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Constrained Off payments to Exports

Introduction

There is a benefit to the Ontario market from encouraging exports. The Ontario transmission provider receives revenue for exports across its ties. These payments do lower the cost for transmission charged to internal load. Also the Ontario generator in turn receives payments for energy that would not have been consumed by Ontario domestic load.

This memorandum describes one of the matters under review as result of the urgent rule amendment related to uncontested export interties (MR-00243).

At the time that the urgent rule was being developed questions were raised both to the purpose of constrained off payments to exports as well as to the financial benefit that the provision of these payments provides to the IMO administered market.

As explained below, constrained-off payments to exports exposes the IMO-administered market financial payments that appear to provide no overall benefit. As the options for mitigating these payments go far beyond the issues related to uncontested export interties, we are seeking discussion and opinions through the IMO's existing stakeholder processes.

The current market design treats exports the same as internal loads from the perspective of providing payments in the event they are constrained-off due to transmission limitations internal to Ontario. This approach was adopted so as to ensure non-discriminatory treatment between loads inside and outside of Ontario. Exports pay or receive constrained off payments caused by internal congestion.

There are, however, a number of considerations related to fundamental differences in the situation for loads inside and outside Ontario that are worthy of note.

First, the constrained off payment to exports provides exporters with a form of perfect insurance against the transaction failing due to internal congestion. If an export is constrained off, the Ontario Market, through the CMSC regime, is in effect agreeing to pay the export its lost profit opportunity up to the lower of its replacement costs or the level of its bid. The payment can effectively compensate the exporter for its costs to obtain energy elsewhere. This payment is "socialized" across all loads.

On the other side, there are arguments that the structure of the IMO-administered markets, unlike certain neighbouring markets, does not allow participants to schedule transactions ahead of time. Participants only find out the hour before if their transactions are in the final schedule that will be used to arrange interchange schedules. Although warning of impending failure and / or the export being constrained off is given many hours in advance.

The core question is, if constrained off export payments are removed will the level of exports be reduced. If the same level of exporting will occur without the payment what are the benefits derived from the payment?

One might argue that this subsidy provides an incentive for export-oriented generation to invest and locate in Ontario. However due to the relatively low occurrence of constrained off exports, 24.5M\$ over all the surrounding markets, the value of this subsidy would be small in comparison to the revenues that a new generator could expect to earn. Therefore one would expect that any investment decision based on this would be marginal at best. In fact, in locating to avoid internal

transmission congestion, the generator itself can help overcome the loss of such constrained off payments.

One could equally construct an argument that a new load which views Ontario as an attractive market to purchase energy from, has no incentive to locate in Ontario with the provision of constrained off export payments. When the load cannot obtain that energy from Ontario due to its export being constrained off, the Ontario market will compensate the load for its extra costs to obtain those MW's elsewhere. The reciprocal of this does not exist as neighbouring markets will not compensate "external" load for non-delivery. This in and of itself could potentially distort investment.

The constrained-off payment for exports may also promote an inefficient power flow across all electricity markets. Traders may choose to flow through Ontario because there is no risk that the return from the transaction would be unattainable due to Ontario transmission constraints. One can construct an example that shows that such trade globally leads to higher costs to loads overall and hence is less efficient.

So long as constrained off export payments are retained, there is a potential of very large constrained off payments to exports without apparent benefit. The only control on the size and duration of the payments is, the Ontario market pays:

1. The historical reference price associated with the transaction or
2. the lower of the replacement costs or the bid price.
3. Up to a maximum replacement cost of MMCP.

The Ontario Market has no control over both the size of the payment (up to MMCP) nor the events in the other market that may determine the size of this payment. With the implementation of the urgent rule amendment related to uncontested export interties (MR-00243), the Local Market Power framework will now review these payments. However it would not recover the amounts if the exporter can justify these payments as actual replacement cost in the other market.

Market Rules

Most exports would not in practice be investigated under local market power and the constrained off payments would be made as most exports are assumed to be occurring within competitive zones or when sufficient competition is deemed to occur.

Appendix 7.6 of the Market Rules does provide some guidance for review of these payments. Namely payments would be viewed as entirely justified as long as:

- i) the current bid price is comparable to recent historical bids, or
- ii) the current bid corresponds to replacement costs"

Appendix 7.6 of the Market Rules dealing with Local Market Power allows a participant to offer different reference prices that should be used for recalculating CMSC. The presumption being if the participant can justify their actual costs were higher than the reference price, then the lower of their bid price or replacement costs would be used.

1.4 Additional Considerations

1.4.3.2

The IMO shall provide the Registered market participant for the investigated facility with a reasonable opportunity to make representations as to why the investigated price does not represent an abuse of local market power and does

not justify the recalculation of the settlement credit referred to in section 1.1.3. As part of its representations, the registered market participant may request that the IMO apply alternate high end or low end values in place of those prescribed by section 1.3.8 for the purpose of replacing the investigated price pursuant to section 1.5.

1.6 Inquiry

1.6.6 The IMO shall determine the range referred to in section 1.6.1 with respect to an investigated facility that is a constrained on dispatchable load or constrained off dispatchable load (note: this reference includes exports) in accordance with the following:

1.6.6.1 the low end of the range shall be 90 per cent of the value or opportunity costs associated with that portion of a facility's consumption that was dispatched as a constrained on dispatchable load which may be determined on the basis of:

- a. net profit or value associated with consumption, excluding the costs of purchasing energy;
- b. opportunity costs, which may be the alternate cost for obtaining energy for consumption; and
- c. any other appropriate value or benefits of consumption to the market participant,

adjusted,.....

1.6.6.2 the high end of the range shall be 100 per cent of the amount calculated in accordance with section 1.6.6.1 and adjusted, as may be applicable and as the IMO may determine appropriate, by adding an amount equal to the cycle costs incurred in circumstances where the facility was dispatched as a constrained off dispatchable load.

Discussion

In deciding upon the schedule of the Export, two separate and distinct dispatch decisions are made:

1. In the unconstrained schedule, whether the export is economic to schedule.
2. In the constrained schedule, whether the export can actually be delivered taking into account system conditions.

Constrained off exports happen for several reasons:

1. an energy limited zone caused by internal transmission limits
2. an energy limited Province
3. the 700 MW net ramp change
4. New York two hour transaction Process

If both the Unconstrained and Constrained schedules are equal, the export consumes, pays the Zonal / Market Clearing Price and receives no other compensation. But in reality, higher cost generation may be required to satisfy the export. If higher cost generation is constrained on to provide the export, these payments are "socialised" across all loads, including exports. The export in relation to the size of the domestic load pays a small proportion of this increased CMSC payment.

Exports are constrained off to address constraints/limits internal to the Province. If exports are constrained off, they receive a “payment” equivalent to the difference between their constrained and unconstrained schedules to compensate them for their “lost opportunity”. The constrained off payment is made equaling the difference between the bid price and the zonal / market clearing price multiplied by the MW’s chosen. In the case of the export the “lost opportunity” being the difference between the price they are willing to pay up to, their bid price, and the Market Clearing Price.

Total Constrained off Export Payments since Market Opening from May 1, 2002 to Sept 9 by zone are:

CONSTRAINED OFF PAYMENTS TO EXPORTS						
	MBSI	MISI	MNSI	NYSI	PQDA	PQHZ
2002	\$ -	\$429,000	\$ -	\$9,438,000	\$57,000	\$128,000
2003	\$944,000	\$415,000	\$3,288,000	\$8,180,000	\$326,000	\$172,000

While these payments in comparison to the total annual market of 10B\$ is small, there is the open question as to what is the benefit provided. The Market over the last year and nine months has provided in the order of \$23 Million in constrained-off payments to exports. In the first ten days of November constrained off export payments due to internal limits near one interface have totaled over 1.1 M\$.

Of note is the fact that the export in being constrained off also raises the MCP, despite not actually receiving any electricity. This a consequence of the methodology used for determining the uniform price and is no fault of the external load itself.

Given this payment further inefficiencies can occur, for example by encouraging wheeling of bilaterals through Ontario, as the treatment of exports in the Ontario market is more favorable than transiting through the another market. In fact the transit via other markets may be cheaper but the potential of securing compensation for transmission congestion is more attractive via the Ontario route.

As an example, a trader who is exporting from Michigan to New York can potentially enrich the value of this contract by selling the Mw’s to the New York counter-party in Ontario. The New York counter party now with a financial position in Ontario and in possession of a TR (transmission right) is financially hedged against the curtailment of these Mw’s while providing no economic advantage to the Ontario market and at no significant cost to the Trader.

Other Markets Treatment of Constrained off Resources.

The continued existence of the constrained off export payment seems exclusive to the Ontario market. In terms of equal treatments in other markets, importers to Ontario who are “constrained off” in other markets due to TLRE’s, internal transmission or security issues etc. receive no compensation from those markets for the lost profit opportunity in Ontario.

The New York market while it does not have constrained off payments, may have a somewhat similar mechanism for compensation of internal congestion via what are termed TCC’s. TCC’s are transmission rights that are similar in nature to TR’s sold in the Ontario Market for congestion at the external zones. The cost of the TCC is determined by auction and the common understanding is that the price paid by the participant to own a TCC should be approximately equivalent to the expected internal congestion. Thus a holder of a TCC will be compensated for internal congestion

similar to a constrained off export payment. The fundamental difference between Ontario and New York is the holder of the TCC has essentially paid for the internal congestion upfront via the auction process. In Ontario these payments are socialized across all loads.

In the surrounding markets which use LMP, this issue does not surface, no reciprocity appears to exist. In bilateral markets such as MISO, which includes Michigan, Minnesota and Manitoba constrained off exports from MISO to Ontario due to security issues in MISO provide no benefit / compensation to an Ontario market participant whose profits have been reduced from the loss of this economic import.

The lack of these types of payments from other markets does not appear to have in any way hampered trade to Ontario.

Benefits to the market

Taking into account dissimilar treatment in other markets, there appears to be no direct benefit from the payment to the constrained off export. In a qualitative sense the only economic benefit that might be argued is that the offering of this product may attract generators who view exports as an integral part of their siting decision to site in Ontario. The size of the payments themselves would likely not justify an alternate siting decision. The generator if it sites appropriately can mitigate this risk on its own.

Potential Options to Deal with constrained off payments to exports

Three options exist:

A) Status Quo: The constrained off payments to exports provides a benefit to Ontario – Accept the Risk

If it is felt that there is a benefit either financial or qualitative to the market that it overwhelms the payments made by the market then Status Quo remains. This can be construed as the spot market offering a “System firm contract with replacement costs for lack of delivery”.

The exporter, while they continue to require the arbitrage opportunity between markets to make a profit can continue to gain the protection of the contract if internal conditions do not allow the export. In order to fully assure themselves the protection of the contract and reduce their risk exposure they would continue to use the products offered into the market.

1. by having a TR to protect themselves against congestion on the inter-tie
2. by holding a financial position in Ontario or an expectation that the Ontario price won't go against them and they don't make the arbitrage.

The only remaining risk being that if they are constrained off and the price goes higher than their bid price they receive a –ve CMSC for their undue profit. (Note: if not constrained off, they would have paid a higher price for the energy than their bid)

Since market opening Constrained off payments have been roughly 15 times as large as –ve CMSC's.

Since Market Opening the total –ve CMSC by zone is:

	CONSTRAINED OFF					
	MBSI	MISI	MNSI	NYSI	PQDA	PQHZ
Total -CMSC	-\$ 994	-\$ 26,373	-\$ 2,262	-\$ 780,412	-\$ 11,157	-\$ 58,440

b) No Constrained Off Payments to Exports – Eliminate the risk

The Elimination of Constrained Off Payments to exports essentially provides equal treatment as per other markets and completely removes:

1. the risk of large financial payments to the market and
2. the potential inefficient behavior of utilizing Ontario to firm up export contracts.

While exports that provide arbitrage opportunities continue to be encouraged that provide:

1. Economic Exports from Ontario continue to be System Firm
2. But are no longer financially Firm

There is a small downside risk to the exporter from being constrained off and having to pay a –ve CMSC payment, as a by-product of their avoiding the high zonal price by virtue of being constrained off (and not receiving the export).

There are two ways to implement this option. Maintain the –ve CMSC payment or remove these as well. In fairness this payment from the trader should also be eliminated.

C) Partial Constrained Off Payments to Exports – Cap the Risk

If it is felt that their continues to be some benefit from the provision of constrained off export payments to compensate costs associated with having the export constrained off the Financial Risk could be capped by allowing a small payment in relation to the market Clearing Price in Ontario. As an example a payment of 5% of the MCP to reflect some out of pocket costs etc. for obtaining transmission that could not be used.

One would have to consider what to do with the –ve CMSC risk that the Traders has when they do export and whether the small payment in relation to MCP is sufficient to cover that risk.

By paying only up to a small portion of MCP to cover incidental costs the Financial Risk associated with other markets is capped.