Ontario Energy Board | Commission de l'énergie de l'Ontario

BY EMAIL

December 9, 2019

Ontario Energy Board
P.O. Box 2319
27th Floor
2300 Yonge Street
Toronto ON M4P 1E4

Attention: Ms. Christine E. Long

Dear Ms. Long:

Re: OEB Staff Submission
Association of Major Power Consumers in Ontario (AMPCO)
Application to Review Amendments to the Market Rules Made by the Independent Electricity System Operator (IESO)
Ontario Energy Board (OEB): File No.: EB-2019-0242

The OEB made provision for the filing of a written summary of argument prior to presenting oral argument as scheduled. Attached is the written summary of argument of OEB staff.

Yours truly,

Original Signed by

Michael Bell
Project Advisor, Application Policy and Conservation

cc: All Parties in EB-2019-0242

ONTARIO ENERGY BOARD

OEB Staff SUBMISSION

Association of Major Power Consumers in Ontario

Application to Review Amendments to the Market Rules Made by the Independent Electricity System Operator

EB-2019-0242

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Introduction

The amendments at issue in this application are those which are intended to evolve the Independent Electricity System Operator's (IESO) Demand Response Auction (DRA) into a Transitional Capacity Auction (TCA) to procure resources to meet future capacity needs (Amendments). The key difference between the DRA and the TCA is that non-committed dispatchable generators (those that are not contracted or regulated) can participate in the TCA whereas they could not under the DRA.

Under the TCA, demand response (DR) resources and non-committed generation facilities can offer capacity into the auction. Offers that clear the auction would receive capacity payments for being available during the commitment period(s) associated with the auction. Bids and offers in the energy market from DR and generation resources, respectively, would be used to determine whether a resource is activated in real-time in order to balance supply and demand. Generation resources are paid for the energy they supply to the electricity grid; DR resources do not receive any payment upon dispatch under the current IESO market design.

The Association of Major Power Consumers in Ontario's (AMPCO) position is that the Amendments unjustly discriminate against DR Resources and/or are inconsistent with the purposes of the Act. The crux of its position is that generators have other revenue opportunities in the market for the energy services they provide, i.e., energy and other payments, and their offers in the TCA would take into account their other anticipated sources of revenues. DR resources, which do not have access to revenue streams other than a capacity payment, would, according to AMPCO, therefore be at a competitive disadvantage to generators in the TCA, since their offers in the TCA may need to reflect costs that need to be recovered through their capacity payments.

The Statutory Tests

Section 33(9) of the Electricity Act, 1998 (Act) sets out the tests that apply to the Ontario Energy Board's (OEB) consideration of market rule amendments. Applying those tests, the issues to be determined by the OEB in this proceeding are whether the Amendments are inconsistent with the purposes of the Act or unjustly discriminate against or in favour of a market participant or class of market participants.

OEB staff notes that in the Ramp Rate proceeding (EB-2007-0040), the only prior case under section 33 of the Act in respect of which a final decision was issued, the OEB determined that the burden of proof in demonstrating whether the Amendments pass or fail these tests is on the applicant.[1]

[1] EB-2007-0040, Decision and Order, p.18

The Meaning of Unjust Discrimination

In OEB staff's view, discrimination can be assessed by evaluating the degree to which market participants, or classes of market participants, are being treated consistently, having regard to their circumstances. This does not mean that all entities need to be treated identically, but rather, that entities in like circumstances receive like treatment.

OEB staff also notes that, in the Ramp Rate proceeding, the OEB determined that "unjust discrimination" under section 33 means unjust *economic* discrimination.[2] Another conclusion from the Ramp Rate proceeding is that it is the effect of a market rule amendment that must be assessed.[3] In order to arrive at a meaningful assessment of the impact of the Amendments, OEB staff views it both appropriate and necessary to consider the Amendments within the context of the broader body of market rules that govern the market as a whole.

Accordingly, in this submission, OEB staff will focus on whether the effect of the Amendments results in unjust *economic* discrimination against a market participant or class of market participants. OEB staff defines "discrimination" as meaning different treatment, and "unjust" discrimination as meaning different treatment that is not justified by a difference in circumstances.

OEB staff submits that, in considering this issue, the key underlying question is the degree to which generation and DR resources are in substantially similar circumstances with respect to their characteristics and to the services they provide to the IESO-administered markets. In the event that their circumstances are found to be dissimilar, different treatment may be discriminatory (i.e., different) but would not be unjustly so. If, however, their circumstances are judged to be substantially the same, any different treatment in the broader economic context – that is, through the IESO's market design and its supporting rules - would result in the Amendments being unjustly discriminatory.

In this proceeding, the necessary inquiry involves examining the respective characteristics and contributions of DR and generation resources in order to determine whether the effect of the Amendments results in unjust discrimination.

Overview of Approach

In order to apply the statutory tests, OEB staff submits that it is first necessary to identify the types of costs that participants may face in meeting their obligations under the TCA, which will help to illustrate categories of costs that DR resources may incur. It is then necessary to examine differences in the revenue opportunities for DR and generation

[2] EB-2007-0040, Decision and Order, p.26
[3] EB-2007-0040, Decision and Order, p.9-10

resources, since it is within this context that economic discrimination could arise. The discussion will aim to consider the rationale for any differences on the basis of functional, economic and other characteristics of their circumstances.

The subsequent discussion will focus on the other statutory test by considering whether the Amendments are inconsistent with the purposes of the Act.

As is discussed further below, only a limited amount of evidence about DR resources and their costs has been provided in this proceeding. As a consequence, the record provides limited insight into the extent of differences among DR resources (dispatchable load versus hourly DR providers). OEB staff's submissions therefore do not distinguish between different types of DR resources.

Categories of DR Resources' Costs

An inquiry into AMPCO's claim of unjust discrimination first requires an understanding of the kinds of costs DR resources may incur. The record in the case points to several categories of cost which OEB staff have organized into the following taxonomy:

- ***Costs of availability -*** These include the fixed costs arising from steps a DR resource must take to ensure it is available throughout the auction commitment period so that it can supply demand response, as needed. The evidence on this point in this proceeding is that these costs should be properly recoverable through the DR resource's capacity auction offer price.[4]
- ***One-time costs of activation -*** These reflect costs that are triggered by an activation event. The evidence showed that there is currently no obvious means to recover these costs from the market. According to AMPCO, a DR resource would also have to capture these costs in its offer into the capacity auction given its lack of recourse to energy payments for activation.
- ***Variable costs of activation -*** A third category of costs of DR provision is the set of costs that vary in accordance with the number of hours and quantity of demand response provided to the market. An example provided by AMPCO is the cost of burning natural gas to avoid product wastage during curtailment. AMPCO also maintains in its evidence that these costs need to be recovered and that in the absence of an energy market payment stream, a DR provider may be forced to also include these variable costs in its offer into the capacity auction.

Parties generally accepted the concept that DR resources could face costs beyond up-front investment costs of availability (i.e., beyond those costs captured in the first

[4] At page 131, Dr. Rivard was asked under cross-examination about capacity payments:
Mr. Duffy: …But effectively you've got for a DR resource, they get a capacity payment, and that covers their ability to –whatever costs they would need in order to respond if activated. Correct?
Dr. Rivard: I think it covers anything that they need, say on an annual basis, to make sure they're available when called upon to reduce demand.

category) for being activated to provide demand response. As OEB staff's expert witness, London Economics International (LEI) noted, "being activated for many is not frictionless. It is not as simple as flipping a switch and bearing no cost in doing so."[5]

However, OEB staff notes that beyond anecdotal examples there is no evidence on the record regarding the quantum and types of costs DR resources may incur upon activation. There was furthermore little evidence on how widespread these costs are across the diverse group of DR resources.

Nevertheless, OEB staff accepts that a DR resource could incur costs of all three types in the process of engaging in DR. Regarding the first cost category, OEB staff, like other parties, accepts that fixed costs for availability can be recovered through capacity payments. Since both generation and DR resources can recover their fixed costs via capacity payments, the prospect of unjust discrimination does not arise in respect of this specific cost category as long as no other additional costs from other categories need to be layered into the offer in the capacity auction as well. For the purposes of assessing for unjust discrimination, attention must therefore turn to the opportunities for recovering the latter two categories of costs.

Revenue Opportunities

Relevant revenue opportunities in the IESO's energy market can be categorized into two groups: payments for energy; and out-of-market payments for start-up and other costs for certain kinds of resources[6]. These are the main means through which generators recover variable and one-time costs associated with their operation, and therefore require examination in order to consider the presence of unjust discrimination, or consideration of the inconsistency with the purposes of the Act if these revenue opportunities are not made available to DR.

Whether the absence of energy payments for DR dispatch results in unjustly discriminatory impact of the Amendments

The main opportunity for generation resources to recover variable costs of operation is through energy payments for the injection of energy into the grid. The IESO's market rules do not provide for any payment upon dispatch of demand response in the energy market.

In AMPCO's view, DR resources should receive an energy payment – that is, be paid the prevailing energy price for each megawatt of demand response provided in

[5] Transcript, v. 1, p. 130
[6] Opportunities for revenues also exist in the provision of operating reserve, ancillary services and congestion payments, but they do not relate as closely to the issues in this proceeding as energy and the out-of market payments discussed below.

response to dispatch instructions. AMPCO asserts that the Amendments discriminate against DR resources "because from a reliability perspective, what [DR resources] are doing is consistent with what the generator is doing for the system…they're achieving the same reliability outcome."[7] In AMPCO's view, the functional equivalence of generation and demand response is sufficient to justify an energy payment to the DR resource on activation.

As discussed above, assessment for the presence of unjust discrimination involves consideration of whether DR resources are in circumstances that are substantially similar to those of generation resources. OEB staff agrees that both of these resource types can provide an equivalent service, but does not accept that the absence of an energy payment to DR resources renders the effects of the Amendments unjustly discriminatory. In OEB staff's view, AMPCO's position fails to consider key differences in circumstances between the two resources.

When generation is dispatched, it sells energy it owns into the market. When making energy available to other loads via a curtailment, a DR resource is simply choosing not to buy energy. These activities are not alike.

Furthermore, activation of a DR resource allows it to avoid the cost of the energy that it would otherwise be paying to withdraw from the grid; this in itself is a benefit, the magnitude of which the load is well positioned to assess.

Adding an energy payment equal to the market price for each unit of energy a DR resource does not consume would constitute a double payment for the reduction in demand since it would provide revenues in addition to avoided costs. This outcome would result in benefits to DR resources that are greater than what is accorded to generators, whose payments are equal to but not greater than the value of the generation they provide.[8] It would also induce subsides to DR resources from electricity consumers, who bear the costs of these payments along with all other market costs.

Given these evident differences in the circumstances of generation and load resources, OEB staff is of the view that the difference in eligibility for energy payments to generation and DR resources upon dispatch is not unjustly discriminatory.

Whether the absence of out-of-market payments to DR resources results in unjustly discriminatory impact of the Amendments

[7] Transcript, v. 1, p. 97
[8] Transcripts, v.2 p.70

The other major revenue opportunity present in the IESO's energy market design is the ability for some generators, under certain conditions, to recover costs of starting their facilities and syncing them to the grid through payments other than for energy supply.

One such program is the Generator Cost Guarantee program (GCG), which was established by the IESO in 2003 as a reliability measure. In its current form, it guarantees gas generators recovery of their costs to start up and be available (e.g., fuel, incremental operating & maintenance) should their market revenues fall short. Without the CGC program, the IESO believes it would be unable to ensure that generators are online and that would result in higher costs and negative impacts on reliability.[9]

Dr. Rivard noted that the IESO's payments under the GCG are intended to enable cost recovery; it is "not a per megawatt [energy] payment"[10]. Dr. Rivard further described the GCG as an "insurance program...to try and help those generators manage the risk" and noted that, due to the GCG, start-up costs do not need to be included in the generator's offer in the energy market or their offer in the capacity auction.[11] The primary recipients of those GCG payments are natural gas generating facilities.[12]

The discussion of categories of costs that DR resources may incur for activation appear similar to the categories of costs that generators recover through out-of-market payments. This raises the question whether the absence of any mechanism to recover DR costs that are similar to the programs available to generators renders the Amendments unjustly discriminatory.

The IESO's position regarding DR's recovery of activation costs is that "our market design is such that [DR resources] can manage that through their energy offers. So they offer at the price that they think is the right price to be activated at, and if there's no real risk of being activated at that price, then there's no cost to be considered there in terms of adding something to a capacity auction [offer]".[13]

Both experts in this proceeding – Mr. Goulding and Dr. Rivard – indicated that DR resources can incur start-up costs that are akin to those recovered by eligible generators under the GCG, and that these could be considered differently than as a component or add-on to the VOLL. Mr. Goulding noted that, "it is important to explore whether there are actually short-run avoidable costs that are incurred by DR providers,

[9] Real-Time Generator Cost Guarantee Program - IESO.
[10] Transcripts, v. 2, p. 111
[11] Transcripts, v. 2, p.193-195
[12] 23 of the 27 generators currently eligible to participate in the TCA are fired by natural gas, but OEB staff is uncertain how many of those 23 generators could be eligible for the GCG program.

and we believe that if we are going to apply the concept of horizontal equity, that those short-run costs should be recovered".[14]

Dr. Rivard stated it is "not just the [VOLL] [that] they might be at risk [for], but they may actually have to incur an out-of-pocket cost, burning gas to maintain a product to avoid waste … So it may bid something beyond just what its true [VOLL] is."[15] As noted by Dr. Rivard, under the current market design, DR resources would have to attempt to reflect these costs either in higher energy bid prices, or in higher capacity auction offer prices.[16] He acknowledged that, if the DR resource has to raise its energy bid price above VOLL in order to reflect these costs, that is not ideal from a market design standpoint.[17]

Mr. Mondrow asked in cross examination what happens if a DR resource believes it may be activated and it is going to incur costs like those generator one-time start-up costs. Dr. Rivard explained "if there's a demand response resource that incurs a cost that is very much similar to a start-up cost like a generator – i.e., … burning fuel to maintain its product – …and it risks not recovering that, but a generator is able to recover that through the cost guarantee program, I think there is potential that that DR resource is at a disadvantage ... in the sense that it is not offered exactly the same kind of guarantee for what is a same cost."[18]

The IESO explained that, while DR resources are ineligible for the GCG and related programs, it nevertheless offers a number of features in the bidding process that can help DR resources plan the quantities of DR offered into the market and set their bid prices.[19] OEB staff notes that, while these features may well assist DR resources in reducing the impact to their operations and possibly allow any activation costs to be minimized relative to the costs that would otherwise be incurred in the absence of these features, none of these programs provide for the recovery of start-up or variable activation costs.[20]

[14] Transcripts, v.1, p.130
[15] Transcripts, v.2, p.196
[16] Transcript, v,2, p.132
[17] Transcript, v.2, p.141
[18] Transcripts, v.2, p.114-115
[19] See transcripts, v. 3, p.9
[20] The IESO also suggested that they have other "similar programs" to the GCG for DR resources and the example provided was the payments for out-of-market activations involving HDR resources (Transcripts, v.3, p.171). OEB staff notes that such out-of-market payments are not similar in nature. Instead, they are "make-whole" payments for out-of-market "testing" required by the IESO and they are intended to "restore the participant to the financial situation they would have been", so that the treatment of HDR resources is "consistent with the treatment of other resource types" in the market, including disptachable load DR resources (Transcripts, v.3, p.171).

Whether the revenue support in the form of cost recovery guarantees offered to certain generators is required to be provided to DR resources participating in the capacity auction in order to avoid unjust discrimination requires evaluation of the similarity of the circumstances as between those resource types.

As discussed above, OEB staff submits that each resource can provide capacity to the market on a functionally equivalent basis, and, accordingly, that demand response and generation can therefore each contribute to balancing supply and demand. OEB staff does not dispute that each resource type may face certain costs, including start-up and variable costs, associated with providing this form of service to the IESO's energy market.

However, on the question of assessing the similarity of circumstances between these resources, Dr. Rivard noted the following:

> "[A] demand response resource that reduces a megawatt of electricity to help balance ... supply and demand, is functionally equivalent from a generator that produces a megawatt of electricity to help balance demand. If we use that as a test for discrimination or to define what is equal to treatment, you might come to the conclusion that they both should be paid for that service. What I would argue is that's not the appropriate test for measuring discrimination"[21]

Examination of the similarity of the circumstances for these resources in OEB staff's view may warrant consideration of a number of other apparent differences between DR resources and generation eligible for the GCG. According to Mr. Short, and as noted above, GCG-eligible resources are those which are unable to start quickly, and the initial design of the market failed to provide an adequate signal to ensure these resources would be available to meet reliability needs. While it is conceivable that some start-up costs could be required by some DR resources prior to activation, there is no evidence on the record that any DR resource faces physical or operational constraints of a similar magnitude to those faced by GCG-eligible generators.

GCG-eligible generators also perform a range of functions in the market. In addition to providing peaking capacity like DR does, gas generation can provide load-following service – it can ramp its output up and down to respond to increases and declines in demand; it can complement intermittent generation from renewable sources such as wind and solar. It also provides a significant energy contribution, especially if lower water levels or nuclear outages reduce energy output from traditional baseload facilities.

The range of services DR resources can provide may well be evolving beyond their current role as insurance at peak times. Mr. Goulding noted that, "the market is going to

[21] Transcripts, v.2, p.78

value highly flexible resources that will serve to balance intermittent [generation] resources … there is certainly an expectation that very sophisticated kinds of demand response would play an increasing role."[22] However, it is not clear from the evidence in this proceeding whether this additional flexibility has become available or will be soon.

OEB staff submits that the OEB's determination on whether the Amendments are unjustly discriminatory absent a mechanism through which DR resources can recover discrete activation costs depends to a significant degree on the OEB's assessment of the similarity of circumstances between generation eligible for the GCG and DR resources. If the OEB is of the view that the functional and other characteristics of DR resources are like those of generation eligible for the GCG, the effect of the Amendments would be unjustly discriminatory to DR resources, a class of market participants, since they do not include provisions for features that would accord these similar resources similar treatment. However, if the OEB finds that DR resources are sufficiently different from the kinds of generation that receives revenue supports, then the effect of the Amendments to put the TCA in place are not unjustly discriminatory to DR resources.

Inconsistency with the Purposes of the Act

In this final section, OEB staff will consider whether the Amendments are inconsistent with the purposes of the Act.

First, notwithstanding concerns that may relate to any unjustly discriminatory effects from the Amendments discussed above, the creation of a mechanism aimed at securing resources to meet a capacity deficit foreseen to be significant by 2023 is consistent with several purposes of the Act. It is, in OEB staff's view, consistent with the responsible management of electricity resources and supply (Act, s.1(a)) and the protection of the interests of consumers with respect to reliability of service (Act, s.1(f). Allowing resources to compete to be selected in the capacity market harnesses market forces to secure resources cost-effectively, thereby promoting economic efficiency in the generation and sale of electricity (Act, s.1(g)) and contributing to the protection of the interests of consumers with respect to price (Act, s.1(f)). OEB staff does not perceive in this approach any reasonable prospect of risk to the financial sustainability of the electricity industry (Act, s.1(i)).

On the topic of revenue opportunities, the statutory purpose of economic efficiency is, in OEB staff's view, better preserved if DR resources do not receive an energy payment than if they do. As discussed in the evidence of Dr. Rivard, the efficiency of the energy market is predicated on bid prices reflecting marginal benefits of consumption – the

[22] Transcripts, v.1, p.175

incremental benefit to be gained from an additional unit of consumption[23]. The objective function of the IESO's dispatch algorithm is to maximize the economic gains from trade among market participants[24], taking those bids into account. As Dr. Rivard described, an efficient bid for DR is one that is at its value of lost load (VOLL)[25] – the price point at which the economic gains from consumption disappear.

However, if a DR resource receives an energy payment for curtailing consumption, the incentive provided by the additional payment would distort behavior and introduce economic inefficiency: it would make it rational for a consumer (that is also a DR resource) to lower its bid price for energy to one half of what its bid price would be without the energy payment, because the revenues from the payment make it indifferent to consuming or curtailing energy usage at a lower price point[26]. DR curtailments would take place at energy prices that are one half of the previous level. The lost value of production would be double the value of the electricity saved, thereby reducing the gains from trade. Furthermore, if such an efficiency-reducing effect is induced due to an energy payment, it would come at a cost to consumers, which is in tension with the purpose of the Act pertaining to the protection of consumers' interests with respect to price.

Another consideration regarding the market design is that it does not include a direct means for a DR resource to reflect one-time start-up costs. The DR resource can attempt to convert these one-time per event costs into a $/MWh amount to be included in the energy price bid, or it can attempt to convert them into amounts suitable for its capacity auction offer price. However, neither option is fully satisfactory. More forecasting and calculation on the part of auction participants would be necessary, and the efficiency of either the auction selection or the energy market dispatch could, in principle, be reduced as a result. However, there is little to no evidence on the record about how common such one-time costs would be in the DR community, what kinds of DR resource might have them, and how large they might be. As a result, OEB staff submits it would be highly speculative to conclude that the absence of a way to reflect and recover one-time start up costs, such as through an out-of-market activation payment, amounts to an inconsistency with the purpose of the Act regarding the promotion of economic efficiency.

All of which is respectfully submitted.

[23] Transcripts, v. 2, p. 153
[24] IESO Market Rules, Appendix 7.5, s. 2.3.2
[25] Transcripts, v. 2, p. 154
[26] OEB staff submits that this efficiency-reducing dynamic is true even if the DR resource incurs variable costs, such as burning gas, that are driven by curtailing. In this case, the DR provider's point of indifference is simply higher by its variable gas cost. But the distortive effects of a payment continue to drive curtailment to a price that is equal to one-half of this higher total.