
ECONOMIC WITHHOLDING
IN THE ALBERTA ENERGY MARKET

A FOLLOW-UP

APRIL 30, 2002



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1 INTRODUCTION

Market Development published a discussion paper to industry on the topic of economic withholding and facilitated a Participant workshop on the topic, both in March 2002. The Pool has received considerable feedback on the topic. This paper is aimed at:

- summarizing the original analysis and conclusion;
- summarizing the feedback received as well as the issues outstanding; and
- outlining next steps to address economic withholding in Alberta.

2 ECONOMIC WITHHOLDING

2.1 SUMMARY OF PAPER

The discussion paper entitled “Economic Withholding in Alberta” addressed four separate issues regarding economic withholding: (1) what is it? (2) what is the impact of the behaviour? (3) does economic withholding need to be mitigated? and (4) if mitigation is required, in what form? The paper concluded that:

1. Economic Withholding (“EW”) is defined as an exercise of market power intended to raise the market price above competitive levels by pricing offer blocks high enough to effectively “withhold” or reduce the quantity of supply that is offered at “competitive” prices. It was concluded that energy could be offered at higher prices than on a cost basis as long as (i) suppliers assume the risk of being out of merit, and (ii) if offered in such a way that it does not preclude a market response.
2. An examination of the “impact” of economic withholding concluded that depending on the ability of the market to respond to price signals, the impact of economic withholding ranged from minimal to significant. The paper outlined that the market is relatively competitive and therefore able to naturally mitigate against high priced offers in advance of the delivery hours. This mitigation is accomplished through response of both load and supply, including imports and generators to forecasted price signals. It was concluded, however, that in the real-time market that the impact of economic withholding could be significant in some hours. In real time, both demand and supply elasticity (response) is lowest due to import scheduling restrictions, timing constraints for start up of intra Alberta generators, and demand response limits.

To demonstrate the potential use of the locking restatement rule as a form of economic withholding, the paper examined three major incidents. An analysis of these incidents demonstrated that the use of a locking restatement during the hour of delivery does result in a distortion to the SMP mainly due to the inability of the market to respond. Regardless of whether the impact is sustained (by design or due to market response), the magnitude of the change to SMP (in concert with the fact that the behaviour can be repeated) warrants review. The key major incidents were used as examples to demonstrate the potential market impact; however, this behavior is also common with smaller megawatt shifts.

3. The paper outlined that not all exercises of market power require mitigation – that is, the total benefits of mitigation should not exceed the total costs of doing so. However, the conclusion was reached that economic withholding during the delivery hour could occur when restatements are used to move volume to higher priced blocks. These restatements could result in a significant impact to the System Marginal Price (SMP), even if the only for the delivery hour.
4. Based on the impact assessment outlined above, the mitigation options focused on how to mitigate the real and potential impact of economic withholding that occurs during or just before the delivery hour mainly through use of a locking restatement. The paper proposed to change the locking restatement rule so that there would be a time delay of up to two hours between the time a restatement is received by the Pool and the time it is implemented. This time delay would give the market time to react to the restatement.

Many Participants have provided feedback about the Pool’s analysis regarding market power. It should be noted that while the Pool conducted an analysis of the impact of economic withholding, which is clearly a subset of market power, we did not examine fully the scope of market power. The analysis did not include an overview of holding restrictions, agent relationships, or forward contracting. Instead our focus was on EW as an exercise of market power that may or may not be sustainable, but certainly has the potential for high impact and repeatability (as demonstrated throughout the spring and summer of 2001.)

3 FEEDBACK AND ANALYSIS

The Pool has received significant feedback and response from industry on the Economic Withholding paper and workshop. Some of the feedback indicates a misunderstanding of the intent of the analysis; others indicate a preference for next steps. This section briefly summarizes feedback from industry.

Definition:

There is general agreement that economic withholding should be based on a comparison of offers to competitive price levels and not be based on a comparison to input costs. This threshold allows for the development of a competitive market instead of a quasi-regulated, obligation market.

“Sustainability” and Market Power:

Market Development has received considerable feedback on the issue of whether the incidents of economic withholding highlighted at the workshop constituted ‘sustainable’ market power. It has been determined that indeed the use of locking restatements can sustain an arbitrarily high price for a period of hours after a significant change in offers dependent on market response.

Under market conditions during 2002, the behavior is unlikely to be sustained for several hours in sequence, nevertheless the use of the locking restatement to cause arbitrary price spikes can be repeated and therefore be “sustainable” in some market conditions.

Furthermore, because the behaviour can be strategically repeated, Market Development considers the use of economic withholding an exercise of market power.

Actions of economic withholding need not be sustained for any minimum time period for them to be of concern. Acts of economic withholding that can be sustained on a sporadic and/or cyclical basis, where an undesirable behavior repeats itself under certain market conditions are also of concern. The exercise of market power through economic withholding must be profitable, since unprofitable actions are unlikely to repeat themselves.¹

Need for Locking Restatement:

There was a concern about the removal of the locking restatement rule on two main fronts:

- Concern about the impact of limiting restatements to the ancillary services (“AS”) market. Without locking restatements, participants may be unable to meet any obligations they have for standby ancillary service products if they are dispatched when their plant is not positioned to minimum run amounts for energy. This limitation may stifle participation in the AS market.
- Concern about restricting unnecessarily Participant flexibility by removing the locking restatements. It was suggested that while the locking restatement is infrequently used for operational purposes, it is used for market purposes and should remain as a risk and portfolio management tool. Further, some suppliers indicated that they used the locking restatement to manage minimum run time risk in a dispatchable market. Some load customers refuted this suggestion indicating that with locking restatements during the hour, loads assume more of the balance of risk – “if loads should face the risk in the RT market, then generators should as well.”

It has become clear that eliminating or constraining the use of locking restatement outright without consideration of exceptions for AS standby and possibly for operational reasons would create different issues and likely gaming in the market around these rule changes. Accordingly, further design efforts should be undertaken to find the least intrusive way of achieving the overall objective of limiting the impact of economic withholding. Some options may include a rolling gate model and/or “limits” for restatements.

Some Participants requested a complete analysis of the impact of the restatement rules on the marketplace. While the majority of locking restatements are used to move volumes to lower priced blocks, a comprehensive analysis to determine the net impact to the market of all restatements was not necessary at this time. This is because many locking restatements are used for minor portfolio adjustments to manage commitments made in the AS market and occasionally for operational reasons. Further, the Pool’s attention is on the delivery hours and few restatements applied to only the current delivery hour.

¹ FERC market power monitoring and mitigation panel, Technical Conference on Market Structure and Design. Docket No. RM01-12, February 7, 2002.

Mitigation:

The views of how to mitigate EW varied as well:

- Some indicated that if it is concluded that EW is an issue, it is better to prevent the behaviour (ex-ante²) instead of allowing the behaviour to continue while monitoring and sanctioning the behaviour after the fact (ex post³). Allowance is already provided in the definition of EW for a generator's ability to "search for price" above cost levels; however, EW during the hour of delivery is an extreme version of this behaviour in the time frame the market is least able to respond to. It should be prevented.
- Others indicated that elimination of the restatement rules did not "suit the crime" and was "overkill" mainly because the behaviour was not viewed to be "sustainable" over long periods of time. Along this line, some indicated that since the market in some instances (i.e., outside of the delivery hour) "naturally" mitigates EW; the view was that further limitations are not required. Generally, those in this camp concluded that no mitigation was required, but if the Pool concluded mitigation was required, the ex post approach was preferable to the ex ante approach in order to maintain flexibility to those who are not using the rule to exercise market power.

Market Surveillance Feedback:

In addition to the feedback summarized above, the MSA submitted a formal response on the topic of economic withholding. The MSA's comments can be viewed at www.powerpool.ab.ca/market_surveillance/index.html. In this letter, MSA has reiterated its concern over the use of the locking restatement to change offers at "the moment of consumption." MSA has also indicated its support for the direction that Market Development has undertaken. Finally, the MSA's letter provides some precedence should ex post evaluations of EW occur – that is, the examples outlined in the March 4, 2002 paper, though for only one hour, would warrant investigation. This precedence is useful in considering an ex post solution.

4 ANALYSIS AND OPTIONS

4.1 IMPACT OF ECONOMIC WITHHOLDING

The impact of economic withholding is a function of time of day, amount of energy moved, magnitude of the price change, load response, and supply response. The locking restatement rule was originally created with the vision of allowing suppliers to be able to adjust their offers over the course of the day in response to operational events and changing fuel costs. In actual use, it has evolved to be a tool for market positioning. The use of the locking restatement during the delivery hour can cause a significant distortion to SMP and this impact can be sustained depending on market response. Further, since the behaviour can be repeated, a pattern of impact can occur which can be viewed as "sustainable."

² Ex ante refers to actions "before" or in advance of an event.

³ Ex post refers to actions "after" or following an event.

The locking restatement was frequently used in the year 2001 to arbitrarily raise the Pool Price resulting in a complaint to the MSA and a subsequent investigation. The frequency of use of the locking restatement has diminished significantly from 2001 to the current year. This has been driven by a number of factors including a change in market fundamentals, most notably the price of power traded through Mid-C (which in the spring of 2001 was in excess of \$400) and by the added competition in Alberta resulting from 1778 MW of new supply since 1999. Further, reduced prices at Mid-C have made imports competitive with Alberta thermal generation and made the export market less attractive for Alberta generation. The more competition in the Alberta market on the generation side, the less likely that economic withholding can be successful.

While current market conditions might not lend themselves to the frequent and systematic use of the locking restatement to arbitrarily raise prices, there is no reason to believe the market fundamentals that persisted last year could not repeat themselves again at some time in the future. Accordingly, Market Development believes that it is prudent to act pro-actively to resolve the outstanding problem. This is in the best interest of all market Participants to ensure confidence in the resulting price signals. That being said, an appropriate solution is required; one that does not create other market issues.

4.2 OPTIONS

Because the impact of economic withholding in the delivery hour is a function of the occurrence and the response to it, the options for mitigation can be quite varied. These options can have varying degrees of implementation complexity and downstream market impacts. Nonetheless, some mitigation choice is required due to the potential significance of the impact that this issue, while other options can be considered for a later implementation date.

Market Development has examined the feasibility of both an ex ante and an ex post mitigation approach. A brief summary of ex ante versus ex post options are outlined below followed by a high level analysis of the choice between these mitigation strategies.

4.2.1 Ex Ante

Because the impact of EW during the delivery hour can be significant, notwithstanding whether the impact is sustained for sequential hours, one option would be to prevent or limit the behaviour from occurring – i.e., ex ante mitigation. In this approach, changes would be required to the locking restatement rule to “limit” the ability of EW to occur. Some options include:

- ◆ Eliminate the use of the locking restatement during the delivery hour
- ◆ Limit the use of the locking restatement during the delivery hour (by limiting size of MW movement, or by limiting the price delta)
- ◆ Develop “offer screens⁴” as used in other jurisdictions to identify and prevent any adverse impact to the market from restatements.

⁴ As noted in the Economic Withholding in the Alberta Market, March 4, 2002 paper, many markets have developed bid or offer screens and have set trigger points to limit changes or offers which are outside of some predefined

An ex ante option could reduce the ability of generators in the real time market to seek a higher price in a tighter market. However, the design of the rule is to allow for management of operational concerns – the price risk for participants can be managed through a portfolio approach instead of relying on the RT market for cost and revenue management.

4.2.2 Ex Post

An ex-post approach would not limit any behaviour through restatements in the RT market, but would investigate occurrences of EW against some criteria to determine if sanctions are warranted on an after the fact basis. This approach would be considered if the occurrences are not regular and/or if the marketplace can accept sanctions as a solution to the behaviour. This would likely require a change to Rule 2.9 to establish the criteria for examination of EW behavior.

4.3 EVALUATION

The ex ante and ex post options each have their respective advantages and downsides. The following chart overviews some of the pros and cons of these approaches.

Ex Ante	<p>Pros</p> <ul style="list-style-type: none"> • Reduces the ability for EW to occur during “limited response” periods of the market, makes delivery hour a true delivery hour without repositioning 	<p>Cons (dependent of type of ex ante option chosen)</p> <p><u>Restatement rule changes:</u></p> <ul style="list-style-type: none"> • Impacts on the AS standby market • Limits flexibility in the market for other uses of restatement rule. <p><u>Offer Screens:</u></p> <ul style="list-style-type: none"> • “Limits” or “Screens” require further discussion to model and determine. May be cumbersome
Ex Post	<p>Pros</p> <ul style="list-style-type: none"> • Does not limit the flexibility of participants while ensuring that sanctions can be issued for offending offers. 	<p>Cons</p> <ul style="list-style-type: none"> • Does not eliminate the potential for EW • Ex Post does not “refund” impact but only sanctions offender. • Price signal is not clear as

limits. An offer screen is a mechanism by which an offer is compared to some criteria before it is accepted into the merit order, usually impact of offer submission or change to submission on market price.

		<p>deviations to PP may be a result of EW and not market fundamentals</p> <ul style="list-style-type: none"> • Requires market precedent to establish guidelines for sanctioned behaviour.
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Finally, an evaluation of the options should consider the market evolution that may effect the Alberta marketplace. For example, if the market warrants a limit to restatements during the delivery hour for both mitigation and operational reasons, perhaps a rolling gate model should be developed for consideration.

5 RECOMMENDATIONS

Based on the analysis conducted and feedback received, Market Development has concluded that we need to develop a solution to address the impact and potential for economic withholding during the delivery hours.

Market Development has the following recommendations regarding mitigating economic withholding:

- ◆ For the time being, mitigation of economic withholding particularly during the delivery hour should occur on an ex post basis.

An ex ante approach cannot be chosen at this time due to the need for exceptions to the rule, which would undermine the rule change. However, since this issue warrants a timely response and may not require ex ante mitigation, it is recommended that any use of the locking restatement rule during the delivery hour be analyzed for evidence of economic withholding and be evaluated against an impact threshold.

- ◆ In order to facilitate the ex post evaluation by the MSA of any “abuse of market power through economic withholding”, changes will be made to Rule 2.9 to establish a set of criteria which will be used in any occurrence to test impact and damages.
- ◆ The rolling gate model will be examined to allow additional changes to offers past noon gate close with a limit of restatements during delivery hours. Any market re-design will be considered in the context of current discussions around RTO West and FERC standard market design, as well as with regards to current discussions around congestion management.
- ◆ Consideration will be given to ex ante changes if it is warranted. Nonetheless, any further examination of ex ante options will ensure that Participants can move between the energy and standby AS markets.