

Comments of Manitoba Hydro on Issue #40 - Locational Pricing for Intertie Transactions

Submitted September 19, 2008

Reference Documents

- 1) Market Pricing Working Group August 13, 2008 Issue Description Paper: *ISSUE 40: Locational Marginal Pricing for Intertie Transactions*
- 2) IESO Presentation dated August 19, 2008 titled *Issue #40 - Locational Marginal Pricing for Intertie Transactions*

Summary

The subject IESO proposal to implement locational marginal pricing (LMP) for intertie transactions (the Proposal) represents an attempt to split the Ontario into two classes of market participants, with different rules for those within Ontario, and with different rules for those outside of Ontario. These two classes of market participants should, in theory, be competing with each other. However, the Proposal creates a situation that due to a transmission constraint within Ontario, a generator or load within Ontario would see a different price (the uniform Market Clearing Price) than a similar load or generator located just outside of Ontario (who receives the interface locational marginal price). Thus, the Proposal is highly discriminatory with respect to the way that it treats external market participants with respect to transmission constraints within Ontario. There is no technical or cost causation justification for this discriminatory treatment, and in fact the primary justification given for the Proposal relates to “inefficient net exports to New York ¹” that may create a very slight upward pressure on the Ontario HOEP.

The Proposal creates new significant gaming opportunities for generators within Ontario in relation to newly created Transmission Rights from the intertie zone to the reference bus. Elimination of this gaming opportunity requires a full day ahead market (not just a unit commitment process), and more thorough monitoring of the generation offers, including prohibiting the

¹ See first paragraph of Market Pricing Working Group August 13, 2008 Issue Description Paper: *ISSUE 40: Locational Marginal Pricing for Intertie Transactions*

submission of offers below variable production cost. Failure to prohibit such offers to uneconomically produce power creates gaming opportunities for generators within Ontario to create negative shadow prices or LMPs in constrained areas via their low priced offers (which also discourages imports), and then collecting inappropriately large payments on the Transmission Rights they could hold from the congested area.

The highly discriminatory treatment can significantly disadvantage importers and exporters and hence creates an unlevel playing field which ultimately will reduce competition in the market and in the long run, increase prices for the Ontario consumer. Further, to the extent that U.S. generators are treated adversely compared to their Ontario counterparts, this may be deemed to be a violation of NAFTA with respect to intertie transaction to and from the U.S..

1. Proposal is Discriminatory with Respect to Pricing on Congestion within Ontario

The Proposal seeks to introduce a form of discrimination to the Ontario market that does not currently exist. Specifically, with respect to imported power from entering Ontario on the Manitoba –Ontario or Minnesota–Ontario interface, the Proposal essentially means that the imports will be paid a different and often lower price than local supply within Northwestern Ontario, even though both sources of supply have essentially the same impact on the East-West transmission constraint within Ontario.

The current intertie zone pricing could be considered a form of LMP. However the only constraint considered in determining if there is congestion on an intertie such as Manitoba–Ontario is the interface capacity of the that particular intertie. Obviously power flows from generators within Ontario do not have to flow over an intertie to reach the Ontario market because the generators are already located within the Ontario market. Thus the current intertie pricing zones do in fact treat external and internal generation equivalently with respect to flows over the intertie because generation within Ontario does not flow over the interties.

The Proposal essentially gives power flows from generation within Ontario preferential treatment for congestion within Ontario in comparison with

power flows from imports, and could be considered discriminatory under a FERC 888 type pro forma transmission tariff.

2. Proposal Discourages Imports and Reduces Competition in Ontario

By favouring supply within Ontario, the discouraged imports reduce competition within Ontario, leading to increased prices for Ontario consumers. Consider the following situation for Northwestern Ontario:

- Supply surplus in the Northwestern Ontario such that East – West tie is fully loaded with 250 MW flow towards Toronto;
- The unconstrained market price is \$60, set by southern Ontario generators. Each additional 250 MW of supply in southern Ontario costs an additional \$1 MWh;
- Load in Northwestern Ontario is 800 MW; and
- Import offers from Minnesota and/ or Manitoba are 200 MW @ \$30;
- Local generation offers, based on variable costs of generators with Northwestern Ontario are 300 MW @ \$25 MWh, 300 MW @ \$35 MWh, and 300 MW at \$45 MWh.

Under uniform pricing, all offers are accepted in the unconstrained run, and 50 MW of one of the local generators would be paid a constrained off payment of $\$60 - \$45 = \$15$ MWh.

As the pricing calculations for the Proposal have not been detailed, exact impacts can not be determined. Assume the LMP in Northwestern Ontario is less than \$30 such that the Import offers from Minnesota and/ or Manitoba of 200 MW @ \$30 are not accepted. This loss of import supply causes an additional 200 MW of supply in southern Ontario to be selected – increasing the market clearing price by almost \$1 MWh. Discouraging imports in this example increases the Ontario market clearing price. Further, import offers of \$30 are not being accepted, and yet internal supply offers in southern Ontario in the \$60 MWh range are being accepted thus clearly illustrating the non-level playing field.

By discriminating against imports from a pricing perspective, imports are discouraged, and ultimately there will be fewer imports and less competition in the Ontario market. The IESO may want to evaluate whether this discrimination against imports and favoritism of generation within Ontario

disregards the prohibitions contained in the Competition Act (R.S. 1985, c. C-34). Indeed, it is interesting and important to note IESO's very own internal training material² which consistently sets forth statements to the effect that '[t]he market rules were designed so *that no participant unduly suffers or benefits by their location relative to the IESO-controlled grid*'³, and "CMSC returns a participant to their market schedule operating profit when their market and dispatch schedules are different. This is done because the market rules reflect the principle that *no participant should be unduly benefited or harmed because of their physical location in relation to the transmission grid*"⁴. (Emphasis added).

Section 79 of the Competition Act provides:

(1) Where, on application by the Commissioner, the Tribunal finds that

(a) one or more persons substantially or completely control, throughout Canada or any area thereof, a class or species of business,

(b) that person or those persons have engaged in or are engaging in a practice of anti-competitive acts, and

(c) the practice has had, is having or is likely to have the effect of preventing or lessening competition substantially in a market,

the Tribunal may make an order prohibiting all or any of those persons from engaging in that practice.

The preceding Section 78 provides examples of 'anti-competitive' acts. It is important to note that the list is not exhaustive.

IESO completely controls all aspect of the transmission grid operation within Ontario. It can be argued that by attempting to introduce a pricing scheme unique to intertie zones serves to reduce competition from generators located outside of IESO, to the benefit of generators within Ontario, and this has the effect of "having or is likely to have the effect of preventing or lessening competition substantially in a market".

² IESO Marketplace Training; August 2008. *Interjurisdictional Energy Trading*. Retrieved from http://www.ieso.ca/imoweb/pubs/training/Workbook_IJT.pdf

³ *Ibid.*, at p. 26.

⁴ *Ibid.*, at p. 25.

3. Proposal Discriminatory Treatment May Violate NAFTA

NAFTA contains several key provisions specifically dealing with the import and export of energy. For example, Article 604 provides:

“No Party may adopt or maintain any duty, tax *or other charge* on the export of any energy or basic petrochemical good to the territory of another Party, unless such duty, tax or charge is adopted or maintained on:

- a. exports of any such good to the territory of all other Parties; and
- b. *any such good when destined for domestic consumption.*”
(Emphasis added).

Similarly, Article 605 goes on to specify:

“ . . . a Party may adopt or maintain a restriction . . . with respect to the export of an energy or basic petrochemical good to the territory of another Party, only if:

- b. the Party does not impose a higher price for exports of an energy . . . to that other Party than the price charged for such good when consumed domestically, *by means of any measure* such as licenses, fees, taxation and minimum price requirements.” (Emphasis added).

Finally, Article 606 provides in part:

“1. The Parties recognize that energy regulatory measures are subject to the disciplines of:

- c. export taxes, as provided in Article 604.

2. Each Party shall seek to ensure that *in the application of any energy regulatory measure, energy regulatory bodies within its territory avoid disruption of contractual relationships to the maximum extent practicable, and provide for orderly and equitable implementation appropriate to such measures.*” (Emphasis added).

With the inception of NAFTA, several commentators outlined what was the basic premise behind maintaining the current energy regulatory framework:

ie: in order to continue to encourage the freest possible bilateral trade in energy between the 2 nations. In particular:

“Both countries have agreed not to explicitly or directly intervene at the border to discriminate on price”.⁵

Similarly, with reference to Article 903 of the Canada-U.S. Free Trade Agreement (NAFTA Article 604):

“Article 903 on export taxes restates the obligation . . . not to impose *taxes or charges on exports* unless the same tax is applied to energy consumed directly.”⁶ (Emphasis added).

And commentary on Article 904 (NAFTA Article 605) provides in part:

“can’t charge higher prices for exports when such restrictions are used for *short supply, conservation or domestic price stabilization reasons*.”⁷ (Emphasis added).

It is clear that the introduction of LMP at intertie zones only and not including the entire IESO footprint and the simultaneous elimination of congestion management settlement credits (CMSC) is discriminatory and therefore appears to violate both the spirit and intent of the foregoing energy specific provisions of NAFTA. In any cases of import congestion on the IESO grid, U.S. generators may be deterred from exporting into the Ontario market as the intertie zone price may be lower than Ontario’s MCP. Similarly, exports from Ontario into the U.S. market will not be favoured by the U.S. as the LMP paid for that energy at the congested intertie zone could be higher than the price paid for the same energy destined for domestic consumption in Ontario, an apparent violation of Article 604. Either way, U.S. generators are treated on an unequal basis vis-à-vis their Ontario counterparts. And to the extent that IESO and its interjurisdictional counterparties have operated for some time on an agreed to pricing mechanism, it would be incumbent upon IESO to implement any changes thereto on an *orderly and equitable* basis.

⁵ Ritchie, Gordon. “The Canada-U.S. Free Trade Agreement” in Donald M.cRae and Debra P. Steger ed. *Understanding the Free Trade Agreement* (The Institute for Research on Public Policy 1988) at p. 12

⁶ The Canada U.S. Free Trade Agreement; The Department of External Affairs, Copy 10-12-87; at p. 142

⁷ *Ibid.*

The IESO should satisfy market participants, by obtaining an external legal opinion prepared by Counsel with NAFTA expertise, that the Proposal does not expose the IESO to NAFTA challenges.

4. Imports are an Important Part of the Ontario Market

The IESO and/ or the Market Surveillance Panel are aware of and have previously discussed the importance of imports to the Ontario market⁸. Imports provide needed competition for generators within Ontario, helping to reduce prices for Ontario consumers. Introducing a pricing regime that is liable to treat imports at a disadvantage in comparison to generation within Ontario only serves to hurt imports and in turn hurts the Ontario market.

5. Proposal Introduces Significant Gaming Opportunities for Ontario Generators

One of the biggest shortcomings of the Proposal is the failure to recognize it creates significant gaming opportunities for generators within Ontario. Again consider the example previous cited in Section 2.

Local generators within Ontario are under no obligation to offer in at their cost. As the IESO already noted “For example, in certain regions of Ontario (e.g. Northwest) bids and offers are not always reflective of the true cost of production”⁹. Thus local generators within the Northwest appear to be offering into the market at prices well below their variable production cost in order to commit their generation, and this is within the current market rules. As the IESO further noted: “In such cases, use of shadow prices calculated on the basis of bids and offers may not be appropriate”¹⁰. A new Transmission Right between the Northwest Zone and the Reference bus would pay an amount similar or equal to the shadow price at the Reference bus minus the Northwest Zone. If the shadow price(s) in the Northwest can

⁸ For typical discussion, see “Imports and exports are a key component of the Ontario Market”, as noted in the December 13, 2006 MSP Report titled “Monitoring Report on the IESO-Administered Electricity Markets”, page 26-27.

⁹ Market Pricing Working Group August 13, 2008 Issue Description Paper: *ISSUE 40: Locational Marginal Pricing for Intertie Transaction*, at page 3.

¹⁰ Market Pricing Working Group August 13, 2008 Issue Description Paper: *ISSUE 40: Locational Marginal Pricing for Intertie Transaction*, at page 3.

be altered by the offer strategies of the local generation within the Northwest, so too could the Transmission Rights value. Offering generating into the market at large negative value could artificially depress the shadow price (the LMP in the Northwest), and cause huge and unjustified payments to the TR holders. Hence an internal generator has an incentive¹¹ to purchase TRs, offer in low, depress the shadow price, and collect large TR payments, while excluding external generators from being dispatched due to the negative shadow price. Hence the value of the new Transmission Rights from the Northwest Zone to the Reference Bus could be changed in a non-competitive manner to the detriment of other market participants in the region, particularly the importers and exporters. This represents a significant gaming opportunity for local generators, and will serve to reduce external supply- reducing competition in the market.

To avoid this situation, a number of important design features that are already present in other markets would have to be implemented in Ontario. In particular, a full day ahead market with a unit commitment process is required so that generators can be assured of covering their startup costs and not have to engage in the practice of offering in at negative prices just to ensure their unit is committed. Further, market rules and monitoring must be significantly enhanced to prohibit uneconomic production of energy (i.e. negative offers or offers below variable production cost) as it can create Transmission Rights gaming opportunities as previously described. Negative shadow prices currently have no settlement or dispatch implications for market participants, but will determine dispatch and settlement for intertie transactions under the Proposal.

6. Proposal is Incomplete

The Proposal lacks a number of details required for market participants to do a complete analysis, including:

- How the new Transmission Rights (TRs) internal to Ontario would be defined, auctioned and settled;
- How the uniform market clearing price would be calculated if some imports are accepted in the unconstrained run, but do not clear the market in the constrained run. Today those offers are accepted, the supply used to reduce the uniform market clearing price, and then a constrained off payment may be made. Such

¹¹ This argument does not imply any particular market participant would actually behave in this manner.

treatment with respect to reducing the uniform market clearing price would no longer be appropriate¹²;

- How the intertie locational marginal price is established. Presumably some iterative calculation would be required starting with the uniform market clearing price, and then adding or subtracting import/ export bids and offers one at a time and recalculating the uniform market clearing price and an LMP at each interface until a solution is reached;
- Whether the LMP calculation includes a losses component or just a congestion component;
- Cost – benefit analysis, with scenarios considering the coal phase out;
- Analysis of how imports to Ontario may be reduced and the resulting impact on reliability.

7. Current Favourable Supply Situation in Ontario Will Change

The driver behind the Proposal appears to be “inefficient net exports to New York”¹³ that may be creating slight upward pressure on the Ontario HOEP. The net exports to New York are indicative of a favourable supply situation in Ontario at the present time. However, with the impending phase out of coal fired generation on Ontario there will be upward pressure on prices as the marginal fuel moves from coal to more expensive gas fired generation. Ontario is likely to again swing from a net exporter to a net importer in a few years time – just as the Proposal is implemented. The net effect could be that importers to southern Ontario end up being paid more for the imports than generation within Ontario. Undoubtedly, Ontario generators would then be upset that they are being paid less than the imports they are competing with.

¹² The IESO noted the issue in the Market Pricing Working Group August 13, 2008 Issue Description Paper:

ISSUE 40: Locational Marginal Pricing for Intertie Transaction, at page 3, in stating “The appropriateness of including intertie bids/ offers in the calculation of the pre-dispatch uniform market clearing price should also be reviewed”.

¹³ See first paragraph of Market Pricing Working Group August 13, 2008 Issue Description Paper: *ISSUE 40: Locational Marginal Pricing for Intertie Transactions*

8. Other Easier Ways to Improve the HOEP and Reduce the Dispatch Cost Wedge

The Proposal noted that the IESO had previously argued “the 12 times ramp rate dampens the HOEP and therefore creates a greater wedge between the HOEP and the actual cost of dispatch”¹⁴. If the goal of the IESO is truly to reduce the gap or wedge between the HOEP and the actual cost of dispatch, there are many other simpler and more direct ways to reduce the wedge than discriminating against imports and exports as outlined in the Proposal. For example, the IESO could simply reduce the ramp rate from 3 times down to one time – a change that could be implemented at almost zero cost to the IESO and treats all market participants the same.

9. Implications of Trade Discrimination for Other Energy Markets

With respect to imported power from western Canada entering Ontario on the Manitoba–Ontario interface, the Proposal essentially means that the imports will be paid a different and often lower price than local supply within Northwestern Ontario, even though both sources of supply have essentially the same impact on the East-West transmission constraint within Ontario. Such price discrimination based on source of supply could have negative implications for Ontario if it spreads to other types of energy. Could Alberta or the U.S. charge a higher price for natural gas just because it is going into Ontario? Is this not what Ontario is proposing to do with respect to power exports to New York – charge exports to New York an LMP which is higher than the uniform market clearing price? As a net importer of primary energy, Ontario is unlikely to win in an energy trade war, even if it started it.

10. Conclusion

As has been demonstrated by the foregoing arguments, the Proposal is fraught with many problems, including an incomplete explanation of how the Proposal would be implemented (thereby preventing market participants from fully analyzing the impacts of the changes), neglecting to explore simpler and more effective options in order to eliminate the perceived

¹⁴ See first paragraph of Market Pricing Working Group August 13, 2008 Issue Description Paper: *ISSUE 40: Locational Marginal Pricing for Inertie Transactions*

problems, and an overall failure to recognize and explore the discriminatory nature of what is being projected and the concomitant violations of key legislation.

The Proposal will inevitably treat market participants on a discriminatory basis depending on their location on the grid; it will damage the credibility of an open, competitive market that rightfully fosters needed competition and in the end, may end up hurting Ontario consumers, particularly once coal is phased out.

Manitoba Hydro respectfully submits these comments for the consideration of the IESO and the Market Pricing Working Group.

Market Access
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