

## CANADIAN SECURITY TRADERS ASSOCIATION, INC.

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The Secretary
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and

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Re: CSA Notice and Request for Comments: Proposed Amendments to the Companion Policy to National Instrument 23-101 Trading Rules: Application of the Order Protection Rule to Marketplaces Imposing Systematic Order Processing Delays

The Canadian Security Traders Association, Inc. is a professional trade organization that works to improve the ethics, business standards and working environment for members who are engaged in the buying, selling and trading of securities (mainly equities). The CSTA represents over 850 members nationwide, and is led by volunteer Governors from each of three distinct regions (Toronto, Montreal and Vancouver). The organization was founded in 2000 to serve as a national voice for our affiliate organizations. The CSTA is also affiliated with the Security Traders Association (STA) in the United States of America, which has approximately 4,200 members globally, making it the largest organization of its kind in the world.

This letter was prepared by the CSTA Trading Issues Committee (the "Committee", "CSTA TIC" or "we"), a group of 21 appointed members from amongst the CSTA. This committee has an approximately equal proportion of buy-side and sell-side representatives with various areas of market structure expertise, in addition to one independent member. It is important to note that there was no survey sent to our members to determine popular opinion; the Committee was assigned the responsibility of presenting the views of the CSTA as a whole. The views and statements provided below do not necessarily reflect those of all CSTA members or of all members of the Trading Issues Committee.

The Canadian Security Traders Association appreciates the opportunity to comment on the Canadian Securities Administrators (the CSA) proposal to amend the Companion Policy to National Instrument 23-101 *Trading Rules*, providing exemptions to the Order Protection Rule for markets which introduce systematic order processing delays (the "Proposal").

### **General Remarks**

We wish to express our dismay and disappointment that the Proposal herein, with significant ramifications for Canadian equity market structure, is being tabled only subsequent to the approval of a commercial marketplace proposal – that of the active order speed bump on Alpha Exchange. The approval of amendments to Alpha was granted on the condition that Alpha become exempt from protection under the Order Protection Rule, effectively implementing the Proposal specifically in the case of the Alpha marketplace.

We are of the view that any discussion of scope of OPR, including for speed bump marketplaces, should be conducted consistently with the general principles of public consultation on market structure issues. To our knowledge, this is the first instance that the CSA has disregarded its usual due process. In fact, a public discussion of the implications of relaxing OPR took place in the context of the May, 2014 proposals to introduce a threshold to OPR applicability, a topic which remains unresolved and outstanding. The terms of the approval of Alpha, which is slated for implementation on September 21<sup>st</sup>, 2015, suggest that the terms of OPR have now been changed notwithstanding the current proposal, without an up-front public discussion. This is inconsistent with the spirit of public consultation.

Additionally, the implications of Alpha's conditional approval is to introduce a mixed order protection regime, with some marketplaces receiving protection and others (Alpha) not. This hybrid structure has broader implications than simply offering participants the ability to opt out of routing to Alpha. Some of these topics were brought up as part of feedback on the OPR proposals of 2014. Since the CSA has not yet acted on the 2014 proposals, perhaps in part due to the complex side effects of a partial OPR regime (discussed in the CSTA's submission), we believe it is inappropriate to fast-track what amounts to partial repeal of OPR in the context of Alpha's approval.

We wish to reiterate the views expressed in our December 8, 2014 letter in response to the Alpha proposal: we believe that Alpha's systematic order processing delay (or "speed bump") should not be permitted at this time. We intend to argue against the common misconception, held by some, that problems with speed bump markets are resolved if participants can simply ignore these markets, and that they do not have any impact on routing practices or on market quality. The Alpha Exchange's "speed bump" is predicated on systematizing fading liquidity, giving providers of resting orders the option to cancel rather than trade with a market-bound order, and creating a market where investors with large orders (relative to the available resting orders across all visible books) are disadvantaged. Allowing this type of feature to exist within our visible markets represents a wealth transfer of trading economics between from large orders to small, with the institutional community bearing the brunt of the damage.

While we disagree with the introduction "speed bumps" in our visible public markets, particularly those with varying applicability to different users or order types, we acknowledge that such models are either already implemented or pending implementation. Our comments below will outline conditions for the denial of protection under OPR, notwithstanding our objections to the concept of differential access through "speed bumps."

#### **Latency as a Criterion for Order Protection**

The Proposal would withhold the application of the Order Protection Rule from any marketplace that implements an "intentional" order processing delay, without regard for either the magnitude of the delay or its scope of applicability. We stress that the topic of whether it is acceptable to have some visible marketplaces be subject to the Order Protection Rule (and others not) remains unresolved by the CSA. Nevertheless, the Proposal raises a number of issues.

## 1. Geographic and Technological Differences

To the extent that an intentional order processing delay is symmetric (i.e. applies equally to all participants and all order types), the delay could be caused equally by geographic location or technological choices. For example, evidence of order response times in Canada suggests that the difference between the fastest and slowest matching engines in the country differ by roughly two orders of magnitude. This difference exists without any marketplace stating an "intention" to slow down orders from all participants.

In the U.S., the IEX marketplace has famously introduced a delay of 350 microseconds using a hardware solution, affecting all participants equally. If this model was implemented under the Proposal in a Canadian lit market, the marketplace would lose OPR protection depending on whether the implementation is deemed "intentional." However, a marketplace which introduces the 350 microsecond delay by locating their data centre at a more distant location – perhaps through "legitimate business decisions", but without stating an overt intention to delay orders – will retain protection. Equivalently, a marketplace which implements its order gateway for all clients on obsolete and defunct technology will experience order processing latency resulting from negligence and under-investment, rather than "intention". That marketplace will also retain protection under OPR based on the Proposal.

Worse yet, a marketplace with a significantly deficient technology, or one with a geographic location very far from all other participants, could exhibit <u>greater</u> overall access times than a marketplace which "intentionally" slows orders by a de-minimis amount.

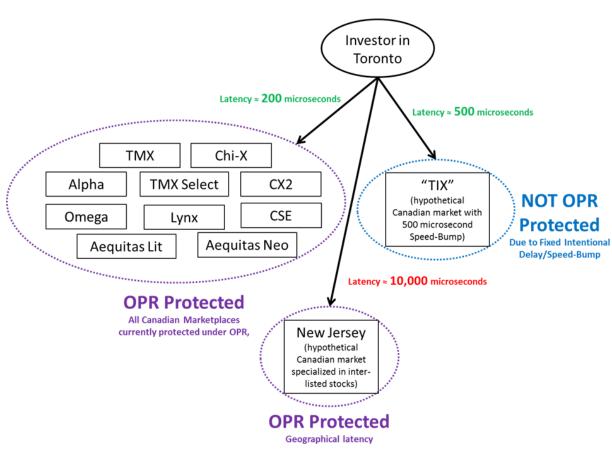
We wish to highlight that in the above examples of 1) a technologically inept marketplace, 2) a geographically remote marketplace or 3) an equally applied processing delay (such as that of IEX), "intention" would only apply in the third case. We do not believe that it is appropriate for rules to be applied to a marketplace based solely on its stated intention. Marketplace rules, including those expressed in the Companion Policy, need to apply on the basis of substance rather than corporate rhetoric.

Additionally, we have concerns with the potential for a marketplace launching in a geographically remote location for ostensible "business reasons." For example, today it is possible for a marketplace to launch operations with a data centre in New Jersey and a business model which claims to focus on interlisted stocks, justifying its remote location. Such a model would introduce a significant latency tax on Canadian participants and enable unique arbitrage opportunities because of the proximity to the US markets. Under the rules as written, this marketplace would be protected under OPR even though quotes would be subject to delay in reaching Canada, and order access would be subject to a similar

delay in access. We believe it would be inappropriate for such a marketplace to operate with the benefits of OPR today, because the cost of access (required under OPR), including probability of execution and opportunity costs of routing elsewhere, would be unreasonably high.

Figure 1 illustrates the differences in latency applicable to an investor in Toronto accessing the existing Canadian marketplaces, a hypothetical marketplace in Toronto featuring an intentional fixed delay of 500 microseconds for all participants, named "TIX", and a hypothetical market in New Jersey. Latency numbers provided are illustrative only, and do not represent expected response times. The time delay required for a Canadian investor to access the hypothetical market in New Jersey is many multiples higher than the time needed to access the hypothetical "TIX" market, even though the market in New Jersey would be considered as protected under OPR.

Figure 1



It is therefore inappropriate for the Proposal to withdraw protection under OPR on the basis of "intention" alone. Limitations to the application of OPR must be applied through a holistic analysis of a marketplace's performance in the context of the complete ecosystem. If "intentional" delays have equivalent effects to other (acceptable) forms of latency, technological or geographical, the application of OPR should depend on the impact of latency on users, regardless of the cause of the delay.

# 2. Variation of Latency based on Customer or Order Type

Some marketplaces operating in Canada, notably Aequitas NEO Exchange and Alpha Exchange, have elected to introduce discrimination to order access speed on the basis of either customer type (Aequitas NEO Exchange) or order type (Alpha Exchange). Such a decision invariably introduces questions around whether the participants subject to added delays, for whatever reason, are being unreasonably and prejudicially disadvantaged in the context of fair access to a visible marketplace. It may be that the degree of constraint is minimal and that on-balance, the regulatory view is that the constraint is reasonable. Nevertheless, we do not believe that it is appropriate allow marketplaces to enjoy the benefits of OPR in situations where that marketplace elects to disadvantage certain users over others.

We believe that order flow segmentation and segregation in the visible markets (however implemented) represents a cost to some participants and a benefit to others. We believe that order flow segmentation in the visible markets ultimately creates a need for added intermediation and added transaction costs, and that the healthiest outcomes for the overall ecosystem would be obtained through mechanisms that enable all participants to interact with the maximum amount of natural order flow, in a multilateral manner. As such, we are opposed to marketplace solutions which introduce segmentation through differential treatment of customers or order types and believe that such solutions should not be permitted in visible markets. To the extent they are permitted by the CSA, and OPR is seen as "optional" (as reflected in the Proposal), marketplaces featuring order segmentation should not enjoy the benefits of OPR.

Finally, we note it is entirely possible, and would be gravely alarming, for a marketplace to vary the technical capacity of some order entry gateways to give certain participants a speed advantage to the trading engine. Such behavior would be very difficult for the Street to diagnose and remedy. We believe that it is appropriate for marketplace regulators to audit the technical performance of marketplace systems to ensure that all parties connecting to a given marketplace are treated equally. This practice should be part of regular supervision of marketplace activities.

#### 3. Absolute Standard of Performance

The above issues are further confounded by the fact that the latency of one marketplace, intentional or otherwise, matters primarily in the context of the performance of other marketplaces. For example, if the fastest marketplace in the ecosystem states the "intention" of delaying either some or all orders by a further 50 microseconds, which would leave it as the fastest, then it is hard for us to see how this "intentional" latency matter. Any evaluation of a marketplace's performance (intentional or, as discussed above, a consequence of technology or geographical location decisions) therefore must necessarily be done in the context of performance measurement for all other marketplaces. This is challenging in practice. A comprehensive analysis would require a review of the connectivity needs of both marketplaces amongst each other, and of participants connecting to marketplaces from across the country. However, this analysis is ultimately necessary if the CSA is to be in a position to judge that a particular marketplace is "too slow" – whether intentionally or not.

We believe that in judging whether a marketplace should be denied order protection, the marketplace's principal regulator must refer to clear standards of performance. It is therefore incumbent on the CSA to develop, at a future date, performance metrics which would determine the minimum acceptable performance of all marketplaces enjoying the benefits of order protection.

#### 4. Parallels to Dark Markets

If we consider the main characteristics of a dark market to be lack of certainty of a fill, and a constraint to the protected NBBO (because dark markets cannot trade outside the visible NBBO), then a parallel must be drawn to visible unprotected markets with lack of certainty of a fill. Today, Canadian dark markets are required to provide meaningful price improvement over the Canadian NBBO, but enjoy the possibility of "first look" on active order flow. Similarly, we believe it is worthy of a regulatory examination of whether a marketplace such as Alpha, as an unprotected lit market offering poor execution certainty, should be equally required to provide some price improvement to active orders.

# **Overall Impact of Speed Bump Markets**

For the purpose of examining the impact of marketplaces featuring order processing delays, we must distinguish between three fundamentally different mechanisms of delay, for which each have different implications on participants in the ecosystem.

# 1. Fixed latency for all participants, and subject to limited variability ("Fixed delay")

Marketplaces which operate on a fixed delay will include all currently operating marketplaces with the exception of Aequitas NEO Exchange's NEO book. To the degree that marketplace latency is constant and applicable to all order flow, this "speed bump" may be implemented either intentionally through technological choices (as in the case of the IEX market in the U.S.), or through geographical location.

To the extent that a particular marketplace chooses to introduce a fixed system delay on all participants, either overtly or through choices of technology or location, the question to be asked is whether the delay is unreasonably long. For instance, in the example provided in Figure 1 of a hypothetical Canadian marketplace focused on interlisted stocks and operating in New Jersey, all participants would be subject to two important delays:

- Quote dissemination from the hypothetical marketplace would be delayed from reaching Canadian participants, presumably operating in Canada.
- Sending orders to the hypothetical marketplace based on a fundamentally delayed quote would be subject to a similar delay.

If this hypothetical remotely-located New Jersey marketplace were to be protected under OPR, participants accessing this marketplace would be operating with a potentially stale quote (since it takes time to reach Canada), raising the possibility that the quote is no longer valid by the time orders routed there reach the trading engine. Even if the quote is still valid at the time of order entry, by the time the order reaches the trading engine, the order may have already been cancelled. To the extent this occurs, fill rates to participants decline. The risk of quote cancellation increases the longer an order is "in flight." Moreover, if the participant has alternative nearby marketplaces which may be more readily accessible, the participant incurs the opportunity cost of greater fill certainty at a more closely located marketplace by routing to a "remote" marketplace. Price protection eliminates the ability of the participant to make a trade-off determination between the price quoted and certainty of a fill at that price.

We note that the trade-off argument above applies even if market data itself is not delayed. For example, the market model of the Alpha exchange, approved as an unprotected market, is based on the ability of liquidity providers to readily cancel their orders when trading conditions change. Therefore, by routing a portion of an active order to a fixed-delay marketplace, the active participant is at a disadvantage and incurs an opportunity cost, translating into order optionality value for the passive

counterparties that enjoy a speed advantage. In the case of Alpha, this speed advantage is conferred synthetically through a difference between the treatment of Post-Only orders and all other orders. In the hypothetical example of a New Jersey-based Canadian marketplace in Figure 1, the speed advantage would be represented through differences in various participants' network topology and datacenter locations.

We believe that a determination of whether a particular marketplace's a fixed delay is acceptable (whether intentional, geographic, or otherwise) can only be done through a holistic analysis of all components of the order flow chain in that marketplace, in the context of other marketplaces. As we discuss above, we believe this ultimately requires the CSA to determine standards of performance for marketplaces, which would include standards for both quote dissemination and quote access.

We also note that some commercial solutions exist for latency normalization and the management of "quote fade". However, these solutions are a response to market structure developments which give rise to arbitrage opportunities, and represent added cost to the Street. These solutions are also fundamentally unable to address quote dissemination latency and the resulting uncertainty of market data.

# 2. Variable latency for all participants

Marketplaces with universally variable latency would include those whose infrastructure is subject to significant jitter, or those which implement intentional randomized delays for all participants, potentially providing an expected latency range. An example of this would be if a market stated that its speed bump for all order entry was to be within 200-2000 microseconds.

In this scenario, there would be no certainty of quote capture by any participant, nor the ability to cancel quotes with any degree of certainty within the given latency range.

We believe that many of the arguments related to excessive fixed delays apply equally to large variable delays. However, we note that we are not aware of any technological solutions which permit participants to counteract the uncertainty of a variable delay. Therefore, if a marketplace's access time is both large and uncertain, it further disadvantages the participant community, without recourse.

Note: the Alpha market model introduces variable latency, though its application is not universal. We discuss the dynamics of asymmetric latency (whether fixed or variable) below.

### 3. Segmented (or asymmetric) latency

This category would include marketplaces that introduce intentional latency (either fixed or variable) to only some participants or order types. Today, this category includes Aequitas NEO Exchange's NEO book and the proposed structure of the Alpha exchange. Each of these marketplaces introduces a model which effectively creates, or enhances, differences in access latency among participants. If the segmented delay is fixed, participants subject to the delay incur the opportunity cost of being able to take subsequent action (they are waiting for a fill report, or an out), but may be able to use latency normalization techniques to access "delayed" quotes. However, if the segmented delay is variable (such as the case of Alpha and Aequitas' NEO book), latency normalization becomes impossible while opportunity costs remain.

As an example, we highlight the construction of the Alpha marketplace. Alpha's speed bump is designed to allow providers of resting orders to cancel these orders quickly when market conditions change. The speed bump applied to processing active orders increases this option value to passive participants. Furthermore, the most effective signal of a change in market conditions in this case would be trades on other marketplaces, indicating a directional move in the price of a stock. From the perspective of a liquidity taker, this effectively means that accessing another marketplace, without delay, would indicate to resting order providers on Alpha of the direction of the stock over a short window, and give passive orders the ability to cancel.

The signaling implication of the Alpha speed bump translates to a behavior change for takers of liquidity:

- Orders which can be filled in their entirety on Alpha would be executed completely on Alpha as splitting them up may result in quote fade.
- Orders which outsize the Alpha quote would seek to avoid Alpha altogether, as it is reasonable
  to expect that liquidity providers on Alpha would fade their quotes, as activity elsewhere
  indicates the active order outsizes the Alpha quote, and resting orders on Alpha are likely to be
  adversely selected.

This creates a two-tiered market: one for small orders and another for large, or "speed bump" and "not speed bump" markets. Active participants will need to make a conscious choice of either seeking to access the resting orders on various protected markets (as a group), or accessing the resting orders on a particular "speed bump" market to the exclusion of all other markets (including protected).

We illustrate this concept with an example below. Note: the more volume rests on speed bump markets, the more important the routing choice will be, and the less the protected NBBO will be relevant to a routing decision.

Suppose Participant X has 3000 shares of stock XYZ to buy at the prevailing offered price. The following are possible sequences of events that are illustrated in chronological order.

*Base scenario*: Market A, B & C all have 1000 shares available for Sale. Participant X sends 1000 shares to buy on each of the three markets based on the indicated quotes, and is filled on all markets (total fill of 3000 shares).

	MARKET A	MARKET B	MARKET C
Quoted Volume	1000	1000	2000
BUY 3000	(-1000)	(-1000)	(-1000)
Remaining Volume	0	0	1000
TOTAL FILL = 3000	1000	1000	1000

Speed Bump Scenario: we replace Market C with Market SB, a marketplace which introduces an order processing delay (speed bump) on active orders, but no delay on the entry or cancellation of resting orders (Market SB is analogous to the proposed Alpha model).

	MARKET A	MARKET B	MARKET SB
Quoted Volume	1000	1000	2000

Scenario A: Participant X sends 1000 shares to buy on each of the three markets based on the indicated quotes. Participant X does not change his routing to accommodate the existence of a speed bump market.

Participant X is filled on Markets A & B for 1000 shares, as in the Base Case above. Execution on Market SB is delayed. The Liquidity Provider (LP) offering the shares on Alpha can observe trading activity on other markets (A & B), indicating higher likelihood of a market-impactful order. The LP then cancels his resting orders on Market SB. Participant X does not receive a fill on the last 1000 shares of his order because the 2000 shares that were available on Market SB have "faded" away by being cancelled.

	MARKET A	MARKET B	MARKET SB
Quoted Volume	1000	1000	2000
BUY 3000	(-1000)	(-1000)	SPEED BUMP PAUSE
Remaining Volume	0	0	0 (LP cancels)
BUY 1000			NO FILL
TOTAL FILL = 2000	1000	1000	0

Scenario B: With Scenario A understood as a likely outcome, Participant X routes their full order to Market SB prior to accessing other (non-delayed) markets. The participant experiences a delay, but has a high likelihood of receiving a fill on 2000 shares on Market SB, leaving 1000 unexecuted shares to buy on the original 3000 share order.

The Liquidity Provider (LP) community offering shares on Markets A & B can observe activity on Market SB, and may infer directional movement and a consequent need to reprice. The risk of order cancellations on Markets A & B increases. For the purposes of example, the LP cancels all their resting orders on Markets A & B, pending reprice. Participant X does not receive a fill on the last 1000 unexecuted shares.

	MARKET A	MARKET B	MARKET SB
Quoted Volume	1000	1000	2000
BUY 3000	PAUSE ROUTING	PAUSE ROUTING	(-2000)
Remaining Volume	0 (LP cancels)	0 (LP cancels)	0
BUY 1000	NO FILL	NO FILL	
Available Shares	0	0	0
TOTAL FILL = 2000	0	0	2000

Participant X is forced to make complex routing decisions fundamentally based on a choice of whether the delayed markets are accessed first, last, or not at all. A "spray" methodology across all markets becomes functionally unavailable to participants.

We note that this example is for illustration only, and does not capture the full complexity of routing in an asymmetric latency environment. Furthermore, the dynamics of Scenario A or B may vary tremendously with market conditions and the nature of participants.

Importantly, in a sequential-access protocol such as the above in Scenario B (access the delayed markets prior to accessing the not-delayed markets), the party executing an active order is subject to the risk of repricing due to timing changes for the full duration of the speed bump delay. This is equivalent to the execution uncertainty introduced by a marketplace with a distant geographical location (previously discussed). However, in this case routing to the speed bump market first delays execution for all other marketplaces, and therefore execution uncertainty for orders subsequently routed to non-speed-bump markets increases also.

In practice, we believe that forcing the mechanical separation of small orders (statistically independent, low-impact) from large orders (institutional, high-impact, information-carrying) will mean that the order flow that accesses the protected markets will be, on average, higher-impact and more toxic than it is today. As a result, liquidity providers operating in non-speed-bump markets would suffer from greater adverse selection and move passive orders to the unprotected markets, away from the protected markets. This would conceivably result in a widening of bid-ask spreads in protected markets to compensate for the change in order flow characteristics. To the extent that unprotected markets peg to those which are protected, this may result in overall wider bid-ask spreads for all participants, and not only those taking liquidity from protected markets.

The net effect of this chain of events would be that the markets protected by OPR subject to higher impact, most "toxic" order flow as compared to unprotected market. This would expose orders protected by OPR to greater overall adverse selection and a worse trading experience. We believe this should call into question whether "protection" benefits resting orders on protected markets. If the effect of OPR protection harms resting orders, we believe it would call into question the existence of OPR.

#### **Conclusions**

We believe that the appropriate course of action related to speed bumps fundamentally depends on whether the CSA believes that the application of the Order Protection Rule should be universal to all visible marketplaces. Given that this matter remains outstanding post the 2014 proposal to limit the application of OPR to marketplaces with market share greater than 5%, we believe it would be inappropriate to act further on allowing markets with order processing delays to be exempted from OPR at this time.

We note that if the Order Protection Rule is deemed to be of universal importance, then any relaxation of OPR to accommodate a marketplace proposal is unacceptable. Furthermore, any marketplace proposal which imposes undue costs without a relaxation of OPR (such as that of the proposed Alpha market) should therefore be also found to be unacceptable.

However, if the CSA is comfortable with a market structure where there are protected and unprotected markets, we respectfully request that the CSA provide additional clarity on certain outstanding issues:

- Whether price discovery may be deemed to occur on unprotected marketplaces.
- Whether order flow segmentation through latency tools should be permitted, and if it is, under what circumstances.
- Appropriate treatment of features reliant on pegging to a visible NBBO, such as midpoint match orders, and arbitrage thereof.
- Dark market price improvement requirements in the context of unprotected markets, and potential for unnecessary arbitrage therein.
- Expectations for best execution in the context of both protected and unprotected markets, including appropriate handling of resting orders.

Furthermore, we would respectfully suggest that the following steps be taken before developing any rules that address the existence of latencies in our equity capital market ecosystem (including that of speed bump markets):

- Determine the geographical reference point or points for the purpose of measure latency differentials amongst marketplaces.
- Determine acceptable standards for minimum marketplace performance, including both quote dissemination and quote access.
- Determine whether equivalent amounts fixed latencies (geographical, technical or intentional) that are applied equally to all participants should be treated equivalently in regulatory requirements.
- Determine whether marketplace models which apply differential, asymmetric or segmented latencies to certain subset of participants or order types should be permitted, due to the

potential for such models to introduce wide-spread limitations to marketplace access among some participants.

Finally, in light of the numerous carve-outs being contemplated to OPR and the complexity associated with recent market structure developments, we believe that it is worthwhile to consider whether the assumptions underpinning OPR remain applicable, and whether Canadian market structure would benefit from repealing the Order Protection Rule in its entirety.

Thank you for your attention in this matter.

Respectfully,

"Signed by the CSTA Trading Issues Committee"

c.c. to:

#### **Ontario Securities Commission:**

Mr. Howard Wetston, Chair and CEO

Ms. Maureen Jensen, Executive Director & CAO

Ms. Susan Greenglass, Director, Market Regulation

Ms. Tracey Stern, Manager, Market Regulation

#### **Alberta Securities Commission:**

Ms. Lynn Tsutsumi, Director, Market Regulation

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M<sup>e</sup> Élaine Lanouette, Directrice des bourses et des OAR

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