idea what could set off the death spiral. Thus, any rate design that is intended to stave off that death spiral is ill-conceived. Not only will it not solve the problem (except by accident), but it may actually precipitate the problem.

For example, one of the possible rate designs for C/I customers is a fully fixed charge, or a minimum bill that operates with similar effect for many customers. For a large number of customers, either of these would increase their bill. At what point will these changes, either by themselves or in concert with changes to transmission and commodity charges, make it economic for C/I customers to leave the system?

The answer is, we don't know. The answer "we don't know" is not, in most cases, indicative that it is time to leap into the abyss.

SEC believes that, rather than rush to rate design solutions to problems we don't really understand, more focus should be placed on understanding the problems. Only then should solutions – including rate design – be considered. This is particularly true if those solutions require undermining the principle of cost causality.

Behaviour Response. A number of the new rate designs proposed by OEB Staff are designed to elicit responses from customers, particularly that elusive group of customers called "prosumers". The theory is that appropriate price signals will influence customers to change their demand pattern, thus reducing system costs.

SEC is concerned about this on a number of fronts.

1. As with the "death spiral" problem, we currently don't have a really good sense of how customers will react to various distribution price signals. When we theorize that time of use distribution rates will result in shifts in demand or load shape, for example, we are just theorizing. We have no information to suggest that is likely to be true. Actual evidence of "prosumers" in the energy sector, particularly with respect to wires costs (as opposed to commodity costs) is scarce, and at this point there is no basis on which to assume that any C/I customers, other than the very largest, will respond to rate signals in the manner of prosumers.

2. The distribution rate is a small component of the bill for the C/I customer, sometimes as little as 5-10%. We don't know how much changes to that component will influence behaviour. If a customer pays $500 a month for distribution services, what are the costs and benefits for the customer of changing its pattern of use to reduce that to $400 a month? The answer is, we haven't yet done that economic analysis. For the vast majority of C/I customers, usually under 10kW in demand, the impact of the various rate designs would be $10-$20 per month. In aggregate, that demand matters, but the impact of rate design on individual customer decisions is likely to be very small. The modelling of rate design options against the choices made by individual customers has not yet been done.

3. At the other end of the spectrum, if the changes to the distribution rate are made large enough to result in changes in behaviour, it is not clear that we know what those changes will be. Will a customer facing a $1000 a month increase in their bill change their consumption pattern, or go off-grid, or move to Vermont? We simply don't know.

4. Many C/I customers have inelastic demand, in that they cannot change the amount or timing of their electricity demand, even if they wanted to.

5. To the extent that rate design options are intended to reduce the capital investments required by distributors, they generally fail to reflect that distribution system capacity requirements are location-specific. Even if a highly integrated LDC could reduce overall costs by general customer responses to rates, that is still specific to that LDC. A good case in point is the upcoming merger between PowerStream, Enersource, Horizon and Brampton. Each has areas in which capacity constraints could be alleviated by customer demand changes. None of those areas change in the slightest after the merger. Customer responses in Barrie will still have no impact on capital investment required in Hamilton. The same is true, at a more granular level, in most LDC service territories.

These and other considerations suggest to SEC that, in most situations, rate design is not going to be successful in influencing customer behaviour for the better.

SEC's analysis of the principles and goals at play in this initiative suggests that the benefits being sought may not be achievable. It may be better regulatory policy, at this stage, to stick to

the key principle – cost causality – and focus on other aspects of the challenges affecting distributors.

Specific Issues Affecting SEC

There are four specific issues SEC wishes to address in these submissions, before our comments on the eight rate design options presented by OEB Staff.

Rate Classification. The Staff Discussion Paper notes that rate classifications are not under consideration in this consultation. In our submission, this is inappropriate.

Rate design, and classification of customers, are two parts of a single activity. Rate classifications are valid groupings of customers only if rates can be designed within the grouping that allocate cost responsibility fairly. A change to the rate design for a class will necessarily involve asking whether the class continues to represent an appropriate grouping of customers.

The easiest example is a fully fixed charge. If the GS>50 to 5,000 class were to go to a fully fixed charge (which is not proposed at this time), clearly the customers within the class are not sufficiently homogenous for that charge to be fair.

In our view, if the Board assumes the current rate classes, some rate design options have to be eliminated. To get the best answer, it is likely better to iterate between rate designs and classes. Some of the suggestions below take that into account.

Multi-Connection Customers. The rate design proposals do not take into account the fact that some customers – notably schools – have multiple connections to the system, but have a demand, and an ability to respond, that is much larger than each individual connection.

SEC believes that the Board should consider rate design options that allow those customers to aggregate their demand and experience rate rewards based on their ability to manage that aggregate demand proactively.

Boundary Issues. Schools are particularly affected by the boundary issues between GS<50 and GS>50. The greater the fixed component of the monthly bill in either case, the greater the jump when the boundary is crossed. For GS<50 customers, a greater fixed charge reduces the distribution bill for the larger customers in the class. For GS>50 customers, a greater fixed charge increases the distribution bill for the smaller customers in the class.

Hydro Ottawa 2016 rates provide an example of this. Currently, going over the threshold from GS<50 to GS>50 results in an increase of a few hundred dollars in the distribution component of the bill (from $4100 a year to $4800 a year), mostly due to the GS>50 fixed monthly charge. If both classes were changed to fully fixed charge, the cost to pass the threshold would be more than $10,000 per year (from $850 a year to $11,100 a year), clearly not reasonable. The math is uncompromising. Increasing the fixed component of distribution bills necessarily increases boundary issues.

There are only two ways to avoid this.

First, emphasize the variable component of the rates in each case, which should produce a smoother gradation in rates based on size.

Second, increase the number of rate classes so that the fixed charges reflect more granular demands on the system for each of the new classes. More boundaries mean each jump is smaller.

Both of these approaches appear to be inconsistent with the directions being espoused by the Staff Discussion Paper.

Calculation of Fixed Charge. SEC continues to believe that the use of minimum system plus PLCC adjustment is the most rigorous method of calculating the monthly fixed charge.

We note, however, that this system has produced widely differing fixed charge ceilings in some cases. SEC believes that the calculation of the minimum system plus PLCC should be standardized and reviewed, such that the Board can eventually move to a fixed charge (for all classes that are not fully fixed charge) that is the same in each class for all distributors.

Responses to Rate Design Options

Our comments in this section are limited to GS<50 and GS>50 customers and the equivalent Hydro One rate classes.

1. Fully Fixed Charge. SEC generally does not support the use of a fully fixed charge for distribution costs. However, even in the context of current Board policy, which has adopted that approach for residential, SEC does not believe that a fully fixed charge for GS<50 would be fair. While it would certainly benefit schools ($1000-$2000 a year each for the schools in GS<50 class), who tend to be among the largest customers in the class, it would be unfair to the smaller customers that make up the bulk of the class.

A variation on this may be reasonable and consistent with the Board's support for the fixed charge approach. It may be appropriate to break the GS<50 class up into two classes, one of which is GS<10, and the other of which is the rest of the customers in that class. The smaller customers could then have a fully fixed charge that, while slightly higher than residential, would still be close to their current bills. The larger customers could then continue the current model, or even go to a fully fixed charge, but at a somewhat higher level. The latter would be problematic, due to the continued boundary issue with GS>50, but could be considered in the interests of simplicity.

2. Time of Use. A ratemaking approach based on time of use could be viable, but only if the time of use model employed is identical to time of use rates for the commodity. Application of a different time of use paradigm would be unnecessarily complicated, and would make it less rather than more likely that customers in the GS<50 class respond to price signals.

There is some doubt as to whether time of use pricing does produce meaningful customer response over time, as noted in the Staff Discussion Paper. The combination of inelastic demand, and the very small level of the price signals (particularly if you are only talking about the incremental price signal from shifting the variable portion of the distribution bill), may mean that there is no value to this rate design.

3. Energy Use Blocks. The cellphone/internet approach to pricing seems theoretically attractive, but in SEC's view for the GS<50 customer there is little likelihood the rate design will cause customers to actually manage to their contract level. The additional costs and complications – CIS changes, etc. – together with the possibility of customer resistance, suggest that this option may not be worth pursuing.

4. Minimum Bill. This is a potentially viable option for GS>50 customers, or for GS<50 customers if a GS<10 class is established first. In both cases, it would be appropriate for the minimum bill to replace the fixed monthly charge.

For GS>50 customers, a minimum bill set at a level to capture 20% of the customers likely fixes the monthly distribution charge for customers from 50-150 kW at the 150 kW level. This is largely what the current combination of fixed and variable charge does right now, so there is probably little impact on the boundary issue. Indeed, for distributors that still have high fixed charges for this class, the minimum would probably be lower, improving the boundary issue.

If the Board implemented this approach, SEC suggests that the underlying rate methodology should be a two part demand rate, likely 5a or 5b below, with no fixed charge. This approximates a fixed and variable combination, as today, but with a more direct emphasis on cost causation due to the underlying 100% variable component.

5a. Three Part Demand, Standard Peak. This option generally hurts schools, whose demand during the daytime hours is relatively inelastic. Further, it is unlikely, unless the rate differential is large, for that difference to justify the cost of storage or other demand shifting. On the other hand, if schools were able to aggregate their demand, then storage at a single location might be cost-effective to respond to this price signal. This would likely only be possible with a large school board, but in those circumstances could still provide some system benefits.

If this option is selected, in SEC's submission the peak/off-peak differential should be seasonal. Especially for summer-peaking distributors, the most important price signal is summer peak, and that is where the timing of demand should matter the most.

Further, if this option is selected, SEC believes that the fixed charge should be replaced with a minimum bill, as noted above.

5b. Three Part Demand, Narrow Peak. The alternative proposal is to treat the peak as either a local actual peak period, or a narrow generalized peak, around the dinner hour.

SEC is skeptical that distribution infrastructure is sufficiently driven by this narrower peak to warrant the additional cost and complication of calculating and communicating this new price signal. While schools could potentially benefit from this approach, it should only be considered after a thorough review of the incremental costs to implement.

6a. Time of Use Demand. The same comments apply to this option as to 5a. While the difference between the effective demand rates is greater, it is still not likely to be enough to promote changing the timing of demand, unless, in the case of schools, demand is aggregated.

6b. Time of Use Demand, Free Off-Peak. Finally, this option appears to be the purest in the pursuit of customer response. Theoretically, if a school could move its entire demand component from peak to off-peak through storage or self-generation (or other means), the savings could be substantial, perhaps $2,000 - $5,000 per year. This is especially true if a school board could aggregate its demand for this purpose. For a school board like Toronto District School Board, the province's largest, shifting all demand to off-peak could be worth $1.5 million per year or more in this rate scenario. That amount of savings – a significant impact on school board finances - could justify substantial operational changes and/or capital investments.

With all of the options above, SEC's assessment has not been based on any rigorous modeling. In the next phase in this process, it would be invaluable if SEC and its member boards were able to have access to the Board's model, so that the above, largely speculative, comments on how school boards might respond could be reviewed and verified.

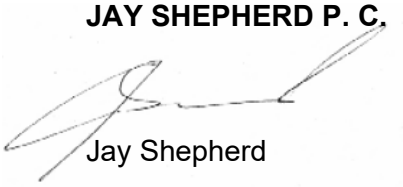
Conclusion

SEC has noted, above, a number of general concerns about rate design for C/I customers, but has still sought to assist the Board in commenting on the options presented in the Staff Discussion Paper.

Any change to C/I rates will produce winners and losers. Schools are not necessarily fixated on being in the winners group in that process. Winners and losers should be based on sound ratemaking principles, including in particular cost causality. In the long run, that is better for all customers. What is more important, in our view, is that any new rate design allow schools and school boards to respond proactively to minimize their bills, and in the process maximize their positive impacts on the system.

All of which is respectfully submitted.

Yours very truly,
JAY SHEPHERD P. C.



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cc: Wayne McNally, SEC (email)
Interested Parties