

March 20, 2024

Some Quick Fixes for a Broken Market, And then the Possibility of an Enhanced Electricity Market for Alberta

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Matters commented on: Market Surveillance Administrator, “[Advice to support more effective competition in the electricity market: Interim action and an Enhanced Energy Market for Alberta](#)”, (21 December 2023, released 11 March 2024) (MSA Advice); Supply Cushion Regulation, [Alta Reg 42/2024](#), and Market Power Mitigation Regulation, [Alta Reg 43/2024](#).

On March 11, 2024 Nathan Neudorf, Alberta’s Minister of Affordability and Utilities, issued a [press release](#) announcing two temporary adjustments to Alberta’s electricity market rules to lessen opportunities for economic withholding and to create new rules for so-called “long lead time” generation assets with a view to further constrain opportunities for physical withholding. Long lead time generation assets are generators that require more than an hour to synchronize to the Alberta interconnected system (AIES). The non-availability of such assets during tight supply periods may effectively be a form of physical withholding of generation from the electricity market which serves to drive up the pool price. Economic withholding refers to the practice of bidding physically available generation into the pool “at prices sufficiently above marginal cost that the generator is not dispatched” also serving to drive up the pool price (MSA Advice at 4).

While economic withholding seems counter intuitive in an energy only market (EOM), since a generator is only compensated if it is dispatched, it does offer opportunities to large generators such as TransAlta and Heartland (and [note that TransAlta is set to acquire Heartland with closing schedules for some time in the first half of 2024](#)). As the MSA put it in its advice to the Minister and Executive Council: “A generation firm benefits from economic withholding to the extent that it receives the higher pool price for the electricity it does sell (the incentive to exercise market power). As such, only relatively large firms have an incentive to economically withhold” (MSA Advice at 4). See also Market Surveillance Administrator, “[State of the Market Report, 2012, An Assessment of Structure, Conduct, and Performance of Alberta’s wholesale electricity market](#)”(10 December 2012). The MSA works through an example of economic withholding at 40 of that report. ABlawg has previously discussed economic withholding [here](#) and [here](#).

Both economic and physical withholding result in consumers paying more than they otherwise would if large generators were not able to exercise this market power and as such represents a wealth transfer from consumers to generation. Alberta’s EOM prohibits physical withholding (see *Fair, Efficient and Open Competition Regulation*, [Alta Reg 159/2009](#) at s 2(g) (FEOC Regulation)). However, a generator that operates its assets in accordance with the rules of the ISO (generically the acronym for the Independent System Operator, more specifically in Alberta this would refer to the AESO or Alberta Electric System Operator; both ISO and AESO are used interchangeably in this post) is clearly entitled to say that it is not engaged in unlawful physical

withholding. In this case the relevant rule is Rule 202.4, Managing Long Lead Time Assets (LLT Rule) ([ISO Consolidated Rules](#) at 63). By contrast the MSA has long tolerated economic withholding on the grounds that it is a necessary evil in the context of an EOM so as to allow owners of generation assets that are only dispatched to meet peak demand (e.g. simple cycle natural gas assets) to recover their capital costs. While the result is a certain static inefficiency in the market, the MSA observes in its current report that “[t]his approach has traditionally worked well for Alberta as the market has been competitive and sustained high average prices were not common until recently” (MSA Advice at 11). But as the MSA has noted in successive quarterly reports in the last few years, the market power of major generators like TransAlta increased in 2021 with the expiry of power purchase arrangements (PPAs) and the resulting return of offer control to the asset owners. Furthermore, the market power of these generators is enhanced when the growing amount of intermittent generation is low (MSA Advice at 17 and 18). For previous ABlawg commentary describing the role of the PPAs in enhancing competition in the first decades of Alberta’s electricity market see [here](#), [here](#), and [here](#).

At the same time as announcing these two “adjustments” to deal with near term issues, Minister Neudorff also made it clear that he was directing the AESO, with the support of the MSA, to start the process of designing and then implementing a Restructured Energy Market (letter to the AESO [here](#); letter to the MSA [here](#)). Readers will recall that the last major discussion of market restructuring in Alberta was the proposal to add a capacity market to the existing energy market (discussed on ABlawg [here](#)). The United Conservative Party (UCP) cancelled that idea within weeks of taking office in 2018. While the MSA’s Advice is quick to assert that the “capacity market proposed in 2016 would not have solved the current issues in the electricity system” (at 11) it is far from clear to me why that is such an obvious conclusion. In any event, having made the decision to stay with the energy only market in 2018 the UCP seems to have thought that it could simply leave things as they were until rudely disabused of that notion by both high market prices and increasing concerns about supply reliability with the changing nature of Alberta’s generation mix.

The Short-Term Adjustments

Both of the short-term adjustments adopted by Minister Neudorf, attenuation of economic withholding and new rules for long lead time generation assets, flow from the recommendations of the MSA. The MSA reports regularly to the Minister and the public generally on the state of Alberta’s energy markets, particularly the electricity markets and especially the wholesale market (with some lesser attention to the retail market). The MSA’s most important and timely report is its regular quarterly report (see most recently its [Q4 Report for 2023](#)) but it also produces an annual offer control report. This report is required by s 5 of the FEOC Regulation, which also specifies that no one party shall at any time have “offer control in excess of 30% of the total maximum capability of generating units and energy storage resources in Alberta.” Since 2021 the MSA has elected to publish market share offer control data in its Q1 report, and most recently therefore in its [2023 Q1 report](#) (at 48 – 52).

In my view, the MSA meets a very high standard in its reporting on the state of the market in Alberta. Although well illustrated with appropriate graphs, there is nothing glossy about these reports, and while technical in nature, the MSA usually offers appropriately couched explanations

for a non-technical audience. The MSA achieves this and fulfills its other responsibilities on a budget [of about \\$5 million](#) (by contrast the AESO, prone to slick and glossy publications, but also with significantly larger responsibilities, has an *administrative* budget of about [\\$100 million](#).)

The current Advice Report that is the subject of this post is a different creature from the MSA's usual reports. It responds to a specific request for advice regarding "whether any ... legislative or regulatory reforms are required to support more effective competition in our electricity market in order to support affordability and other outcomes in the consumer interest" (MSA Advice at 3 and 9). While the MSA's quarterly reports from time to time do provide observations on market structure and issues, such as security of natural gas supply for Alberta's fleet of gas generators, that is not their principal focus. In this case the MSA focuses entirely on market design issues and specific advice.

In my opinion the MSA's Advice offers an excellent example of what I have previously called a "white paper" approach to policy development in Alberta (see "[Do We Need a Forum Within Which to Discuss Issues of Electricity Law and Policy in Alberta?](#)"). It contains a careful identification of the problem(s), the identification and assessment of options to address the problem, and implementation suggestions for the preferred option. And in this case the MSA proposes both short-term and longer-term solutions. There is, however, one significant difference between the MSA's Advice and the usual understanding of a white paper. The MSA's Advice was not designed to support an informed debate on options for electricity market design. Instead, it was provided to the Minister and Executive Council on a confidential basis, and only released to the public once the MSA's short term recommendations had been incorporated in regulations.

In making its short-term recommendations, the MSA was clearly cognizant of the dangers of government having to repeatedly reopen the electricity policy framework, and it therefore focused on "no regrets" measures that should help set the industry up for success over time (MSA Advice at 27).

The First Adjustment: Attenuation of Economic Withholding

As noted above, it is the MSA's assessment that the increase in market power, primarily resulting from the expiration of PPAs, has allowed large incumbent generators to engage in significant economic withholding. The MSA concluded that this problem should be addressed in the near to immediate future. It began by observing that market power issues can be addressed by *ex ante* or *ex post* regulatory measures. *Ex ante* measures refers to measures that can be taken in terms of market design rules to reduce the ability of large incumbent generators to exercise market power. A simple example (but not something that the MSA proposed) would be a new rule that lowered (perhaps dramatically) the current market share of offer control rule, from 30% to (say, for example) 10%. *Ex post* measures refers to surveillance and enforcement measures. The MSA clearly, and wisely, prefers *ex ante* measures:

... enforcement requires clarity about what is prohibited. Further, because there is no direct intervention before the pool price is set, ex-post mitigation cannot guarantee that pool price will not be impacted by undesirable offer behaviour. Importantly, in an enforcement proceeding, only the prosecuted party's ill-obtained profit may be disgorged (i.e., third

parties that profited in the form of higher settlement prices are not at risk of disgorgement). (MSA Advice at 29 – 30)

And “ex-post mitigation is often time-consuming and costly” (*ibid* at 30). Note that there is a similar discussion of competition issues in the AESO’s design documents for a capacity market in 2018; for discussion see this [ABlawg post on capacity market design](#) (at 5).

But *ex ante* measures largely fall within the remit of the AESO rather than the MSA. The MSA itself is fundamentally an *ex post* regulator (see *Alberta Utilities Commission Act*, [SA 2007, c A-37.2](#) at Part 5), and while the MSA has the mandate to comment on AESO rule changes (see *Electric Utilities Act*, [SA 2003, E-5.1](#) at s 20.9 (*EUA*)), to urge adoption of rule changes, and even to make complaints about AESO rules (*EUA* at s 25(1.1)), the MSA has no authority to actually initiate or adopt such rule changes.

But, given the Minister’s request for advice, the MSA went on to outline in some detail how a new *Market Power Mitigation Regulation*, Alta Reg 43/2024 (MPMR) might work, and how a new ISO rule might effectively mitigate economic withholding behaviour. The MSA considered four options (outlined at 31 – 32), but its preferred option was for a secondary price cap. This would involve developing maximum offers (the secondary price cap) for those with offer control of prescribed generating units to be implemented in any one month, once it could reasonably be assumed that the generator had already recovered in that month two-twelfths of the annualized capital costs of a hypothetical generator. The MSA suggested that, once this assumed recovery had been achieved, the owner of the unit “for the largest firms” should be subject to an offer limit of the higher of “(i) 25 times the day-ahead natural gas price (approximately 3 times marginal cost) or (ii) \$100/MWh for the balance of the month.” (MSA Advice at 30). This would be referred to as the Secondary Offer Price Cap (the primary price cap is the current \$999.99/MWh). The MPMR would authorize this approach, but the MSA recognized that it would need to be implemented by a new ISO rule which, in the MSA’s view, could be achieved by requiring the AESO to rely on s 20.6 of the *EUA* dealing with the expedited approval of AESO rules. Section 20.6 provides as follows:

20.6 (1) If, in the opinion of the Independent System Operator, a matter that is addressed in an ISO rule is urgent or there are other sufficient reasons that require that an ISO rule takes effect expeditiously, the Independent System Operator may

- (a) file the ISO rule with the Commission for the Commission’s consideration under subsection (2), and
- (b) request the Commission’s approval for the ISO rule to take effect under subsection (4).

(2) The Commission shall consider and make an order with respect to an ISO rule filed under subsection (1)

- (a) within 2 Commission business days after the date the ISO rule is filed if, in the material filed with respect to the ISO rule, the Independent System Operator indicates that a matter that is addressed in the ISO rule is urgent and affects the reliable supply of electricity or the safe and reliable operation of the interconnected electric system, or

- (b) within 5 Commission business days after the date on which the ISO rule is filed in any other case.
- (3) On considering an ISO rule under subsection (2), the Commission shall, by order,
 - (a) approve the ISO rule taking effect in accordance with subsection (4), if, on information provided by the Independent System Operator, the Commission is satisfied that a matter that is addressed in the ISO rule is urgent or there are other sufficient reasons that require that the ISO rule takes effect expeditiously, or
 - (b) refuse to approve the ISO rule taking effect in accordance with subsection (4) in any other case.
- (4) If the Commission makes an order under subsection (3)(a) with respect to an ISO rule, the ISO rule takes effect on the later of
 - (a) the date of the order made under subsection (3)(a), and
 - (b) the date specified in the ISO rule.
- (5) On making an order under subsection (3), the Commission shall publish notice of the ISO rule.
- (6) The Commission shall, not later than 5 Commission business days after the day an ISO rule is filed under this section, begin to consider the ISO rule in accordance with [section 20.21](#).

The reference in subsection 6 of s 20.21 is a reference to the usual processes for review and adoption of proposed ISO rules. This section puts the onus on the AESO to demonstrate that the proposed rule is not technically deficient; supports the fair, efficient, and openly competitive operation of the electricity market; and is in the public interest. In addition, the AESO must also comply with the relevant rules of the Utilities Commission, specifically in this case Rule 017 of the [“Procedures and Process for Development of ISO Rules and Filing of ISO Rules with the Alberta Utilities Commission”](#). This rule requires notice and opportunities for market participants and the MSA to participate in the process for developing the rule. Section 8 of the rule addresses the procedures for expedited approval. In effect, the expedited approval procedure offers a mechanism for interim approval of a new rule pending full consideration in light of all the criteria established by s 20.21.

The government has adopted the MPMR very much as recommended by the MSA. The regulation contemplates that it will apply to electricity market participants when notified by the AESO. Those parties will then be subject to a secondary offer price cap until the end of that month (MPMR at s 2). The Regulation modifies the price cap proposed by the MSA insofar as it will now be the greater of 25 times the day ahead gas price, or \$125/MWh, versus the \$100/MWh proposed by the MSA (MPMR at s 3(6)). The Regulation contains a number of carve outs as listed in s 4. In particular, the secondary price cap will not apply to renewable generating units, or energy storage units, or other generators that have offer control of generation that is less than 5% of generation capacity as determined by the MSA under the FEOC Regulation (above). Hence the Regulation has effectively translated the MSA’s terminology of “largest firms” into any firm that has offer control of 5% or more of generation.

This does not mean that there is a price cap of \$125 MWh for units owned by a party that is subject to this Regulation; it simply means that owners of such units will not be able to set the system marginal price (SMP) during any part of a month that they are subject to an ISO direction. But if

another unit that is not subject to a direction (e.g., a gas peaker owned by a small market participant) is the unit that sets the SMP, then, as is the case now, all units that are dispatched to meet market demand will receive the SMP up to the current price ceiling of \$999.99/MWh.

As for implementation, s 6 of the MPMR stipulates that:

6(1) The ISO shall make or amend any ISO rules to facilitate the requirements and the objectives of this Regulation.

(2) The ISO shall file the required ISO rules under subsection (1) so that they are in effect by July 1, 2024.

In sum, while the Regulation come into force immediately, it only becomes effective once the AESO has adopted the necessary implementing rule and secured the AUC's approval of that rule - even if only on what is, in practical terms, an interim basis.

Note that this section does not require the AESO to make its application under s 20.6 of the *EUA*. Such a direction would probably be unlawful insofar as the section stipulates that it is the AESO that must form the opinion that an expedited process is necessary, but clearly the AESO is free to reach that conclusion itself.

The Second Adjustment: A New Rule for Long Lead Time Assets

The current ISO rule for long lead time assets is Rule 202.4, Managing Long Lead Time Assets (LLT Rule) ([ISO Consolidated Rules](#) at 63). The Rule allows market participants to take these assets offline and then leave them offline until they choose to make them available (MSA Advice at 19). According to the MSA, historically, market participants used the LLT Rule “to cycle off unprofitable assets to mitigate losses during periods of high intermittent generation or low demand” (*ibid*). But, beginning in 2021, generators began to leave some of these assets offline during periods of high prices and low supply cushion in order to exercise market power. This led to the following concerns:

Exercise of market power through the LLT rule raises concerns when compared with economic withholding. First, economically withheld supply is still available to meet demand once the price becomes sufficiently high. In contrast, assets that are offline through the LLT rule have long start-up times that prevent them from reacting quickly to a reliability event.

Second, the LLT rule may sustain market power over longer durations than would be enabled through economic withholding alone. Market participants can adjust their offers up to two hours before delivery, which allows them to react to high prices and compete for dispatch. This competitive pressure limits the exercise of market power. If an asset is offline through the LLT rule, it cannot be returned quickly, so market participants can offer at high prices with less pressure from their competitor. With recent patterns of renewable energy, economic withholding is less at risk and profit is easier to sustain. (MSA Advice at 20)

The MSA also noted another concern with respect to LLT-based withholding:

Unlike economic withholding, where non-minimum stable generation offers are raised to very high offer prices, putting an asset on LLT removes these offers from the market altogether and the minimum stable generation block that would otherwise be offered at \$0/MWh with them. (MSA Advice at 37)

Furthermore, while the rule was never intended to provide an opportunity to physically withhold as a strategic offer practice,

... there is a lack of clarity in the rule language that provides participants more discretion than warranted. In addition, without this clarity, the MSA cannot enforce this rule. This results in units that are not available when required and, equally problematic, economic withholding that can be excessive without assets online to compete. (MSA Advice at 36)

The MSA envisages both short and long-term responses to these concerns. The longer-term response it anticipates is the creation of day-ahead market. For the shorter term, the MSA recommended the creation of a unit commitment mechanism,

... whereby the AESO would evaluate, on a continuous rolling basis, whether to direct generators on LLT status online if the generator is likely considered economic or is needed for reliability. In the event a directed generator does not breakeven, it would receive an out-of-market reliability payment so that it does breakeven. Only dispatchable generators would be eligible for these payments. (MSA Advice at 37)

Further to this, the MSA advised that the ISO rules must be changed to ensure that once an asset is cycled off, an operator must clearly communicate its intention to return to the merit order.

In response to the MSA's recommendations, the government has adopted the *Supply Cushion Regulation*, Alta Reg 42/2024 (SCR). The Regulation applies to owners of long lead time assets defined as above (i.e. an asset that requires more than one hour to synchronize to the AIES). The owners of such assets are required to provide the AESO with information about the physical constraints associated with the asset, as well as the cost parameters for the asset including all variable charges, emissions costs, and fuel costs (SCR at s 3). Sections 4 and 5 of the SCR authorize and require the AESO to determine the anticipated cushion for each settlement interval (currently, every hour), and, if it determines that that cushion is less than the supply cushion threshold, the AESO must issue unit commitment directives for assets subject to the regulation in order to minimize the deficit and for the safe, reliable, and economic operation of the AIES. An owner of an asset that is not already synchronized that is subject to a directive must synchronize the asset and ramp up that asset to its minimum stable generation level and continue to operate it "until at least the end time specified" by the AESO (SCR at s 5(3)(a)). In return, the owner of the asset is entitled to a "cost guarantee" as contemplated by s 32(b) of the *EUA*. That is to say:

.... the ISO must pay the pool participant for a long lead time asset the incremental and prudent generation costs incurred by the pool participant from operating the long lead time asset up to but not greater than the minimum stable generation level in compliance with a

unit commitment directive, net of pool price revenue received by the pool participant in the settlement intervals during which the long lead time asset responded to the unit commitment directive. (SCR at 7(1))

The AESO in turn is directed to recover any such costs through a “a pro rata fee charged to every pool participant with energy consumption and production during the settlement intervals in which the unit commitment directive was issued” (SCR at s 7(6), referring to *EUA* at s 21). And finally, much as with the *Market Power Mitigation Regulation*, s 9 of the SCR directs the AESO to “make or modify any ISO rules to facilitate the requirements and the objectives of this Regulation.”

Going Forward: An Enhanced Energy Market (EEM) for Alberta

The final ten pages or so of the MSA’s Advice contain the MSA’s recommendations for the evolution of Alberta’s electricity market as it responds to the challenges posed by the increased penetration of renewables and the need to ensure a competitive market. This is not the place to examine those recommendations in detail. Suffice it to say, the MSA’s principal recommendation is the adoption of a day ahead market (DAM), which the MSA describes as “a financial market where market participants purchase and sell electric energy at financially binding day-ahead prices for the following day” (MSA Advice at 42). In this scenario, the real time market is an imbalanced market that serves to address the differences between the market as projected on a day ahead basis and actual events. As the MSA explains:

Suppliers that sell day-ahead and face outages must “buy back” from the real time market. Loads that do not procure in the DAM and secure a forward price for the energy needs must buy at real time prices which often reflect scarcity. (MSA Advice at 42)

There are many sobering thoughts in the MSA’s Advice, but one that stuck with me was the MSA’s comment to the effect that:

Developing and implementing an EEM for Alberta will take a number of years, and will be considerably more complex an undertaking than the capacity market was. Based on this experience, and experience elsewhere, the MSA estimates it will take at least five years to fully develop and implement an EEM. (MSA Advice at 29)

I followed the multi-year efforts to develop a capacity market from the margins, but it was mind-numbing in its complexity. Going forward it will be essential to ensure that consumer and environmental (net-zero) interests have the capacity to participate in an informed way in the important debates on the evolution of Alberta’s enhanced energy market.

Other Matters

The MSA’s advice also contains valuable commentary on other issues, including the increased need for ancillary services to meet the stability and ramping challenge created by the increased penetration of renewables, and the costs of building transmission to meet a zero-congestion policy and to tie-in renewables, which may have a low rate of utilization of that transmission (MSA Advice at 21 – 26.)

A Concluding Thought

In one way or another, the MSA's Advice is critical of the AESO. Reading between the lines, and even expressly in some cases (see especially the MSA's discussion of the AESO's current LLT Rule, MSA Advice at 36 – 40, and the longer-term proposals at 40 – 51), the MSA is telling on the AESO. And the story the MSA is telling is that the AESO has not been proactive enough to deal, at least in an *ex ante* way, with the market challenges posed by the termination of the PPAs leading to increased market power and enabling more widespread use of economic withholding, with the resulting unjust wealth transfers from customers to generation. It is perhaps also of note that others are also alleging that the AESO has failed to discharge its statutory obligations to facilitate competition in other ways, such as by failing to restore the effective capacity of Alberta's interconnections with other jurisdictions. See the complaint filed by [BHE Canada Limited Complaint with respect to AESO Management of Interties and Imports](#).

Of course, the charge of failing to take proactive measures to preserve and foster the competitiveness of Alberta's electricity market might also be levelled at the Department of Energy and Minerals. And some might even level the same charge at the MSA itself. The MSA may not be able to do much on the *ex ante* side, but, historically it has used its Offer Behaviour Enforcement Guidelines (OBEG) to provide its view as to offering practices to the power pool and as to whether those practices conform to or breach the FEOC standard; and the MSA can, as noted above, complain to the Utilities Commission that ISO Rules do not “support the fair, efficient and openly competitive operation of the electricity market” (*EUA* at s 25(1.1)).

I am guessing that there has been a lot of finger-pointing going on between the different regulatory players in the electricity sector over the last few years, but especially since the release of the MSA's Advice. It would be fun to be a fly on the wall!

This post may be cited as: Nigel Bankes, “Some Quick Fixes for a Broken Market, And then the Possibility of an Enhanced Electricity Market for Alberta” (20 March 2024), online: ABlawg, http://ablawg.ca/wp-content/uploads/2024/03/Blog_NB_Market_Surveillance_Administrator_Advice.pdf

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