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APPRO Comments on Congestion Management Settlement Credits (“CMSCs”) and the Auditor General Report¹

Summary

CMSC system is a necessary and legitimate component of generator optimization in the Ontario uniform price model, and is part of an integrated set of market rules and measures to maintain reliability and ensure the balance of supply and demand in every region of the province, and to ensure that ratepayer value results from the operation of the IESO Administered Market (“IAM”).

The Auditor General (“AG”) notes that:

“The Market Surveillance Panel (Panel), which was transferred from the IESO to the Board in 2005, monitors wholesale market activities and reports on them to the Board twice a year. The Panel has consistently recommended that the IESO explore structural changes to the electricity market to reduce or eliminate what are known as “congestion management settlement credit (CMSC) payments” where they do not contribute to market efficiency. These payments are a result of the current electricity market structure, which compensates generators or traders when, for example, transmission constraints curtail their ability to participate in the market.”²

The AG in its report questioned “why the Board would not be more proactive in ensuring that the IESO gives adequate priority to Panel recommendations.”

APPRO considers that the IESO has responded in a timely fashion to address issues around CMSCs since 2005.

It is worth noting that the value of electricity trade over the last 10 years is more than \$150 billion dollars. Annually it is around \$15 billion. The total cost of CMSCs has reduced significantly since market start and now represents a relatively small cost to the

¹ Annual Report of the Office of the Auditor General of Ontario; Chapter 3, VFM Section 3.02, p78

² Ibid., p78

market as mentioned in the last MSP report at \$92 million. That is less than 1% of the total value of trade in 2011. In addition, CMSC payments have been declining significantly since 2005. This is a direct result of improvements made to the market by the IESO working with stakeholders.

The MSP has issued reports roughly about every six months since market start. These reports provide useful information and insight into some of the more complex aspects of the market. The reports also provide recommendations. Given the complexity of the market as well as the interaction with complex regulations and often private contracts, assessing the impact of MSP recommendations can be extremely challenging. Any recommendation should be thoroughly stakeholdered with all impacted parties prior to implementation. After effective stakeholdering, the fuller picture becomes clear and the broader implications are understood. Once these additional details (not necessarily known to the MSP) are identified, the best course of action can be determined. The MSP recommendations often identify important issues to delve further into, but the specific recommendations may not always be the most appropriate course of action. It would be wrong therefore to conclude that all MSP recommendations should be implemented without further examination, which is what the AG appears to have done.

APPPrO is strongly opposed to elimination of constrained-off CMSCs but instead recommends further open dialogue between market participants, the IESO and the MSP on the topic of constrained payments and closely related issues such as potential changes to the two-schedule system.

However, design changes aimed at improving the overall efficiency of the IESO Administered Market (IAM) should be considered only if it can be demonstrated by rigorous assessment and analysis, including careful consideration of the impacts on market participants and in particular OPA-contracted generators, that these changes will provide an overall net benefit to Ontario.

Why Constrained-Off Payments Should be Maintained

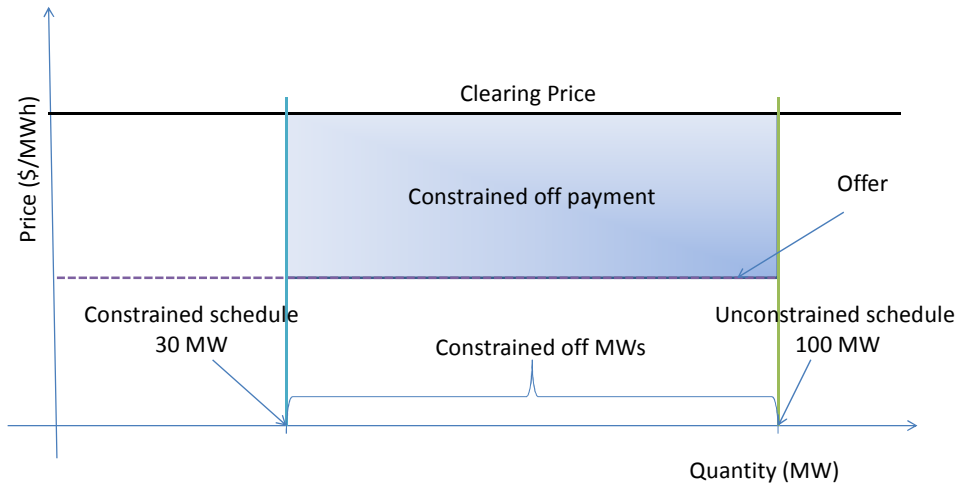
This note will first outline the reasons why constrained-off payments occur and then provide several reasons why they are an essential component of Ontario's uniform price model.

Background

In Ontario's electricity market there are two schedules: the constrained and the unconstrained. The unconstrained is a simple model whose primary purpose is to determine the uniform clearing price for energy. It ignores many key physical constraints and represents the transmission network as one perfect conductor to which all load, generation and interties to neighbouring markets are attached. The limited ability to transfer power from one area of the province to another area is completely ignored in the unconstrained schedule. This simple model also assumes that generators can change output three times faster than they physically can. On the other hand, the constrained model is used to determine how much energy is required from each resource. The constrained model recognizes physical constraints such as transmission limits, the distributed nature of transmission losses, real generator ramping constraints, and many other factors actually taking place in the power system. Because we have two different models with different constraints we have two schedules – the constrained and the unconstrained, and these schedules can differ for any resource at any time. It is important to note that both the constrained and unconstrained models determine the lowest cost solution to meet the demand – each using somewhat different sets of constraints. Because Ontario's uniform price is determined ignoring the realities of the transmission system, we can end up requiring some generation from resources whose offer prices are greater than the uniform clearing price and being unable to use other generation priced below the clearing price.

Why do we have constrained-off payments?

When the constrained schedule for a resource for a given 5-minute interval is less than the unconstrained schedule, the resource may earn a constrained-off payment. This payment compensates the resource for the profit it lost based on its constrained schedule relative to what it would have made based on its unconstrained schedule. In the chart below it is shown as the shaded rectangle between the constrained and the unconstrained schedule and between the clearing price and the offer curve.



How do constrained-off resources benefit consumers?

It is important to note that the full quantity of the unconstrained schedule remains in the unconstrained model used to set price. For example, in the chart above, the full 100 MWs offered to the market are economic and scheduled even though only 30 MWs are able to be used in the constrained schedule. This 70 MW constrained-off block helped to lower price by its presence in the unconstrained stack of offers, even though it was not required in the constrained schedule. It would not be fair to the supplier offering this energy to take the full 100 MWs to obtain a lower price but only pay for the 30 MWs that was allowed to generate. The designers of Ontario's uniform price model recognized this inequity and included constrained payments; both constrained-off and constrained-on, as integral components of the uniform price model.

Potential Implications of Eliminating Constrained-Off Payments

Higher Energy Price

If constrained-off payments were discontinued then the unconstrained model must be re-worked to only use that portion of the offer that was scheduled in the constrained solution. Doing otherwise would be completely unfair and would amount to accepting a benefit (lower price) from the offer while not paying for that benefit. Simply speaking this would amount to a form of misappropriation. Removing the constrained-off energy from the unconstrained model would result in an increase in the clearing price of energy. It is difficult to determine what the net impact on cost to the consumer would be due to the myriad of contracts layered over the market, however at least 10% of this price increase would be realized by the consumer and removing the constrained-off payments would also trigger increases in uplift. Larger loads greater than 5 MWs would likely face a

relatively greater price increase due to the relatively lower portion of Global Adjustment charges that they are exposed to.

Interaction with Operating Reserve, Cost Guarantees, Contracts and Regulated Rates

Capacity above the constrained energy schedule is often used by the dispatch algorithm for operating reserve. If the constrained-off portion of capacity was no longer eligible to earn energy CMSCs, this capacity would be removed from the unconstrained solution and therefore would not be available for operating reserve. This would result in an increase in operating reserve prices. CMSCs are also included in determining generator cost guarantees. If constrained-off CMSCs were disallowed modifications would be required to the newly implemented day-ahead generator costs guarantees as well as the real-time guarantees. This change would also lead to an increase in the uplift costs. CMSCs paid to generators under contracts and regulated rates have been taken into account when the regulations and contracts were written. Removing constrained off payments will likely require modifications to contracts and regulations to offset the lost CMSC revenue.

MSP Recommendations, IESO Responses and Effective Dialogue

The MSP has issued reports roughly about every six months since market start. These reports provide useful information and insight into some of the more complex aspects of the market. The reports also provide recommendations. Given the complexity of the market as well as the interaction with complex regulations and often private contracts, assessing the impact of MSP recommendations can be extremely challenging. Any recommendation should be thoroughly stakeholdered with all impacted parties prior to implementation. After effective stakeholdering, the fuller picture becomes clear and the broader implications are understood. Once these additional details, not necessarily known to the MSP are identified, the best course of action can be determined. The MSP recommendations often identify important issues to delve further into, but the specific recommendations may not always be the most appropriate course of action. It would be wrong therefore to conclude that all MSP recommendations should be implemented without further examination. The auditor general's 2nd recommendation acknowledged this need for additional broader consideration by inclusion of the word "appropriately" in the recommendation, "The Board will work with the IESO to ensure that high-priority recommendations made by the MSP are appropriately addressed in a timely manner."

Since 2003, the MSP has recommended that constrained-off payments be eliminated. This recommendation was followed up with a consultation in which 14 participants responded with the majority opposed to the elimination of constrained-off payments for a variety of reasons. Following this consultation, numerous changes have been made by the IESO to address many of the original concerns raised by the MSP regarding CMSCs. The IESO also undertook three stakeholder activities to consider locational marginal pricing in 2003-4, later in 2006 and in 2011 at the IESO's Electricity Market Forum. As a product of the EMF, the IESO will be initiating further discussions in the near future to consider potential solutions to the current two-schedule system. The total cost of CMSCs has reduced significantly since market start and now represents a relatively small cost to the market as mentioned in the last MSP report at 92 M\$.

Constrained-off payments are not equivalent to "paying for nothing", but in fact are payments in return for the benefit of a lower price from energy that was offered

economically, was fully available but was unable to be used due to actual physical constraints of the transmission system – some of which were completely ignored when calculating price.

In conclusion, APPrO is strongly opposed to elimination of constrained-off CMSCs but instead recommends further open dialogue between market participants, the IESO and the MSP on the topic of constrained payments and closely related issues such as potential changes to the two-schedule system.