Date: - 24 April 2024

Subject: - Proposed amendments to the JSE Equities Rules – Trading Member Market Access

Introduction and Background

The level of automation adopted by market participants in their trading activities, and the prevalence of high-speed electronic trading in the JSE equities market, is continuously increasing. Notwithstanding the many benefits derived from the use of sophisticated trading technology by market participants, the risks associated with the use of this technology need to be appropriately managed. But equally, the general risks to the integrity and orderly operation of the market associated with all forms of order generation and trade execution – from manual order entry to complex algorithmic trading - need to be appropriately managed, and the use of sophisticated technology is often a vital component of the measures that member firms need to implement to manage those risks, given the volume and complexity of members' trading activities. Therefore, the impact of technology on both market activity and risk mitigation is growing, and the JSE's regulatory requirements need to adapt to appropriately recognise that.

The potential impact of a trading error or a rapid series of errors, emanating from computer or human error, or a malicious act, has become more severe in financial markets with a high degree of automation and high-speed electronic trading. Algorithms or other computerised systems that generate orders can potentially generate a significant number of erroneous orders, or orders that otherwise affect the orderly operation of the market, in a very short period of time, if there is some form of malfunction in the system, or if the operator of the system did not anticipate the adverse manner in which the system could react to certain market information. When problems of this nature occur, the harm that could be caused to the market can occur quickly and can be much more difficult to mitigate. A lack of, or weakness in, technology-based pre-trade risk controls can further contribute to the likelihood that problematic computer-generated orders can be submitted to the market, with all the resultant harmful consequences thereof. But experience has shown that human errors, either in order entry or through a failure to react appropriately

to market information, can also cause significant disruption to the orderly operation of the market, and the lack of, or weaknesses in, pre-trade risk controls to mitigate the risks associated with these human errors is also a contributing factor to the harm caused to the market by these errors.

The JSE Market Regulation Division is of the view that the current equity market rules need to be enhanced to effectively address the range of issues associated with members' access to the JSE equities trading system. When compared to the requirements in a number of peer jurisdictions, there are some gaps in the manner in which the equity rules deal with the risks relating to the various forms of market access. The Market Regulation Division is therefore seeking to close these gaps and ensure that the rules are 'fit-for-purpose' for the current market dynamics, where technology plays an increasingly important role.

The current JSE directives have included extensive provisions on Direct Market Access ("DMA") for many years. The rules and directives currently define DMA as the process whereby an order is received electronically by a Trading Services Provider ('TSP') from a client and then submitted electronically to the JSE equities trading system by means of the order entry application operated by the TSP, without the intervention of a registered securities trader. The directives also contain an application and authorisation process for the use of DMA by a TSP, including minimum control requirements and standards for TSPs that provide DMA to their clients. These minimum requirements include controls to help prevent trade errors and manipulative practices, as well as audit trail and settlement assurance requirements.

There are also reasonably comprehensive operational requirements in rule 6.10.10 relating to security procedures and the transmission of data that apply to all forms of market access.

But the requirements in the current rules and directives on market access in relation to trade errors, manipulative practices, and settlement assurance, are significantly more comprehensive in their application to DMA access than what they are in their application to the other types of market access. This is the gap that the Market Regulation Division wishes to address.

Naked market access (sometimes referred to as unfiltered access or sponsored naked access in some international jurisdictions) contemplates an arrangement whereby a trading member allows a client to use its trading member ID to

obtain unfettered access to the exchange's trading system without any pre-trade validation. The client's orders effectively by-pass the order management controls and filters which the trading member has implemented to assess the market impact of client orders before the orders are submitted to the trading system.

The Securities and Exchange Commission in the United States of America has for some time now effectively prohibited naked access across all securities exchanges under its jurisdiction, by implementing rules which require that all orders need to go through a broker's pre-trade risk filters before being submitted to a trading system. Other jurisdictions such as the United Kingdom, the European Union and Australia effectively adopt a similar approach to naked access in that none of these jurisdictions permit client orders to be submitted to a trading system without passing through appropriate member-administered risk controls (i.e., filters).

Currently, the JSE equities rules and directives do not permit naked access in relation to DMA client orders, by virtue of the DMA provisions in Directive BT. In that regard, the JSE's requirements are not out of line with the requirements in other jurisdictions. However, our gap assessment has revealed that the JSE's market access requirements are not as robust as those in many other jurisdictions in relation to other types of market access that could effectively result in a form of naked access if the appropriate risk controls are not in place. For example, we know that many proprietary orders submitted to the JSE trading system originate from client swap or CFD orders, but because the orders submitted to the trading system are for the TSP's own account, the TSP does not regard them as DMA orders in the client's name, and therefore does not apply the DMA requirements in Directive BT to those orders and to the member trading applications that submit those orders to the trading system. This is a material gap from a risk control point of view that needs to be addressed. It can also result in a form of unlevel playing field whereby client DMA orders are subject to specific risk controls as contemplated in the directives, but proprietary orders originating from client swap or CFD orders are not subject to the same level of risk controls, with a differential impact on latency of order execution. There should be no reason why a client DMA order and a proprietary order that originates from a client swap or CFD order should be treated differently from a pre-trade risk control point of view, as they can have the same impact on the market.

Given the nature of automated electronic trading and the use of algorithms which generate and submit a high volume of orders into the JSE's equities market, the ability to manually check and validate orders before they are released into the market is clearly not possible. Whilst the monitoring of trading activity post execution by a trading member is important, this can never be a substitute for effective pre-trade electronic market access controls.

It is therefore imperative for the integrity and orderly functioning of the JSE's equities market that appropriate and effective pre-trade electronic market access controls are implemented by trading members to manage the risks associated with trading errors, manipulative practices, and other forms of disruptive trading activity.

Proposed amendments to the JSE equities rules

The proposed rule amendments include new definitions and the introduction of new rule 6.15 on market access controls. These proposed additions and amendments to the rules are intended to enhance the mitigation of the risks associated with a TSP's access to the JSE equities trading system.

In formulating the proposed changes to the rules, the JSE Market Regulation Division has researched and taken cognisance of market access rules, standards and controls which are being applied by regulators in other established securities markets to enhance and preserve the integrity and orderly functioning of electronic trading in those markets. These proposed amendments include important new controls and requirements pertaining to electronic market access which seek to reduce the potential for errors and minimize the risk of other forms of disruptive activity that can have a material negative impact on the integrity and orderly functioning of the JSE equities market.

Importantly, the proposed rule amendments are intended to ensure that the JSE's market access rules deal in a more consistent and comprehensive manner with both proprietary and agency orders received or generated by a member from all sources, including direct market access, algorithmic or computer-generated orders, as well as orders entered manually by a registered securities trader.

We have provided an explanation below on the most important aspects of the proposed amendments to the rules and directives.

Definitions

"Filters" – A critical element of a TSP's market access controls involve the use of pre-trade risk filters, and this term has been defined in the proposed amendments as being that part of a TSP's market access controls which comprise a set of computerised rules, with variable parameters, that can determine, automatically, which orders meet a pre-defined set of criteria and can be submitted to the JSE equities trading system.

"Algorithm" – This has been defined as electronic order generating software in which orders are generated according to a pre-programmed set of instructions, for submission to the JSE equities trading system.

"Member Trading Application" ("MTA") – Given the complex and often bespoke architecture of trading system software that members use to interface with, and access, the JSE's equities trading system, in order to avoid any confusion, we have proposed to expand the scope of the existing definition of "Member Trading Application" to include what is currently defined as a member's "Order Entry Application" (i.e. software which facilitates the submission of orders into the JSE equities trading system, including orders submitted by a registered securities trader, as well as computer or system generated orders).

Authorisations and approvals – (Proposed amendments to rules 3.50.1 & 3.50.2)

Rule 3.50.1 which requires an applicant for membership to be able to evidence to the JSE that it is able to comply with the operational requirements set out in the directives, and rule 3.50.2 which requires an authorised TSP (i.e. an existing member) to continue to comply with the operational requirements, have both been expanded to include the requirement to comply with the market access requirements as set out in the proposed amended rules and directives.

Establishing and maintaining an appropriate system of market access controls and the expectations of the JSE (Proposed new rule 6.15)

In terms of proposed new rule 6.15, a TSP is required to comply with the market access operational requirements as contemplated in directive BT 11, and establish and maintain an appropriate system of market access controls for the submission of orders to the JSE equities trading system.

In making a determination as to what market access controls are "appropriate" to a specific TSP's business, each TSP will be required to give due consideration to the size and complexity of its operations, the nature or manner in which orders are generated and submitted to the JSE equities trading system (i.e. through algorithms, direct market access clients or manually through a registered securities trader), as well as taking into account the volume of orders being submitted to the JSE equities trading system through the TSP. Accordingly, a TSP that, for example, does not provide DMA to clients or operate order-generating algorithms, and that submits a relatively low volume of orders to the JSE equities trading system through a registered securities trader, is likely to have different requirements for its market access controls to a TSP that generates and submits high order volumes to the JSE equities trading system through the provision of client DMA services and the operation of order-generating algorithms.

In terms of proposed new rule 6.15.2, the primary objective of a TSP's market access controls must be to ensure that the TSP appropriately addresses the risks associated with access to the JSE equities trading system, by implementing processes and filters that promote and protect the integrity and orderly operation of the market, as well as restricting the financial exposure of the TSP to acceptable limits and ensuring that it is able to comply with the JSE's regulatory capital requirements and the TSP's settlement obligations.

<u>Requirements for how market access controls are implemented by a TSP (Proposed new rules 6.15.3 & 6.15.4)</u>

Whilst the existing provisions in the directives require a TSP to implement specific controls in relation DMA orders, the proposed new rule 6.15.3 requires market access controls to be implemented and applied by a TSP to all order types, irrespective of the order origin (i.e. in respect of both agency and proprietary orders, and irrespective of whether orders are entered manually by a registered securities trader, received electronically from clients through DMA, or generated and processed automatically according to an algorithm).

Proposed new rule 6.15.4 also contains important new requirements in relation to how the TSP's market access controls (in particular its filters) are to be implemented and supervised by the TSP on an on-going basis. In this regard, members should take cognizance of the following important proposed new provisions:

Proposed new rule 6.15.4.1 states that a TSP shall not submit an order to the JSE equities trading system unless the order has been subject to the TSP's filters. This applies to all orders, both agency and proprietary, and regardless of whether the order is submitted to the trading system by a registered securities trader or without the intervention of a securities trader. This new requirement acknowledges that the risk to the integrity and orderly operation of the market exists for all forms of order generation and submission, and that all orders should therefore be subject to an appropriate set of checks applied by the TSP's filters. This approach to the consistent use of filters for all forms of order generation and submission is common across the jurisdictions whose requirements we have reviewed in conducting our gap analysis. With reference to proposed new rules 6.15.1 and 6.15.2, a TSP's filters, as an important component of the TSP's market access controls, must seek to achieve particular objectives, and should be designed with the volume and complexity of the TSP's trading operations, and the manner in which orders are generated and submitted to the JSE trading system, in mind. The scope and complexity of each TSP's filters may therefore differ according to the TSP's assessment as to what is required to meet the requirements in proposed new rules 6.15.1 to 6.15.4.

Proposed new rule 6.15.4.2 states that a TSP's filters must be separate and independently controlled from an order-generating algorithm that generates client or proprietary orders. This requirement has been inserted to ensure that there is a separate, automated check on the suitability and correctness of an order generated by an algorithm. We are concerned that embedding filters within an order-generating algorithm is equivalent to a securities trader checking the suitability and correctness of their own intended actions prior to submitting an order to the JSE trading system, without any independent checks. Filters embedded within an order-generating algorithm also increase the risk of a TSP effectively providing naked market access to clients, which would be prohibited. We will therefore require the application of a TSP's filters to be an automated process that follows the generation of an order by an algorithm, and for that automated process to reside in a separate application or system to the one where the algorithm resides. This will provide for a more clearly defined control environment and an appropriate segregation of order generation and risk control functions.

Proposed new rule 6.15.4.3 requires a TSP to have appropriate, documented processes to authorise and record any changes to its market access controls,

including any changes to filters or filter parameters. This documented process will ensure that a TSP implements proper governance over its market access controls and is able to evidence the application of such governance.

Proposed new rule 6.15.4.4 states that a TSP must have direct control over its market access controls. We view this as a critical requirement to ensure that the development and application of a TSP's market access controls, including its filters, is not subject to undue influence by an external party, including a party that may have an economic interest in the orders and trades that are subject to the TSP's market access controls. Undue influence by an external party over a TSP's market access controls could represent a conflict of interests and potentially compromise the effectiveness of those controls.

Proposed rule 6.15.4.5 requires a TSP to implement appropriate security arrangements to prevent, and monitor for, unauthorised persons having access to its MTA and any market access controls being used by the TSP.

<u>Trading member oversight of filter effectiveness (Proposed new rule 6.15.5)</u>

As with any system of internal control, it is important for a member to analyse the effectiveness of such controls and the manner in which they are operating on an on-going basis, to ensure that the overall objectives of implementing such controls are being achieved.

In order to ensure that its filters and related parameters are relevant and operating effectively, in terms of rule 6.15.5, a TSP will be required to implement appropriate processes for the ongoing monitoring of the TSP's trading and order activity to ensure that the TSP's market access controls are working as intended and operating effectively.

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