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APPrO
ASSOCIATION OF
POWER PRODUCERS
OF ONTARIO

November 30, 2018

Independent Electricity System Operator
Attention: Market Renewal Project Team
1600 – 120 Adelaide St. West
Toronto, ON M5H 1T1

**RE: Written Submission of the Association of Power Producers of Ontario (APPrO)
Single Schedule Market High Level Design**

The Association of Power Producer of Ontario (APPrO) would like to thank the Independent Electricity System Operator (IESO) for the opportunity to comment on the Single Schedule Market (SSM) High-Level Design (HLD) as published on September 27, 2018. APPrO is a trade association representing Ontario independent power producers and over 100 suppliers of services, equipment and consulting services. APPrO members produce power from co-generation, hydro-electric, gas, nuclear, wind, energy waste wood and other sources. Generator members include:

- | | |
|--------------------------------|-------------------------------------|
| 1. Algonquin Power | 12. Markham District Energy |
| 2. Bruce Power | 13. Northland Power |
| 3. Brookfield Renewable Energy | 14. Oakville Enterprises |
| 4. Capital Power | 15. Ontario Power Generation |
| 5. Capstone | 16. Portlands Energy Centre |
| 6. ENGIE | 17. Regional Power |
| 7. Goreway Station | 18. St. Catharines Hydro Generation |
| 8. Greenfield Energy Centre | 19. TransCanada Energy Ltd. |
| 9. GTAA | 20. TransAlta |
| 10. H2O Power | 21. Toromont |
| 11. Kruger | |

APPPrO's submission will focus on the following areas and design elements:

1. **General Comments**
2. **Price Formation**
 - Design Element 3: Energy Price - Loss Component
3. **Market Power Mitigation**
 - Design Element 15: Reference Level

GENERAL COMMENTS: MARKET RENEWAL

Market renewal is the first significant overhaul of the Ontario electricity market since its opening in 2002. The decision to proceed with the Market Renewal Project (MRP) was based on the April 2017 benefits case. The report concluded estimated net benefits in the range of \$2.2 to \$5.2¹ billion over a 10-year period, with ~\$510 million² associated with the energy workstream. APPPrO is of the general view that Ontario's wholesale electricity market should evolve; however, it is imperative that the changes we undertake do, in fact, result in net benefits for Ontario customers. Consequently, it is APPPrO's view that a supplemental cost-benefit analysis will be required to support the original benefits case.

In arriving at original benefits case, The Brattle Group drew from past Ontario studies, the experience of other jurisdictions which have made comparable market changes, and stakeholder consultation; it was not, however, an Ontario specific analysis truly reflective of the current supply mix and market outcomes. As noted in past APPPrO submissions throughout the high-level design (HLD) phase, APPPrO recommended that the IESO undertake a more detailed analysis of the benefits of Market Renewal in order to measure whether the original benefits still exist in light of the development of the HLD (and future detailed design) and to ensure the savings are measured against an accurate representation of the status quo in the absence of market renewal.

As indicated at the August 22, 2018 Stakeholder Advisory Committee (SAC) meeting³, APPPrO understands that the IESO has decided to conduct a business case in Q4-2019 that will consider all four HLDs. APPPrO appreciates that the IESO has come to this determination and APPPrO looks forward to supporting and engaging with the IESO on this important document. It would appear that some of the ground work in this regard may be in progress upon review of the IESO's recent publication of Brattle's analysis results dated November 30, 2018. In the Appendices there is reference to a 'Low Demand Scenario' that includes the MRP and outcomes with Pickering out of service. It may be helpful to assess and isolate the benefits of the MRP without fundamental changes to the supply mix (i.e., a base case) such as the upcoming Pickering retirement. In addition, it would be helpful to present results associated with the energy stream and the ICA independently. APPPrO anticipates further modelling will be required for the business case and as such, we request that the IESO include stakeholders in a scoping exercise to review approach and input assumptions, as the IESO has done previously in other forums such as the Non-

¹ Note, effective December 2017, IESO eliminated the Operability workstream from the Market Renewal Project which was ~\$0.5 billion of the estimated (base case) benefits

² Of the base case of \$3.4 billion

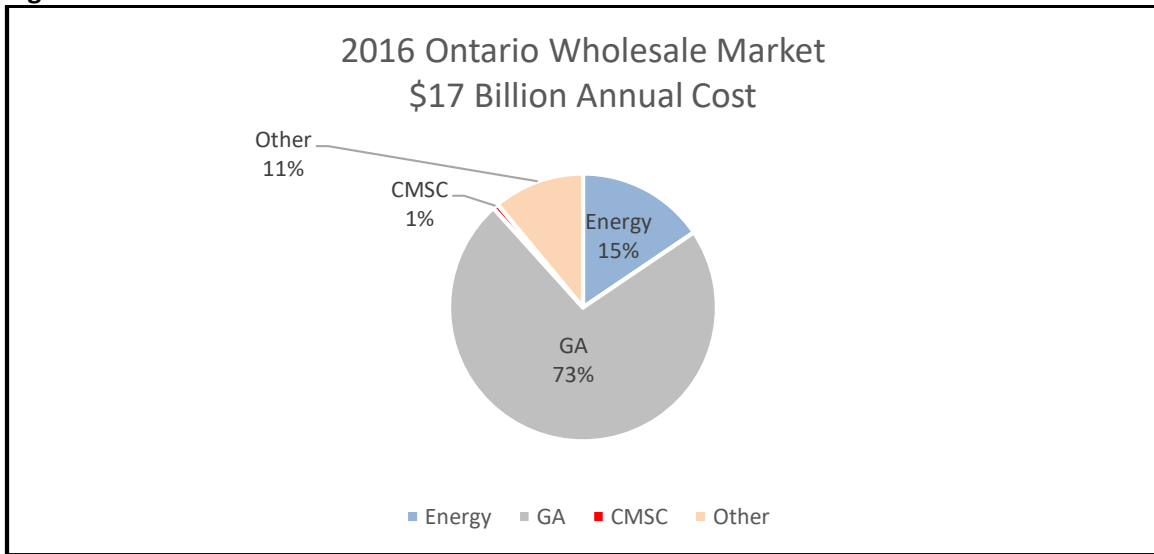
³ 2019-2021 Draft Business Plan and Draft 2018 Corporate Performance Measures Slide Deck, page 9

Emitting Resource Subcommittee (NERSC) and we would encourage these best practices for the 2019 business case initiative.

To help shape the Q4-2019 business case APPrO believes it is worthwhile for the IESO to delve a little deeper into each aspect of the energy workstream and identify those component(s) of the \$17 billion/year market where customers are likely to see the benefits materialize.

Figure 1⁴ below, is APPrO's high-level breakdown of Ontario's 2016 wholesale electricity market costs. As can be seen from the chart, Global Adjustment was ~75% of the total cost, with ~25%⁵ of the costs, which APPrO will refer to as a whole, associated with energy market.

Figure 1: 2016 Total Ontario Wholesale Market Cost



The Brattle report suggests that many of the SSM benefits will materialize through the elimination of congestion management settlement credits (CMSC), which appears to be approximately 1%⁶ of the total cost.

In an effort to gain a better understanding of the full energy workstream benefits, we recommend that the IESO identify which components of the 11% (Other) and 15%⁷ (Energy) will likely see benefits resulting from DAM and ERUC. The Brattle report speaks to uplifts charges associated with the current day-ahead commitment process (DACP) and inefficiencies with the current real-time generation cost guarantee (RT-GCG) program. It is APPrO's understanding that the RT-GCG costs flow through "monthly uplifts". Assuming this is correct, we would appreciate it if the IESO could identify what percentage of the "other" category is the monthly uplift and more specifically the associated RT-GCG costs. APPrO would also request the same for the daily uplifts, which APPrO believes is where the costs associated with DACP reside. In addition to

⁴ Chart was formulated based on information contained in the 2016 Annual report and the December 2016 monthly report, section 7: summary of wholesale charges using YTD column

⁵ The Other category includes costs such as IOG, other uplifts (hourly, daily, monthly), IESO fees. OESP, Rural Rate, Class B – CB DR Recovery

⁶ ~\$114,000 as taken from the IESO's December 2016 monthly report

⁷ Please note, as these numbers were derived by APPrO based on publicly available data published by the IESO; therefore, they may not be 100% accurate, but should be a good approximation

these two components, APPrO would appreciate insights as to which other cost components are likely to see the benefits of market renewal's energy work stream. In APPrO's opinion, these details will aid the 2019 business case and are beneficial for both market participants and Ontario customers to fully understand the benefits of the market renewal program's energy workstream. As market participants can only estimate this type of information, it is in APPrO's view that the IESO is in the best position to conduct this type of analysis and provide it to stakeholders so that market costs and the associated benefits with MRP are accurately reflected.

PRICE FORMATION

Design Element 3: Energy Price - Loss Component

In today's market loss factors are not included in market clearing prices; however, with the implementation of a SSM, loss factors will be incorporated in the calculation of LMPs. Could the IESO please clarify if it is their intention to shift the risk with respect to the cost of losses to generators?

If so, it is expected that a generator will have to include the cost of its losses into its short run marginal cost so that when it does get dispatched it does not run at an economic loss. In an effort to provide clarity on this issue, APPrO would request that in Figure 4 (page 11) the IESO also provide what each of those resource's offers would have been (specifically for Location B).

MARKET POWER MITIGATION

Design Element 15: Reference Level

In establishing reference levels, the IESO has determined to continue to use the current principles within the SSM design. APPrO does not see any fatal flaws with using the current principles; however, when determining short-run marginal costs for each individual resource (i.e. variable O&M, fuel costs, etc.) it will be essential that the IESO work with each market participant to ensure each resource's reference level is based on its 'real' cost and not on perceived or adjusted cost(s) as determined by the IESO. It is APPrO's position that the reference level needs to be accurate, otherwise the conduct thresholds will need to be more permissive in order not to unduly harm the generator by forcing it to operate when it is not economic to do so.


As a secondary decision, the IESO has indicated that cost-based reference levels will be used to calibrate the process and following the calibration period, cost-based reference levels will be applicable only when resources are infrequently scheduled. Consequently, the daily reference level will be determined by either recent offers or LMPs for the specific resource. As per APPrO's submission dated April 27, 2018, our position is that cost-based reference levels are most appropriate, as a look-back of historical offers and/or LMPs will not be an accurate indicator of prevailing market conditions that could impact a resource's reference level and short run marginal cost. APPrO would like to gain a better understanding as to why the IESO cannot use cost-based reference levels consistently as the IESO has (or will have) all of the resource's pertinent information to calculate its cost-based reference level on a daily basis. In APPrO's opinion calculating a reference level based on a resource's costs should not be any

more administratively burdensome than using historical offers or LMPs. APPrO would urge the IESO to revisit this decision and consider using cost-based reference levels on a daily basis.

Lastly, if the IESO moves forward with this decision then APPrO is of the view that conversations need to commence around how disagreements over the reference price will be resolved. For example, will additional dispute mechanisms be implemented outside of what is currently available in Chapter 3? Secondly, if a generator happens to be mitigated down to a reference price that the market participant disagreed with as it did not cover its short run marginal costs, will that generator be kept whole after the fact (once and if that participant has proven its marginal costs were in fact higher than the reference level it was mitigated to). As we note above, this issue could be avoided, for the most part, if the IESO uses cost-based reference levels rather than historical LMPs and/or offers.

As the IESO is releasing the energy stream HLDs separately, APPrO reserves the right to change its position or to provide additional comments once it has had a chance to review all three high-level designs (SSM, DAM and ERUC) in their entirety.

Sincerely,

A handwritten signature in black ink, appearing to read "David Butters", is written over a solid horizontal line. The signature is stylized and cursive.

David Butters, President & CEO