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INVESTMENT MANAGEMENT LTD.

September 11, 2014

VIA ELECTRONIC MAIL

Market Regulation Branch
Ontario Securities Commission
20 Queen Street West, 22nd Floor
Toronto, ON M5H 3S8
Email: marketregulation@osc.gov.on.ca

Re: Comments in Response to Application for Recognition of Aequitas Innovations Inc. and Aequitas Neo Exchange Inc. As an Exchange

Dear Sirs/Mesdames:

We at Connor, Clark & Lunn Investment Management Ltd. (CCLIM) are pleased to take this opportunity to provide our comments on the Ontario Securities Commission (OSC) Notice and Request for Comment on the Application for Recognition of Aequitas Innovations Inc. (Aequitas) and Aequitas Neo Exchange Inc. (Aequitas Exchange) as an Exchange (Notice). In the Notice OSC staff request comment on all aspects of the application of Aequitas and Aequitas Exchange for recognition as an exchange (Proposal or Aequitas Application) as well as specific comment on five issues.

CCLIM is an independent investment management company which manages approximately $33 billion in assets on behalf of pension fund sponsors, corporations, foundations, endowments, mutual funds, and qualified individual investors. CCLIM manages a broad range of investment solutions that spans traditional asset classes, such as Canadian and foreign equities and fixed income and balanced, as well as alternative strategies, such as portable alpha, market neutral and absolute return strategies.

Before addressing the immediate Proposal, we would like to first acknowledge the state of the trading landscape in Canada. The changes our industry has experienced over the past decade are staggering: the introduction of high frequency trading in Canada, the mainstream emergence of electronic-trading desks, the proliferation of multiple competing markets, the order protection rule, the elimination of the short sale tick test, and the dark trading rules, are all changes that have occurred in a relatively short period for the industry. Despite the fast pace of these changes, in our view, the Canadian trading landscape is as strong as it has ever been and is proving to be a model for other markets around the globe.[1]

We would not argue the state of the market is perfect. There are issues that should be addressed. We do believe, however, the Aequitas Proposal is not a solution to these issues. We discuss the Aequitas

[1] For example, in its August 26, 2014 release of a "Plan to Implement a Tick Size Pilot Program," the United States Securities and Exchange Commission describes a pilot study to prevent price matching by a trading center that is not displaying the best bid or offer, very similar to the Canadian dark trading rules implemented in October 2012.

Proposal below, provide a discussion of our concerns about the overall market and offer ideas for potential solutions.

I. Executive Summary

Upon reading the Aequitas Application, we were immediately struck by two recurring themes: 1) the excessive complexity, and 2) the promotion of the intermediary. Notably absent from the application is substantive evidence that the proposed structure actually benefits investors.

The proposed market structure has features that could negatively impact market quality, and many of the execution priority and access rules cause us to question whether this actually creates an investor-friendly market or simply supports a market making business model at the expense of other market participants. It is a model that adds considerable complexity to the Canadian market, does not service investors, and establishes the precedent of allowing exchanges to pick winners and losers. We do not view Aequitas as an overall improvement to the Canadian marketplace and think it could cause more harm than good.

II. Aequitas Market Quality Concerns

A. Aequitas Designated Market Making: Liquidity Provision or Legalized Front-Running?

The proposed market making model effectively kills the form of electronic intermediation (i.e., high frequency trading) which has evolved through competitive forces in the free market, and replaces it with a form of intermediation that can only exist with the protection of exchange rules designed to support that model. We do not argue the current form of high frequency intermediation is optimal, but the proposed form is worse.

With the 15% volume match, an Aequitas market maker that has not yet reached 15% of daily volume would be permitted to join an investor order on the bid or ask and jump ahead of it, capturing active liquidity until the market maker reaches 15% of daily volume.[2] The market maker is not required to compete to obtain order book priority; he simply must join an order already in the marketplace. This is not liquidity provision; this is legalized front-running.

There is compelling academic evidence that market makers and specialists who have been given parity rights tend to take order book information (or any short term trading signal) and, based on that information, use their parity rights to step ahead of (or trade beside) natural orders.[3, 4] That is to say, parity has typically not been used just to manage inventory, but also to make short term price return bets for proprietary accounts at the expense of other liquidity providers on the limit order book.

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[2] The proposal is vague on exactly how the market maker volume allocation will work. From discussions with several industry participants, we understand the current plan is to enable the market maker to step ahead of 100% of passive orders on the book if the market maker has not yet reached 15% of daily volume. We stand by our point, however, even if the market maker were permitted to join on only 15% of each executed order or if there were a round robin execution of fills to the market maker. Any of these scenarios gives the market maker the ability to step ahead of investor order flow even when investor limit orders have time priority. This creates all the same issues discussed above.

[3] We use the word "parity" to refer to a market maker's ability to participate in a trade (in full or a portion) ahead of other orders with time priority in a limit order book.

[4] Harris, L., Panchapagesan, V., The Information Content of the Limit Order Book: Evidence from NYSE Specialist Trading Decisions, Journal of Financial Markets, Volume 8, Issue 1, February 2005, Pages 25-67.

This act is a frustration to and tax on all other legitimate liquidity providers. A model which allows for market maker parity would be a tremendous disservice to natural liquidity providers. Once the market maker steps ahead of the investor order, the investor's only solutions are to: 1) not trade, or 2) remove the quote from the limit order book and become active. Both scenarios result in substantially higher transaction costs for investors (or any market participant other than the Aequitas market maker) and could result in a reduction of displayed natural liquidity since the benefits of posting liquidity are reduced.

We would also highlight the irony behind the fact that the proposed model *facilitates* the very behavior of "technological front-running" it claims to be *minimizing* in the current environment.[5]

B. Segmentation of Market Participants: Should Exchanges Pick Winners and Losers?

As a general principle, we believe in the virtues of fair markets: markets in which all participants are treated equally. Allowing exchanges to pick winners and losers results in business models evolving out of artificial human biases and runs counter to the principle of a fair market. In the case of Aequitas, we see a marketplace which has given one form of liquidity provider (the designated market maker, DMM) advantages and another form of liquidity provider (Latency Sensitive Trader, LST) disadvantages.[6] It is not obvious the new intermediary is an improvement over the existing intermediary and, frankly, based on the discussion in the previous section, we think it may actually be worse for the market.

The clean solution is one in which all players are treated equally and allowed to compete on a level playing field. Slower access, higher fees, and last execution priority for one segment of marketplace participant, i.e., allowing exchange operators to pick winners and losers, should not be tolerated in Canada.[7]

C. Is High Frequency Trading as a Whole Bad for the Marketplace?

We acknowledge the concerns expressed in the Notice regarding the predatory practices utilized by certain forms of high frequency trading (HFT).[8] While we agree there are certain HFT strategies that lead to higher investor transaction costs, we do not agree that HFT, as a whole, is bad. In fact, on net, this style of trading probably contributes positively to market quality. Unfortunately the Aequitas Proposal casts a wide net with the definition of LST, one that includes beneficial forms of HFT as well.

We respectfully urge the CSA to be cautious about allowing exchanges to adopt rules which will adversely impact a prominent trading style in the market without solid *empirical* evidence that strategy is harming the market. The Investment Industry Regulatory Organization of Canada (IIROC) summarizes this best in its "HOT Study":

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[5] See Notice, pg. 13.

[6] As discussed above, Aequitas DMMs are given order book parity on the proposed Aequitas marketplaces (excluding the cross book) while LSTs are stuck with last execution priority on the lit market, higher trading fees on the Neo market, and slower access to the Neo market.

[7] A considerable portion of our original letter in response to the OSC Staff Notice and Request for Comment Regarding Proposed Structure of Trading Facilities For a New Exchange Proposed to be Established by Aequitas Innovations Inc. (Original Notice) discussed the issues associated with assigning different participation rules to different types of marketplace participants. We re-iterate those comments as they also apply to the revised Aequitas Exchange structure.

[8] See Aequitas Application, page 13.

It is evident that a full understanding of the scope and breadth of HFT activity is critical to assessing its effect on market quality and integrity, and <u>assisting in determining the type and extent of regulatory action that is appropriate</u> to achieve desired outcomes.[9] [emphasis supplied]

Once *specific* HFT strategies have been identified as adverse, the industry can then adopt policy to mitigate those targeted strategies. It is a grave mistake, in our opinion, to take moves to handicap the non-DMM HFT, before confirming HFT as a whole is not actually contributing net value to the Canadian marketplace.

D. Who Benefits from Excessive Complexity?

Without a doubt, the proposed Aequitas Exchange is complex. Price-time execution priority on the vast majority of Canadian marketplaces is simple and easy to understand. But for the Aequitas marketplaces, the summary of execution priority requires two paragraphs and incorporates a proprietary formula based on a multitude of inputs. The model would add four marketplaces to Canada, further fragmenting an already fragmented market. Fees are different for each of the four venues. Terms of access are different for each of the four venues. Execution priority is different for each of the four venues. This is a very complicated market structure.

We question whether this complexity ultimately benefits the Canadian marketplace.

1. Excessive Complexity is not in the Best Interest of Investors

If the last decade of market structure developments has taught us one thing it is that market structure complexity tends to benefit high frequency and technologically agile marketplace participants over the longer term investors, who—as a whole—tend not to focus on exploiting ultra-short-term market inefficiencies. Indeed, Manoj Narang, CEO of Tradeworx, Inc. (a HFT organization) aptly stated in a 2010 comment letter to the Securities and Exchange Commission: "Complex regulations often impose artificial inefficiencies on trading behavior of buy-side investors."[10] In other words, the more complex the market, the more opportunities there are to create strategies to pick off buy-side investors.

Who will the complex Aequitas market structure benefit? If the past is any prediction of the future, it will benefit those skilled in exploiting market structure inefficiencies at the expense of long-term investors.

2. Complexity Comes with Unintended Consequences

We look south of our border to illustrate this point. To quote Jeff Sprecher, CEO of the Intercontinental Exchange, in the company's Q1 2014 conference call (presumably regarding the adoption of Regulation ATS in the US):

Years ago, the market's reaction to a perceived lack of transparency and fairness was to create competition at the exchange level. Ultimately, this went further than most could have anticipated. And this has led to extreme fragmentation, with over 50 venues to trade the same listed securities.

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[9] See *The HOT Study: Phases I and II of IIROC's Study of High Frequency Trading Activity on Canadian Equity Marketplaces*, Page 6.

[10] See Tradeworx, Inc. comment letter in response to File No. S7-02-10.

> *While a national market system linking these venues together is a worthy goal, it has resulted in an overly complex structure with many unintended consequences.*[11]

Another example is with the Order Protection Rule (OPR) in Canada. Implemented in February 2011 after years of study by policy-makers and industry practitioners alike, OPR was a well-conceived proposal seeking to ensure investor confidence that orders would execute at the best possible price in the market. It has also come with frustrations to some market participants; frustrations that were not fully appreciated at the time the rule was approved and implemented. As a result, only 3 years after implementation, the industry is now re-examining issues associated with OPR implementation.

Our point is not that these initial policy changes (Regulation ATS in the US and OPR in Canada) were flawed, but that as simple as the proposed changes were, they came with unintended consequences. The Aequitas Proposal, substantially more complicated than either of the above two market structure changes, comes with even greater risks of unintended consequences due to its complexity.

III. The Marketplace Today and Changes that May Help Long Term Investors

If the goal is to improve the current market structure for investors, before introducing additional marketplaces with complex structures we would suggest the goal should be to first fix the fundamental problems that exist today (and would continue to exist in the presence of four additional order books). Below we discuss the core issues that we believe have led to negative downstream consequences in the market.

High frequency trading on its own is not the heart of the problem for long-term investors. The problem stems from conflicts between four inter-connected parties, whose interests are not always aligned: the investor, the broker, the HFT, and the marketplace.

1. *The investor*. Generalizing somewhat, investors tend to be interested in getting the best possible price for the total volume of the order, sometimes at the fastest possible speed. But exactly what this means and how it is realized is not black and white. Further, as Mary Jo White, Chairman of the Securities and Exchange Commission explains, measurement is not always simple: "monitoring the execution quality and costs of orders can be difficult for even the most sophisticated investors, given the number of trading venues and order types available to brokers."[12]

2. *The broker*. Upon receiving an order from a client, the broker is tasked with execution. In a multi-marketplace environment, brokers have many choices about which execution venue(s) to use. There is a natural conflict between a broker's desire to minimize its own transaction fees and its fiduciary obligation to clients to achieve best execution. On the one hand, brokers, as for-profit organizations, seek to minimize trading fees paid to third party execution venues. On the other hand, brokers seek to obtain the best quality execution on behalf of their clients. If the venues that maximize broker profits are not the ones that provide the best quality executions, the broker must decide whether to route client orders to minimize their own fees or whether to route client orders to achieve the best possible

[11] See transcript from Intercontinental Exchange, Inc. Q1 2014 earnings call on May 8, 2014.

[12] See transcript from "Enhancing Our Equity Market Structure," Sandler O'Neill & Partners, L.P. Global Exchange and Broker Conference, New York, N.Y., June 5, 2014.

execution for their client (Agency Conflict). The greater the percentage of a customer's order is executed in the lowest cost venue, the more money the broker saves.

3. *The HFT*. Generally speaking, HFTs are for-profit enterprises seeking to capture small per-trade profits by exploiting short term market inefficiencies. HFTs benefit by having a first shot at the execution of investor orders. For the HFT, a "first shot" means: a) they can immediately offset the position against other resting orders at that price, thereby incurring minimal risk, and/or b) they can use the client order as a signal of a larger order about to enter the market potentially trade ahead of that order before the investor has impacted price.[13, 14]

4. *The marketplace.* This segment includes both exchanges and alternative trading systems, including dark pools (ATSs). The ownership structure varies, with some being public enterprises, some being wholly or partially owned by brokers, and a small few privately held. The fees obtained through transaction volume are an important source of revenue for most marketplaces, so they benefit financially from maximizing transaction volume. Some marketplaces have models designed to minimize transaction fees for marketable orders (charging more for non-marketable orders). Many believe marketplaces have developed order types designed to enhance HFT trading strategies, sometimes at the expense of investors.[15]

One can see how the interests between these four parties could theoretically create the "perfect storm" for conflicted decision-making. Brokers profit (minimize costs) by first attempting to trade customer orders on low cost marketplaces or marketplaces in which they have ownership. HFTs profit from trading against customer orders on these marketplaces because of the "first shot" benefits described above. Marketplaces, brokers, and HFTs collectively benefit by having a structure on these marketplaces designed to maximize the interaction of transactions between investors and HFTs, regardless of the impact on investor execution quality. The investor has difficulty measuring the impact of these routing decisions on transaction costs. Thus the cycle persists: investors provide orders, brokers minimize fees, exchanges maximize volume, and HFTs capitalize trading against investor orders.

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[13] In his comment letter to the Securities and Exchange Commission in response to File No. S7-01-10, Manoj Narang, CEO of Tradeworx, Inc., quantifies the economic value to HFT of being at the front of the line:

- *Empirically there is a 1.7 cps difference in profitability for a posted share that is first in line vs. one which is last in line*
- *This results in tens of millions of dollars (conservatively) of extra trading costs for investors (and profits for HFTs).*

[14] We note that the HFT and the broker can fall under the same corporate entity.

[15] As an example, see Haim Bodek's Tabb Forum entry: "Over a good part of the past decade, special order types often were one of the primary topics of discussion between HFT firms and exchanges. Special order types became essential in assisting HFTs..." (Tabb Forum, "HFT Checkmate – The Alpha in Order Types," January 21, 2013.)

While the above is theoretical, we do see events in the market that make us question whether it may be reality in some cases: the allegations made by the Attorney General of the State of New York against Barclay's Capital, Inc. and Barclays PLC (Alleged Complaint),[16] the fact that many dark pools still use slow quote feeds,[17] the Battalio study showing the bifurcation of market and limit orders to the detriment of client execution quality,[18] and brokers routing a disproportionate amount of our own orders to marketplaces they own (when not given explicit instructions).[19] These items taken in isolation may not add up to much, however when taken together, in context of the known conflicts of interest between investors, brokers, HFT, and marketplaces, leaves us questioning: 1) how prevalent conflicted decision-making is, and 2) whether these conflicts need regulatory intervention to be resolved.

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[16] Although the Alleged Complaint has not yet been proven in court, it provides excerpts from discussions within a broker exemplifying the reality of this conflict:

> *In an internal document, Barclays instructed its employees that "[a]ggregating [order] flow into Barclays LX has strategic and economic value for the entire Equities business," including the savings Barclays would realize by not having to pay commissions to execute trades on other venues; fees gained from firms paying to trade in the dark pool; and the "internal trading P&L [profit and loss] opportunities" available to internal Barclays trading desks that trade in the dark pool against brokerage client order flow.*

[17] The fact that some dark pools still use the slowest quote feeds to determine the reference price for executions is a major red flag about the motives that guide system design. This quote latency encourages HFT presence (creating additional "liquidity" on the platform benefiting brokers) by enabling latency arbitrage strategies that initiate trades immediately before a price moves and results in inferior execution prices for investors. We see no legitimate justification to use slow quotes unless it is to facilitate this type of strategy.

[18] In Canada and around the globe, brokers have multiple execution platforms to which client orders can be sent. Some pay for passive orders (Maker/Taker Models) for active orders while others pay for active orders (Inverted Models). The result is that brokers, who are fee driven, tend to bifurcate client order flow, routing marketable orders to separate venues than non-marketable orders. This leads to unnecessary intermediation and a deterioration of limit order execution quality. Robert Battalio et al. have documented exactly this phenomenon in their study entitled "Can Brokers Have it all? On the Relation between Make Take Fees & Limit Order Execution Quality", initially distributed in the fall of 2013 and pending publication:

> *…we document a negative relation between limit order execution quality and the relative level of liquidity fees. Among other things, we show that when 'identical' limit orders are routed to two venues at the same time, orders routed to the venue with the lower fee execute more frequently and earn higher realized spreads. …. <u>Routing limit orders in a manner that maximizes make rebates reduces fill rates and produces less profitable limit order executions</u>.* [emphasis supplied]

[19] From our own trading, we see a disproportionate concentration of volume executed in dark pools owned by the broker making the routing decisions. The table below summarizes these statistics for a subset of our brokers in which the behavior is most pronounced. For all brokers listed below, we find the concentration of trading activity in each broker's dark pool to be remarkable in relation to the small percentage of the overall market the dark pools represent. While this is not a problem, per se, it does raise suspicions about how routing decisions are made.

Broker	% of Volume Executed in Broker's Dark Pool	Broker's Dark Pool Market Share
Broker 1	48%	0.7%
Broker 2	38%	2.2%
Broker 3	26%	2.7%
Broker 4	15%	0.3%

We do not pretend to have solutions to these very complicated problems, however we do believe these conflicts are the basis upon which some HFT strategies drive up investor costs. Areas where policy changes may help include:

A. Disclosure of Order Routing Relationships

While much of this is already in place under Canadian marketplace rules (although notably absent from US regulations), we advocate ensuring investors have access to disclosure of relationships for all venues to which a broker routes client orders, both within Canada *and abroad*. This should include details of venue ownership, execution fees paid, any other execution incentives paid or received by external parties, percentage of client orders and executions by venue segmented by marketable and non-marketable orders, etc. This will help keep routing decisions honest and enable investors to reconcile broker routing decisions with execution quality.

B. Bifurcation of Market and Limit Orders

Ensure policy does not promote the bifurcation of market and limit orders. We see no reason, for example, that a single exchange operator needs to maintain two identical limit order books, with the fee structure being the only differentiation. This is a red flag for conflicted decision making.

Elimination of the maker/taker fee model may be another way to address this problem.

C. Exchange Data Feeds

Exchanges should not be permitted to broadcast redundant data feeds with different latencies. This creates a tiered model in which some participants obtain prices faster than others. If a new quote and/or tick data format is a substantive improvement to the existing format, the full industry should be mandated to switch to the new format. Multiple redundant data feeds differentiated only by latency exist to create inefficiencies which latency arbitrage strategies are able to exploit.

D. Exchange Connectivity

Ensure exchanges are not facilitating different terms of access through their initiatives with low latency networks. While exchanges should be able to adopt new technologies where they contribute value to the overall marketplace, these technologies should not be intended to benefit one form of participant at the expense of others. Any review or approval of these technologies should be made with a cautious eye.

E. Marketplace Ownership

Brokers having ownership stakes in venues to which they route customer orders further exacerbates the Agency Conflict. While the genie is out of the bottle on this issue with most of the largest brokers in Canada and the US having ownership in at least one marketplace, we do believe it deserves close regulatory scrutiny. Perhaps a solution could be in the form of increased regulatory oversight of routing decisions for brokers who have venue ownership.

IV. Conclusion

The HFT problem for long-term investors is not simple. It is deep rooted and clouded by financial incentives and conflicted decision-making. A single marketplace is not going to fix this problem; it needs an industry wide solution.

The Aequitas Proposal is more of the same, replacing one form of intermediation with another. It does not address the more fundamental issues associated with HFT. The issue, in fact, is not really HFT in and of itself but rather how brokers—and ultimately investors—are allowing HFT strategies to exploit their orders.

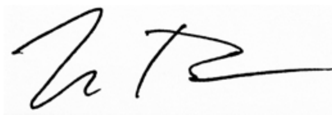
For reasons set forth above, we are not supportive of the proposed market structure and believe, if approved, it will further perpetuate order flow segmentation, increase unnecessary intermediation, reduce natural liquidity, and lead to a lack of confidence in the integrity of trading in the Canadian markets.

We conclude with a simple question: is the complexity of this proposed market necessary?

Should you wish to discuss our comments, please do not hesitate to contact us at jdrake@cclgroup.com.

Respectfully submitted,

Connor, Clark, & Lunn Investment Management Ltd.



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