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DECISION AND ORDER

EB-2019-0242

ASSOCIATION OF MAJOR POWER CONSUMERS IN ONTARIO

**Application to review amendments to the market rules
made by the Independent Electricity System Operator**

**BEFORE: Cathy Spoel
Presiding Member**

**Emad Elsayed
Member**

**Susan Frank
Member**

January 23, 2020

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1 INTRODUCTION AND SUMMARY

This is the Decision and Order of the Ontario Energy Board (OEB) on an application filed by the Association of Major Power Consumers in Ontario (AMPCO) for an order revoking a set of amendments to the wholesale electricity market rules made by the Independent Electricity System Operator (IESO) (Amendments), and referring them back to the IESO for further consideration (Application). The Application was filed under section 33 of the *Electricity Act, 1998* (Act). AMPCO also filed a Notice of Motion requesting an order of the OEB under section 33(7) of the Act staying the operation of the Amendments pending the completion of the OEB's review.

The Amendments at issue (MR-00439-R00 to -R05) enable the evolution of the IESO's Demand Response Auction into a Transitional Capacity Auction, including notably to allow participation by generators that are neither under contract nor rate-regulated. The Amendments were published by the IESO on September 5, 2019 and had an effective date of October 15, 2019.

By Decision and Order dated November 25, 2019, the OEB stayed the operation of the Amendments pending completion of the OEB's review and issuance by the OEB of its order embodying its final decision in this proceeding. The OEB is required by section 33(6) of the Act to issue that order within 120 days of receipt of the Application.

The OEB has considered the Amendments against the statutory tests set out in section 33(9) of the Act, and has concluded that the Amendments: (i) are not inconsistent with the purposes of the Act; and (ii) do not unjustly discriminate against or in favour of a market participant or class of market participants. Accordingly, the Application is dismissed and the stay of the operation of the Amendments is lifted.

2 PROCESS

2.1 The Application

The Application was filed on September 26, 2019 by AMPCO, an organization that represents major power consumers in Ontario, some of whom participate in the IESO-administered markets as Demand Response Resources (DR Resources).

The Application concerns the IESO's new capacity market. The IESO developed a capacity auction (the Transitional Capacity Auction or TCA) to secure capacity commitments to participate in that market. Both DR Resources and dispatchable generating facilities that are neither under contract nor rate regulated are eligible for participation in the TCA. The TCA builds on the IESO's former Demand Response Auction (DRA), which has been in place since December 2015, in which only capacity offered from DR Resources was procured. The Amendments at issue in this proceeding enable that evolution.

The Application requests that the OEB revoke the Amendments and refer them back to the IESO for further consideration on the grounds that the Amendments are: (i) inconsistent with the purposes of the Act; and / or (ii) unjustly discriminatory to DR Resources. According to the Application, the inequity in treatment regarding payment terms for DR Resources and generation resources is unjustly discriminatory to the DR Resources, and will result in outcomes that are inconsistent with the Act. AMPCO's claim is that their capacity offers in the auction will not be able to compete with those of generation resources, since the latter receive an energy payment if dispatched in addition to an availability payment.

As part of its Application, AMPCO also filed a Notice of Motion requesting an order of the OEB staying the operation of the Amendments pending the completion of the OEB's review (Motion to Stay).

2.2 Notice of Hearing, Interventions, Cost Responsibility and Cost Award Eligibility

A Notice of Hearing was issued on October 1, 2019. The OEB attended to service of the Notice of Hearing on all electricity licensees as well as on all entities identified by the IESO as participants in the 2015, 2016, 2017 and 2018 DRAs.

In Procedural Order No. 1, issued on October 4, 2019, the OEB ordered AMPCO to file all affidavit material on which it intended to rely, whether in support of its Application or the Motion to Stay, by October 11, 2019. AMPCO filed affidavit material on that day.

In response to the Notice of Hearing, several interested parties requested intervenor status, the Ontario Energy Association requested observer status, and the Canadian Manufacturers & Exporters indicated that it would be monitoring the proceeding as it unfolded.

On October 18, 2019, the OEB issued Procedural Order No. 2, which established procedures and timelines for dealing with the Application and the Motion to Stay in parallel¹, and granted intervenor status to all those that requested it; namely:

- Advanced Energy Management Alliance (AEMA)
- Association of Power Producers of Ontario (APPrO)
- Capital Power Corporation (Capital Power)
- Kingston CoGen Limited Partnership (KCLP)
- Rodan Energy Solutions Inc. (Rodan)
- School Energy Coalition (SEC)
- TransAlta Corporation (TransAlta)
- IESO

AEMA, Capital Power, Rodan and TransAlta did not actively participate in this proceeding.

In Procedural Order No. 2, the OEB also stated that it intended for the IESO to bear the costs of this proceeding, but invited the IESO to make a submission if it wished to object to bearing the costs of this proceeding or to object to any of the requests for cost award eligibility made by AMPCO, APPrO, SEC and KCLP. After consideration of submissions filed by various parties, the OEB issued its Decision on Cost Responsibility & Cost Eligibility on November 12, 2019. In that Decision, the OEB determined that: (i) the IESO shall bear the costs of this proceeding; (ii) AMPCO, SEC and APPrO are eligible for an award of costs; and (iii) KCLP is not eligible for an award of costs.

2.3 Motion to Stay

In support of their positions on the Motion to Stay, evidence was filed by AMPCO, the IESO and KCLP. Submissions on the Motion to Stay were filed by AMPCO, the IESO, KCLP, APPrO and OEB staff. A Decision and Order staying the operation of the Amendments was issued on November 25, 2019.

¹ Subsequent procedural orders amended, revised or supplemented the procedures and timelines established in Procedural Order No.2.

2.4 Hearing of the Application

Evidence in respect of the Application was filed by AMPCO, the IESO, KCLP and OEB staff. The hearing on the Application commenced on November 25, 2019 and continued on November 28 and 29. Written summaries of planned oral arguments were filed by AMPCO, the IESO, KCLP, APPrO and OEB staff on December 9, 2019. Oral argument by these parties, as well as by SEC, was heard on December 12 and 13, 2019.

3 BACKGROUND

The IESO-Administered Markets

The IESO-administered markets consist of several wholesale markets including energy and operating reserve, procurement markets for ancillary services and, most recently, a market to procure capacity.

The wholesale energy market is the cornerstone of the IESO's market architecture, and has operated since the market opened in 2002. Both generation and load facilities participate in the IESO's markets. Some generation and load facilities are dispatchable – that is, they have the capability to adjust their level of energy production or consumption in response to dispatch instructions received from the IESO. In the IESO's real-time energy market, dispatchable generators and loads make offers to supply and bids to consume energy, respectively. The IESO determines a market clearing price every five minutes, and also sends dispatch instructions to all dispatchable market participants every five minutes. Dispatchable generators are paid the market clearing price for the energy they produce and inject into the grid. Dispatchable loads pay the market clearing price for the energy they withdraw from the grid.

The Developing Capacity Market

The IESO's energy market has been modified over time to incorporate contracted generating resources, to integrate significant amounts of renewable generation, and to support other changes. More recently, similar to other organized wholesale markets in North America, the IESO began to develop a market mechanism to procure capacity.

In 2015, the IESO launched the DRA to procure capacity from DR Resources, which commit to being available to reduce consumption based on market prices during a pre-defined commitment period. The DRA has been run each year in early December, and the associated commitment periods run from May 1 to October 31 for the summer period, and November 1 to April 30 for the winter period.

There are two types of DR Resources that can participate: dispatchable loads and Hourly Demand Response resources. The latter may be dispatched on an hourly basis for up to four hours. There are two types of Hourly Demand Response resources: physical resources, which are directly connected to the IESO-controlled grid; and virtual resources, which typically provide demand response capability through a portfolio of contributors connected at the distribution level.

DRA participants make capacity offers that consist of megawatts of capacity and prices at which they are willing to agree to a capacity commitment. The IESO decides how much DR capacity it wants to procure and at what price. The auction clears where supply

equals demand; this intersection determines the price paid for capacity for the upcoming commitment periods. All proponents whose capacity offer prices are equal to or lower than the auction clearing price are selected for capacity commitments. Regardless of their offer, each DR Resource receives the same auction clearing price for each megawatt of capacity they make available for curtailment upon dispatch from the IESO during the commitment period.

DR Resources make their capacity available by submitting bids to buy energy in each of the “availability window” hours within a business day. The energy bids identify the maximum prices DR Resources are willing to pay for energy. Market prices higher than a DR Resource’s bid price results in that DR Resource being dispatched to curtail consumption. There is no payment provided to DRA participants when they are dispatched to curtail consumption, but at the same time they also do not pay for the electricity they are no longer consuming.

The TCA is designed to work in much the same way as the DRA, except that dispatchable generators that are neither under contract nor rate-regulated compete for capacity commitments alongside dispatchable loads and Hourly Demand Response resources. As with the DRA, the TCA design is such that all resources that clear the TCA receive the same availability payment for each megawatt of capacity made available during the commitment period. As with the DRA, DR Resources make their capacity available by submitting bids to buy energy, and are dispatched to curtail consumption to the extent that market prices are higher than their bid prices. Generators who are successful in the TCA have to offer supply into the energy market during the TCA commitment period. Like other generators, they are paid for energy injections at the prevailing market clearing price when dispatched to produce electricity, consistent with initial market design and market rules that pre-date the Amendments made by the IESO in respect of the TCA.

Out-of-Market Payments

A significant feature of the IESO-administered markets is the range of supplemental payments made available outside of the IESO’s energy market. These out-of-market payments (so called because the payments are not reflected in the market price for energy) are largely motivated by reliability imperatives that can at times require market participants to operate when it is otherwise uneconomic for them to do so. Different classes of market participants are eligible for different forms of out-of-market payments.

One particular form of out-of-market payment that received significant attention in this proceeding are payments made to generators under the real-time generation cost guarantee (GCG) program. The IESO created this program to manage the reliability risk of generators with large start-up costs opting not to run on days when they may not be

able to recover their costs through prevailing energy prices. In its current form, the GCG program guarantees non-quick start gas-fired generators recovery of their costs to start up and be available (e.g., fuel, incremental operating & maintenance) should market revenues fall short. Absent the GCG program, the only way for a non-quick start generator to attempt to recover these costs is to include an estimate of them in their energy offer prices.²

² KCLP oral argument, transcripts, v.4, p.120

4 THE STATUTORY TESTS

As set out in section 33(9) of the Act, the tests that apply when reviewing market rule amendments are whether they: (i) are inconsistent with the purposes of the Act; or (ii) unjustly discriminate against or in favour of a market participant or class of market participants.

There has been only one prior case under section 33 of the Act in respect of which the OEB issued a final decision.³ In that case, the OEB determined that unjust discrimination in the context of section 33 of the Act means unjust *economic* discrimination.⁴ That case also established that the burden of proof in demonstrating whether market rule amendments pass or fail the statutory tests is on the applicant.⁵ All of the parties agreed that these principles are applicable in the current proceeding.

AMPCO's application initially contended that the Amendments failed both of the statutory tests, but later stated that inconsistency with the purposes of the Act flows from unjust discrimination, and that absent unjust discrimination there is no issue with consistency with the purposes of the Act.⁶ Accordingly, the central issue in this case is whether the Amendments, by allowing generators and loads to compete in an expanded capacity auction, have the effect of being unjustly discriminatory to DR Resources. Parties made various submissions on whether or not the Amendments were unjustly discriminatory to DR Resources, but generally concurred with the definition of "unjust discrimination" suggested by OEB staff in its written summary of argument; namely, different treatment that is not justified by a difference in circumstances.⁷

While generally agreeing with OEB staff's definition, SEC submitted that the impact of the Amendments on ratepayers must be considered in assessing whether any economic discrimination is unjust.⁸ The IESO argued that determining whether discrimination is 'unjust' requires consideration of the interests of others such as the IESO, consumers and generators.⁹

OEB staff submitted that 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

³ EB-2007-0040

⁴ EB-2007-0040, Decision and Order, p.26

⁵ EB-2007-0040, Decision and Order, p.18

⁶ AMPCO oral argument, transcripts, v.4, p.1-2

⁷ OEB staff written argument, p.4

⁸ SEC oral argument, transcripts, v.4, p.96

⁹ IESO written argument, para 10

discriminatory but would not be unjustly so. However, if their circumstances are substantially the same, 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.¹⁰

There was disagreement among the parties as to whether the test for unjust discrimination is qualitative or quantitative. AMPCO argued that “unjust” discrimination in this statutory context means discrimination that is not economically justified and that it is a *qualitative – not a quantitative* – test.¹¹ SEC argued that the test for unjust discrimination is not entirely qualitative, and that there has to be some material negative impact, otherwise the question of what constitutes discrimination becomes an entirely theoretical discussion.¹² The IESO agreed with SEC’s argument and also submitted that, if the risk of a DR Resource being activated (and incurring the related activation costs) is “infinitesimally small”, then there is no unjustness.¹³

All parties, including the IESO, agreed that it was appropriate to consider the Amendments in the broader market context and not in a ‘vacuum’.¹⁴ However, the IESO’s position was that AMPCO’s requested remedy of revoking the Amendments because other market rules and the original market design may make the Amendments unjustly discriminatory to DR Resources amounts to an impermissible challenge to those other rules.¹⁵

AMPCO clarified its position that it was not asking the OEB to find whether or not the IESO should implement energy or activation payments for DR Resources and that there are other options and approaches that have been successfully and relatively easily implemented in the past.¹⁶ In any event, AMPCO concluded that, while there are “fixes” available that do not involve disrupting existing market rules, it is not a problem for the OEB to solve but rather the IESO.

Findings

The OEB finds that the question of consistency with the purposes of the Act is only relevant to the extent there is unjust discrimination. In no other manner are the Amendments inconsistent with the purposes of the Act.

¹⁰ OEB staff written argument, p.4

¹¹ AMPCO written argument, paras 13-17 and oral argument, transcripts, v.4, p.36-37

¹² SEC oral argument, transcripts, v.4, p.95

¹³ IESO oral argument, transcripts, v.4, p.170

¹⁴ IESO oral argument, transcripts, v.4, p.153

¹⁵ IESO oral argument, transcripts, v.4, p.152-153

¹⁶ AMPCO oral reply argument, transcripts, v.5, p.19-20

On the matter of discrimination, the OEB finds that, as in the Ramp Rate case¹⁷, discrimination means economic discrimination.

On the question of whether the Amendments are unjustly discriminatory, the OEB finds that three elements are required.

First, there must be economic discrimination. Discrimination can arise from differences in treatment and, in the context of the electricity markets, this can mean differences in treatment for different classes of market participants when considered in the context of the IESO-administered market as a whole.

Second, it must be shown that the difference in treatment is not justified by a difference in circumstances. This is not to say that differently situated parties cannot be treated differently; treatment can be unequal yet not inequitable or “unjust”. It is only different treatment in the absence of material and relevant differences in the situation or characteristics among the affected market participants that raises the prospect of unjust discrimination.

Third, the claim of discrimination cannot be purely qualitative; it must have some quantitative aspect to it. The OEB appreciates that as the Amendments are prospective, quantification will be based on estimates and assumptions about the operation of the market, but within that context, the OEB requires adequate information on the nature and extent of the economic impacts in order to make a finding of unjust discrimination.

With respect to the IESO’s argument that the OEB does not have jurisdiction to review the Amendments, as the OEB noted in its decision on the Motion to Stay, the fact that the lack of energy payments for DR Resources may be a circumstance that results in the Amendments being discriminatory does not mean that, in reviewing the Amendments, the OEB is conducting a review of the market rules relating to energy payments. The OEB maintains that view in this Decision.

¹⁷ EB-2007-0040

5 POSITIONS OF THE PARTIES

5.1 Overview of the Parties' Evidence

Colin Anderson, in his capacity as president of AMPCO, was the witness for the applicant. Mr. Anderson's testimony described the reasons behind AMPCO's view that the absence of energy market payments to DR Resources for energy delivered via curtailment would put DR Resources at a competitive disadvantage in the TCA and would likely cause them to be replaced by generators. He provided examples involving a steel manufacturer as a DR Resource that incurs costs analogous to those of generators in order to deliver energy.

The IESO's witnesses were David Short, Director of Capacity Market Design, and Candice Trickey, Director of Demand Side Strategy. They described the operation of the IESO's markets, the Amendments that establish the TCA, the design of prior DR programs, and other features of the IESO's market programs such as the GCG program.

John Windsor, Vice President of Energy Services & Asset Management of Northland Power Inc. appeared as a witness on behalf of KCLP, a partnership that owns a gas-fired generator that would be eligible to participate in the TCA. Northland Power Inc. is an owner of KCLP. He provided background on the generation facility and described the significance of potential revenues through the TCA in any decision to continue to operate the facility in the Ontario market.

Brian Rivard appeared as an expert witness on behalf of KCLP. Dr. Rivard's testimony introduced the concept of horizontal equity and included detailed scenario analyses of the offer strategies of differently configured market resources in the presence or absence of energy payments for DR Resources.

OEB staff retained London Economics International (LEI), specifically A.J. Goulding and Adam Hariri, as expert witnesses, to prepare an independent report and provide testimony with a focus on how DR Resources are compensated in U.S. markets that are subject to the jurisdiction of the Federal Energy Regulatory Commission, including consideration of energy, capacity and other payments. LEI identified key contextual differences between the markets in Ontario and the U.S.; among others, those differences include the disconnect between wholesale electricity prices and fixed retail rates that presented a barrier to demand response in the U.S.

While APPrO and SEC participated actively in the cross examination of witnesses and argument, neither provided evidence or witnesses of their own.

5.2 Areas of Agreement

In addition to the areas of agreement amongst the parties noted in section 4 above, there also appeared to be general agreement among the parties that:

- The Amendments are not inconsistent with the purposes of the Act, except for the issue of unjust discrimination on which the parties were divided
- There is a need to retain additional capacity resources in order to maintain reliability
- The use of competition is an appropriate means to retain additional resource commitments
- DR Resources and generators are functionally equivalent regarding their ability to balance supply and demand upon dispatch in the energy market

An area about which there was partial agreement pertains to the costs of providing DR, and the differences in the kinds of costs that DR Resources may incur when doing so. Given the significance of the question of costs to the proceeding, the OEB sees benefit in describing these in further detail.

The first point of agreement pertains to the concept of the value of lost load, or VOLL – that for any given energy consumer, there is a maximum price for energy above which the consumer would rather forgo the opportunity to consume the energy than pay to continue consuming. It was not contested that this value can vary by consumer. A VOLL would be equal to the added value that a load derives from the energy as an input in the production of a product or service. This concept arose frequently in the hearing.

There also appeared to be no general disagreement among the parties that DR Resource costs could be categorized as follows:

- *Cost related to availability*: These are the costs that a DR Resource would incur in order to be a participant in the DRA, and be available in the event a DR activation arises.
- *Costs related to an activation event*: Such costs would parallel the start-up costs faced by a non-quick start generator.
- *Costs related to the amount of energy made available via an activation to curtail demand*: These costs parallel a generator's marginal costs of generating electricity.

There was also general agreement that the first type of costs (related to availability) are appropriately recovered via DR Resource offer prices in the TCA.

Parties further generally agreed that there are activation costs for both generation and DR Resources. However, there was no consensus as to the nature of those costs and

whether they should be included in offers made by DR Resources in the capacity market or in the bids they make in the energy market. Parties disagreed whether these costs could be managed by DR Resources via their TCA bids, should be compensated through the provision of energy payments like those made to generators or should be compensated by creating for DR Resources an out-of-market mechanism similar to the GCG program. The specific positions of the parties in relation to this matter are discussed below.

It was also noted that the latter two cost categories, which relate to DR activation costs, can arise out-of-market when DR Resources are either tested or activated to assist the IESO in responding to emergency conditions on the grid. Parties agreed that, since these are out-of-market activations, DR Resources cannot manage any resulting costs via their bid prices in the energy market. The IESO has recently adopted market rule amendments that will provide compensation to Hourly Demand Response resources for test and emergency activations.¹⁸

5.3 Disputed Matters

AMPCO's fundamental position in this proceeding is that the Amendments are unjustly discriminatory to DR Resources since they will be unable to compete on a level playing field with generation resources in their bidding in the TCA.

By contrast, the position of the intervenors that participated in the proceeding (IESO, KCLP, APPrO and SEC) was that the Amendments are not unjustly discriminatory for various reasons.

The positions of the parties and OEB staff on areas where there was no agreement are discussed further below.

Do the Amendments have an unjustly discriminatory effect given the payments available to generators in the energy market? Do the Amendments have an unjustly discriminatory effect given payments available to generators outside of the energy market? Has there been an assessment of these issues?

In this proceeding, an inquiry into the presence of economic discrimination requires an assessment of the kinds of payments resources are eligible for in the IESO-administered markets. As discussed in section 3 above, the two main categories of payment are energy payments (paid to generators upon dispatch) and out-of-market payments.

¹⁸ The market rule amendments did not contain provisions to compensate DLs for test and emergency activations as they already benefit from the make whole payment program related to local prices that Ms. Trickey briefly described. Transcripts, v.3, p.30-31

A. *Absence of energy payments for DR Resources*

AMPCO

AMPCO argued that, while DR and generation resources clearing the TCA are each obligated to also participate in the energy market with daily bids and offers, respectively,¹⁹ and both incur costs when activated in the energy market, only generators receive payments for activation. All generators receive energy payments, and some also receive payments under the GCG program.^{20 21} Generators therefore do not need to factor the risk of incurring costs of activation into their capacity offers.²²

In contrast, DR Resources must include forecast activation costs in their TCA bids, or risk activation and incurring associated costs without compensation. AMPCO contends that the effect of the Amendments is therefore to create a TCA in which DR Resources must compete with generators at a disadvantage.²³

AMPCO argued that, given the functional equivalence of the services provided by DR Resources and generation resources, there is no economic justification for DR Resources having to recover anticipated activation costs through their TCA bids, or risk losses, when generators can recover costs associated with their dispatch in the energy market through payment streams not available to DR Resources.^{24 25} The absence of economic justification for discriminating against DR Resources makes the discrimination “unjust” and AMPCO summed it up as follows:

Functional equivalence, different compensation, lack of economic justification; that is the ‘unjust’ component of the ‘unjust discrimination’ test under s.33 of the Act.²⁶

IESO

The IESO’s position is that the Amendments are not unjustly discriminatory because they treat DR and generation resources equally in the TCA. That is, all DR and generation resources that successfully bid into the TCA receive the same availability payments

¹⁹ AMPCO oral reply argument, transcripts, v.5, p.24

²⁰ AMPCO oral argument, transcripts, v.4, p.11

²¹ Transcripts, v.2, p.29

²² AMPCO oral argument, transcripts, v.4, p.34

²³ AMPCO oral reply argument, transcripts, v.5, p.12

²⁴ AMPCO written argument, paras 13–17 and oral argument, transcripts, v.4, p.36-37

²⁵ AMPCO oral argument, transcripts, v.4, p.11

²⁶ AMPCO oral argument, transcripts, v.4, p.11-12

irrespective of whether they are subsequently economically activated in the energy market.²⁷

The IESO argued that there is no evidence that the current market design that treats generators and load participants differently in the energy market is defective or inequitable, and what evidence there is, is that there is no basis for making energy payments to DR Resources.²⁸

The IESO further indicated whether DR resources should receive energy payments is an energy market design issue that is “irrelevant to the main point [at] issue [in this proceeding], which is, is there any competitive disadvantage in the capacity auction”.²⁹ The IESO also noted that it is currently undertaking a stakeholder engagement process to assess whether DR Resources should receive energy payments. The IESO stated it will make a final decision on that matter in June 2020. The IESO agreed that the scope of that stakeholder engagement would be broadened to assess activation payments, as well as energy payments, given the amount of discussion related to out-of-market GCG payments to generators.³⁰

KCLP

KCLP supported the IESO’s position that, under the TCA, DR and generation resources are treated exactly the same: they compete in an auction to provide a unit of capacity, and every participant that clears the auction receives exactly the same auction clearing price. Both DR Resources and generators are given a fairly high degree of discretion to establish their energy market bids or offers at a price which allows them to recover their VOLL or their variable costs of providing energy when activated.³¹ KCLP referred to the evidence of Dr. Rivard, who noted that “not getting an energy payment right now, based on history seeing how often they would actually be activated is, in my words, *de minimus* in expectation, in which case they could offer in that capacity auction exactly the same that they would have had generators not been there”.³²

KCLP also argued that, if DR Resources received an energy payment for an economic activation, it would be a double benefit because the DR Resource avoids the cost of consuming and would also receive an energy payment from the IESO to avoid this cost.³³

²⁷ IESO written argument, p.1

²⁸ IESO oral argument, transcripts, v.4, p.152-153

²⁹ Transcripts, v.5, p.28

³⁰ Transcripts, v.3, p.91-93

³¹ KCLP written argument, paras 18-24

³² Transcripts, v.2, p.191

³³ KCLP written argument, para 38

APPrO

APPrO stated that it relied largely on the independent expert evidence filed by KCLP to establish that the Amendments afford fair and equitable treatment to auction participants and do not unjustly discriminate against DR resources.³⁴ APPrO also referred to the evidence of Dr. Rivard in support of its position that paying an energy payment to DR Resources for economic activations would afford a competitive advantage to DR Resources over generators in the TCA.³⁵

OEB Staff

OEB staff submitted that there are key differences in circumstances between generation and DR 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.

Given the evident differences in the circumstances of generation and load resources, the difference in eligibility for energy payments to generation and DR Resources upon dispatch is not unjustly discriminatory. Further, an energy payment to DR Resources would constitute a double payment for the reduction in demand in addition to avoided costs.³⁶

SEC

SEC argued that, in order to show that the Amendments are unjustly discriminatory, AMPCO would need to demonstrate that there is a material negative impact and not just theoretically. If there is no discrimination, in fact, then there is no unjust discrimination.³⁷

As a more general matter, SEC raised a concern that the IESO should have done the economic assessment on the issue of energy payments or activation payments to DR Resources before the Amendments were approved by the IESO Board of Directors. SEC noted that it is important to remember that only the IESO has the information to properly undertake such an empirical analysis.³⁸

³⁴ APPrO written argument, para 3

³⁵ APPrO written argument, para 25

³⁶ OEB staff written argument, p.7

³⁷ SEC oral argument, transcripts, v.4, p.95

³⁸ SEC oral argument, transcripts, v.4, p.105-106

B. Absence of out-of-market payments to DR Resources

As discussed in section 3, in addition to the payments that generators receive for the energy they supply, there are also some out-of-market 'make whole' payments that are currently available to some generators but not to DR Resources in the event of activation.³⁹

AMPCO

During the oral hearing, AMPCO questioned witnesses about the GCG program, and about past IESO and Ontario Power Authority programs that provided compensation for activation for DR Resources. It argued that DR Resources are at a competitive disadvantage in the TCA relative to generation resources because they do not have access to such out-of-market compensation.⁴⁰

AMPCO noted, if the OEB finds the Amendments create a TCA that is discriminatory against DR Resources, "it is not up to the Board to fix that problem. It is up to the IESO". AMPCO added that the IESO has already done this in respect of out-of-market test and emergency activations, where the IESO determined compensation for DR Resources was appropriate. There is therefore no bar to the IESO implementing activation payments in relation to DR Resources, as an alternative to energy payments, if appropriate.⁴¹

IESO

The IESO submitted that the evidence before the OEB is that it is entirely within DR Resources' control to manage the probability or risk of activation by including economic activation costs in their energy market bids; and if they do this, the risk and associated cost of being activated is remote and immaterial.⁴²

The IESO further argued that, where there are costs caused by uneconomic activations of DR Resources due to testing, the IESO has a program that is similar to those available to generators in that it also provides for out-of-market compensation. The IESO noted those are the only costs that DR Resources are exposed to that they cannot avoid through their energy market bids and the only place to put them was in their capacity auction bid.⁴³

³⁹ KCLP oral argument, transcripts, v.4, p.119-120. KCLP discusses two generator cost guarantee programs introduced by the IESO: the real-time generation cost guarantee program in 2003 and the day-ahead cost guarantee program in 2006.

⁴⁰ AMPCO written argument, paras 5-7

⁴¹ AMPCO oral reply argument, transcripts, v.5, p.20

⁴² IESO written argument, paras 20-21, and the evidence of IESO's witnesses, transcripts v.3, p.23-24

⁴³ IESO oral argument, transcripts, v.4, p.165

KCLP

KCLP noted that the GCG programs were created to address a deficiency in the energy markets to provide assurance to certain generators that had long start-up times. In order to minimize potential losses, they avoided starting up unless they could cover all of their costs. The result of the introduction of the GCG program was that generators no longer had to build these costs into their energy market offers and, as a result, could avoid those potential losses.⁴⁴

KCLP's witness, Mr. Windsor, stated that the GCG program guarantees recovery of about 10% to 15% of the overall variable costs associated with running the generation unit for a typical period of time.⁴⁵

OEB Staff

OEB staff noted that both experts in this proceeding indicated that DR Resources can incur start-up costs that are akin to those recovered by eligible generators under the GCG program.⁴⁶

OEB staff submitted that determining whether there is unjust discrimination absent a mechanism through which DR Resources can recover activation costs depends on the OEB's assessment of the similarity of circumstances between GCG-eligible generators and DR Resources.

OEB staff agreed that both DR and generation resources can provide capacity to the market on a functionally equivalent basis, and did not dispute that each resource type may incur certain costs, including start-up and variable costs. OEB staff noted that, while it is conceivable that some start-up costs could be incurred by some DR Resources, there was 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.⁴⁷

OEB staff questioned IESO's suggestion that they have other "similar programs" to the GCG for DR Resources where the example provided was payments for out-of-market activations involving Hourly Demand Response resources. OEB staff noted that such payments are not similar in nature because they are "make-whole" payments for "testing" required by the IESO, rather than payments related to participating in the market.⁴⁸

⁴⁴ KCLP oral argument, transcripts, v.4, p.119-120

⁴⁵ Transcripts, v.2, p.29

⁴⁶ OEB staff written argument, p.8

⁴⁷ OEB staff written argument, p.10

⁴⁸ OEB staff written argument, p.9

Does FERC Order 745 provide any guidance for Ontario?

AMPCO's application referenced, among other things, the U.S. Federal Energy Regulatory Commission (FERC) Order 745, issued in 2011.⁴⁹ This Order established that DR Resources participating in organized wholesale energy markets would be compensated through the payment of the locational marginal price for curtailing their load if dispatched. In the Order, FERC concluded that it would be "unjust" and "unreasonable" to not pay DR Resources the same energy price as generators due to their functional equivalence in relation to balancing supply and demand. FERC Order 745 stated the following:

...when a demand response resource has the capability to balance supply and demand as an alternative to a generation resource ... payment by an RTO or ISO of compensation other than the [locational marginal price] is unjust and unreasonable. ... As stated in the NOPR, we believe that paying demand response resources the LMP will compensate those resources in a manner that reflects the marginal value of the resource to each RTO and ISO.⁵⁰

While AMPCO stated that the FERC Order neither should nor could be directly applied to the Ontario context, it submitted that the Order, given the hearing process that preceded it, could nevertheless provide a starting point for determining appropriate treatment for DR Resources.⁵¹

There was also general agreement, including among both experts (Mr. Goulding and Dr. Rivard), that FERC's actual approach in Order 745 involving paying the full locational marginal price to DR Resources that passed a net benefit test was not applicable to Ontario. Beyond the basic matter of FERC not having jurisdiction in Ontario, an additional practical reason for that is the Global Adjustment (GA), which is unique to Ontario.

Also, as discussed in LEI's report on DR programs in selected US markets (LEI Report)⁵², a primary goal of FERC Order 745 was to address barriers to DR that FERC identified, such as the lack of a direct connection between wholesale market prices and fixed retail prices, and a lack of dynamic retail prices (i.e., retail prices that change as the marginal wholesale costs change). Due to this disconnect, "customers do not have the ability to respond to the often volatile price changes in the wholesale market and demonstrate the need for including demand response as part of wholesale market

⁴⁹ AMPCO Application, paras 36-43

⁵⁰ AMPCO written argument, para 37

⁵¹ Transcripts, v.1, p.33-35

⁵² LEI Report, 'Demand response programs in selected US markets', filed November 8, 2019

design.”⁵³ Ontario does not have the same disconnect between wholesale market prices and retail prices.

Findings

While useful as an example of an approach taken in another jurisdiction, the OEB finds that FERC Order 745 is not relevant to the determination of the issues in this proceeding given the differences in the markets.

Frequency of Dispatch/Activation

- a) What is the risk of activation?***
- b) To what extent is the historical experience regarding activation indicative of future expectations?***
- c) Can DR Resources adequately address this activation risk?***

AMPCO

a) AMPCO noted that the costs associated with activation (i.e., curtailment) are specific to each individual DR Resource in the auction based on a number of business and operational factors; no two DR Resources are likely to have the same characteristics, inputs or outcomes. As a result, the risk of activation differs across DR Resources.⁵⁴

b) AMPCO argued that, as DR-related technologies change, so might the frequency of investment by DR Resources. Consequently, the past under one set of rules and conditions cannot be assumed to necessarily predict the future under another, more equitable set of rules.⁵⁵

c) AMPCO responded to IESO’s position that there is no activation risk for DR Resources that cannot be managed through their energy bids. AMPCO noted that the costs at risk are the costs of activation, and the only way for DR Resources to cover that risk is through their capacity offers because they are not getting any other payments upon activation. Generators recover their activation costs through their energy payments, so they do not have to manage that risk through their capacity offers. AMPCO added that despite what the IESO says, there is no bidding strategy that can protect DR Resources from this risk beyond including that risk in their capacity offers. In the TCA, there is only a

⁵³ LEI Report, p.14

⁵⁴ AMPCO Response to OEB staff IR #1

⁵⁵ AMPCO written argument, paras 13-17

protective bidding strategy for DR Resources and that is if they receive energy payments, so that the cost of activation would not need to be reflected in their capacity offers.⁵⁶ DR Resources were able to manage that risk, without energy payments, in the DRA by reflecting the activation costs in their capacity offers because they were all exposed to the same risk (i.e., no unfair competitive disadvantage).⁵⁷

IESO

a) The IESO noted that DR Resources have been economically activated in the energy market in very limited circumstances since the DRA was launched in 2015 – once in 2019 for Hourly Demand Response resources, while dispatchable loads have been dispatched less than 1% of the time.⁵⁸ This is likely due to the relatively high prices at which DR Resources bid into the energy market.⁵⁹ The IESO also noted that it has not conducted any analysis to assess the reasons for the historical decline – from 244 to 64 – in annual DR activations since the DRA was created.⁶⁰

b) The IESO stated that “based only on historical bids of dispatchable loads, the IESO would expect little change to the frequency of economic activations for DR resources in 2021, 2022, or 2023.”⁶¹

c) According to the IESO, all of the activation costs that AMPCO alleges DR Resources are exposed to, when they are activated in the energy market, can be included in their energy market bids; in other words, they do not need to be included in their capacity offers in the TCA.⁶² In the IESO’s view, DR Resources are capable of entirely managing that risk by bidding high enough into the energy market, so that they do not get called upon and avoid incurring activation costs. It does not matter what the costs are called – value of lost load, activation costs, start-up costs, shutdown costs – that a DR Resource is potentially exposed to when activated in the energy market, they can manage those costs through their energy market bids.⁶³ IESO argued that AMPCO’s claim is an abstract, theoretical claim of discrimination.⁶⁴

⁵⁶ AMPCO oral reply argument, transcripts, v.5, p.16

⁵⁷ AMPCO oral reply argument, transcripts, v.5, p.5-12

⁵⁸ IESO Evidence, paras 36-39

⁵⁹ During this period, the HOEP has averaged about \$25/MWh, while dispatchable load bid prices have averaged about \$1,500/MWh and HDR bid prices have averaged about \$1,700/MWh.

⁶⁰ IESO Response to OEB staff Supplemental IR #14

⁶¹ IESO Response to OEB staff Supplemental IR #14

⁶² Transcripts, v.5, p.13

⁶³ Transcripts, v.5, p.28-29

⁶⁴ Transcripts, v.5, p.31

KCLP

KCLP argued that the IESO-administered markets provide market participants a fair degree of flexibility, in terms of deciding how they bid into those markets and deciding how they choose to compete in those markets. The fact that one market participant may choose to adopt what it called “an irrational or uncompetitive economic bidding strategy” and consequently lose out in a competitive market is not sufficient grounds to justify a finding of unjust economic discrimination, particularly if it can be shown that that market participant could have avoided the problem by adopting a different bidding strategy.⁶⁵

SEC

SEC referenced IESO's evidence that DR Resource activations are expected to remain infrequent in the future and submitted that, if that is the case, then there would be an extremely low need for a DR Resource to build anything into its capacity offer to recover the costs of activation. The test is not whether there is no risk that there will be activation, but that there has to be some meaningful risk which would have a meaningful impact on costs and a meaningful impact on the bids that DR Resources would make into the TCA. SEC therefore noted that, on the basis of the IESO's evidence, there cannot be said to be any discrimination between DR Resources and generators in the TCA.⁶⁶

Findings

The OEB finds that the two classes of market participants, generators and DR Resources, will be treated differently if they successfully bid in the TCA. There was little disagreement in the proceeding that differences in treatment result from the different payments that different resources are eligible to receive if activated. These include energy payments and out-of-market payments such as the GCG. In this way, there at least appears to be discrimination.

In theory, these differences in treatment could result in unjust economic discrimination as the DR Resources, being ineligible for those payments, may have to substantially lower their offers to uneconomic levels if they wish to successfully compete in the TCA. For DR Resources, the costs associated with activation will not be recoverable in the current market.

⁶⁵ KCLP oral argument, transcripts, v.4, p.117

⁶⁶ SEC oral argument, transcripts, v.4, p.97

***Is there sufficient evidence to determine if there will be economic discrimination?
Is there sufficient evidence to determine that any economic discrimination will be
“unjust”?***

AMPCO

AMPCO acknowledged that it must demonstrate the basis for the OEB to find that the Amendments result in unjust discrimination or are contrary to the objectives of the legislation⁶⁷ but it took the position that extensive economic analysis is not necessary for AMPCO to discharge its burden.⁶⁸

AMPCO argued that the test for unjust discrimination is a qualitative, rather than quantitative test and that “functional equivalence, different compensation, lack of economic justification; that is, the ‘unjust’ component of the ‘unjust discrimination’ test under section 33 of the Act”.⁶⁹

It was AMPCO’s evidence that DR Resources incur real costs to curtail their load, and that these costs are beyond the cost of lost production.⁷⁰ AMPCO stated that the cost elements associated with curtailment are specific to each individual participant based on a number of business and operational factors and no two participants are likely to have the same characteristics, inputs or outcomes.⁷¹ In testimony, AMPCO cited an example from the steel industry, but without quantifying any costs.⁷²

IESO

IESO argued that the evidence before the OEB does not support energy payments for DR Resources. AMPCO has not provided any expert evidence to the contrary. Other than referencing FERC's Order 745 and its "net benefits" test, AMPCO has not provided any evidence to show that the absence of energy payments for DR Resources in Ontario is unjust.⁷³

KCLP

KCLP argued that AMPCO has provided insufficient evidence to substantiate its allegation of discrimination and to fulfil this prong of the legal test. There is no direct

⁶⁷ AMPCO oral argument, transcripts, v.4, p.15

⁶⁸ AMPCO oral argument, transcripts, v.4, p.24

⁶⁹ AMPCO oral argument, transcripts, v.4, p.11-12

⁷⁰ AMPCO oral argument, transcripts, v.4, p.27

⁷¹ AMPCO Response to OEB staff IR#1(a)

⁷² Transcripts, v.1, p.16

⁷³ IESO written argument, paras 16-17

evidence from any AMPCO member or other DR Resource that they would be unjustly discriminated against.⁷⁴

APPrO

APPrO argued that AMPCO's evidence in this proceeding is deficient and falls short of discharging the burden of demonstrating that the Amendments unjustly discriminate against DR Resources. AMPCO has not advanced an analysis, study, or report that sets out the potential economic impacts of the Amendments on its members. The OEB should afford AMPCO's evidence the commensurate evidentiary value for what it is; that is, a theoretical concern from a non-market participant that is unsupported by experience, facts or data.⁷⁵

SEC

SEC said that it had no reason to doubt the steel manufacturer example that AMPCO provided with respect to incremental activation costs. However, there are a number of uncertainties. There is a broad array of DR Resources and it is not clear how relevant that type of incremental activation cost is in relation to other types of DR Resources and/or what the overall magnitude is. There was also evidence on Hourly Demand Response resources in this proceeding, but it is uncertain if they have any incremental costs.⁷⁶ Unfortunately, neither AMPCO, nor probably more importantly, the IESO provided any impartial analysis regarding the actual impact on customers of providing energy payments to DR Resources.⁷⁷

OEB Staff

OEB staff noted that, beyond anecdotal examples, there is no evidence on the record regarding the quantum and types of costs DR Resources may incur upon activation. Furthermore, there was little evidence on how widespread these costs are across the diverse group of DR Resources.⁷⁸

Findings

The OEB finds that there is insufficient evidence to make a finding that the Amendments will result in unjust discrimination.

⁷⁴ KCLP written argument, para 40

⁷⁵ APPrO written argument, paras 10, 12, 14

⁷⁶ SEC oral argument, transcripts, v.4, p.91-92

⁷⁷ SEC oral argument, transcripts, v.4, p.100

⁷⁸ OEB staff written argument, p.6

At Section 4 of this Decision, in describing the test to be applied to assess whether there is unjust discrimination, the OEB identified three elements: (i) there must be evidence of discrimination, in the form of different treatment; (ii) it must be shown that the different treatment is being applied to market participants despite an absence of material and relevant differences in their circumstances; and (iii) the economic impact of the different treatment must be quantified – it cannot be purely qualitative.

In the preceding sections, the OEB found that there is no question that different resources are treated differently, in the form of differences in eligibility for payments. For example, certain generators are eligible for activation payments and start-up costs as part of the GCG program. These payments are specific to the circumstances of each generator. DR Resources do not have access to these payments.

On the question of differences in circumstances between generation and DR Resources, the evidence before the OEB is that both generators and DR Resources incur activation costs, and that these costs vary among members of each of these two classes of market participants. Generation and DR Resources are functionally equivalent in balancing supply and demand in the energy market. Theoretically, there are no relevant differences in their circumstances.

On the third element of demonstration of unjust discrimination being the quantification of the economic impact, there was no evidence presented by any party on the range of costs incurred by any of these market participants. The only example of costs that might be incurred by any of AMPCO's members was that of an unidentified steel manufacturer. Even then, there was no evidence of what the costs might actually be. The absence of quantitative evidence on costs that different parties incur does not permit the OEB to conclude with certainty whether the circumstances between generators and DR Resources are in fact similar or different, and whether, as a consequence, different treatment could constitute unjust discrimination. In addition, the experience to date under the DRA indicated that there has been very limited activation of DR Resources, which suggests that there could have been very limited economic impact on the DR Resources. However, there was no data on the financial or economic cost to DR Resources or a forecast as to the frequency of activation over the next decade. Absent this information, the extent of the economic impact to DR Resources cannot be estimated.

Given the insufficiency of evidence, as described above, the OEB has no basis on which to make a positive finding of unjust discrimination and return the Amendments to the IESO for reconsideration.

The OEB is cognizant of AMPCO's members' reticence to share their economic data with each other, and other competitors. That said, there are methods by which this information

could be shared with the OEB without compromising the confidentiality of any individual market participant's information.⁷⁹

Could adjustments be made to the energy market rules or the capacity market rules to address the activation issue?

While the OEB has no authority in this proceeding to require the IESO to make any changes to any of its market rules, and will make no findings on the appropriateness of any particular approach, there was considerable discussion about alternatives to the current payment structure in the context of bid activation.

The major threads of discussion on this issue related either to the eligibility for payments to DR Resources upon dispatch, the expansion of out-of-market provisions, or alternative approaches to the design of bids in the energy market.

AMPCO

While AMPCO has advocated for an energy payment (a payment to DR Resources upon activation equal to the prevailing energy price), its final argument in this proceeding noted that an energy payment is not the only way to rectify the alleged discrimination.

AMPCO noted that “there are several examples of historical programs in which DR Resources were provided with administratively set (rather than market determined) activation payments”.⁸⁰ AMPCO also noted that, unlike energy payments to compensate DR Resources, such alternative mechanisms would involve changes to the market rules that would not result in disrupting the initial market design.⁸¹ AMPCO urged the OEB, in referring the Amendments back to the IESO, to provide guidance to the effect that the IESO should provide a mechanism through which DR Resources will have a reasonable opportunity to recover their incremental costs of activation.⁸²

OEB Staff and KCLP

As noted above, OEB staff and KCLP submitted that an energy payment made to DR Resources in order to compensate for variable costs of activation would constitute a

⁷⁹ The OEB's *Rules of Practice and Procedure* and its [Practice Direction on Confidential Filings](#) make provision for the confidential treatment of information in appropriate cases. In assessing requests for confidential treatment, the OEB considers (among other things) whether the information is commercially sensitive and the potential harm that could result from disclosure in terms of a person's competitive position.

⁸⁰ AMPCO written argument, para 27

⁸¹ AMPCO oral reply argument, transcripts, v.5, p.20

⁸² AMPCO written argument, para 43

double payment for the reduction in demand since it would provide revenue in addition to avoided costs.⁸³

Dr. Rivard noted during cross examination that, if DR Resources have to raise their energy bid price above VOLL in order to reflect one-time costs of activation, it is not ideal from a market design standpoint.⁸⁴ He also noted that there is a potential that the DR Resource is at disadvantage in the sense that it is not offered exactly the same kind of guarantee for what is a same cost.⁸⁵

In response to a question from the OEB during the oral hearing regarding whether all types of resources would need to get the same payment for energy (as well as capacity) for it to be a fair competitive market, Mr. Goulding explained that one might conclude that it is fair if all resources get the same energy payment (market clearing price) for the same service. However, the avoided cost associated with a DR Resource introduces a challenge, since that, itself, may or may not be considered a form of energy payment. Mr. Goulding expressed the view that it would be fair if the DR Resource is compensated at its short run marginal cost when activated. While doing so would require a host of new market rules, it gets away from the double payment issue.⁸⁶

Observations

The OEB acknowledges that the IESO has a study underway to determine what, if any, payments should be made to DR Resources. It is beyond the scope of this proceeding for the OEB to comment on this study or any potential changes that may arise from it.

However, the OEB believes some general observations might be helpful. When considering market changes, the IESO should examine the total costs and compensation available to capacity market participants, whether that compensation is in the capacity market or the energy market, and whether that compensation is an out-of-market payment or some form of energy payment. The priority is to ensure that there is no unjust discrimination for or against any class of market participants. This is particularly relevant as the capacity market continues to expand by adding other types of resources.

⁸³ OEB staff written argument, p.7

⁸⁴ Transcripts, v.2, p.141

⁸⁵ Transcripts, v.2, p.114-115

⁸⁶ Transcripts, v.1, p.164-165

6 ORDER

THE ONTARIO ENERGY BOARD ORDERS THAT:

1. The Application by the Association of Major Power Consumers in Ontario for an order under section 33 of the *Electricity Act, 1998* revoking the market rule amendments identified as MR-00439-R00 to –R05: “Transitional Capacity Auction” and referring the amendments back to the IESO for further consideration is denied.
2. The stay of the operation of the market rule amendments identified as MR-00439 -R00 to –R05: “Transitional Capacity Auction”, as ordered by the Decision and Order of the OEB dated November 25, 2019, is lifted.
3. Parties eligible for an award of costs shall submit their cost claims by February 6, 2020. A copy of the cost claim must be filed with the OEB and one copy is to be served on the IESO. The cost claims must comply with section 10 of the OEB’s *Practice Direction on Cost Awards*.
4. The IESO will have until February 13, 2020 to object to any aspect of the costs claimed. A copy of the objection must be filed with the OEB and one copy must be served on the party against whose claim the objection is being made.
5. A party whose cost claim was objected to will have until February 20, 2020 to make a reply submission as to why its cost claim should be allowed. A copy of the submission must be filed with the OEB and one copy is to be served on the IESO.

All materials filed with the OEB must quote the file number, EB-2019-0242, be made in a searchable/unrestricted PDF format and sent electronically through the OEB’s web portal at <https://pes.ontarioenergyboard.ca/eservice>. Two paper copies must also be filed at the OEB’s address provided below. Filings must clearly state the sender’s name, postal address and telephone number, fax number and email address. Parties must use the document naming conventions and document submission standards outlined in the RESS Document Guideline found at <https://www.oeb.ca/industry>. If the web portal is not available parties may email their documents to the address below. Those who do not have computer access are required to file seven paper copies.

All communications should be directed to the attention of the Board Secretary at the address below, and be received no later than 4:45 p.m. on the required date.

With respect to distribution lists for all electronic correspondence and materials related to this proceeding, parties must include the Case Manager, Michael Bell at Michael.Bell@oeb.ca and OEB Counsel, Ljuba Djurdjevic at Ljuba.Djurdjevic@oeb.ca.

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DATED at Toronto January 23, 2020

ONTARIO ENERGY BOARD

Original Signed By

Christine E. Long
Registrar and Board Secretary