## CHAPTER 4: MICROSTRUCTURAL ISSUES

### RTS 13: Draft regulatory technical standards on organisational requirements of investment firms engaged in algorithmic trading

**COMMISSION DELEGATED REGULATION (EU) No …/..**

**of [date]**

**supplementing Directive 2014/65/EU of the European Parliament and of the Council with regard to regulatory technical standards specifying organisational requirements of investment firms engaged in algorithmic trading**

**(Text with EEA relevance)**

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Directive 2014/65/EU [MiFID II] of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments, and in particular Article 17(a) thereof.

Whereas:

The potential impact of technological developments is one of the main drivers to determine the capacity and arrangements to manage the potential risks of an investment firm.

The risks arising from algorithmic trading can be present in any trading model supported by electronic means. Therefore, this regulation applies to all investment firms who are engaged in algorithmic trading, ~~independently~~ **in a manner appropriate to the nature, scale and complexity** of their business model~~, size or complexity~~.

This Regulation addresses those risks with specific attention to those that may affect the core elements of a trading system, including the hardware, software and associated communication lines used by members or participants of trading venues including those falling under Article 1(5) of Directive 65/2014/EU to perform their activity and any type of execution systems or order management systems operated by investment firms, including matching algorithms.

As a consequence, investment firms engaged in algorithmic trading should consider in particular the obligations set out in this Regulation with respect to:

Upstream [connectivity, order submission capacity, throttling capacities and ability to balance customer order entrance through different gateways so as to avoid collapses];

Trading engine [ability to match orders at an adequate latency];

Downstream [connectivity, order and transaction edit and any other type of market data feed]; and

Infrastructure to monitor the performance the abovementioned elements.

In line with the ESMA Guidelines for Systems and Controls in an Automated Trading Environment (ESMA/2012/122) and Recital (63) of Directive 2014/65/EU, this Regulation makes reference to elements which are instrumental for the resilience and capacity of investment firms, such as staffing and outsourcing policies.

This Regulation requires investment firms to segregate **certain** tasks and functions at different levels~~. This is required since it~~ **to** reduce~~s~~ the investment firm's dependency on single persons or units. Moreover, a second fresh view may find any kind of errors.

The "kill functionality" requires the investment firm to be always in the position to know which algorithms **it has deployed**~~, trader and clients are responsible for an order~~, and what is the interdependence between different algorithms. In order to comply with this requirement, the investment firms may use as a first step the schemes ~~which it had~~ established in order to be compliant with obligatory flagging requirements.

The organisational requirements established in this Regulation constitute a minimum to be met by investment firms engaged in algorithmic trading, without prejudice to other regulatory requirements such as Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC or requirements for IT security.

An investment firm providing direct electronic access services, denominated as direct electronic access [DEA] provider in this Regulation, should always retain responsibility for the trading that its DEA clients will carry out under its name. This responsibility governs the framework for pre- and post-trade controls and for assessing the suitability of prospective DEA clients. The investment firm should have sufficient knowledge about the intentions, capabilities, financial resources and ~~**trustiness**~~ **trustworthiness** of its clients, including **public** information about the prospective DEA client's disciplinary history with competent authorities and trading venues.

The specific organisational requirements for investment firms have to be determined according to a robust self-assessment where at least the parameters set out in this Regulation have to be assessed. This self-assessment should include any other circumstances not included in that list that might have an impact on their organisation. That self-assessment shall be one of the cornerstones of the supervision of investment firms carried out by national competent authorities.

The periodic self-assessment should be used by firms to gain a full understanding of the trading systems and algorithms they use and the risks stemming from algorithmic trading.

The investment firm's understanding should be irrespective of whether the systems and algorithms were developed by the investment firm itself, purchased from a third party, **or** designed or developed in close cooperation with a client or a third party.

A number of terms should be defined to clearly identify a limited number of concepts stemming from Directive 2014/65 EU on markets in financial instruments and Regulation (EU) No 600/2014 on markets in financial instruments.

Where this Regulation requires investment firms to perform certain tasks in real-time, those tasks should be done as close to instantaneously as technically possible, assuming a reasonable level of efficiency and of expenditure on systems on the part of the persons concerned. In particular, real-time monitoring should take place with a time delay of no more than 5 seconds.

Controlled deployment of algorithms should be used by investment firms on an algorithm regardless that it is new~~, that it is the same that was successfully deployed in another trading venue~~ or that it has gone through a modification of a material change in its architecture. The controlled deployment of algorithms should ensure that the algorithms perform as expected in a live environment and **provide an opportunity** to make appropriate changes to ensure that the intended outcome is obtained.

Investment firms shall have an IT environment that ~~at least~~ meets relevant, inter-nationally recognised **best practices** ~~standards~~, which especially may include standards concerning IT security management, service management, or software development. ~~Additionally firms may apply industry best practices in form of guidance which help investment firms to fulfill relevant standards or requirements~~. **[Note: The FIA Associations feel the reference to "internationally recognized standards" could be interpreted by some NCAs too strictly to mean firms would be required to have ISO- or SSAE-type certifications, standards which we have previously stated are not well-suited to trading firms. We believe FIA best practices are a more tailored, best-in-class standard in this context.]**

The conditions to consider a prospective client of a general clearing member should meet the requirements set out in this Regulation and be publicly available in line with the organisational requirements for general clearing members.

This Regulation is based on the draft regulatory technical Regulations submitted by the European Securities and Markets Authority to the Commission.

In accordance with Article 10 of Regulation (EU) No 1095/2010 of the European Parliament and the Council establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC , ESMA has conducted open public consultations on the draft regulatory technical Regulations, analysed the potential related costs and benefits and requested the opinion of the Securities and Markets Stakeholder Group established by Article 37 of that Regulation.

HAS ADOPTED THIS REGULATION:

CHAPTER I

**General**

Article 1

**Definitions**

For the purpose of this Regulation **[*suggest alphabetising definitions for clarity]**:

**(1)** 'investment firm' means an investment firm **as defined in Directive 2014/65 EU on markets in financial instruments** ~~engaged in algorithmic trading~~; **[Note: some of the provisions of this RTS apply to DEA providers or clearing firms that may not be directly engaged in algorithmic trading, so we do not recommend modifying the MiFID II definition of investment firm here.]**

**(2)** 'real time' in relation to the monitoring by trading venues and investment firms of algorithmic order submission and execution means an optimally minimised delay **(being no greater than five seconds)** between:

the moment at which an order is submitted, acknowledged, modified, cancelled, rejected, or executed, and

the generation of surveillance outputs or alerts by the monitoring system in relation to the same order such that, where necessary, immediate corrective action can be taken regarding on-going trading behaviour which is associated with this order;

**(3)** 'kill functionality' means the ability to pull resting orders off the trading venue that shall include both:

A functionality embedded in the investment firm's own systems; and

A functionality embedded in the trading venue's systems;

**(4)** 'disorderly trading conditions' means ~~a~~ situation**s** where the maintenance of fair, orderly and transparent execution of trades is compromised **by** ~~and stressed market conditions materialise in(for example)~~:

~~price formation being significantly disrupted;~~

**(a) a trading** systems' performance is significantly affected by delays and interruptions;

**(b)** multiple erroneous orders and/or transactions ~~are experienced~~; ~~or~~

**(c) a trading venue having insufficient** capacity ~~of trading venues requires to be increased~~;

**(d) price formation being significantly disrupted (including throttling of orders by a trading venue)**

**(e) significant short-term changes or interruptions in volumes of data sent to or received from the systems of a trading venue;**

**(f) failure of or interruptions to a trading venue's system of pre- or post-trade risk controls (or any failure of a trading venue's system to perform as set out in [RTS 14].**

**(5)** 'messages' refer to any kind of input such as entry of an order, modification or cancellation of an order, or output, including the system´s response to an input, display of order book data and dissemination of post trade flow that implies independent use of trading system´s capacity;

**(6)** 'stressed market conditions' **refers to a condition declared by a trading venue** ~~means conditions~~ where the price discovery process~~, orderly trading~~ and market liquidity is affected by **at least one of the following**:

**(a)** an increase or decrease in the number of messages being sent to and received form the systems of a trading venue;

**(b)** a significant short-term changes in terms of market volume; **or**

**(c)** a significant short-term changes in terms of price (volatility)~~; or~~~~,~~

**where such conditions do not amount to (or include any of the situations comprising) disorderly trading conditions.** ~~an impairment of the performance of the trading systems of a trading venue or of the members and participants~~

**(7)** 'business continuity ~~plan~~ **arrangements**' means the **technical and organisational measures** set **out in** ~~of~~ documents **maintained by the investment firm to deal with events that severely impact the operation of the procedures and infrastructure of the investment firm** ~~formalises the principles, sets out the objectives, describes procedures and processes and identifies resources for business continuity management~~;

~~'disaster recovery plan' means the set of documents that sets out the technical and organizational measures to deal with events that impact the operation of the procedures and infrastructure;~~

~~'recovery time objective' means the targeted duration of time and service level within which a business process must be restored after a disruption in order to avoid unacceptable consequences associated with a break in business continuity;~~

~~'recovery point objective; means the maximum tolerable period in which data might be lost from an IT service due to a major incident and beyond which data has to be recovered;~~ **[Note: none of these terms recurs in RTS 13]**

**(8)** ~~'post-trade controls' refers to the assessment of credit risk in terms of "effective exposure" of the investment firm and comparison of drop copies and positions against the firm's trade execution records~~; **'post-trade controls' refers to the reconciliation of executed trades and positions contained in the firm's trade execution records against third-party records, such as drop copies**

~~'remote members' means members and participants who are incorporated in a different jurisdiction to the trading venue and are not operating via a branch office in the trading venue's jurisdiction~~. **[Note: this term does not recur in RTS 13]**

CHAPTER II

**Organisational requirements for investment firms**

Article 2

**Governance, and general requirements and the proportionality principle [Note, this RTS 13 should contain the same proportionality principle as in RTS 14 for trading venues]**

Investment firms shall, within their overall governance and decision making framework, apply a clear and formalised governance process regarding the development, procurement, outsourcing, and monitoring of their algorithmic trading systems and trading algorithms**, taking into account the nature, scale and complexity of their business**. The governance process shall ensure the following:

(a) that commercial, technical and operational risk and compliance issues are considered when making key decisions **regarding the development, procurement, outsourcing, and monitoring of their algorithmic trading systems and trading algorithms**. ~~In particular, it must embed compliance and risk management principles~~; **[Unclear]**

(b) that the firm has clear lines of accountability, including procedures and processes for the sign-off for the development, deployment, subsequent updates of trading algorithms and for the resolution of problems identified through monitoring. This includes having effective procedures and processes for the communication of information within the investment firm, such that relevant issues can be escalated and instructions can be implemented in an efficient and timely manner; and

(c) that the firm ensures an appropriate segregation of trading functions and middle and back office functions and responsibilities in such a way that unauthorised trading activity cannot be concealed.

Article 3

**Role of compliance staff in the governance process**

1. Compliance staff shall ~~be responsible for providing clarity on~~ **monitor** the investment firm's **compliance with** regulatory obligations and ~~the~~ **internal** policies and procedures to ~~ensure~~**assess** that the use of the trading systems and algorithms complies with the investment firm's obligations, and that any compliance failures are **remediated** ~~detected and corrected~~. **[Note: compliance cannot be expected to 'ensure' compliance, rather to 'assess,' and 'detection' would be a role for risk; 'remediation' is more appropriate for compliance.]** Compliance staff shall have a general understanding of the way in which trading systems and algorithms operate. Compliance staff are not required to have detailed technical knowledge of the firm's trading system or algorithms operation but shall **have direct access to**~~be in continuous contact with~~ persons with such detailed technical knowledge**,** ~~. Investment firms shall also enable compliance staff to have, at all times, direct contact to~~ the persons who may access the kill functionality and ~~to~~ those who are responsible for the trading system or single algorithm.

2. Where an investment firm outsources its compliance function, or elements thereof, to an external compliance consultant, the investment firm shall engage with, and provide information and access to, the external compliance consultant as it would with its own compliance staff. ~~The investment firm shall reach an agreement with such compliance consultants, ensuring that:~~

~~(a) data privacy is guaranteed; and,~~ **[Note: references to data privacy are not appropriate to the scope of this legislation.]**

~~(b) auditing of the compliance function by internal and external auditors or by the firm's NCA is not constrained~~.

Article 4

**Staff policies**

1. An investment firm shall have procedures and arrangements, including recruitment and training, to determine its requirements regarding staff resources and to employ an adequate number of staff with the necessary skills to manage their trading systems and trading algorithms. This shall include employing staff who have knowledge of relevant trading systems and algorithms, the monitoring and testing of such systems and algorithms, the trading strategies that the firm deploys through its trading systems and algorithms, and the investment firm's legal and regulatory obligations.

2. An investment firm shall define the mix of skills and maintain procedures to ensure that recruitment and training provide staff with relevant skills. The investment firm shall ensure that, in addition to technical skills, critical functions, such as compliance, shall be represented by staff with an adequate seniority, offering appropriate challenge as necessary within the governance framework.

Article 5

**Staff training on order entry**

An investment firm shall ensure that staff involved in the process of order entry have adequate training on order entry procedures. ~~These procedures~~**Such training** shall be kept up-to-date **[Note: Formalised processes are inherently too slow to adapt (through amendments and internal approvals) to the constant changes in trading activity and changes introduced by trading venues. Staff training, rather, must remain up-to-date in this regard to reflect the latest trading activities and trading venue conditions.]** so that the investment firm's trading activity does not ~~affect~~ **impair** fair and orderly trading on the trading venues it accesses, and so that it will comply with the requirements imposed by the relevant trading venues and the competent authority. This shall be achieved through at least one of the following: on-the-job training, classroom-based training, online training, written exams or a combination thereof. The training program shall set clear expectations of the competencies to be mastered by staff involved in the process of order entry, notably to ensure that only duly authorised staff may enter orders into the investment firms' systems, and these competencies shall be appropriately evaluated.

Article 6

**Staff understanding of market abuse and disorderly trading conditions**

1. An investment firm shall provide initial and on-going refresher training on what constitutes market abuse~~, and attempts of market abuse~~, for all staff involved in the process of order entry. The training shall be tailored to the ~~experience levels and~~ responsibilities of the staff it is being delivered to**, taking into account the nature, scale and complexity of their business**. The training program shall set clear expectations of the knowledge level to be mastered by these staff, and this knowledge level shall be appropriately evaluated.

2. An investment firm shall ~~have procedures to~~ ensure that staff exercising the risk management and compliance functions have sufficient knowledge of trading and trading strategies, in addition to regulatory requirements, including relevant Union and national legislation, rules and guidance, and sufficient skill and authority in order to:

(a) follow up information provided by automatic alerts; and,

(b) challenge staff responsible for trading when the trading activity gives rise to suspicions of disorderly trading or market abuse including attempts of market abuse.

Article 7

**IT outsourcing and procurement**

1. When outsourcing ~~or procuring~~ **[NOTE: these terms are undefined]** any software or hardware which is used in trading activities, an investment firm shall **remain fully responsible for fulfilling** ~~ensure that its third-party provider enables the firm to fulfill~~ its obligations set out in this Regulation~~, including IT security and IT continuity~~. Specifically, the investment firm shall **have adequate arrangements in place with such third-party providers** to ~~ensure~~ **safeguard its compliance with this Regulation by including** an

effective governance process around any such outsourcing or procurement, including the monitoring and review of ~~compliance~~ **performance** by the third-party provider. ~~with the Service Level Agreements that the firm has agreed with its provider~~. ~~Additionally:~~

~~In the case of outsourcing, the firm shall ensure that the third-party provider grants audit rights to the firm and the relevant competent authority.~~

2. In the case of procurement, the investment firm shall adopt appropriate testing and review measures to assess the security and reliability of the procured hardware or software. ~~Additionally, the firm shall ensure that it and the relevant competent authority have the right to assess the development, maintenance, quality assurance and testing procedures of the provider, as well as having access to relevant technical documentation.~~

3. An investment firm shall ensure that documentation regarding any ~~procured or~~ outsourced hardware and software ~~is provided, which~~ **shall** allows the investment firm to:

**(a) sufficiently** understand ~~its~~ ~~detailed~~ **the** functioning **of such hardware or software**; and

**(b)** satisfy itself ~~so~~ as to ~~enable the firm~~ **its ability** to comply with its ~~regulatory and other~~ obligations **pursuant to this Regulation**.

CHAPTER III

**Resilience of trading systems of investment firms**

Section 1

**Testing of algorithms and systems and change management**

Article 8

**General**

An investment firm shall ensure **a clear segregation between its production environment and environments for testing and development** ~~that software, hardware and network infrastructure which is critical to the separate and independent functioning of the production and testing environments is kept segregated at all times~~.

[**Note: there are no definitions for 'trading system,' 'algorithm,' 'strategy,' or 'production environment' in the draft RTS, such that the scope and application of Chapter III provisions remain unclear.**]

Article 9

**Conformance testing**

1. An investment firm shall pass conformance testing:

   with the trading venue where it is a direct member or participant; and

   with its DEA provider where the investment firms accesses the trading venue through direct electronic access.

2. Such conformance testing shall take place when implementing a new access to a trading venue's system or when there is a change in the trading venue's direct electronic access functionality. Investment firms shall be required to determine when they must re-certify due to a change within their system or substantial hardware changes. [**Note: 'system' is not defined in the draft RTS; depending on how this is defined, we would suggest deleting "or substantial hardware changes," as hardware is not highly relevant for conformance testing purposes.**]

Article 10

**Initial testing**

1. An investment firm shall, prior to the initial deployment or **substantial** update of a trading system, algorithm or strategy, make use of clearly delineated development and testing methodologies. These methodologies should address process design and execution, division of responsibilities, allocation of sufficient resources, escalation procedures, and sign-off by a responsible party within the investment firm.

2. The testing methodologies for algorithms and trading strategies~~,~~ shall include performance simulations or back testing and, for members or participants of a trading venue, non-live testing within a ~~trading venue~~ testing environment. These methodologies shall ensure that:

(a) the operation of the trading system, algorithm or strategy is compatible with the investment firm's regulatory obligations as well as the rules of the trading venues they access;

(b) embedded compliance and risk management controls work as intended, including generating error reports ~~automatically~~; and

(c) the trading system, algorithm or strategy does not contribute to disorderly trading~~, and can continue to work effectively in stressed market conditions~~. **[Note: operating in 'stressed market conditions' is not a regulatory obligation for all investment firms.]**

3. Investment firms shall adapt algorithm tests, including non-live tests within ~~the trading venue~~ testing environments**,** to the strategy **for which** the firm will use the algorithm ~~for~~ including **by taking into account the** markets to which it will send orders and the structure of **those** markets. Investment firms shall undertake further testing if there are substantial changes to the venue in which the system, algorithm or strategy is to be used.

**4. Investment firms shall also keep records of any material changes made to their proprietary software, allowing them to accurately determine:**

**(a) when a change was made;**

**(b) who made the change;**

**(c) who approved the change; and,**

**(d) the nature of the change. [Note: The FIA Associations recommend inserting this section from Article 15, as it deals with "material changes" and therefore is more appropriate to initial testing rather than "ad hoc" change management.]**

Article 11

**Testing within a non-live environment**

1. Members or participants of a trading venue and an investment firms accessing the trading venue through sponsored access shall test their trading strategies and algorithms in non-live ~~trading venue's~~ testing environments to prevent disorderly trading.

2. Investment firms that are not accessing a trading venue as a member or participant, but through direct market access service, shall make use of such non-live ~~trading venue~~ testing environments where this is appropriate to the nature, scale, and complexity of their business and the risks that their trading algorithms or systems may pose to the orderly trading on the relevant trading venue.

3. When testing their trading strategies, algorithms and systems in a non-live ~~trading venue~~ testing environment, the investment firm shall retain responsibility at all times for assessing the testing results and for making the required changes to the relevant algorithm, trading strategy or system as appropriate.

Article 12

**Controlled deployment of algorithms**

1. Investment firms shall deploy new trading algorithms, pre-existing algorithms that were successfully deployed on other trading venues, and material changes to previous architecture, in a live environment in a controlled and cautious fashion by setting limits on the deployment.

2. **During this deployment, the investment firm shall set reasonable** ~~**L**~~**limits** ~~shall be placed~~ on the number of financial instruments being traded, the price, value and number of orders, the ~~strategy~~ positions and the number of markets to which orders are sent.

Article 13

~~**Annual stress testing**~~

~~An investment firm shall test their systems, procedures and controls at least on an annual basis to ensure they are capable of withstanding significant and extraordinary market pressures or external events. Such on-going tests should be appropriate to the nature of the trading activity that the investment firm carries out, and shall at least consist of:~~

- ~~(a) initiating, running and stopping a large number of algorithms in parallel, and at least as many algorithms as the firm used on its most active day of trading over the previous 6 month period;~~

- ~~(b) running high messaging volume tests using at least twice the highest volume of messaging by the firm over the previous 6 month period;~~

~~(c) running high trade volume tests using at least twice the highest volume of trading by the firm over the previous 6 month period ; and,~~

~~(d) performing penetration tests and vulnerability tests to safeguard their systems against cyber attacks.~~ **[Note: the FIA Associations consider annual stress testing to be a highly artificial test within the framework for investment firms that do not otherwise have capacity requirements (it may be more appropriate in the context of trading venues analyzing system capacity). Provided the rest of the provisions in this RTS are followed, investment firms' trading systems will be functioning on a daily basis in a risk-controlled manner that does not contribute to disorderly trading. Therefore we propose to delete this step from the minimum requirements for investment firms.]**

Article 14

**Annual review and validation of systems**

1. An investment firm shall run an annual validation process whereby it shall review and evaluate its trading systems and trading algorithms, ~~and~~ the associated governance, accountability and sign-off framework and ~~associated~~ **relevant** ~~business continuity~~ **disaster recovery** arrangements.

2. The risk control function shall ~~lead~~ **be responsible for** the elaboration of the validation report and shall include staff that have relevant technical knowledge. Compliance functions shall be made aware of the results of these validation reports. The validation report ~~and the operational setup stemming from it~~ must be **periodically assessed** ~~audited~~ by the firm's internal audit function or by an independent third party audit.

3. The validation report and supporting documents, approved by the investment firm's senior management, will be available to the relevant national competent authority upon request.

4. In this validation process, investment firms shall assess their compliance with Article 17 of Directive 2014/65/EU on markets in financial instruments taking into account the nature, scale and complexity of their business. ~~Accordingly, they shall establish and maintain more stringent organisational requirements where appropriate.~~

5. In undertaking this self-assessment, investment firms shall at least take into account the elements provided in Annex I.

6. Investment firms shall act on the basis of these review processes and validation reports to remedy deficiencies identified. ~~The review process, and validation reports, shall be produced independently and assessed through internal audits with the involvement of any other department whose responsible person is appointed and replaced by senior management or by outsourcing it to third parties. Reviews of trading strategy performance shall, in equal measure, include an assessment of the impact on market integrity and resilience as well as on profit and loss resulting from the deployment of the strategy~~.

Article 15

**"Ad hoc" change management**

1. Any "ad hoc" changes to the production environment shall be subject to review ~~and sign-off~~ **[Note: "Ad hoc" changes, such as bug fixes, should not require additional sign off, as the material aspects of the software have already been tested.]** by ~~senior management~~**appropriately qualified personnel [Note: minor changes should not require senior management involvement]** within the investment firm. The depth of the review shall be appropriate to the magnitude of the proposed change. ~~This review shall also establish whether further testing is needed and what type of testing shall be carried out~~. **[Note: The preceding sentence regarding "depth of review" implies an examination of whether change is material and would require additional testing.]**

2. Investment firms shall establish procedures for communicating requirements and **"ad hoc"** changes in the functionality of their systems. ~~Investment firms shall also keep records of any material changes made to their proprietary software, allowing them to accurately determine:~~

~~(a) when a change was made;~~

~~(b) who made the change;~~

~~(c) who approved the change; and,~~

~~(d) the nature of the change.~~ **[Note: The FIA Associations recommend moving this text to Article 10, as it deals with "material" rather than "ad hoc" changes.]**

Section 2

**Means to ensure resilience**

Article 16

**Real-time monitoring**

1. Investment firms shall, during the hours they are sending orders to trading venues, monitor in real time**, or as near to real time as is practical,** all trading activity that takes place through their systems, including that of its clients, for signs of disorderly trading, including from a cross-market, cross-asset class, or cross-product perspective, in cases where the firm engages in such activities. This monitoring shall be conducted by staff who understand the firm's trading flow and who have the training, experience and tools that enable them to monitor and control the trading systems and troubleshoot and respond to operational and regulatory issues in a timely manner. ~~These staff members shall have the authority to take remedial action when necessary, and shall be accessible to the firm's competent authority, and to the trading venues on which the firm is active, as well as, where applicable, to relevant staff at its DEA provider, clearing member, or central counterparty~~

~~(CCP).~~ **[Note: It is reasonable that staff may be compelled to provide info to a NCA or other statutory body but not to private third parties.]**

2. In addition to monitoring by the actual trader in charge of the algorithm, such monitoring shall be undertaken by one or more ~~independent~~ risk control functions within the firm. **[Note: trading flow should be monitored by a second pair of eyes; however, requiring an 'independent' risk control function potentially implies a stand-alone risk control function, which would disproportionate for some firms. ]**

3. Investment firms shall maintain real-time and accurate trade and account information which is complete, accurate and consistent, and they shall reconcile as soon as practicable~~, and in real-time where it is possible,~~ their own electronic trading logs with records regarding their current ~~outstanding orders and~~ **[Note: this requirement may provide more noise than signal for firms]** risk exposures (drop copies) provided by the trading venue to which they send orders, by their broker or DEA provider, by their clearing member or CCP, by their data providers, or by other relevant business partners. An investment firm shall have the capability, especially in the case of intra-day trade of derivatives, to calculate the outstanding exposure of the traders and clients in real time**, or as close to real time as practical,** at appropriate levels of aggregation.

4. The monitoring systems at investment firms shall have real-time**, or as near to real-time as practical,** alerts that assist staff in identifying which **trading system** ~~algorithm~~ is not behaving as expected ~~and when is that taking place~~. When alerts are made, the investment firm shall have a process in place to take prompt remedial action including, as necessary, an orderly withdrawal from the market. ~~The monitoring systems shall also provide alerts in relation to algorithms and DEA orders triggering circuit breakers implemented by the trading venue~~.

Article 17

**Kill functionality**

1. Investment firms shall have the ability, as an emergency measure, to immediately cancel all of the firm's outstanding orders at all trading venues to which the firm is connected by means of a kill functionality.

2. Additionally, the investment firm shall separately have a capability to cancel outstanding orders at individual trading venues, or originating from individual traders, trading desks, or, where applicable, clients**, as appropriate**. ~~This implies that the investment firm shall be in the position to know which algorithms correspond to the traders and, if applicable, the clients~~. **[Note: this capability is implicit in the first sentence.]**

Article 18

**Monitoring for the prevention and identification of potential market abuse**

1. An investment firm shall monitor all trading activity that takes place through its **trading** systems, including that of its clients, for signs of potential market abuse. Investment firms shall implement alert systems to flag behaviour ~~likely to give~~ **giving** rise to suspicions of market abuse **as specified in Regulation (EU) No. 596/2014 on market abuse** ~~and in particular market manipulation, including activities on a cross-market, cross-asset class, or cross-product basis. Monitoring on a cross-market, cross-asset class and on cross-product basis should be undertaken where practicable in cases where the firm engages in such activities~~. **[Note: it is not appropriate to provide an exhaustive list here. An investment firm's market abuse obligations are best defined within MAR.]**

2. ~~Such alert systems shall be in place for all orders transmitted, including orders that are executed, modified or cancelled. To this end, investment firms shall have in place adequate, sufficiently scalable systems, including having automated alert systems in relation to at least the indicators of manipulative behaviour relating to false or misleading signals and to price securing as specified by Annex 1.A of Regulation (EU) No. 596/2014 on market abuse[16] and, where appropriate given the nature, scale and complexity of the firm's trading activity, visualisation tools~~. **[Note: An investment firm's market abuse obligations are best defined within MAR; therefore, the paragraph above is sufficient.]**

3. The investment firm's monitoring system shall be **adequate given the nature, scale and complexity of the business**~~, and shall be adaptable to changes in the firm's regulatory obligations and its trading behaviour, including its own trading strategy or that of its clients, the type and volume of instruments traded, the size and complexity of its order flow, and the markets accessed~~. The monitoring system shall be subject to ~~regular~~ review at least once a year, or more frequently if necessary in order to assess whether the monitoring system itself and the parameters and filters that it employs are still adequate to the firm's trading behaviour and regulatory obligations.

4. Using a sufficiently detailed level of time granularity, the monitoring system shall be able to generate operable alerts at the beginning of the next trading day or, only in cases where manual processes are involved, at the end of the next trading day. The monitoring system shall allow for setting or adjusting the scenario and filter parameters in order to minimize false positive and false negative results. ~~In order to ensure adequate follow-up to alerts, the monitoring system shall be used in parallel with a workflow creation and management system.~~

5. Staff responsible for monitoring the firm's trading activities for the purposes of this Article shall report any trading activity which is ~~potentially~~ not compliant with their firm's policies and procedures or with the firm's regulatory obligations to the individual(s) responsible for such compliance.

6. Investment firms shall have arrangements to identify orders and transactions that require a Suspicious Transaction and Order Report to competent authorities in relation to market abuse **as specified in Regulation (EU) No. 596/2014 on market abuse** ~~(in particular~~

~~market manipulation) and to submit these reports without delay. If initial enquiries are undertaken, a report shall be made as soon as possible if the enquiries fail to generate a satisfactory explanation for the observed behaviour~~. **[Note: An investment firm's market abuse obligations are best defined within MAR.]**

7. An investment firm shall maintain accurate, complete, and consistent trade and account information by reconciling their own electronic trading logs with records provided by their brokers, clearing members, CCP, data providers, or other relevant business partners**, as applicable and as appropriate to the nature, scale and complexity of the business,** as soon as practicable.

8. ~~If an investment firm uses DEA, it shall be able to report to its DEA provider the name of the client and/or trader who is responsible for the order~~. **[Note: this is a requirement of the DEA provider that can be governed by contract with its clients.]**

Article 19

**Accessibility and competence of monitoring staff**

1. An investment firm shall ensure that the staff involved in supporting electronic trading operations, including back and middle office staff, have **sufficient capacity, knowledge and experience to fulfil their functions** ~~the necessary authorisations with the relevant trading venues, brokers, DEA providers, clearing members, CCPs, data providers, independent software vendors, and other relevant business partners to provide the appropriate level of support~~. **[Note: The investment firm is responsible for the competence of its staff. Very few positions require external approvals as indicated here: (i) NCAs apply the pre-approved control regime, and (ii) certain venues require a "registered" trader. The relationship between an investment firm and CCPs, data providers, GCMs etc. should be governed by contract or service level agreements.]**

2. Investment firms shall have procedures in place to ensure ~~accessibility to~~ **that** its competent authority, the relevant trading venues and, where applicable, DEA providers **have reasonable access to monitoring staff**. Communication channels shall be identified and tested **periodically** with the aim of ensuring that in an emergency, the adequate staff members with the adequate level of authority may reach each other in a timely fashion in order to ensure a fair and orderly market. In addition, an out-of-trading hours contact procedure shall also be put in place.

Article 20

**Business continuity arrangements**

1. Investment firms shall ~~demonstrate that they~~ have ~~adequate and effective~~ business continuity arrangements in relation**n to their tr**ading systems **which are proportionate to the nature, scale and complexity of their business** ~~to address disruptive incidents including, but not limited to, system failures~~. **[Note: struck text is duplicative of paragraph**

**below.]**

2. Business continuity arrangements of investment firms shall be able to effectively deal with disruptive incidents and **where appropriate** ensure a timely resumption of trading **or controlled management (including wind-down) of outstanding orders and positions**. The arrangements shall cover at least the following:

(a) governance for the development and deployment of the arrangements;

(b) consideration of an adequate range of robust, challenging, but credible scenarios relating to the operation of their trading systems which require specific continuity arrangements **such as**~~including at the minimum~~: system failures, communication disruptions and loss of key staff whether due to technical or operational problems, market or credit events, natural disasters or environmental emergencies, IT security issues or deliberate interference with trading systems, or human error; **[Note: some items on this list are duplicative of others and not relevant; not appropriate as a minimum list.]**

(c) back-up of business critical data~~, including compliance,~~ that flows through their trading systems; **[Note: duplicative; 'business critical data' would imply critical compliance data]**

(d) ~~duplication of hardware components to permit continuous operation in case of a failover;~~ **[Note: avoiding a 'hot fail over' is a best practice recommended by the FIA Associations with respect to automated trading; this requirement would mandate investment firms to act contrary to best practice and potentially lead to disorderly trading.]**

(e) procedures for relocating to, and operating the trading system from, a back-up site, where having such a site is appropriate to the nature, scale and complexity of the algorithmic trading activities of the investment firm;

(f) staff training on the operation of the business continuity arrangements and individuals' roles;

(**g**) ~~business continuity arrangements~~ **documented disaster recovery procedures** ~~that are bespoke to each of the venues that it accesses~~;

~~(h) kill functionality usage policy;~~ [**Note: this is duplicative, as it is required elsewhere in Section 2]** and,

(**g**~~i~~) **alternative** arrangements for the investment firm to ~~trade~~ **manage** ~~all~~ existing orders ~~manually~~. **[Note: mandating manual trading of existing orders does not make sense in all situations and could create rather than reduce risk; likewise, if an investment firm's appropriate response is to 'turn trading systems off,' the requirement should not mandate continued trading of**

**existing orders, but rather the management thereof (i.e. winding down/closing positions).]**

**3. Investment firms exclusively dealing on own account and not executing orders on behalf of clients may include arrangements to effect a controlled management of outstanding orders and positions, including an orderly winding down of business, where appropriate.**

4. Investment firms shall review their business continuity arrangements on an annual basis and modify the arrangements in light of the review.

Article 21

**Pre-trade controls on order entry and post-trade controls**

1. Investment firms shall have appropriate pre-trade controls on order entry, which shall be reinforced by appropriate, real time**, or as near to real time as is practical** post-trade controls. **[Note: 'real-time' is not a clear concept in the context of post-trade timelines.]**

2. Investment firms' ~~order management~~ **trading** systems **[Note: 'order management system' is an undefined term not used elsewhere in this RTS]** should prevent orders from being sent to trading venues that are outside of pre-determined parameters covering price and volume, and should have controls in place to prevent unintentional submission and repetition of orders.

3. Investment firms shall establish and enforce appropriately calibrated pre-trade risk limits that are appropriate for the investment firm's **nature, scale and complexity (including** capital base, clearing arrangements, trading style, risk tolerance and experience**)**~~, which includes, but is not limited to, variables such as length of time since being established and its reliance on third party vendors~~.**[Note: not relevant]**

4. The pre-trade controls as referred to in paragraph ~~(~~1~~)~~ shall apply to all instrument types, and shall include as appropriate ~~to~~ the specific trading strategy and product:

(a) Price collars which automatically block or cancel orders that do not meet set price parameters, differentiated as necessary for different financial instruments~~, both on an order-by-order basis and over a specified period of time~~; **[Note: this is not necessary for a price collar]**

~~(b) Maximum order value for shares and equity-like instruments which prevent orders with uncommonly large order values from entering order books. Limits may should be set in notional value with the ability to be set per product~~; **[Note: a value check is price (already checked in (a)) times volume (already checked in (c)), so this check is not needed and would unnecessarily slow systems down.]**

(c) Maximum order volume which prevent orders with an uncommonly large order size from entering the order books. Limits shall be set in shares or lots;

~~(d) Repeated automated execution throttles which control the number of times a strategy was already applied. If a configurable number of repeated executions was applied, the system shall be disabled until a human re-enables it~~; **[Note: this text is highly unclear; if ESMA intends this as a check on repeated order submissions (hanging orders), the outbound message rates check and/or maximum messages limit below will capture this anyway; therefore it is not necessary.]**

**(d)** ~~(e)~~ Outbound message rates ~~on a strategy specific basis~~ **[Note: it may not be optimal risk management to monitor on a strategy basis; some trading venues monitor on a per session basis. Firms should be able to choose the proper level of aggregation.]** , which monitor the number of order messages their trading systems send to a trading venue in a given period of time; and,

**(e)** ~~(f)~~ Maximum messages limit which prevent sending an excessive number of messages to order books ~~and prevent~~ **that jeopardise~~ing~~** the integrity of the trading system.

5. The post-trade controls as referred to in paragraph ~~(~~1~~)~~ shall include as a minimum and as appropriate to the specific trading strategy and product the maximum long and short positions and overall strategy for derivatives products, which restrict trading beyond a specified position threshold, with limits to be set in units appropriate to the asset class and product type.

6. ~~Investment firms shall be able to automatically block or cancel orders from a trader if they are aware that a trader does not have permission to trade a particular financial instrument~~. Investment firms shall be able to automatically block or cancel orders where they risk compromising the firm's own risk thresholds. Controls shall be applied, where appropriate, on exposures to individual clients, financial instruments, traders, trading desks or the investment firm as a whole. **[Note: struck text is duplicative of the rest of the paragraph.]**

7. Investment firms shall have procedures and arrangements for dealing with orders which have been automatically blocked by the investment firm's pre-trade controls but which the firm nevertheless wishes to submit. Such procedures and arrangements shall be on a temporary and exceptional basis.

8. Where the pre-trade controls are overridden in relation to a specific trade, this shall only occur with the full knowledge and an active approval of relevant staff responsible **for the risk control function**~~in risk management~~.

9. Investment firms shall ~~continuously~~ **[Note: duplicative of 'real time']** monitor on a real time**, or as near to real time as is practical,** basis the post-trade controls it has in place. In cases where a post-trade control is triggered, the firm shall undertake appropriate action,

including but not limited to, adjusting or shutting down the relevant trading algorithm or trading system.

Article 22

**Security and limits to access**

1. Investment firms shall have an appropriate **and reliable** IT ~~strategy~~ process **and effective IT security management** ~~which ensures that the in-vestment firm develops and implements an IT strategy with defined IT objectives and IT measures that are~~ in line with~~:~~ the business ~~and risk strategy~~ of the firm ~~as well as its operational activities~~ **[Note: duplicative language]** and the risks to which the firm is exposed.~~,~~

~~(b) a reliable IT organisation, including IT service, IT production, and IT development~~ **[Note: these concepts are undefined and unclear in this context]**; and,

~~(c) effective IT security management~~.

2. Investment firms shall set up and maintain appropriate arrangements for physical and electronic security that ~~allows the minimisation~~ **minimise** ~~of any risks related to the unsecure access to the working environment and loss of information confidentiality~~ **of unauthorized access or modification of the investment firm's IT environment**.

3. **An ~~I~~investment** firm~~s~~ shall promptly inform its competent authority of any material breaches in the physical and electronic security **that would jeopardise the operations of the investment firm** ~~measures undertaken. A~~ **and provide a**n incident report ~~shall be provided to its competent authority~~ indicating the nature of the incident, the measures adopted to cope in an emergency and the initiatives taken to avoid similar incidents from recurring.

4. Investment firms shall develop and implement appropriate IT security measures to **protect** ~~ensure~~ the confidentiality, integrity, authenticity, and availability of data, and the reliability and robustness of **trading** systems, ~~thus~~ including arrangements **to mimimise** ~~that allow the minimization of~~ the risks of **cyber-**attacks ~~against the information systems~~.

5. **Where appropriate to the nature, scale and complexity of their business, i**~~I~~nvestment firms shall undertake ~~adequate penetration tests and vulnerability scans~~ **periodic IT risk assessments** to safeguard against cyber-attacks, ~~which are to be at least every six months, or more frequently or on an ad-hoc basis as appropriate~~. **Investment**~~The~~ firm**s** shall implement appropriate safe-guards against internal attackers which may include effective ~~identity~~ **segregation of duties** and access ~~management~~ **controls**. ~~Firms shall ensure that they are able to identify all persons who have critical user access rights to IT systems. Persons who have critical user access to IT systems may include systems administrators or traders with special privileges.The number of such persons is to be sufficiently restricted and their access to IT systems is to be monitored to ensure traceability at all times by means such as logging and two factor authentication.~~ **[Note: struck text is unnecessarily prescriptive]**

CHAPTER IV

**Direct electronic access**

Article 23

**General**

Investment firms offering DEA to its own clients (DEA provider) shall be responsible for the trading of those clients. These investment firms shall establish policies and procedures to ensure the trading of those clients complies with the rules and procedures of the relevant trading venues to which the orders of such clients are submitted and to enable the investment firm to meet its regulatory obligations.

Article 24

**Due diligence by DEA providers on prospective DEA clients**

Investment firms offering DEA shall conduct due diligence on their prospective DEA clients, as appropriate to the risks posed by the nature of these clients, the scale and complexity of their prospective trading activities and the service being provided. Such a process shall include an assessment of the level of expected trading and order volume and the nature of connectivity to the relevant trading venues. At a minimum, the process shall cover such matters as:

(a) **Undertaking appropriate client due** diligence specified **in compliance with relevant** ~~the~~ know-your-client, ~~and~~ anti-money laundering **and combating terrorist financing** requirements;

(b) ~~The~~ **Material** governance and **control function arrangements** ~~ownership structure~~;

(c) Whether sponsored access or direct market access shall be provided;

~~(d) Overview of the types of strategies to be undertaken by the DEA user;~~

**(d)** ~~(e)~~ Access controls over order entry. Where the DEA provider allows clients to use third-party trading software for accessing trading venues it shall ensure that the pre-trade controls contained in this trading software are at least equivalent to the pre-trade controls set out in this Regulation;

**(e)** ~~(f)~~ The operational set-up and the systems and controls of the DEA client;

**(f)** ~~(g)~~ The allocation of responsibility for dealing with actions and errors;

**(g)** ~~(h)~~ The financial standing of the DEA client **and its ability to meet its financial obligations to the firm**;

**(h)** ~~(i) The historical trading pattern and behaviour of the DEA client~~ **The expected trading pattern and behavior of the DEA client, including criteria such as frequency of order submission, and volume, strategies and products traded; and**

~~(j) The ability of the client to meet their financial obligations to the firm; and,~~ **[Note: included in (g) as it covers same point regarding financial standing of client]**

**(i)** ~~(k)~~ If sub-delegation is to be permitted, the DEA provider shall ensure that its DEA client has a due diligence framework in place which is at least equivalent to their own.

Article 25

**On-going review of DEA clients**

Investment firms acting as DEA providers shall review their due diligence assessment processes on at least an annual basis and shall carry out annual risk-based reassessment of the adequacy of their clients' systems and controls, in particular taking into account **material** changes to the scale, nature or complexity of their trading activities or strategies, ~~or changes to their~~ **senior and managerial** staffing, ownership structure, trading or bank account, regulatory status, or financial position. **DEA providers shall determine whether there has been a material change in the risk profiles of their DEA clients and their businesses on the basis of information available from public sources or from dealings with their DEA clients during the previous 12 months. In the event that no material changes in risk profile are identified, the DEA provider shall make a record of that finding. In the event that material changes in risk profile are identified, the DEA provider may undertake additional due diligence on the DEA client (using the criteria set out in Article 24 of this Regulation) or undertake such other process as the DEA provider shall deem fit in order to assess the adequacy of its DEA clients' systems and controls.**

**Where appropriate, DEA providers may satisfy this obligation by relying upon extracts of the self-assessment prepared by DEA clients pursuant to Article 14 of this RTS if so provided by the relevant DEA client.**

Article 26

**Systems and controls of DEA providers**

1. DEA providers shall monitor intraday on a real-time basis the ~~credit and market~~ risk to which they are exposed as a result of the clients' trading activity so that the DEA provider can adjust the pre-trade controls on orders~~, credit~~ and risk limits as necessary.

2. DEA providers shall apply pre- and post-trade controls on the order flow of their clients in accordance with Article 21 of this Regulation **(outlined below for clarity):**

**(a) Price collars that automatically block or cancel orders that do not meet set price parameters, differentiated as necessary for different financial instruments ~~both on an order by order basis and over a specified period of time;~~**

~~**(b) Maximum order value for shares and equity-like instruments that prevent orders with order values exceeding such maximum from entering order books. Limits may be set in notional value or quantity with the ability to be set per product;**~~

**(b) Maximum order volume which prevent orders with an uncommonly large order size from entering the order books. Limits shall be set in shares or lots.**

~~**(c) Repeated automated execution throttles that control the number of times a strategy has been executed without human intervention. If a configurable number of executions have repeated without human intervention, the system shall be disabled until a human re-enables it;**~~

**~~(e)~~ (c) Outbound message rates ~~on a strategy specific basis~~, which monitor the number of order messages their trading systems send to a trading venue in a given period of time; and,**

**~~(f)~~ (d) Maximum messages limit that prevent sending an excessive number of messages to order books ~~and prevent~~ that jeopardise~~ing~~ the integrity of the trading system.**

DEA clients shall not be able to send an order to a trading venue without the order passing through the pre-trade controls of the DEA provider.

3. The pre- and post-trade controls to be applied by DEA providers shall not be **controlled by**~~those of~~ a DEA client. DEA providers may use its own proprietary pre- and post-trade controls, third-party controls ~~bought in~~ from a vendor, **controls licensed from a client (under the sole control of the DEA provider),** controls provided by an outsourcer, or controls offered by the trading venue. In each of these circumstances the DEA provider shall

remain responsible for the effectiveness of those controls and shall ensure that at all time he is solely entitled to set or modify any parameters or limits that apply to these pre- and post-trade controls. DEA providers that allow clients to use third-party controls for accessing trading venues shall determine pre-trade risk limits and ensure that those pre-trade and post-trade controls are at least equivalent to the obligations set out in this article. The DEA provider shall monitor the performance of the pre- and post-trade controls on an on-going basis.

4. The initial pre-trade controls on order submission, as well as the initial credit and risk limits, which the DEA provider applies to the trading activity of their DEA clients shall be based on their initial due diligence assessment, and periodic review of the client. The controls applied to these clients should be equivalent regardless of whether the type of access provided is direct market access or sponsored access.

5. DEA providers shall have in place the ability to:

(a) Monitor any orders sent to their systems by DEA users;

(b) Automatically block or cancel orders from a DEA client in financial instruments that a DEA client does not have permission to trade. The investment firm must use an internal flagging system to identify and to block single clients or a small group of clients. **Alternatively, the DEA provider can automatically block orders by restricting access to instruments that the DEA client does have permission to trade**;

(c) Automatically block or cancel orders of a DEA client when they breach the DEA provider's risk management thresholds. Controls shall be applied to exposures to individual clients, financial instruments or groups of clients.

(d) Stop order flow transmitted by their DEA users;

(e) Suspend or withdraw DEA services to any clients where the DEA provider is not satisfied that continued access would be consistent with their rules and procedures for fair and orderly trading and market integrity; and

(f) Carry out, whenever DEA provider deems it necessary, a review of the internal risk control systems of a DEA user.

6. DEA providers shall have procedures that monitor **their** ~~the~~ trading systems and support staff in the event of a trading system error. **[Note: to clarify that monitoring is intended to be carried out in respect of the DEA providers' own systems and staff (not DEA users systems and staff).]** The procedures shall aim at evaluating, managing and mitigating market disruption and firm-wide risk, and shall identify the persons to be notified in the event of an error resulting in violations of the risk profile, or potential violations of a trading venue's rules.

7. DEA providers shall at all times have the ability to identify the different clients that submit orders through their systems by assigning unique IDs.

8. DEA providers shall in accordance with Article 25 of Regulation (EU) No 600/2014 on markets in financial instruments and amending Regulation (EU) No 648/2012, keep at the disposal of the competent authority the relevant data relating to the orders submitted by their DEA clients, including modifications and cancellations, the **material** alerts generated by their monitoring systems and the **material** modifications made to the~~ir~~ **DEA provider's** filtering process. **[Note: FIA Associations expect continued innovation in this area with alerting and monitoring capabilities going beyond the regulatory requirements. The unintended consequence of requiring recording of all alerts and filtering could be a strict adherence to the regulation with associated calibration of system triggers which may limit DEA providers' motivation to harness innovative enhancements due to the scale of additional alerts (many being false positives) that could be generated.]**

CHAPTER V

## Firms acting as general clearing members

Article 27

### Systems and controls of firms acting as general clearing members

1. Investment firms acting as a general clearing member (a 'clearing firm') for their clients shall have in place effective systems and controls to ensure clearing services are only provided where appropriate requirements are imposed on those persons by the clearing firm to minimise the risks to the firm and to the market. A clearing firm shall conclude a binding written agreement with its clients regarding the essential rights and obligations arising from the provision of a clearing service.

2. Any system used by the clearing firm to support the provision of a clearing service to its clients shall be subject to appropriate due diligence, controls, and monitoring.

Article 28

### Determination of suitable persons

1. Investment firms acting as a clearing firm shall make an initial assessment of any prospective clearing client according to the nature, scale and complexity of the prospective client's business. Each potential client must be assessed against, at least, the following criteria:

(a) credit strength including consideration of any guarantees;

(b) internal risk control systems;

(c) intended trading strategy;

(d) payment systems and arrangements that enable clients to effect timely transfer of assets/cash (as margin) required by the clearing firm in relation to the clearing services it provides;

(e) systems and/or access to information that helps clients to respect any maximum trading limit agreed with the clearing firm;

(f) any collateral provided to the clearing firm by the client;

(g) operational resources including technological interfaces/connectivity; and,

(h) any involvement in any breach of financial markets integrity, including market abuse, financial crime and money laundering activities.

2. Investment firms acting as a clearing firm shall review their clients' on-going performance against the criteria listed above, and any additional criteria that the clearing firm has imposed, on a**n** ~~**annual**~~ **regular** basis. **The clearing firm shall determine the frequency at which it will review the client's performance against these criteria according to the nature, scale and complexity of the client's business**. ~~Such a review~~ **Reviews of applicable criteria should be consistent** ~~shall be non-discriminatory~~**[Note: Requiring a GCM to conduct reviews that are non-discriminatory would limit the GCM's discretion as to whether or not to accept a particular client ]**, transparent and objective **where not in conflict with other laws and regulations applicable to the clearing firm or other obligations of the clearing firm**. The binding written agreement between the clearing firm and clients shall include the above criteria, including the frequency at which the clearing firm will review its clients' performance against these criteria and the consequences of clients not complying with them.

Article 29

**Position limits and margining**

1. Investment firms acting as a clearing firm shall set and communicate appropriate trading/position limits with their clients in order to mitigate and manage their own counterparty, liquidity, **and** operational ~~and any other~~ risks.

2. Investment firms acting as a clearing firm shall monitor their clients' positions against these limits on real-time, **or as near to real time as is practical,** basis and have appropriate pre- and post- trade procedures for managing the risk of breaches.

3. Investment firms acting as a clearing firm shall document such procedures in writing and maintain records of compliance.

Article 30

**Client disclosures**

Investment firms acting as a clearing firm shall publicly disclose their general framework of fees and conditions applicable to clients to whom clearing services are provided. Clearing firms do not need to disclose the terms of their relationships with individual clients, or publically disclose any minimum criteria that a firm must meet to become a client. Clearing firms shall publicly disclose the levels of protection and the costs associated with the different levels of segregation that they provide and shall offer those services on reasonable commercial terms. Details of the different levels of segregation shall include a description of the main legal

implications of the respective levels of segregation offered including information on the insolvency law applicable in the relevant jurisdiction.

Article 31

**Entry into force**

This Regulation shall enter into force on the twentieth day following that of its publication in the Official Journal of the European Union.

It shall apply from 3 January 2017

**ESMA_MIFID2_CP_FIA ASSOCIATIONS_ANNEX 1: COMPLETE PROPOSED AMENDMENTS TO RTS 13, 14, 15, 16, 17, 18, 35 & 36**

**RTS 14: Draft regulatory technical standards on organisational requirements of regulated markets, multilateral trading facilities and organised trading facilities**

**COMMISSION DELEGATED REGULATION (EU) No …/..**

**of [date]**

**supplementing Directive 2014/65/EU of the European Parliament and of the Council with regard to regulatory technical standards specifying organisational requirements of regulated markets, multilateral trading facilities and organised trading facilities**

**(Text with EEA relevance)**

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Directive 2002/92/EC and Directive 2011/61/EU[17], and in particular Article 48(a)(c) and (g) thereof.

Whereas:

(1) Articles 18(5) and 48 of Directive 2014/65/EU determine the obligation of trading venues (regulated markets, multilateral trading facilities and organised trading venues) to have adequate arrangements and capacity so as to undertake their business appropriately. In this context, recitals (59) to (68) of Directive 2014/65/EU frame the obligations of trading venues permitting algorithmic trading through their systems under Article 48. Article 17 of Directive 2014/65/EU determines the organisational requirements for investment firms engaging in algorithmic trading.

(2) The potential impact of technological developments is one of the main drivers to determine the capacity and arrangements to manage the potential risks of a trading venue. The risks arising from algorithmic trading can be present in any trading model that is supported by electronic means. Therefore, these Standards apply regulated markets, multilateral trading facilities and organised trading facilities allowing for or enabling algorithmic trading through their systems considering as such those where algorithmic trading may take place as opposed to trading venues which do not permit algorithmic trading.

(3) This Regulation addresses those risks with specific attention to those that may affect the core elements of a trading system, including the hardware, software and associated communication lines used by trading venues, members or participants of trading venues including those falling under Article 1(5) of Directive 2014/65/EU to perform their activity and any type of execution systems or order management systems operated by trading venues or investment firms, including matching algorithms.

(4) As a consequence, ~~trading venues should consider in particular the obligations set out in~~ this Regulation ~~with~~ **contains provisions with** respect to:

(a) Upstream **organisational requirements** [connectivity, order submission capacity, throttling capacities and ability to balance customer order entrance through different gateways so as to avoid collapses];

(b) Trading engine **organisational requirements** [ability to match orders at an adequate latency];

(c) Downstream **organisational requirements** [connectivity, order and transaction edit and any other type of market data feed]; and

(d) Infrastructure to monitor the performance the abovementioned elements.

(5) A number of terms should be defined for the purposes of this Regulation to clearly identify a limited number of concepts stemming Directive 2014/65/EU and Regulation (EU) No 600/2014.

(6) The specific organisational requirements for trading venues have to be determined according to a robust self-assessment where at least the parameters set out in this Regulation have to be assessed. ~~This self-assessment should include any other circumstances not included in that list that might have an impact on their organisation.~~ That self-assessment shall be one of the cornerstones of the supervision of trading venues to be undertaken by national competent authorities.

(7) This Regulation determine the minimum requirements that should be met by trading venues with respect to Article 48 of Directive 2014/65/EU but their specific implementation should take place in conjunction with the above mentioned self-assessment. Therefore, the application of this Regulation should lead to more demanding requirements where appropriate.

(8) In line with the ESMA Guidelines for Systems and Controls in an Automated Trading Environment (ESMA/2012/122) and Recital (63) of Directive 2014/65/EU, this Regulation makes reference to elements which are instrumental for the resilience of trading systems, such as staffing and outsourcing policies.

(9) Trading venues should have the ability to undertake additional revisions of the members' compliance with the standards on the basis of their yearly risk based assessment.

(10) Trading venues are fully responsible for the deployment of their trading systems and in line with that, fully responsible for ensuring that each and every trading system and any change to them has been appropriately tested. A trading system should not be deployed if there are reasonable doubts about its proper functioning. Additionally, trading venues should engage in a periodic assessment of the trading system in relation to its performance and capacity.

(11) Where this Regulation requires trading venues and investment firms to perform certain

tasks in real-time, those tasks should be done as close to instantaneously as technically possible, assuming a reasonable level of efficiency and of expenditure on systems on the part of the persons concerned. In particular, real-time monitoring shall take place with a time delay of no more than 5 seconds.

(12) With respect to the outsourcing of functions, these technical standards establish that where the trading venue and the service provider are members of the same group, the trading venue shall, in monitoring the service provider's performance of the outsourced activity, take into account the extent to which the venue controls the service provider or has the ability to influence its actions. This provision should be read in conjunction with IOSCO Principles on Outsourcing by Markets.

(13) Testing their own venue's trading systems, the members´ and participants´ capacity to access trading systems and specifically their algorithms are part of the necessary measures to reduce the potential market disruptions. Alternative means are considered complementary but not substitutable to the necessary testing through the trading venue´s means.

(14) Article 47(1)(d) of Directive 2014/65/EU establishes that one of the organisational requirements for regulated markets is to have transparent and non-discretionary rules and procedures that provide for fair and orderly trading and establish objective criteria for the efficient execution of orders. The effective use of the pre-trade controls constitutes one of the key means to achieve that requirement in line with trading venues' responsibility to provide for orderly markets.

(15) Trading venues and their members or participants have to be adequately equipped to react in case unexpected circumstances arise. The use of a "kill functionality" will not only permit members or participants to react in case their algorithms do not operate as expected, but also the trading venue to pull off the order book unexecuted orders at their own initiative or at the member's or participant's initiative (for example, in case the firm's own systems are unable to do so).

(16) The provision of direct electronic access to an indeterminate number of person**s** may pose a risk to the provider of that service and also for the trading venue where the orders are sent. To address those risks it is considered necessary that the provider of direct electronic access be aware of **the providers of sub-delegated DEA services and the scale of that sub-delegation.** ~~how many individuals (either physical or legal persons) may use its access to send orders to the market, regardless of the fact that the provider of direct electronic access may not know their identity~~.

(17) Trading venues may decide that the provision of DMA services by its market members or participants is also subject to a process of authorisation

(18) This Regulation is based on the draft regulatory technical standards submitted by the

European Securities and Markets Authority (ESMA) to the Commission.

(19) In accordance with Article 10 of Regulation (EU) No 1095/2010 of the European Parliament and the Council establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC[18], ESMA has conducted open public consultations on the draft regulatory technical Regulations, analysed the potential related costs and benefits and requested the opinion of the Securities and Markets Stakeholder Group established by Article 37 of that Regulation.

HAS ADOPTED THIS REGULATION:

CHAPTER I

**General**

Article 1

**Subject matter and scope**

(1) This regulation lays down the detailed rules and requirements for trading venues allowing or enabling algorithmic trading through its systems, in relation to its resilience, capacity and to the controls concerning direct electronic access pursuant to Article 48(12) of Directive 2014/65/EU.

(2) For the purposes of this regulation, it is considered that a trading venue allows or enables algorithmic trading where order submission and order matching ~~is~~ **can be** facilitated by electronic means.

Article 2

**Definitions**

For the purpose of this Regulation:

1. 'real time' in relation to the monitoring by trading venues and investment firms of algorithmic order submission and execution means an optimally minimised delay **(being no greater than five seconds)** between (i) the moment at which an order is submitted, acknowledged, modified, cancelled, rejected, or executed, and (ii) the generation of surveillance outputs (alerts) by the monitoring system in relation to the same order such that, where necessary, immediate corrective action can be taken regarding on-going trading behaviour which is associated with this order.

2. 'kill functionality' means the ability to pull resting orders off the trading venue that shall include both:

(a) A functionality embedded in the investment firm's own systems; and

(b) A functionality embedded in the trading venue's systems.

3. 'disorderly trading conditions' means a situation where the maintenance of fair, orderly and transparent execution of trades is compromised by:

(a) A trading systems' performance which is significantly affected by delays and interruptions; or

(b) multiple erroneous orders or transactions, ~~**including cases where orders are not resting for sufficient time to be executed**~~ **(FIA Note: such cases would not necessarily be characteristic of disorderly trading)**; or

(c) a trading venue has insufficient capacity.

4. 'messages' for the purposes of the capacity of trading venues refer to any kind of input (such as but not limited to the submission of an order, each modification of the order, its cancellation) that implies independent use of the trading venue's trading system´s capacity, including market orders and limit orders (including Immediate-and/or-Cancel orders or pegged orders) submitted to the trading venue by a member or participant and any quotes including any indications of interest (irrespective of whether or not they are actionable). Output by the trading venue (such as the response of its system to an input by a member or participant in the form of an acknowledgement and confirmation of receipt by the trading venue) as well as batched orders (which shall be broken down into each individual component) shall be included in this definition.

5. 'stressed market conditions' means conditions where the price discovery process and market liquidity is affected by:

(a) significant increase or decrease in the number of messages being sent to and received from the systems of a trading venue; and

(b) significant short-term changes in terms of market volume; and

(c) significant short-term changes in terms of price (volatility).

6. 'business Continuity Plan' means the set of documents that formalises the principles, sets out the objectives, describes procedures and processes and identifies resources for business continuity management.

7. 'disaster recovery Plan' means the set of documents that sets out the technical and organizational measures to deal with events that severely impact the operation of the trading system.

8. 'operational functions' refer to all direct and indirect activities related to the performance and surveillance of the trading systems and includes, where relevant, certain regulatory functions.

9. 'recovery time objective' means the targeted duration of time and service level within

which a business process must be restored after a disruption in order to avoid unacceptable consequences associated with an interruption in business continuity.

10. 'recovery point objective' means the maximum tolerable amount of data that might be lost from an IT service due to a major incident and beyond which data has to be recovered.

11. 'post-trade controls' **refers to the reconciliation of executed trades and positions contained in the firm's trade execution records against third-party records, such as drop copies**

12. 'members' refer to members and participants with a contractual arrangement with a trading venue to have direct access to its trading systems, excluding DEA users.

13. 'clients' refer to any individual having a contractual arrangement with a trading venue who is not a member of that trading venue.

~~14. 'remote members' means members and participants who are incorporated in a different jurisdiction to the trading venue and are not operating via a branch office in the trading venue's jurisdiction.~~

15. 'critical operational functions' means any operational functions necessary for the continuation of the trading venue's business or supporting orderly trading in it.

16. 'user definition' means that only pre-determined individuals may submit orders in a trading venue using direct electronic access.

17. 'product definition' means that certain individuals may only submit orders on pre-defined financial instruments using direct electronic access.

## CHAPTER II
## General organisational requirements for trading venues

### Article 3
### Organisational requirements for trading venues and the proportionality principle

1. Before the deployment of a trading system and at least once a year, trading venues shall elaborate a report to assess their degree of compliance with Article 48 of Directive 2014/65/EU, taking into account the nature, scale and complexity of their business.

2. Trading venues shall send the self-assessments referred to in paragraph 1 to their national competent authorities upon their approval by that trading venues' senior management.

3. In undertaking this self-assessment, trading venues shall at least take into account the elements listed in Annex 1.

Article 4

**Governance**

1. Within its overall governance and decision making framework, a trading venue shall develop, procure, including through outsourcing, and monitor its trading systems through a clear and formalised governance procedure and process which ensures:

(a) that all relevant considerations including technical, risk and compliance issues are considered when taking the key decisions; in particular, by embedding compliance and risk management principles;

(b) that the trading venue has clear lines of accountability, including procedures to approve the development, initial deployment, subsequent updates and resolution of problems identified through monitoring the trading systems.

(c) that there are appropriate procedures and processes for the communication of information; and

(d) that the trading venue ensures an appropriate segregation of functions to ensure effective supervision of the venue's compliance with its legal and regulatory obligations.

2. The senior management of the trading venue shall at least approve:

(a) the self-assessment of compliance with Article 48 of Directive 2014/65/EU to be undertaken in accordance with Article 3;

(b) the measures planned to expand the capacity of the trading venue following a historical peak of messages;

(c) the measures planned following an event described in Article 12(4) of this Regulation; and

(d) planned actions to remedy any shortcomings detected; in particular in the course of stress tests.

Article 5

**Compliance function within the governance process**

1. A trading venue shall ensure that its compliance function is responsible for providing:

(a) providing clarity about the trading venues' legal and regulatory obligations;

(b) developing and maintaining the policies and procedures to ensure that the use of

the trading systems complies with those obligations; and

(c) ensuring that any failures to comply with those obligations are detected and remedied.

2. A trading venue shall ensure that its compliance function staff have a general understanding of the way in which the trading systems operate and, in respect of its more detailed technical properties of the trading systems' activities, systems and algorithms, that the compliance staff ~~are in continuous contact with~~ **shall have direct access to** persons having that relevant technical knowledge

3. The trading venue shall enable compliance function staff to have, at all times, direct contact with the persons with responsibility for a trading system operated by it.

4. Where the trading venue uses external compliance consultants, it shall engage with and provide information to such external consultants as it would if those consultants were the venue's own compliance staff, **subject to applicable privacy and other rules and regulations.**

Article 6

**Staffing**

1. A trading venue shall have procedures and arrangements, including recruitment and training, to determine its staffing requirements and to ensure it employs a sufficient number of staff with the necessary skills and expertise to manage their trading systems.

2. The obligation in paragraph 1 will include employing staff with knowledge of:

(a) the trading venue's relevant trading systems;

(b) the monitoring and testing of those systems;

(c) the types of trading undertaken by its members, participants or other users of the trading venue; and

(d) the trading venue´s legal and regulatory obligations.

3. The obligation in paragraph 1 includes employing staff with sufficient seniority to represent its functions effectively within the trading venue, offering appropriate challenge as necessary within the governance framework.

Article 7

**Outsourcing**

1. If a trading venue outsources all or part of its operational functions, it shall ensure that:

(a) the outsourcing exclusively relate to operational functions and does not encompass the responsibilities of the senior management and the management body of their responsibilities;

(b) the relationship and obligations of the trading venue towards its members, participants, national competent authorities, or any third parties (such as clients of data feed services) under the terms of Directive 2014/65/EU and Regulation (EU) No 600/2014 is not altered;

(c) it meets the requirements with which the trading venue must comply in order to be authorised in accordance with Title III of Directive 2014/65/EU;

(d) none of the other requirements subject to which the trading venue's authorisation was granted shall be removed or modified.

2. A trading venue shall exercise due skill, care and diligence when entering into, managing, monitoring or terminating any arrangement for the outsourcing of all or part of their operational functions to a service provider. The selection process shall be documented.

3. A trading venue shall document the selection process and in particular take the necessary steps to ensure that the following conditions are at all times satisfied:

(a) the service provider shall have the ability, capacity, and any authorisation required by law to perform the outsourced functions, services or activities reliably and professionally;

(b) the service provider shall properly supervise the carrying out of the outsourced functions, and adequately manage the risks associated with the outsourcing;

(c) the service provider shall carry out the outsourced services effectively, and to this end the trading venue must establish methods for assessing the standard of performance of the service provider, including metrics to measure the service provided and specify the requirements that shall be met;

(d) appropriate action shall be taken by the trading venue if it appears that the service provider may not be carrying out the functions effectively and in compliance with applicable laws and regulatory requirements;

(e) the trading venue shall retain the necessary expertise to supervise the outsourced functions effectively and manage the risks associated with the outsourcing and must supervise those functions and manage those risks;

(f) the service provider shall disclose to the trading venue any development that may have a material impact on its ability to carry out the outsourced functions effectively

and in compliance with applicable laws and regulatory requirements;

(g) the trading venue shall be able to terminate the arrangement for outsourcing where necessary without detriment to the continuity and quality of its provision of services to clients;

(h) the service provider shall cooperate with the competent authorities of the trading venue in connection with the outsourced activities;

(i) the trading venue, its auditors and the relevant competent authorities must have effective access to data related to the outsourced activities, as well as to the business premises of the service provider; and the competent authorities shall be able to exercise those rights of access;

(j) the trading venue shall set out requirements to be met by the service providers to protect confidential information relating to the trading venue and its members, participants or clients, and in particular the venue's proprietary information and software;

(k) the service provider shall protect any confidential information relating to the trading venue and its members, participants or clients, and in particular the venue's proprietary information and software;

(l) the trading venue and the service provider shall establish, implement and maintain a contingency plan for disaster recovery and periodic testing of backup facilities, where that is necessary having regard to the function, service or activity that has been outsourced.

4. A trading venue shall set out the respective rights and obligations of it and of its service provider in a legally binding written agreement which:

(a) Clearly allocates those rights and obligations;

(b) Provides for a clear description of:

(i) the operational functions that are outsourced;

(ii) the access of the outsourcing trading venue, of its national competent authority and of its auditors to the books and records of the service provider;

(iii) the way potential conflicts of interest are identified and addressed; and

(iv) the terms for the parties' responsibility, for the amendment and for the termination of the agreement.

(c) Ensures that both the trading venue and the service provider facilitate in any way necessary the exercise by the competent authority of its supervisory powers.

5. Trading venues shall report without delay to their national competent authorities their intention to outsource all or part of their operational functions notably where:

(a) The service provider is providing the same service to other trading venues; and

(b) Where the trading venue intends to outsource critical operational functions in which case prior authorisation of the competent authority is required.

6. A trading venue shall make available, upon request, to the competent authority all information necessary to enable the authority to supervise the compliance of the performance of the outsourced activities with the requirements of this Regulation.

7. Trading venues shall ensure that its authority may access information or inspect offices of the service provider to exercise its supervisory powers.

8. The above provisions on outsourcing apply regardless of whether or not the outsourcing trading venue and the service provider belong to the same corporate group. Where the trading venue and the service provider are members of the same group, the trading venue shall, in monitoring the service provider's performance of the outsourced activity, take into account the extent to which the venue controls the service provider or has the ability to influence its actions.

9. The conditions listed above have to be met irrespective of whether the service provider to which all or part of the trading venue's operational functions have been outsourced, or whether is located in the same or in a different country.

## CHAPTER III
## **Capacity and resilience of trading venues**

### Section 1
### **Members**

#### Article 8
#### **Due diligence for members or participants of trading venues**

(f) A trading venue shall have pre-defined, publicly available standards specifically relevant to its trading model which cover the knowledge and technical arrangements of the staff of the members for using the order submission systems of the trading venue. The standards shall cover, at least:

a. pre-trade and post-trade controls on their trading activities, including controls to ensure that there is no unauthorised access to the trading

systems and pre-trade controls on order price, quantity, value and usage of the system;

b. experience of staff in key positions within the members;

c. responsible manager/s for the operation of the trading system, structure and segregation of the risk as well as compliance and monitoring functions with respect to the operation of the member;

d. technical and functional conformance testing;

e. where members are involved in algorithmic trading, testing of algorithms (and of any re-design thereof) to ensure they cannot create or contribute to disorderly trading conditions;

f. policy of use of the kill functionality;

g. whether the member may provide direct electronic access to its own clients and if so, the applicable conditions;

h. business continuity and disaster recovery procedures; and

i. the outsourcing policy of the member.

(g) A trading venue shall undertake a due diligence assessment of a prospective member against the standards referred to in paragraph 1.

(h) At least once a year, a trading venue shall ~~assess~~ **conduct a risk-based assessment of** the compliance of its members with the standards in paragraph 1 and check whether its members remain registered as investment firms.

(i) A trading venue shall have in place predefined criteria and procedures making reference to the sanctions that the trading venue may impose on a non-compliant member, including suspending access to the trading venue and losing the condition of member.

(j) A trading venues shall maintain **(for at least five years)** records of:

a. the documentation setting out the criteria and procedures for the due diligence activity;

**b. the due diligence records arising from the yearly assessment; and**

c. the list of members that failed the yearly assessment.

Section 2

**Testing**

Article 9

**Testing of the trading systems**

(k) Trading venues shall, prior to deploying a trading system or any **material** update to a trading system, make use of clearly delineated development and testing methodologies which ensure at least that:

a. The operation of the trading system is compatible with the trading venue's obligations under Directive 2014/65/EU and other relevant Union or national law;

b. The compliance and risk management controls embedded in the systems work as intended, including generating error reports automatically; and

c. The trading system can continue to work effectively in case of significant increase of the number of messages managed by the system.

(l) Trading venues shall be in a position ~~at all times~~ to demonstrate **upon request from their NCA** that they have taken all reasonable steps **to satisfy their obligations under Article 19 of this Regulation** to avoid that their trading systems contribute to disorderly trading conditions.

Article 10

**Testing the member's capacity to access trading systems**

1. Trading venues shall pre-determine and require their members to undertake conformance testing **of their trading infrastructure appropriate to the nature, scale and complexity of their business**:

(a) before accessing the market for the first time **and shall encourage participants/members to perform testing in a testing environment;**

(b) before deploying new algorithms ~~or, algorithms used in other trading venues~~; and

(c) before deploying any material changes to the core elements of a pre-existing algorithm.

2. The conformance testing in paragraph **1 (a)** shall include both technical and functional level testing at least:

(a) In respect of the functional test, the most basic functionalities such as submission, modification or cancellation of an order or an indication of interest and include at least static and market data. ~~**download and all business data flows (such as trading, quoting and trade reporting);**~~

(b) ~~In respect of the technical test, the connectivity (including cancel/don't cancel on disconnect, market data feed loss, and throttles), recovery (including cold intra-day starts) and the handling of suspended instruments or stale market data.~~ **In respect of the technical test, the connectivity, recovery and the handling of suspended instruments.**

3. **The conformance testing in relation to paragraph 1 (b) and (c) should include technical and functional level testing that the trading venue considers appropriate to protect its integrity and the orderliness of trading.**

4. Trading venues shall provide a conformance testing environment to its actual or prospective members with the following characteristics:

(a) accessible in equivalent conditions to the rest of the trading venue's testing services;

(b) the list of financial instruments available for testing shall be **a representative subset of the ones** available in the live environment **covering each instrument class**;

(c)availability during general market hours or on a pre-scheduled periodic basis if outside market hours;

(d) supported by knowledgeable staff; and

(e) **reports** with the outcome of the testing should be made available exclusively to the actual or prospective member.

5. Trading venues shall specify phases for the conformance test and their content, provide specific timeframes to complete the test and specify whether the associated cost is charged.

6. Regardless of any additional testing methods that the actual or prospective member may use, trading venues shall require their actual or prospective members to use its testing facilities.

7. Trading venues shall not grant access to members ~~**or algorithms**~~ which are unable to **provide written confirmation that it has passed** ~~pass~~ the conformance testing.

**ESMA_MIFID2_CP_FIA ASSOCIATIONS_ANNEX 1: COMPLETE PROPOSED AMENDMENTS TO RTS 13, 14, 15, 16, 17, 18, 35 & 36**

Article 11

**Testing the members' algorithms to avoid disorderly trading conditions**

1. Trading venues shall require their members to undertake testing of their trading algorithms to avoid creating or contributing to disorderly trading conditions before accessing the market for the first time and before the deployment of ~~new~~ algorithms **on the trading venue**, ~~well-functioning algorithms used in other trading venues~~ and material changes to previous **strategies** ~~architecture~~.

~~2. Trading venues shall **design a set of appropriate** scenarios with functionalities, protocols and structure reproducing live environment conditions including disorderly trading circumstances. The testing environment and the **pre-determined** scenarios shall be as close to market situations as possible.~~

3. ~~Trading venues shall also provide a self-certification front-end so as to permit unusual scenarios to be simulated where the member can test a selection of scenarios that it considers suitable to its activity.~~

4.
~~Regardless of any alternative testing methods that the member or participant may use in addition, trading venues shall require their members or participants to use the testing facilities provided to this end. Trading venues shall ensure that the testing environment and the designed scenarios are as close to market situations as possible.~~

5. Trading venues shall not grant access to members or participants who did not pass the ~~trading venues'~~ testing **~~requirements~~** to avoid disorderly trading conditions.

Section 3

**Capacity and monitoring obligations**

Article 12

**Trading venues' capacity**

1. Trading venues shall ensure that **they have the necessary controls in place to manage a gradual degradation in system performance when the message load on their trading systems increases to twice the historical peak and beyond. This test should be applied only where the doubling of the historical peak in a particular message type is plausible.** ~~have sufficient capacity to accommodate at least twice the highest number of messages per second and per value as the maximum recorded on that system in one day (historical peak).~~

2. It will be considered that the capacity of a trading system is not overwhelmed when the elements of that trading systems perform their functions without systems failures or outages, errors in matching transactions so that no order is lost or missing or incorrect data including

that no transaction is lost, no display of blank or incorrect prices or no display of wrong trading volumes.

3. For the purposes of paragraph 1, the capacity is no longer sufficient, if the number of messages has overridden the historical peak.

4. A trading venue shall inform its competent authority immediately about the measures planned to expand capacity or add new capabilities together with the expected timing of these measures.

5. If a trading venue decides not to expand its trading capacity, it shall inform its competent authority of the reasons for this decision.

6. Trading venues shall be able to scale the performance of their systems in order to respond to rising message flow that threatens their proper operation; in particular, the design of the trading system shall enable new capacity to be installed within a reasonable timeframe whenever necessary.

7. A trading venue shall immediately make public and report to its national competent authority and members any interruption of trading (shut down), and any other material connection disruptions and shall inform on the estimated time to resume regular trading.

Article 13

**General monitoring obligations**

1. Trading venues shall ensure that the trading system is at all times adapted to the business which takes place through it and is robust enough to ensure continuity and regularity in the performance of the markets operated, regardless of the trading model used. Trading venues shall ensure that the system is monitored and reviewed on an on-going basis so as to ensure that the risks and challenges posed by technological developments are promptly addressed.

2. Trading venues shall conduct a real time monitoring activity at least in relation to the following:

(a) performance and capacity of the systems in order to ensure continuity and regularity in the performance of the market;

(b) orders sent by their members in order to prevent excessive flooding of the order book by the operation of throttle limits; and

(c) orders sent by their members in order to maintain an orderly market; in particular, trading venues shall monitor the concentration flow of orders to detect potential threats to the orderly functioning of the market.

**ESMA_MIFID2_CP_FIA ASSOCIATIONS_ANNEX 1: COMPLETE PROPOSED AMENDMENTS TO RTS 13, 14, 15, 16, 17, 18, 35 & 36**

Article 14

**On-going monitoring of performance and capacity of the trading systems**

1. A trading venue shall be able to demonstrate at all times to its competent authority that an on-going real-time **(with a time delay of no more than 5 seconds)** monitoring activity of the performance and degree of usage of the elements of its trading systems is performed in relation to, at least, the following parameters:

(a) percentage of the maximum message capacity used per second;

(b) total number of messages managed by the trading system broken down per element of the system including:

(i) number of messages received per second;

(ii) number of messages sent per second; and

(iii) number of messages rejected by the system.

(c) gateway-to-gateway latency, measured from the moment a message is received by an outer gateway of the trading system, sent through the order submission protocol, processed by the matching engine, and then sent back until an acknowledgement is sent from the gateway; and

(d) matching engine progress, measuring the time it takes for the matching engine to accept, process and confirm a message until an acknowledgment is sent from the gateway.

2. Trading venues shall deal adequately with any issues identified in the trading system as soon as reasonably possible in order of priority and, if necessary, be able to adjust, wind down, or shut down the trading system.

Article 15

**Periodic review of the performance and capacity of the trading systems**

1. Trading venues shall review and evaluate the performance of their trading systems, and associated process for governance, accountability, sign-off and associated business continuity arrangements at least once a year. They shall act on the basis of these reviews and evaluations to promptly remedy any identified deficiencies. As part of the review programme, trading venues shall run stress tests. ~~where the design of adverse scenarios shall contemplate the functioning of the system under:~~

~~(a) the historical peak of messages managed by the system and successive multipliers beyond that level;~~

~~(b) unexpected behaviour of critical constituent elements of the trading system, associated systems and communication lines. In particular, the on-going stress testing should identify how hardware, software and communications respond to potential threats, covering all trading phases, trading segments and type of instruments to identify systems or parts of the system with tolerance or no tolerance to the adverse scenarios;~~

~~(c) random combination of (both stressed or not stressed) and unexpected behaviour of critical constituent elements.~~

2. Trading venues shall **ensure that they** have the **necessary powers under their rules** ~~ability to determine the~~ **require that their** members ~~that should~~ participate in its stress tests. **Trading venues must consider the conflicts in respect of members' and participants' resources, time and ability to manage multiple testing processes simultaneously that may arise through stress testing carried out by a number of trading venues at the same time.**~~and fine them in case they do not collaborate in it~~.

3. The review and evaluation process described in paragraph 1 shall:

(a) be independent of the production process (upstream, matching engine and downstream) by the involvement of internal audits, the involvement of any other department whose responsible person is appointed and replaced by senior management or by outsourcing it to third parties; and

(b) Result in actions to promptly remedy any identified deficiencies, including measures to address shortcomings in the periodic stress testing.

Section 4

**Means to ensure resilience**

Article 16

**Business continuity arrangements**

1. Trading venues shall be able to demonstrate on an on-going basis that their systems have sufficient stability by having effective business continuity arrangements to address disruptive incidents **including, but not limited to, system failures**.

2. The business continuity arrangements shall ensure a timely resumption of trading, targeting a recovery time no later than 2 hours and a recovery point objective close to zero.

Article 17

**Business continuity plan**

1. Trading venues shall set up a business continuity plan and shall implement effective business continuity arrangements in relation to their trading systems. The business continuity

plan shall be framed in the context of the trading venue's overall policy of risk management and shall include the procedures and arrangements identified to address and manage disruptive incidents.

2. The business continuity plan shall provide for at least the following minimum content:

- the conditions and procedures for the implementation of the business continuity plan;
- an adequate range of possible adverse scenarios as described in paragraph 3 of this Article;
- the governance and procedures to be followed in case of a disruptive event;
- the procedures in place for the resumption of the normal activity;
- the recovery time objective and the recovery point objective;
- the operation of back-up and disaster recovery arrangements as well as the procedures for moving to and operating the trading system from a back-up site.
- business succession planning.
- duplication of hardware components to allow for failover to back-up infrastructure, including network connectivity and communication channels;
- back-up of business critical data (including compliance, clock synchronisation and up-to-date information of the necessary contacts to ensure communication inside the trading venue and between the trading venue and the members, participants or users and between the trading venue and clearing and settlement infrastructures).
- staff training on the operation of the business continuity arrangements, individual´s roles and a specific security operations team ready to react immediately to a system disruption.
- an on-going programme for testing, evaluation and review of the arrangements including procedures for modification of the arrangements in light of the results of that programme.

3. The business continuity plan shall take into account at least the following adverse scenarios and risks:

- destruction or inaccessibility of facilities in which they are allocated to operating units or critical equipment;

- unavailability of trading systems;

- deliberate **or accidental** breaches of the security of the trading system **or alteration of critical data or documents**;

- unavailability **or deliberate acts or omissions** of staff essential to the operation of the trading system **likely to adversely affect the operation of the business of the trading venue**;

- disruption of the operation of infrastructure such as electricity and telecommunications;

- consequences of natural disasters;

- ~~alteration~~ **corruption** or loss of critical data and documents.

4. The definition of a business continuity plan is assisted by an impact assessment, subject to periodic revision, in which the risks shall be identified and the potential negative consequences of the risks listed under paragraph 3 above are highlighted. Any decision by the trading venue not to take into account a specific risk in the business continuity plan shall be adequately documented and explicitly signed-off by its Board of Directors or any other competent management body.

5. Trading venues shall ensure that their Board of Directors or any other competent management body:

- establishes clear objectives and strategies in terms of business continuity;

- allocates adequate human, technological and financial resources to pursue the objectives and strategies under a);

- approves the business continuity plan and any amendments thereof necessary as a consequence of organizational, technological and legal changes;

- is informed, at least on a yearly basis, on the outcome of the controls and audits performed on the adequacy of the business continuity plan;

- appoints a staff member responsible for the business continuity plan and having no conflict of interest in relation to the business continuity plan .

6. Trading venues ensure that appropriate consideration is given to policies and procedures to address any disruptions of outsourced critical services, including:

- adequately considering in their business continuity plan and disaster recovery plan the possibility that the supplying firm's services becomes unavailable;

- specifying in the outsourcing contract the obligations of the supplying firm in case it cannot provide its services (such as the provision of substituting firm); and

- having access to information in relation to the business continuity or disaster recovery arrangements of the entity providing the service.

Article 18

**On-going review of business continuity arrangements and information to competent authorities**

1. Trading venues shall test, at least once a year and on a basis of scenarios as realistic as possible, the operation of the business continuity plan, verifying the capability of the trading venue to recover from incidents under the predefined objectives in terms of timely resumption of trading. Trading venue shall make sure that a review of the business continuity plan and arrangements is foreseen, where necessary, in light of the results of the testing activity. The results of the testing activity shall be:

(a) documented in writing, stored and submitted to the trading venue's Board of Directors or other competent management body as well as to the operating units involved in the business continuity plan;

(b) made available to the national competent authority on request.

2. Trading venues shall be able to provide their competent authority with any information relating to the business continuity plan and any other information to demonstrate, on an on-going basis, that their systems have sufficient stability by effective business continuity arrangements to address adverse events.

**3. The operation of any testing of the business continuity plan shall not interrupt normal trading activity or cause disorderly trading conditions.**

Article 19

**Prevention of disorderly trading conditions**

1. Trading venues shall have at least the following arrangements to prevent disorderly trading and breaches of capacity limits:

(a) limits per member on the number of orders sent (throttle limits) per second to prevent flooding of the order book;

(b) mechanisms to manage volatility **in accordance with Article 20 of this Regulation**;

(c) pre- and post-trade controls;

(d) requirements on their members to have pre- and post-trade controls;

2. Trading venues shall be able to:

   (a) ~~obtain~~ **request to be provided on an expedited basis with** information from any member/participant or user to monitor compliance with the rules and procedures of the trading venue relating in particular to organisational requirements and trading controls;

   (b) suspend the access of a member or a trader's ID to the trading system at the trading venue's own initiative or at the request of that member, a clearing member, the CCP (in the pre-defined cases by the CCP's governing rules) or the competent authority;

   (c) cancel **resting** orders at least under the following circumstances:

      (i) on request of a member that is technically unable to delete its own orders;

      (ii) when the order book is corrupted by erroneous duplicated orders;

      (iii) in cases of a suspension initiated either by the market operator or the regulator; and

      (iv) ~~**in cases of a request from the CCP in the pre-defined cases of the CCP's governing rules**~~ **(FIA Note: CCPs will reject or invalidate transactions in certain circumstances but they will not cancel orders at the trading venue – this would be carried out by the trading venue under their own rules.)**

   (d) cancel or correct transactions; and

   (e) balance order entrance between their different gateways to avoid collapses.

3. Trading venues shall set up and maintain their policies and procedures in respect of:

   (a) mechanisms to manage volatility **in accordance with Article 20 of this Regulation**;

   (b) pre- and post-trade controls used by the venue and those necessary for their members or participants to access the market including the functioning of the kill functionality;

   (c) information requirements to members/participants;

   (d) suspension of access;

   (e) cancellation policy in relation to orders and transactions including, at least:

(i) cases to invoke the intervention policy which will only include malfunction of the trading venue's mechanisms to manage volatility or the trading system;

(ii) the timing and procedure to follow;

(iii) specific procedures to effectively cancel a transaction (including a reverse trade, transfer position, cash settlement and a price adjustment);

(iv) reporting and transparency obligations;

(v) dispute resolution procedures; and

(vi) measures to minimise erroneous trades;

(vii) throttling arrangements including at least:

(viii) timeframe of throttling for each case;

(ix) equal-treatment policy among market participants and members (unless they are throttled on an individual basis); **and**

~~(x) penalties that the trading venues shall effectively impose pursuant to their internal rules in cases where inadequate behaviour from one or several member/s has led to throttling; and~~ **(FIA Note: trading venues already have rules governing such scenarios and are best placed to decide when enforcement action is required and what the appropriate sanction should be.)**

(xi) measures to be adopted following a throttling event.

4. Trading venues shall make public the policies and procedures listed in paragraph 3.

5. A trading venue shall provide its competent authority with the information and documentation on policies and procedures under paragraph 3 on an annual basis or whenever it intends to amend them. Where there is no significant change with respect to the previous year's documentation trading venues may refer to them.

Article 20

**Mechanisms to manage volatility**

1. Trading venues shall ensure that appropriate mechanisms to ~~**automatically**~~ halt or constrain trading are operational at all times in all phases of trading (from opening to close of trading) ~~**and, to be informed where there is a significant price movement in a financial instrument traded on another trading venue where the same instrument is traded**~~ .

2. Trading venues shall set up and maintain channels to inform their NCAs about significant price movements in a financial instrument traded on it and be informed by the NCA where there is a significant price movement in financial instruments traded on other trading venue

3. Trading venues shall perform an in-depth assessment to evaluate the potential risks, pros and cons to investors and to the market arising from different approaches to trading halts and constraints, taking into account in particular:

(a) the trading model implemented by the trading venue;

(b) the trading profile of the financial instrument;

(c) the trading profile of investors;

(d) liquidity of the instrument or the class of instruments;

(e) the volatility history of financial instruments that are considered to have similar characteristics.

4. Trading venues shall ensure that:

(f) appropriate mechanisms, arrangements and processes are in place for testing the mechanisms to halt or constrain trading before the mechanisms are implemented and periodically when the capacity and performance of trading systems is reviewed;

(g) specific and adequate IT and human resources are allocated to deal with the design, maintenance and monitoring of the effectiveness of the mechanisms implemented to halt or constrain trading;

(h) the adequacy of the mechanisms in place, including the implemented thresholds are continuously monitored in light of the observed volatility in the markets operated by the trading venue to ensure that they are in line with market developments and to allow upgrading of the mechanisms where relevant.

5. The mechanisms to halt or constrain trading shall be established and maintained in writing, regularly reviewed and updated in order to ensure their continued appropriateness.

6. Trading venues shall ensure that the rules, policies and procedures relating to the operating conditions and parameters of the mechanisms to manage volatility are in place and any modification thereof are documented and reported to the competent authority in a consistent and comparable manner notably so as to allow the latter to report them to ESMA.

7. Trading venues shall ensure that the rules, policies and procedures on the implementation of the mechanisms to manage volatility include procedures to manage situations where the parameters have to be manually overridden for ensuring orderly trading.

8. Trading venues shall disclose on their websites the rules, policies and procedures relating to the operating conditions of the mechanisms to manage volatility. This obligation does not include the specific parameters of dynamic mechanisms to manage volatility.

9. Trading venues shall maintain records of the assessment carried out under paragraph 2 as well as records of the operation, management and upgrading of those mechanisms.

Article 21

**Pre-trade controls**

1. Trading venues shall ensure that their members operate the pre-trade risk limits and controls described in the Regulation on the organisational requirements for investment firms engaged in algorithmic trading. Additionally, trading venues shall operate:

(a) price collars which automatically block or cancel orders that do not meet set price parameters with respect to different financial instruments, both on an order-by-order basis and over a specified period of time**; and**

~~(b) **maximum order value (fat-finger notional limits) which prevent orders with uncommonly large order values from entering order books by reference to notional values per financial instrument; and**~~

(c) maximum order volume which prevent orders with an uncommonly large order size from entering order books by reference to limits set in shares or lots.

2. The controls mentioned in paragraph 1 shall ensure:

(a) their automated application and monitoring in real-time with the ability to readjust the limits even during the trading session and in all its phases;

(b) order submission **in relation to an affected instrument, trading desk, trading firm, member or client (as appropriate)** is entirely stopped once a limit is breached **and if orders continue to be submitted in breach**; and

(c) there are in place mechanisms to authorise orders above the pre-set limits upon request from member.

3. A trading venue shall act on the basis of fair and non-discriminatory pre-determined criteria to ensure orderly trading in determining the pre-trade controls for its members.

4. Trading venues shall disclose the general framework of pre-trade controls to their members and participants.

Article 22

**Kill functionality**

Trading venues shall have a manual "kill functionality" that, when activated, disables the ability of a member or participant to trade and cancels all resting orders of that firm **including in circumstances such as 'cancel on disconnect' and 'cancel on log-out'**. **Trading venues shall provide members with the necessary access to such "kill functionality" to enable such firms to fulfil their applicable regulatory obligations.**

Section 5

**Direct electronic access**

Article 23

**Pre-determination of the conditions to provide direct electronic access**

1. Trading venues permitting direct electronic access (DEA) through their systems shall set out and make public the rules and conditions pursuant to which their members may provide DEA to their own clients [DEA users]. These rules and conditions shall at least cover:

    a. specific requirements that members should meet to provide DEA to their own clients;

    b. specific due diligence on prospective clients to which the members intend to provide DEA with the objective of ensuring minimum standards in terms of:

        i. appropriate financial resources;

        ii. appropriate resources in terms of systems and controls;

        iii. sufficient knowledge of market rules and trading systems;

        iv. sufficient knowledge of the use of the order submission system used; and

        v. in particular, DEA providers that permit sub-delegating the use of DEA services to their clients should subject prospective DEA users to an equivalent due diligence to the one they went through to become member or participant to the concerned trading venue.

    c. the requirement that a legally binding written agreement be entered between the DEA provider and DEA user;

d. the description of the systems and controls to be established and maintained in order to ensure **(on a best endeavours basis)** that the provision of DEA does not adversely affect compliance with the rules of the trading venue, lead to disorderly trading **conditions** or facilitate conduct that may involve market abuse or attempts of market abuse. The means to ensure the adequacy and effectiveness of the systems and controls should include at least:

**i.** ~~monitoring requirements including DEA user definition and product definition, recognition of DEA orders submitted by DEA users, control of the overall trading activity carried out by DEA users, monitoring the frequency of DEA orders that have overridden the existing controls and system alerts in terms of price, size and number~~; **details of the minimum set of controls to be implemented by DEA providers in light of the DEA service offering to their clients; and**

**ii.** prior written authorisation policy by the DEA provider in relation to DEA users' sub-delegating the DEA to their own clients ~~**and the procedures and processes for requesting and obtaining such authorisation**~~.

e. The responsibility vis-à-vis trading venues, reflecting that DEA providers remain ultimately responsible to the trading venue for all trades using their market member or participant ID code or any other related identification, including potential fines and sanctions imposed on the member as a consequence of the DEA user's behaviour.

f. Whether sub-delegation of DEA to third parties is permitted and if so, provisions to ensure that the DEA provider is able to identify the different order flows from beneficiaries of the sub-delegation (DEA users or sub-delegates) which submit orders through its systems. For these purposes, it will not be necessary for the DEA provider to know the identity of the users accessing the trading venue via sub- delegation **or any of the other information required to be reported by investment firms pursuant to Articles 7 or 8 of RTS 32**.

2. Trading venues that permit DEA Sponsored Access through their systems shall require the members who provide Sponsored Access to comply with the requirements for DEA providers contained in Article **16 and** 26 of the Regulatory Technical Standards on organisational requirements of investment firms engaged in algorithmic trading **and shall provide appropriate functionality in order to permit such firms to meet these requirements, including, but not limited to, direct "kill functionality" rights and access**. In particular, trading venues shall ensure that such DEA providers are at all times solely entitled to set or modify the parameters or limits that apply to

the ~~pre-trade and post-trade controls over the~~ order **and transaction** flow of **t h e i r** ~~its~~ clients.

3. A trading venue shall ensure that the provision of Sponsored Access shall be subject to its authorisation which requires the prospective user to meet at least the same requirements that a member is subject to in terms of pre-trade risk limits and controls.

Article 24

**Systems and controls of DEA providers and trading venues permitting DEA through their systems**

1. In addition to the pre-trade controls that members shall have to access a trading venue, trading venues permitting DMA through their systems shall request DEA providers to have the ability (and shall provide the appropriate functionality) to:

(a) monitor any orders sent to their systems by DMA users **or using their log-ins by Sponsored Access users**;

(b) stop orders flow transmitted by their DMA user;

(c) suspend or withdraw DEA services to any clients where DEA provider is not satisfied that continued access would be consistent with the trading venue's rules and procedures for fair and orderly trading and market integrity; and

(d) ~~carry out, wherever the DEA provider deems it necessary, a review of the internal risk control systems of the DEA user~~ **otherwise comply with its obligations under RTS 13**.

2. In addition to the pre-trade controls that trading venues shall have in place, trading venues permitting Sponsored Access through their systems shall:

(a) Request SA providers to have the abilities described under paragraph 1(c) and (d) of this article;

(b) Monitor the orders flow sent to their systems by Sponsored Access users;

(c) ~~Stop orders transmitted by any single Sponsored Access user directly~~. **[FIA Note: this is unnecessary due to "kill functionality" requirements elsewhere]**

3. Trading venues shall cancel the provision of Sponsored Access to those users which have **(to the best knowledge, information and belief of the Sponsored Access provider)** infringed a requirement of Directive 2014/65/EU, Regulation (EU) No 600/2014 and , Regulation (EU) No 596/2014 or the trading venue's internal rules.

4. **A trading venue shall be permitted to set controls and standards in respect of all or**

**some of its members reflecting the principles of this Article 24 that are proportionate to the type of member and its business/activity profile.**

Section 6

**Security**

Article 25

**Security and limits to access**

1. Trading venues shall have procedures and arrangements for physical and electronic security designed to protect their systems from misuse or unauthorised access and to ensure the integrity of the data that is part of or passes through the systems, including arrangements that ~~allows~~ **are designed and operated with the aim of** ~~the prevention~~ mitigating the likelihood ~~and minimisation of the risks~~ **and impact** of attacks against the information systems as defined under Article 2 of Directive (EU) No 2013/40/EU of the European parliament and the Council of 12 August 2013 on attacks against information systems and replacing Council Framework Decision 2005/222/JHA.

2. In particular, trading venues shall set up and maintain measures and arrangements to promptly identify and manage the risks related to any, unauthorised access to the whole or to any part of its trading system; system interferences that seriously hinder or interrupt the functioning of an information system by inputting computer data, by transmitting, damaging, deleting, deteriorating, altering or suppressing such data, or by rendering such data inaccessible; data interferences that delete, damage, deteriorate, alter or suppress computer data on the information system, or render such data inaccessible; interceptions, by technical means, of non-public transmissions of computer data to, from or within an information system, including electromagnetic emissions from an information system carrying such computer data.

3. A trading venue shall also establish and maintain arrangements for physical and electronic security that ~~allows~~ **are designed and operated with the aim of mitigating** ~~the prevention or minimisation of any risks~~ **likelihood and impact of attacks** related to the unauthorised access to the working environment and loss of information confidentiality.

4. The trading venue shall promptly inform its competent authority of any successful breaches, ~~in~~ **material and concentrated attacks on** the physical and electronic security measures which it has in place by promptly providing an incident report indicating the nature of the incident, the measures adopted to cope with the emergency situation and the initiatives taken to avoid similar incidents from ~~occurring~~ **impacting the integrity of the trading system** in the future.

Article 26

**Entry into force**

This Regulation shall enter into force on the twentieth day following that of its publication in the Official Journal of the European Union.

It shall apply from 3 January.

This Regulation shall be binding in its entirety and directly applicable in all Member States.
Done at Brussels, […]

**Annex I: parameters that, as a minimum, have to be considered in the trading venues' self-assessment**

List of elements that have to be considered in the trading venues' self-assessment:

(a) Nature, in terms of:

(i) types and regulatory status of the instruments traded in the venue (e.g. liquid instruments subject to mandatory trading);

(ii) the trading venues' role in the financial system (i.e. if the financial instrument can be traded elsewhere).

(b) Scale, in terms of the potential impact of the venue on the fair and orderly functioning of the markets, taking as a reference at least the following elements:

(i) number of algorithms operating in the venue;

(ii) messaging volumes capacities;

(iii) volume of executions on the venue;

(iv) the percentage of algorithmic trading over the total trading activity (turnover traded) on the venue;

(v) the percentage of HFT activity over the total trading activity (amount traded) on the venue

(vi) number and of members and participants;

(vii) number of members providing DEA access (including, where applicable, specific numbers for Sponsored Access) and the conditions under which DEA is offered or can be delegated ;

(viii) ratio of unexecuted orders to executed transactions (OTR) as observed and determined pursuant to Article XX of this Regulation (OTR);**[ESMA to confirm – this article is not obvious currently]**

(ix) ~~number and percentage of remote members;~~

(x) number of co-location or proximity hosting sites provided;

(xi) number of countries ~~and regions~~ in which the trading venue is undertaking business activity

(xii) operating conditions for mechanisms to manage **excessive** volatility **affecting a venue's ability to operate a fair and orderly market** (e.g., dynamic / static trading limits triggering trading halts and /or rejecting orders).

(c) Complexity, in terms of:

(i) classes of instruments traded on the trading venue;

(ii) trading models available in the trading venue (e.g. different trading models operating at the same time such as auction, continuous auction and hybrid systems);

(iii) the use of transparency waivers in combination with trading models;

(iv) the venue's trading systems (in terms of diversity of trading systems employed, extent of the firm's control over setting, adjusting, testing, and reviewing of its trading systems);

(v) the structure of the trading venue (in terms of ownership and governance and its organisational, operational, technical, physical, and/or geographical set up);

(vi) diverse locations of the trading venue's connectivity and technology;

(vii) diversity of the venue's physical trading infrastructure;

(viii) level of outsourcing (in particular where key functions are being outsourced) when operational functions have been outsourced; and

(ix) frequency of **material** changes (trading models, IT systems, members etc.).

**ESMA_MIFID2_CP_FIA ASSOCIATIONS_ANNEX 1: COMPLETE PROPOSED AMENDMENTS TO RTS 13, 14, 15, 16, 17, 18, 35 & 36**

## RTS 15: Draft regulatory technical standards on market making, market making agreements and marking making schemes

COMMISSION DELEGATED REGULATION (EU) No …/..

of [date]

supplementing Directive 2014/65/EU of the European Parliament and of the Council with regard to regulatory technical standards further specifying the requirements on market making strategies, market making agreements and market making schemes

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Directive 2014/65/EU of the European Parliament and of the Council of 15May 2014 on markets in financial instruments, and in particular Articles 17 (7)(a), (b) and (c) and 48 (12)(a) and (f) thereof, and amending Regulation (EU) No. 648/2012.

Whereas:

(1) Directive 2014/65/EU pursues two main goals by determining market making obligations with respect to algorithmic traders. Firstly, the introduction of an element of predictability to the ~~apparent~~ **[Note: this word is not used in the primary legislation]** liquidity in the order book by establishing contractual obligations for firms performing certain types of strategies. Secondly, as advanced technologies may bring new risks to the market, the presence of market makers provides market participants with the ability to transfer risks efficiently during stressed market conditions.

(2) To that end, Directive 2014/65/EU established two sets of obligations. For those investment firms engaged in algorithmic trading and pursuing “market making strategies”, Article 17 establishes the obligation to sign an agreement with the trading venues where those strategies take place, whereby the firms should provide liquidity to the market on a regular and predictable basis and have certain systems and controls in place. For the trading venues where the investment firms pursue those strategies, Article 48 of Directive 2014/65/EU not only imposes the obligation to sign the aforementioned agreements but also requires having in place a scheme to ensure that a sufficient number of investment firms sign those agreements.

(3) Given the intrinsic relationship between the obligations in both articles, it seems appropriate to include them in the same Regulation.

(4) A number of terms should be defined to clearly identify a limited number of concepts stemming from Directive 2014/65/EU. In particular, it is necessary to clarify in which circumstances a market making strategy is taking place, as this is the element that triggers the rest of the obligations under Articles 17 and 48 of Directive 2014/65/EU in this respect.

(5) Trading venues should establish a scheme of incentives to facilitate investment firms engaged in a market making agreement performing their obligations during stressed market conditions, by providing additional benefits compared to those investment firms that only provide liquidity in normal trading hours.

(6) Current market practice waives market making obligations after the determination of "~~fast~~" **[Note: As set out below, we recommend refraining from referring to undefined market terms] certain adverse** market conditions by a trading venue. This Regulation is based on the concept that ~~precisely under those types of conditions,~~ there should be a scheme of incentives to limit as much as possible the effect of sudden collapses of liquidity.

(7) As established in Article 17(3) of Directive 2014/65/EU, market making strategies may relate to one or more financial instruments and one or more trading venues. However, in certain cases, it may not be practically possible for a trading venue to identify extremely sophisticated strategies. Therefore, trading venues should be able to detect market making strategies in accordance with the nature, scale and complexity of their business. The basic strategy which trading venues should be able to detect is that which affects one instrument traded on their venue.

(8) This Regulation affects entities engaged in algorithmic trading and pursuing a market making strategy, irrespective of whether trading venues have in place any type of contractual arrangement for liquidity provision. These firms and trading venues should review their existing agreements on market making to ensure that their terms comply with this Regulation or sign those agreements where there should be one in place.

(9) With respect to trading venues, this Regulation establishes new obligations and additional capacities that are instrumental for the effective implementation of the framework designed by Articles 17(3) and 48(2) of Directive 2014/65/EU such as the obligations of trading venues with respect to the existence of exceptional circumstances that would impede investment firms' ability to maintain prudent risk management practices or the identification of market making strategies.

(10) Regulated markets, multilateral trading facilities and organised trading facilities allowing for or enabling algorithmic trading through their systems should be considered as those where algorithmic trading may take place as opposed to trading venues which do not permit algorithmic trading. Whereas the former should have a

market making scheme with respect to their members or participants engaged in algorithmic trading, the latter should not be captured by this obligation. **[Note: If it is ESMA's intention to limit the scope of the market making RTS to members of a trading venue, this should be made more explicit.]**

(11)Trading venues should determine the specific parameters to be met by investment firms pursuing a market making strategy to access any type of incentives. In particular, trading venues should be able to determine, according to their business models, whether all the firms engaged in market making agreements should access the incentives provided under the market making scheme.

(12)Trading venues may establish schemes which only reward members meeting certain parameters: either providing a certain degree of quality in the liquidity provided, measured in terms of presence, size and spread, or rewarding only those which have met the requirements above a certain threshold measured in terms of presence, size and spread.

(13)This Regulation bans capping the number of members that may take part in a market making scheme. However, nothing prevents trading venues from establishing systems whereby only those firms providing a certain degree of quality in the liquidity provided, measured in terms of presence, size and spread, can access the incentives.

(14)This Regulation is based on the draft regulatory technical standards submitted by the European Securities and Markets Authority to the Commission.

(15)In accordance with Article 10 of Regulation (EU) No 1095/2010, ESMA has conducted open public consultations on the draft regulatory technical standards, analysed the potential related costs and benefits and requested the opinion of the Securities and Markets Stakeholder Group established in accordance with Article 37 of Regulation (EU) No 1095/2010.

HAS ADOPTED THIS REGULATION:

## CHAPTER I
## **General provisions**

### Article 1

### **Definitions [Note: We would suggest alphabetising definitions for clarity.]**

For the purpose of this Regulation:

(1) 'trading venue allowing or enabling algorithmic trading through its systems' means a trading venue where order submission and order matching ~~is~~ **may be** facilitated by electronic means.

**ESMA_MIFID2_CP_FIA ASSOCIATIONS_ANNEX 1: COMPLETE PROPOSED AMENDMENTS TO RTS 13, 14, 15, 16, 17, 18, 35 & 36**

(2) 'trading hours' means the duration of continuous auction trading~~, and excludes opening/closing auction sessions~~;

(3) 'normal trading hours' means ~~the duration of continuous auction~~ trading **hours** excluding:

(a) opening/closing**/intra-day** auction sessions;

(b) periods ~~declared to be~~ under stressed market conditions; and

(c) periods ~~declared to be~~ under exceptional market circumstances. **[Note: Stressed market conditions are intended to be declared by the trading venue; exceptional market circumstances may be declared by either the trading venue or the investment firm, to be confirmed subsequently by the trading venue. This is clarified below in the RTS provisions.]**

(4) 'firm quote' means an order ~~or a quote~~ **(whether a bid or an offer) in a sufficiently liquid instrument** that ~~is executable and~~ can be matched against an opposite order or quote under the rules of a trading venue;

(5) 'simultaneous two-way quote' is a **firm** ~~two-way~~ quote where both sides are ~~entered~~ **present** into the order book **at the same time** ~~within one second of one another~~;

**[Note: The FIA Associations recommend ESMA not set 'simultaneous' as 'within one second of one another,' as this would enable gaming by participants who could stagger the timing of posted orders by 1.1 second to avoid classification. Current market practice measures 'simultaneous' by the total amount of time a market participant has orders in the book that can be matched. Therefore, we also recommend amending the definition of 'comparable size' to ensure that it looks for minimum quote size. As currently drafted, the elements of this definition will both over- and under-capture ordering behavior and not identify true market making strategies.]**

(6) 'comparable size' means that the size of the opposite **sides of the simultaneous two-way** quote~~s~~ posted in the order book **are equal to or bigger than the minimum quote size set by the trading venue and do** ~~does~~ not diverge more than 50% of each other.

(7) 'competitive prices' means quotes posted within the ~~average~~ bid-ask spread**s that are required from market makers recognised under the rules of the trading venue where they are posted for the concerned instruments and where the range is appropriate to the nature and scale of the trading on that regulated market.**

(8) 'stressed market condition' refers to a condition declared by the trading venue where the price discovery process and market liquidity is materially affected by at least one of the following:

(a) ~~Significant change in the number of messages being sent to and received from, the systems of a trading venue;~~ **[Note: We see (a) as a subset of (b) so should either be given as an example or removed entirely.]**

~~(b)~~ Significant short-term changes in terms of market volume **(including a significant change in the number of messages being sent to and received from the systems of a trading venue)**; or

~~(c)~~ **(b)** Significant short term changes in terms of price (i.e. volatility).

~~The said condition includes volatile market conditions or 'fast markets' as defined by the trading venue. [~~**Note: If ESMA intends to re-define these market conditions, it should do so without regard to previous (undefined) practice.]**

(9) 'disorderly trading conditions' means situations where the maintenance of fair, orderly and transparent execution of trades is compromised by:

(a) a trading systems' performance ~~which is~~ **being** significantly affected by delays and interruptions;

(b) multiple erroneous orders or transactions~~, including cases where orders are not resting for sufficient time to be executed~~; ~~or~~

(c) a trading venue has~~ving~~ insufficient capacity~~.~~**;**

**(d) price formation being significantly disrupted (including throttling of orders by the trading venue);**

**(e) significant short term changes or interruptions in volumes of data sent to or received from the systems of a trading venue;**

**(f) failure of or interruptions to a trading venue's system of pre- or post-trade risk controls (or any failure of a trading venue's system to perform as set out in [RTS 14]).**

**(10) 'sufficiently liquid instrument' means [TBD].**

CHAPTER II

**Requirements for investment firms engaged in algorithmic trading technique pursuing**

**a market making strategy**

Article 2
**General requirements**

[Article 17(3) Directive 2014/65/EU]

1. Investment firms engaged in algorithmic trading and intending to pursue a market making strategy in a trading venue shall ~~communicate their intention to the~~ **notify the trading** venue **thereof**.

2. Investment firms engaged in algorithmic trading and pursuing a market making strategy shall sign a market making agreement ~~following the notification by~~ **with** the trading venue. ~~in that respect, when the trading venue has detected the effective implementation of a market making strategy without prior notification~~.

**3.** In cases where an investment firm is not willing to ~~engage~~ **sign a market making** ~~in such~~ agreement ~~following the notification by~~ **with** the trading venue, it shall disconnect the strategy identified.

Article 3
**Circumstances in which an investment firm is deemed to pursue a market making**
**strategy**
(Article 17(4) Directive 2014/65/EU)

1. For the purposes of this Regulation, an investment firm shall be deemed to pursue a
market making strategy if it is posting firm, simultaneous two-way quotes of comparable size and competitive prices in at least one financial instrument on a single trading venue for no less than ~~30~~ **50** % of the daily trading hours during one ~~trading day~~ **(calendar) month period**. **[Note: the FIA Associations believe a one day period carries a significant risk of systematic misclassification; a calendar month period is easily implementable for venues, as this is how systems are current set up to monitor for market making performance on a calendar month basis.]**

~~2. Such strategies may include quotes that are not symmetrical around the mid-point of the market bid-ask range for that financial instrument.~~

Article 4
**Minimum obligations to be specified in the market making agreement**
(Article 17(3) Directive 2014/65/EU)

1. The content of the binding written agreement referred to in Article 17(3)(b) of Directive 2014/65/EU shall include, at least:

(a) ~~The organisational requirements for the investment firm in terms of systems and~~

~~controls with respect to their activity under the market making agreement as described below;~~ **[Note: The inclusion of organisational requirements here and in Article 4(2)(b) is contrary to ESMA's analysis at paragraph 30 of section 4.3 of ESMA/2014/1570 concluding that these requirements were duplicative.]**

~~(b)~~ The financial instrument/s covered by the agreement;

(~~c~~**b**) The specific obligations of the investment firm in terms of percentage of trading hours, size of the quotes and spread; ~~and~~

(~~d~~**c**) The incentives provided by the trading venue for the performance of the obligations according to the market making scheme under the normal and stressed market conditions, and in particular when trading is resumed after volatility interruptions**; and**

**(d) The notice period for terminating the agreement in the event investment firms wish to cease operating the market making strategy identified**. **[Note: the RTS is otherwise unclear about the timing of ceasing to act as a market maker (can that be same day? one month?); therefore it is helpful if market making agreements specify a notice period.]**

2. The agreement shall include at least the following requirements for investment firms:

(a) posting firm, simultaneous two-way quote of comparable size and competitive prices in at least one financial instrument on the trading venue for no less than 50 % of the daily trading hours;

(b) separating the identity of orders and quotes submitted in the performance of the market making agreement from other order flows;

~~(c)~~ maintaining records of orders and transactions relating to these activities so that these records can be distinguished from other trading activities and be made available to the trading venue and the competent authority; and

(~~d~~**c**) implementing procedures to ensure the fulfilment of the requirements under (a) and (b), including having appropriate and effective ~~surveillance,~~ compliance and audit
resources to enable relevant monitoring of its market making activity under these requirements. **[Note: surveillance is not appropriate in the context of ensuring compliance with market making performance obligations, as it would imply controlling for market abuse, which is dealt with elsewhere in RTS 13 and MAR 16.2.]**

3. The agreement shall specify that an investment firm engaged in a market making agreement may suspend its market making activity without ~~incurring any~~ ~~penalties from the trading venue, if the trading venue determines the state of its market to be under~~ **consequences in the event of** exceptional circumstances as defined in this Regulation. **[Note: This RTS only considers a 'fine' for failure to comply (in Article 10); 'penalties' is nowhere defined and may imply a regulatory breach. The FIA Associations consider it crucial that a regulatory breach only be deemed to have occurred upon a material or systematic breach of the obligations contained in this RTS, as a regulatory breach may trigger notification requirements to clearing firms and regulators outside the EU and significantly impact a firm's ability to continue business.]**

Article 5

**Exceptional circumstances impeding providing liquidity on a regular and predictable basis**

[Article 17(3)(a) and 48(12)(a) Directive 2014/65/EU]

1. A trading venue shall ensure that its market making agreement specifies that in case of exceptional market circumstances as defined below, an investment firm engaged in a market making agreement will not have to adhere to all the obligations stipulated in such an agreement as long as those exceptional circumstances remain.

2. Exceptional circumstances shall only include:

(a) Circumstances of extreme volatility, leading to an interruption of trading with respect to ~~all~~ **one or more** instrument~~s traded on that venue~~ **specific to the market making agreement**;

(b) Political and macroeconomic events**, including** ~~such as~~ acts of war, industrial actions and civil unrest or acts of cyber sabotage;

(c) System and operational matters that imply disorderly trading conditions;

(d) Circumstances which impede the investment firm's ability to maintain prudent risk management practices which are either:

(i) Technological issues including problems with a data feed or other system that is essential in order to be able to carry out a market making strategy;

(ii) Risk management issues, ~~which would encompass problems~~ **including** in relation to capital**,** ~~or~~ clearing **or other issues (such as with a product's underlying) outside an investment firm's control**; and,

(e) For non-equity instruments, when a national competent authority temporarily suspends the pre-trade transparency requirements following a significant decline in

liquidity of a particular class of financial instrument in accordance with Article 9(4) of Regulation (EU) No 600/2014.

3. In particular, the exceptional circumstances described in paragraph 2 shall not include any regular or pre-planned information events that may affect the fair value of a financial instrument owing to changes in the perception of market risk **unless such events culminate in exceptional circumstances described above**. Such a circumstance may occur during or outside the trading hours.

4. In assessing the performance of investment firms engaged in a market making agreement, periods affected by an exceptional circumstance shall be taken into account to ensure that non-performance by the investment firms during such times is not penalised.

5. The exceptional circumstances shall be made public by the trading venue as soon as technically possible except in the case of circumstances that impede the investment firm's ability to maintain prudent risk management practice as described **in paragraph 2(d)** above.

6. Trading venues shall ~~validate~~ **confirm the existence of** exceptional circumstances that contradict the investment firm's ability to maintain prudent risk management practice **as described in paragraph 2(d) above**.

7. Trading venues must set out procedures to resume normal trading when the period constituting an exceptional circumstance has concluded. These procedures shall include a guide on the timing of such resumption and shall be made publically available.

8. With the exception of situations mentioned in paragraph (2)(b) above, exceptional circumstances cannot automatically be extended beyond the market close.

## CHAPTER III
## Requirements for trading venues with respect to market making agreements and market making schemes

### Article 6
### General
[Article 48(2)(b) Directive 2014/65/EU]

A trading venue allowing or enabling algorithmic trading through its systems shall have a market making scheme in place with respect to the investment firms engaged in algorithmic trading that pursue market making strategies in it.

Article 7

**Cases where it is not appropriate for a trading venue to have a market making scheme in place**

[Article 48(2)(a) Directive 2014/65/EU]

[Note: The FIA Associations generally object to this Article 7 because there should not be a competitive disadvantage towards trading venues that do not make **algorithmic trading available** through their systems.]

Trading venues not allowing for or enabling algorithmic trading through their systems or a specific segment of their systems shall not be required to establish market making schemes for those systems or specific segments of their systems as defined in this Regulation.

Article 8

**Market making scheme**

1. Trading venues shall establish a market making scheme which describes:

(a) The specific content of their market making agreements as described above; and

(b) A scheme of incentives for the investment firms subject to the market making agreements that will define:

(i) The minimum parameters to be met in terms of presence, size and spread that shall imply at least posting firm, simultaneous two-way quotes of comparable size and competitive prices in no less than one financial instrument on the trading venue for no less than 50 % of the daily trading hours;

(ii) The parameters that should be met in terms of presence, size and spread to access incentives; and

(iii) The incentives in cases where those parameters have been met. In particular, the market making scheme shall establish:

- Incentives offered for performing a market making strategy during normal trading hours. Trading venues may establish that only the best performers under the market making agreement will access those incentives; and

- Incentives offered in stressed market conditions ~~to compensate~~ for the additional risks taken by investment firms **that accept the obligations of performing during such conditions** ~~engaged in a market making agreement~~.

2. Market making schemes shall specify that an investment firm engaged in a market making agreement may suspend its market making activity without incurring any penalties from the trading venue~~, if the trading venue determines the state of its market to be under~~ **in the event of** exceptional circumstances as defined in this Regulation.

Article 9

**Fair and non-discriminatory market making schemes**

1. The terms of the market making scheme shall be publicly disclosed on the website of the trading venue.

2. Any proposed changes to the terms of the market making scheme shall be communicated to the existing participants not less than **one month** ~~three months~~ ahead of the proposed effective date.

3. Trading venues shall provide the same incentives, terms and conditions to all members engaged in a market making agreement who perform equally in terms of presence, price and size, according to published, non-discriminatory and objective criteria.

4. Trading venues shall not limit the number of participants in a market making scheme, but may limit the access to the incentives to those members which have met certain parameters either providing a certain degree of quality in the liquidity provided, measured in terms of presence, size and spread, or rewarding only those which have met the requirements above a certain threshold measured in terms of presence, size and spread.

5. The incentives offered under the market making scheme **may be multi-tiered** have to be ~~proportionate~~ **appropriate** to the effective contribution to the liquidity in the trading venue measured in terms of presence, size and spread. In particular, those incentives shall promote the presence of members engaged in market making agreements in case of stressed market conditions.

Article 10

**Responsibilities of the trading venue**

1. A trading venue shall have in place arrangements in accordance with the nature, scale and complexity of their business to **detect and** identify market making strategies as defined by Article 17(4) of Directive 2014/65/EU pursued by ~~its members~~ **an investment firm, including by taking into account algorithm flags of the relevant orders, and shall require an investment firm that has not notified its intention pursuant to Article 2(1) above, to sign a market making agreement prior to the expiry of the (calendar) month period** in ~~cases where~~

~~they have not notified in advance their intention to pursue a market making~~ **in which such** strategy **has been identified**.

2. ~~Where it is not practically possible for a trading venue to identify strategies involving more than one venue or more than one financial instrument, it shall have arrangements in place to detect strategies affecting one instrument traded in its venue~~**. [Note: This text is contrary to ESMA's analysis that it is not practically possible for trading venues to identify market making strategies involving more than one venue, and is therefore adds confusion.]**

~~3.~~ Trading venues shall monitor and enforce compliance by investment firms of all requirements specified in this Regulation and the market making agreements. In particular, a trading venue shall:

(a) have the ability to set negative incentives to ensure that firms pursuing a market making strategy shall:

(i) ~~Inform~~ **Notify** the trading venue **prior to implementing** ~~before the implementation of~~ the strategy;

(ii) Sign a market making agreement ~~following the notification by the trading venue where the firm has been detected as pursuing a market making strategy~~;

~~(iii) Prevent those firms from implementing that strategy in cases where the firm rejects signing the market making agreement; and~~ **[Note: trading venues cannot practically prevent firms from providing two-side orders that contribute liquidity in contravention of this RTS and cannot be held responsible for such. The negative incentives, in addition to order-to-transaction ratios, will be sufficient to mitigate the risk that firms disregard these provisions.]**

**(b)** ~~(iv)~~ ~~**E**~~ **ensure** that firms engaged in a market making agreement meet the respective requirements laid down in the agreement on a ~~systematic~~ **consistent** basis. In this respect, trading venues shall ensure that non-compliant firms are not only excluded from potential benefits, but also risk a ~~significant~~ fine**;**

(~~b~~**c**) put in place ~~effective~~ measures to verify the effective provision of liquidity on an ongoing basis, and to detect that the obligations under the market making agreements are fulfilled; and,

(~~d~~**d**) keep a detailed record on ~~the measures and~~ penalties adopted, as well as on the
monitoring activity carried out on ~~members'~~ **investment firms'** ~~behaviour~~ **compliance** with market making obligations.

4. Trading venues shall publicly disclose on their website:

(a) The terms of the market making scheme;

(b) The names of all members that have signed a market making agreement; and

(c) The financial instruments covered by those agreements.

Article 11

**Requirement for trading venues with respect to market making agreements during stressed market conditions**

1. Trading venues shall identify and communicate to the members engaged in a market making agreement **in a timely, fair and non-discriminatory manner** the existence of stressed market conditions in ~~their~~ **such** market ~~through readily accessible channels~~.

2. Trading venues shall establish procedures to determine stressed market conditions, and the trading arrangements during such stressed market conditions. These procedures shall be publicly available.

Article 12

**Entry into force**

This Regulation shall enter into force on the twentieth day following that of its publication in the Official Journal of the European Union.

It shall apply from 3 January 2017.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

**ESMA_MIFID2_CP_FIA ASSOCIATIONS_ANNEX 1: COMPLETE PROPOSED AMENDMENTS TO RTS 13, 14, 15, 16, 17, 18, 35 & 36**

**RTS 16: Draft regulatory technical standards on orders to transactions ratio**
**COMMISSION DELEGATED REGULATION (EU) No …/..**

**of [date]**

**supplementing Directive 2014/65/EU of the European Parliament and of the Council with regard to regulatory technical standards on the ration of unexecuted orders to transactions**

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Directive (EU) No 2002/92/EC and Directive (EU) No 2011/61/EU19, and in particular Article 48(12)(b) of the Directive 2014/65/EU[1].

Whereas:

(1) In order to meet the objective of an efficient and orderly functioning of financial markets, it is necessary that the methodology to be followed by trading venues for determining the ratio of unexecuted orders to transactions of their members or participants is defined in a precise and harmonised manner.

(2) Voice trading models should not be considered within the scope of this regulation.

(3) In order to simplify this exercise while keeping it sufficiently granular and efficient, the ratio of unexecuted orders to transactions should at least be determined per group of financial instruments.

(4) Trading venues should make an internal assessment to determine whether for derivatives it is relevant and justified to set out the maximum ratio of unexecuted orders to transactions on a per group of instruments or, when possible, on a per instrument basis.

(5) Given the constant evolution of financial markets, it is not possible to determine an exhaustive list of order types and how these orders should be counted.

(6) The methodology for the determination of the maximum ratio of

unexecuted orders to transactions that may be entered into the system by a member or participant should be supported by an adequate observation period of the ratios effectively incurred. ~~For~~ Newly established venues~~, they~~ should have in place projections for these purposes **and may reassess ratios on a regular basis as the number of financial instruments admitted to trading, members or participants, orders and transactions change**.

(7) This Regulation sets out the procedures to specify the ~~maximum~~ ratio of unexecuted orders to transactions with respect to all market participants. **[Note: we understand it is ESMA's intent to specify a formula for calculating OTRs rather than to specify procedures for calculating the maximum OTR; therefore, we believe the word 'maximum' here is erroneous.]** However, trading venues ~~may~~ **should** establish derogatory arrangements **for financial instruments** for firms ~~engaged in~~ **that enter into** market making agreements **relating to those financial instruments** ~~as long as those firms effectively provide liquidity on a regular and frequent basis to the overall market~~.

(8) Trading venues should formally communicate the ratio of unexecuted orders to transactions to their members and participants and apply whichever consequences in this respect are determined in accordance with Article 48(9) of Directive 2014/65/EU following the billing period and at least on a monthly basis.

(9) **Trading venues shall continually review their capacity and resiliency so as to ensure that the risks and challenges posed by technological developments are properly addressed, ensuring business continuity resilience of trading venues and their ability to ensure fair and orderly trading through their systems.**

(10) This Regulation is based on the draft regulatory technical standards submitted by the European Securities and Markets Authority (ESMA) to the Commission.

(11) In accordance with Article 10 of Regulation (EU) No 1095/2010 of the European Parliament and the Council establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC , ESMA has conducted open public consultations on the draft regulatory technical Regulations, analysed the potential related costs and benefits and requested the opinion of the Securities and Markets Stakeholder Group established by Article 37 of that Regulation.

HAS ADOPTED THIS REGULATION:

**ESMA_MIFID2_CP_FIA ASSOCIATIONS_ANNEX 1: COMPLETE PROPOSED AMENDMENTS TO RTS 13, 14, 15, 16, 17, 18, 35 & 36**

Article 1

**Subject matter and scope**

(1) The purpose of this Regulation is to specify the methodology to determine the ratio of unexecuted orders to transactions that may be entered into the trading system of those trading venues allowing or enabling algorithmic trading through their systems by a member or participant.

(2) This Regulation applies to electronic continuous auction order book, quote-driven, and hybrid trading models.

Article 2

**Definitions**

For the purposes of this Regulation, the following definitions shall apply:

1. ’order‘ means all input messages, including submission, modification, cancellation, sent to a trading venue’s trading system; this shall include market orders and limit orders such as Immediate-or-Cancel orders or pegged orders as well as any type of quotes including any indications of interest irrespectively of whether or not they are actionable;

2. ’transactions‘ means executed orders;

3. ’volume‘ means the quantity of financial instruments traded and shall be counted as follows:

   (a) For shares, depositary receipts, ETFs, certificates and other similar financial instrument, the volume shall be counted in terms of the number of instruments;

   (b) For bonds and structured finance products, the volume shall be counted in terms of the amount of the nominal value;

   (c) For derivatives, the volume shall be counted in terms of the number of lots size or contracts; and,

   (d) For emission allowances, the volume shall be counted in terms of tons of carbon dioxide;

Article 3

**Methodology for determining the ratio of unexecuted orders to transactions**

**ESMA_MIFID2_CP_FIA ASSOCIATIONS_ANNEX 1: COMPLETE PROPOSED AMENDMENTS TO RTS 13, 14, 15, 16, 17, 18, 35 & 36**

[Article 48(12)(b) of Directive 2014/65/EU]

1. For the purposes of Article 48(6) of Directive 2014/65/EU, trading venues shall determine a maximum ratio of unexecuted orders to transactions at least for every group of financial instruments of a similar nature, bearing similar trading characteristics and traded under the electronic continuous auction order book, quote-driven, and hybrid trading models.

2. For the purposes of paragraph 1, a group of financial instruments of a similar nature, bearing similar trading characteristics shall be considered to be any of the following:

   (a) shares, depositary receipts, ETFs, certificates and similar financial instruments falling within the same liquidity band under the tick size table applicable in the trading venue according to the [Draft RTS on Tick Size];

   (b) bonds and structured finance products falling within the same class of financial instruments as determined under [Draft RTS on transparency for non-equity financial instruments - COFIA approach]; and

   (c) any other group of financial instruments, provided that it is relevant and justified taking into account the trading activity on the trading venue and the specificities of those financial instruments.

3. A trading venue may apply a more granular approach at its discretion and determine the ratio of unexecuted orders to transactions at financial instrument level.

4. For the purposes of Article 48(6) of Directive 2014/65/EU, trading venues shall determine the ~~maximum~~ ratio of unexecuted orders to transactions as follows: **[Note: ESMA should only define the method for calculating the OTR; the trading venue can set the actual limits – delete word "maximum".]**

   (a) In volume terms: $\frac{\text{Total volume of orders} - 1}{\text{Total volume of transactions} + \textbf{floor}}$

   (b) In number terms: $\frac{\text{Total numer of orders} - 1}{\text{Total number of filled } \textbf{and} \text{ partially filled transactions} + \textbf{floor}}$

5. A trading venue shall calculate the maximum ratio of unexecuted orders to transactions in both volume and number terms at least once a year**, or more frequently as circumstances require**. For that purpose,

trading venues shall take into account all the orders submitted by all members and participants across all phases of the trading sessions, including the auctions, during the preceding twelve months' trading.

6. The ratio of unexecuted orders to transactions calculated by the trading venue in accordance with this Article shall be considered as exceeded by a member or participant of the trading venue on a trading session where the trading activity of this member or participant in one specific instrument, taking into account all phases of the trading session including the auctions, exceeds any of the two ratios specified under paragraph 4.

7. **Trading venues should establish derogatory arrangements for financial instruments for firms that enter into market making agreements relating to those financial instruments.**

Article 4

**Entry into force and application**

This Regulation shall enter into force on the twentieth following that of its publication in the Official Journal of the European Union.

**ESMA_MIFID2_CP_FIA ASSOCIATIONS_ANNEX 1: COMPLETE PROPOSED AMENDMENTS TO RTS 13, 14, 15, 16, 17, 18, 35 & 36**

**RTS 17: Draft regulatory technical standards on co-location and fee structures**
**COMMISSION DELEGATED REGULATION (EU) No …/..**

**of [date]**

**supplementing Directive 2014/65/EU of the European Parliament and of the Council with regard to regulatory technical Regulations on organisational requirements to ensure co-location and fee structures are fair and non-discriminatory**

**(Text with EEA relevance)**

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments, and in particular Articles 48(8), 48(9) and 48(12)(d).

Whereas:

(1) The provision of latency-intensive services based on proximity to a trading venue's execution infrastructure encompasses four types of circumstances: (i) data centers owned and managed by the venue, (ii) data centers owned by the trading venue but managed by a third party selected by the venue; (iii) data centers owned and managed by a third party but where an outsourcing arrangement with the trading venue organises that venue's execution infrastructure as well as the proximity access to it; and (iv) proximity hosting services owned and managed by third parties with a contractual arrangement with a trading venue. It becomes necessary to impose requirements to set a level playing field between the trading venues organising their own data centers and those organised by third parties having a contractual relationship with the trading venue.

(2) Trading venues **may** ~~have the ability to~~ determine their own commercial policy as regards co-location and determine which **users** ~~types of market participants~~ they want to grant access to these services on the basis of objective, transparent and non-discriminatory criteria.

(3) Trading venues may ~~freely~~ transfer the costs of trading to its members, participants or other types of users such as market data vendors or third party IT providers in accordance with their own commercial policy.

(4) Directive 2014/65/EU establishes new obligations for trading venues **and**

**investment firms respectively** with respect to the resilience of the markets, and more specifically, on the testing of algorithms. ~~It is considered that trading venues may legitimally transfer the costs of design and provision of basic testing environments to their prospective members or participants or to current ones which have to test new algorithms or modifications to existing algorithms.~~ As long as those basic **requirements are met,** ~~scenarios fulfil the requirement to effectively permit testing a number of plausible scenarios,~~ nothing prevents trading venues from developing more added-value services and testing scenarios in these areas and charge for them as they consider appropriate**, subject to the user subscribing to those additional services**.

(5) Post-trade services such as clearing and settlement services are ~~would~~ not ~~be~~ considered within the scope of this Regulation. ~~For these services, reference should be made to Article 38 of EMIR.~~

(6) Ensuring fair and non-discriminatory practice in relation to fee structures and co-location requires a sufficient degree of transparency without which the MiFID II obligations could be easily circumvented.

(7) The practice of 'cliff edge' pricing is prohibited. **Trading venues may offer threshold-based incentives to members or participants that enter into a market making agreement** ~~to be explicitly banned as it may encourage intensive trading before a certain time limit to reach a threshold or to obtain a higher market share, leading to a potential stress of market infrastructures~~.

(8) **This Regulation is without prejudice to Articles 12 and 13 of Regulation (EU) No 600/2014 on [MiFIR].**

(9) The evolution of financial markets will be monitored on an on-going basis by national competent authorities and the European Securities and Markets Authority (ESMA) with a view to propose amendments to this Regulation as appropriate in case of identification of new fee structures that may lead to disorderly trading conditions or market abuse.

(10) This Regulation is based on the draft regulatory technical standards submitted by the European Securities and Markets Authority (ESMA) to the Commission.

(11) In accordance with Article 10 of Regulation (EU) No 1095/2010 of the European Parliament and of the Council, in developing the draft regulatory technical standards on which this Regulation is based, ESMA has conducted open public consultations, analysed the potential related costs and benefits and requested the opinion of the Securities and Markets Stakeholder Group established by Article 37 of that Regulation.

HAS ADOPTED THIS REGULATION:

**ESMA_MIFID2_CP_FIA ASSOCIATIONS_ANNEX 1: COMPLETE PROPOSED AMENDMENTS TO RTS 13, 14, 15, 16, 17, 18, 35 & 36**

CHAPTER I

**GENERAL**

Article 1
**Definitions**

For the purpose of this Regulation, the following definitions apply:

(1) ‘execution fee’ means fees directly related to the execution of a transaction by a member or participant of a trading venue, including the fees for the submission, modification, cancellation or execution of orders and quotes;

(2) ‘ancillary fee’ means fees charged by a trading venue directly related to the membership or participation in that trading venue, including a membership fee, access to market data, use of terminals, connectivity or access through third party software providers;

(3) 'cliff edge' means a fee structure ~~implying that if~~ **whereby a member or participant whose transactions** ~~trading~~ exceeds a given threshold **benefits from a discounted fee on all their transactions for defined period of time**~~, all of their trades benefit from a lower fee for a set period, including in some cases trades which have already been executed as opposed to just the marginal trade executed subsequent to reaching the threshold;~~

(4) ‘rebate’ means a refund paid by the trading venue to a member or participant of a portion of the execution fee charged to the **member or participant** ~~market maker or any other type of economic incentives paid~~ for its market making service in **individual or specified groups of products or instruments** ~~shares or a basket of shares~~;

(5) ‘volume discount’ means a price differentiation scheme based on the total **transaction** ~~trading~~ volume, the total number of **transactions** ~~trades~~ or the cumulated ~~trading~~ fees generated by one member **or participant** whereby the **fee for** marginal transactions ~~trade~~ executed **upon** ~~subsequent to~~ reaching the threshold is reduced; **[Note: this definition does not recur in the draft RTS]**

(6) ‘users’ means members and participants of trading venues, data vendors and third party IT providers.

CHAPTER II
**Co-location services**

Article 2
**Fair and non-discriminatory co-location services**

**ESMA_MIFID2_CP_FIA ASSOCIATIONS_ANNEX 1: COMPLETE PROPOSED AMENDMENTS TO RTS 13, 14, 15, 16, 17, 18, 35 & 36**

1. A trading venue shall publish its policy regarding co-location services on its website, including:

(a) a detailed list of co-location services that it offers including details about space, power, telecommunications and any other related products and services; and

(b) pric**e** per service.

(c) the conditions for accessing the service, including practical IT and operational arrangements;

(d) the different types of latency access provided.

(e) the procedure to allocate co-location space; and

(f) The requirements to provide co-location services by third party providers.

2. A trading venue shall ensure sufficient capacity to allow new **users** ~~participants~~ access on **a fair and non-discriminatory basis** ~~equivalent conditions~~ to the co-location services within the limits of the available space.

3. A trading venue shall ensure that a third party provider of co-location services is subject of equivalent obligations in terms of fair and non-discriminatory provision of co-location services as a trading venue under this Regulation.

4. A trading venue shall provide to all users of co-location services with access to its network **on a fair and non-discriminatory basis** ~~equivalent conditions~~ depending on the service provided, including space, cable length, access to data, power, market connectivity, technology, technical support and messaging types.

5. A trading venue shall monitor all connections and latency measurements to ensure the **fair and** non-discriminatory treatment of any of the users according to the different types of latency provided.

6. Users of co-location services shall be provided the possibility to subscribe only to those services they need, without being required to pay for other bundled services.

7. The pricing models of co-location services shall be designed and applied in a transparent, fair and non-discriminatory manner to all users of the services according to the next chapter.

8. Trading venues shall apply **fair and** non-discriminatory practice as regards co-location services on the basis of objective, transparent and non-discriminatory

criteria with respect to the different types of users of the venue.

CHAPTER III

**Fair and non-discriminatory fee structures**

Article 3

**Fair and non-discriminatory fee structures**

1. A trading venue shall publish its fee structures on its website, including execution fees, ancillary fees and any rebates in one comprehensive document ~~or section~~.

2. Fee structures available on the website shall identify at least the following concepts:

(a) chargeable activity, identifying the activity that triggers a fee;

(b) pricing policy for each chargeable activity, identifying clearly whether that pricing policy is based on a fixed or a variable fee; and

(c) pricing structure, including rebates, incentives or disincentives based on it.

3. A trading venue offering packages of services shall ensure that there is sufficient granularity in the fees charged for the different services.

4. A trading venue shall charge the same price and **offer** ~~provide~~ the same conditions **to users of the same services** ~~the different types of users who are in the same position~~ in accordance with its published and objective criteria.

5. A trading venue shall charge different prices only on the basis of non-discriminatory and published commercial grounds such as the quantity, scope or field of use demanded.

6. A trading venue shall enable a user to subscribe only for those services needed, without being required to pay for other bundled services.

7. The fee structure, including benefits and disincentives shall be described in sufficient granularity such that the outcome is predictable.

Article 4

**Incentives and disincentives**

Any rebate, incentive or disincentive **offered** ~~provided~~ under a fee structure shall **be set out in a** ~~pre-determined by~~ publicly available document **by** ~~of~~ the trading venue and based on non-discriminatory, measurable and objective parameters including volumes ~~effectively~~ traded, services ~~effectively~~ used and the provision of specific

services, such as provision of liquidity provided by a market maker.

CHAPTER IV

**Fee structures that may create incentives for disorderly trading**

Article 5

**General** [restate]

A trading venue shall not offer cliff edge fee structures ~~where, upon reaching a certain threshold of transactions total trading volume, a member or participant may benefit from a discount on the total number of trades or the cumulated trading fees generated by a trader benefit from a discount including those trades already executed~~.

**A trading venue may offer threshold-based incentives to members or participants that enter into a market making agreement.**

Article 6

**Fee structures and testing obligations**

A trading venue may charge current and prospective members and participants the costs incurred in developing and providing conformance testing ~~and testing of algorithms against disorderly trading conditions~~ **in accordance with Article 3**.

Article 7

**Entry into force**

This Regulation shall enter into force on the twentieth day following that of its publication in the Official Journal of the European Union.
It shall apply from 3 January 2017.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, […]

**RTS 18: Draft regulatory technical standards on the tick size regime for shares and exchange traded funds**

**COMMISSION DELEGATED REGULATION (EU) No …/..**

**of [date]**

**ESMA_MIFID2_CP_FIA ASSOCIATIONS_ANNEX 1: COMPLETE PROPOSED AMENDMENTS TO RTS 13, 14, 15, 16, 17, 18, 35 & 36**

**supplementing Directive 2014/65/EU of the European Parliament and of the Council on markets in financial instruments with regard to the tick size regime for shares and exchange traded funds**

**(Text with EEA relevance)**

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Regulation (EU) No 648/2012[20], and in particular Article 49(3) thereof,

Whereas:

(1) Under Articles 18(5) and 48(6) of Directive 2014/65/EU, Member States shall require a trading venue to have in place effective systems, procedures and arrangements to ensure that algorithmic trading systems cannot create or contribute to disorderly trading conditions on the market and to manage any disorderly trading conditions arising from such algorithmic trading systems including systems to limit and enforce the minimum tick size that may be executed on the market.

(2) The minimum difference between two price levels in the order- book of a financial instrument is a dimensionless quantity and the currency attached to the tick size should correspond to the currency of the financial instrument.

(3) This Regulation establishes a number of elements instrumental for the effective implementation of the tick size regime as defined in Article 49 of Directive 2014/65/EU.

(4) For the purposes of harmonising tick size regimes to prevent the disorderly functioning of the financial markets in the Union, Article 49 of Directive 2014/65/EU requires that the minimum tick sizes or tick size regimes shall be specified through regulatory technical standards in consideration of several factors including the liquidity profile and price of financial instruments, and in a way that is adapted to each financial instrument appropriately.

(5) In order to achieve this harmonisation objective, it is necessary that the common tick size regime is robust and sufficiently granular, while being sufficiently straightforward, easy to understand and flexible to implement for trading venues. To this end, the determination of the common tick size regime should rely on a robust liquidity proxy for financial instruments and should consider the relevant adjustments to be made to the common tick size regime according to the nature of financial instruments, for example equity-like financial

instruments including exchange-traded funds. It should also consider particular circumstances, for example equities trading on a fixing segment or corporate actions.

(6) At this stage, this Regulation only subjects equity and certain equity-like instruments to the tick size regime. Nevertheless, the evolution of financial markets will be monitored on an on-going basis by national competent authorities and the European Securities and Markets Authority (ESMA) with a view to propose amendments to this Regulation as appropriate in order to extend their scope to other financial instruments or to adjust the tick size regime. ESMA should also propose an amendment to this Regulation in light of the evolution of financial markets' microstructure, if it is considered that the liquidity classes have shifted away from the table. This review should take place at least on an annual basis.

(7) For the purpose of this annual review of the tick size regimes, it should be considered in particular the appropriateness of the number of liquidity bands and of both the upper and lower bounds of each liquidity band. Particular attention should be given to the spread to tick ratio; whether a large number of orders are sent to the order book hindering the reading of the order book; **the amount of trading occurring at the mid-point;** the median lifetime of the orders or the order-to-trade ratio; the queuing time and any other relevant market quality indicator such as the price volatility of the stocks, with attention to the behaviour of the control group.

(8) Trading venues should have the ability to react to events known in advance that lead to a change in the number of financial instruments or in their nature, leading to a situation where the tick size prescribed by this Regulation may no longer be appropriate. To that end, these standards set out a specific procedure for corporate events that may make the tick size of one specific instrument unsuitable. National competent authorities and ESMA should monitor the interpretation of this provision to ensure supervisory convergence.

(9) Following the annual **(or as often as material changes in product characteristics require a trading venue to adjust the tick size intermittently, such as a split or a reverse split of the relevant instrument, or a material shift in pricing or liquidity characteristics e.g. by inclusion in, or exclusion from, an index or market segment)** ~~revision~~ **review** of the liquidity bands, trading venues should be in a position to immediately apply the tick size corresponding to a new liquidity band including outstanding orders.

(10) This Regulation is based on the draft regulatory technical standards submitted by the European Securities and Markets Authority (ESMA) to the Commission.

**ESMA_MIFID2_CP_FIA ASSOCIATIONS_ANNEX 1: COMPLETE PROPOSED AMENDMENTS TO RTS 13, 14, 15, 16, 17, 18, 35 & 36**

(11) In accordance with Article 10 of Regulation (EU) No 1095/2010 of the European Parliament and of the Council, in developing the draft regulatory technical standards on which this Regulation is based, ESMA has conducted open public consultations, analysed the potential related costs and benefits and requested the opinion of the Securities and Markets Stakeholder Group established by Article 37 of that Regulation,

HAS ADOPTED THIS REGULATION:

Article 1

**Definitions**

1. For the purposes of this Regulation, the following definitions shall apply:

(1) 'relevant competent authority' means the Home competent authority of the most relevant market in terms of liquidity for a share~~, depositary receipt or certificate~~;

(2) 'most relevant market in terms of liquidity' means the most relevant market in terms of liquidity as defined in Article 4 of Commission Delegated Regulation (EU) on transparency requirements in respect of shares, depositary receipts, ETFs, certificates and other similar financial instruments and on the trading obligation;

(3) 'number of trades per day' means the number of transactions carried out in a given ~~financial instrument~~ **share** ~~on the most relevant market in terms of liquidity~~ **on all European trading venues on which such instrument trades, including OTC, dark pools and systematic internalisers**, excluding transactions executed in accordance with one of the pre-trade transparency waivers provided under Article 4(1)(a) to (c) of Regulation (EU) No 600/2014;

(4) 'liquidity class/band' means the range determined by an upper bound and a lower bound based on the average number of trades per day on a given ~~financial instrument~~ **share**;

(5) 'price class/band' means a price range determined by an upper price bound and a lower price bound;

(6) 'spread' or 'bid-ask spread' means the mathematical difference between the time weighted average best ask price and the time weighted average best bid price of a financial instrument expressed in the same currency as that of the financial instrument and expressed by a positive value;

(7) 'most liquid liquidity band of the tick size table' means the band corresponding to the highest number of average number of trades per day; and

(8) 'corporate action' means splits (sub-division), reverse splits (consolidation), scrip issues (capitalisation or bonus issue), capital repayments, dividends, rights issues or entitlement offers, takeovers and mergers and stock conversions.

**(9) 'Exchange Traded Funds (ETFs)' for the purpose of this Regulation includes also Exchange Traded Commodities (ETCs) and Exchange Traded Notes (ETNs).**

2. For the purposes of this Regulation, the use of a quantitative metric shall use the available data relating all European trading venues on which an instrument trades, including OTC, dark pools and systematic internalisers.

Article 2

**Tick size regime for shares**

1. A trading venue shall apply in respect of the shares, ~~depositary receipts and certificates~~ traded on it tick sizes which are greater than or equal to those specified in the Annex according to the procedure set out in this Article.

2. ~~Competent authorities of the most relevant market in terms of liquidity shall ensure that the identification of the liquidity band applicable to each share, depositary receipt and certificate for which they are the relevant competent authority is provided. To that end, the most relevant market in terms of liquidity for each share, depositary receipt and certificate traded or admitted to trading on a European Union trading venue shall publish the average number of trades per day in that financial instrument calculated over the previous twelve months of trading or, where applicable, that part of the year during which that financial instrument was admitted or traded on a trading venue and was not suspended from trading~~.

**ESMA shall ensure that the identification of the liquidity band applicable to each share is provided. To that end, all trading venues, systematic internalisers and OTC platforms in Europe shall deliver to ESMA for each share traded or admitted to trading on their venue the average number of trades per day in that share calculated over the previous twelve months of trading or, where applicable, that part of the year during which that financial instrument was admitted or traded on a trading venue, in a format provided by ESMA. [Note: this should be specified by ESMA in guidelines.] Based on these figures ESMA shall then calculate the average number of trades on all trading venues, systematic internalisers and OTC platforms in Europe for each share admitted to trading or traded on a European trading venue**.

3. Competent authorities shall ensure the publication, not later than on the first trading day of March of each year, of the liquidity band applicable for each share~~, depositary receipt and certificate~~ which is admitted to trading or traded on a trading venue and for which they are the relevant competent authority.

4. Following the publication of the liquidity band applicable to each share~~, depositary receipt and certificate~~ and before the start of the next trading day, each trading venue on which that instrument is traded or admitted to trading shall allocate the liquidity band in accordance with the table in the Annex. **ESMA shall conduct a review six months after this Regulation shall become applicable. If a degradation of market microstructure has been detected, the most relevant market in terms of liquidity may suggest to deviate from the existing regime which shall then become applicable to all other regulated markets and multilateral trading facilities on which the share is traded until a revised RTS has been implemented.**

5. Over the next twelve months the tick size of that share shall evolve continuously as price changes within the liquidity band so that the tick size shall increase by one increment if the price crosses above the upper price threshold for that liquidity band and shall decrease by one increment if the price crosses below its lower price threshold.

6. Where shares, ~~depositary receipts and certificates~~ are traded on a fixing segment,**[Note: need clarification on 'fixing segment']** the relevant trading venue shall use the lowest liquidity band in the tick size table in the Annex.

Article 3

**Tick size regime for shares~~, depositary receipts and certificates~~ newly admitted to trading or traded for the first time**

1. A trading venue shall apply to shares, ~~depositary receipts and certificates~~ admitted to trading on a trading venue or traded for the first time the tick size table corresponding to the liquidity band as determined in this Article.

2. Before the admission to trading or the date in which the share, ~~depositary receipt or certificate~~ actually starts trading, the competent authority for that instrument shall ensure that estimates of the average daily number of transactions **in Europe** are provided for the share. To this end, the listing trading venue shall consider the previous trading history of that share if such history exists, or the trading history of shares having similar characteristics such as the market capitalisation and free float, in case of an initial public offering, and determine on this basis the applicable liquidity band.

3. No later than six weeks after the share, ~~depositary receipt or certificate~~ has started trading, its tick size shall be calculated on the basis of the first four weeks of trading.

Article 4

**Corporate actions**

If a trading venue reasonably considers that a corporate action will cause the average number of trades per day relating to a particular financial instrument to no longer provide an accurate metric for the liquidity profile of that financial instrument, the trading venue shall treat that financial instrument as if it were admitted to trading or traded for the first time.

Article 5

**Tick size regime for ETFs**

1. A trading venue shall apply tick sizes which are greater than or equal to the tick sizes specified in this Article in respect of the exchange-traded funds (ETF) traded on it irrespective of the nature of their underlying.

2. A trading venue shall apply to the ETFs traded on it the tick size table corresponding to the most liquid liquidity band in the Annex.

**3. If the most relevant market in terms of liquidity reasonably considers that the tick size table corresponding to the most liquid liquidity band in the Annex does not accurately reflect the liquidity profile of a given ETF, it may apply a tick size that deviates from the tick size specified in the Annex. ESMA shall develop guidelines to specify the exemption process.**

**4. In the case of ETFs admitted to trading or traded for the first time, no later than six weeks after the ETF has started trading, the most relevant market in terms of liquidity shall determine if the ETF qualifies for a tick size exemption according to Art. 5 (3) of Draft RTS 18 on the basis of the first four weeks of trading.**

Article 6

**Entry into force**

This Regulation shall enter into force on the twentieth day following that of its publication in the Official Journal of the European Union.

It shall apply from 3 January 2017.

**ESMA_MIFID2_CP_FIA ASSOCIATIONS_ANNEX 1: COMPLETE PROPOSED AMENDMENTS TO RTS 13, 14, 15, 16, 17, 18, 35 & 36**

**RTS 35: Draft RTS on the requirement to maintain records of orders for firms engaging in high-frequency algorithmic trading techniques**

**COMMISSION DELEGATED REGULATION (EU) No …/..**

**of [date]**

**supplementing Directive (EU) No 2014/65/EU of the European Parliament and of the Council on markets in financial instruments**

**(Text with EEA relevance)**

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Directive (EU) No 2014/65/EU [MiFID II] of the European Parliament and the Council of 15 May 2014 on markets in financial instruments, and in particular Articles 16 and 17 thereof.

Having regard to Regulation (EU) No 600/2014/EU [MiFIR] of the European Parliament and the Council of 15 May 2014 on markets in financial instruments and amending Regulation (EU) No 648/2012, and in particular Article 25 thereof.

Whereas:

(1) […text prepared by the TFMSI on Article 17 to be inserted….]

(2) This Regulation is based on draft regulatory technical standards submitted by the European Securities and Markets Authority (hereinafter ESMA) to the Commission.

(3) **ESMA is conscious that prescribing a specific format in which the records should be maintained might result in operational difficulties for investment firms that engage in a high frequency algorithmic trading technique. Therefore such investment firms are permitted to keep the relevant data according to their own classifications and protocols under the condition that upon request of the competent authority such data will be provided in the format prescribed in this Regulation.**

(4) In accordance with Article 10 of Regulation (EU) No 1095/2010, of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority European Securities and Markets Authority)(5), ESMA has conducted open public consultations on such draft regulatory technical standards, analysed the potential related costs and benefits and requested the opinion of the ESMA Securities and Markets

Stakeholder Group established in accordance with Article 37 of that Regulation.

HAS ADOPTED THIS REGULATION:

CHAPTER I

**General**

Article 1

**Subject matter and scope**

[Insert RTS text to be prepared by the TFMSI on Article 17 of MiFID II on algorithmic trading] Article 2

**Definitions**

[….][Insert RTS text to be prepared by the TFMSI on Article 17 of MiFID II on algorithmic trading]

CHAPTER II

**Firms engaging in high frequency algorithmic trading**

Article 3

**The content and format of the order records**

1. An investment firm that engages in a high frequency algorithmic trading technique shall immediately record and keep at the disposal of the competent authority at least the details set out in Table 1 of Annex I in relation to every initial order received from a client and every initial decision to trade, as applicable.

2. The details in paragraph 1 shall be provided in the format specified in column 3, Table 1 of Annex I of this Regulation.

3. In addition to the details in paragraph 1, an investment firm shall after processing and submitting a client order or decision to trade, record and keep at the disposal of the competent authority at least the details set out in Table 2 of Annex I, as applicable.

4. The details in paragraph 3 shall be provided in the format specified in column 3, Table 2 of Annex I of this regulation.

5. For the purposes of this article the relevant information shall not include market data messages or the parameters used to calibrate a trading algorithm.

Article 4

**The length of time for which order record must be kept**

An investment firm that engages in a high-frequency algorithmic trading technique shall keep the records of all order details as per this Regulation related to its placed orders, including cancellations of orders, executed orders and quotations on venues, at the disposal of the competent authority of its home Member State for a period of five years.

Article 5

**Entry into force**

This Regulation shall enter into force on the twentieth day following that of its publication in the Official Journal of the European Union.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

**ESMA_MIFID2_CP_FIA ASSOCIATIONS_ANNEX 1: COMPLETE PROPOSED AMENDMENTS TO RTS 13, 14, 15, 16, 17, 18, 35 & 36**

**RTS 36: Draft regulatory technical standards on clock synchronisation**

**COMMISSION DELEGATED REGULATION (EU) No …/…**

**of [ ]**

**Supplementing Directive 2014/65/EU of the European Parliament and of the Council on markets in financial instruments repealing Directive 2004/39/EC**

**(Text with EEA relevance)**

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Directive 2014/65/EU of 15 May 2014 of the European Parliament and of the Council on markets in financial instruments repealing Directive 2004/39/EC of the European Parliament and the Council [reference to OJ publication details to be included in a footnote] and in particular Article 50(2) thereof,

Whereas:

The current level of fragmentation and automation of the European financial markets makes it critical that there are adequate standards for the synchronisation of business clocks used by trading venues and their members or participants.

Clock synchronisation has a direct impact in many areas. It is essential for conducting cross-venue monitoring and detecting instances of market abuse; it will contribute to ensuring that post-trade transparency data can readily be part of a reliable consolidated tape; lastly clock synchronisation will be beneficial for the assessment of best execution since it will allow to better compare effective transactions to market conditions prevailing at the time of their execution.

In order to attain the objectives set out above, this Regulation specifies that the concept of reportable event includes the following obligations: publication of post-trade transparency data for equity, equity-like and non-equity instruments, as prescribed by Articles 6, 7, 10 and 11 of MiFIR; transaction reporting under Article 26 MiFIR; data related to orders placed or submitted that might be requested by NCAs to investment firms (Article 25(1) MiFIR) including specific requirements for firms engaged in high frequency algorithmic trading techniques (Article 17(2) of MiFID II); and data related to orders placed or submitted that might be requested by NCAs to trading venues under Article 25(2) MiFIR.

The number of orders received by a trading venue can be very high and in any event, much higher than that of executed transactions, so that for each and every second, a trading venue may receive many orders (e.g. several thousands of orders per second depending on the trading venue and on the financial instruments' volatility and liquidity).

As a result, a time granularity of one second would not be sufficient for the purposes of market manipulation surveillance. Therefore, as a general rule this Regulation sets out a minimum requirement according to which internal clocks of trading venues operating an electronic system cannot diverge by more than one millisecond with respect to the reference time and all reportable events should be time stamped to the nearest millisecond. ~~The members or participants of a trading venue will be obliged to synchronise their clocks according to at least the same time accuracy applied by their trading venue~~.

The rapid evolution of the markets has also led to a situation where in some cases; time stamping to the granularity of one millisecond would not reflect the actual speed at which the system operates. Therefore this Regulation ~~obliges trading venues that have operating systems where the gateway to gateway latency is less than one millisecond to synchronise their clocks according to the~~ **obliges certain trading venues and investment firms to time stamp to a more granular** level of accuracy ~~at which the venues measure their latency and to time stamp to that same level of granularity~~.

ESMA is also conscious that there are trading models for which the millisecond granularity might not be relevant or feasible. Therefore trading venues that operate through voice trading only are required to have a maximum divergence from the reference clock of one second.

**The evolution of financial markets will be monitored on an on-going basis by national competent authorities and the European Securities and Markets Authority (ESMA) with a view to propose amendments to this Regulation as appropriate in order to adjust the business clock synchronisation requirements. ESMA should also propose an amendment to this Regulation in light of the evolution of financial markets' microstructure, if it is considered that technology advanced sufficiently. This review should take place at least on an annual basis.**

This Regulation is based on draft regulatory technical standards submitted by the European Securities and Markets Authority (hereinafter ESMA) to the Commission.

In accordance with Article 10 of Regulation (EU) No 1095/2010, of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority European Securities and Markets Authority), ESMA has conducted open public consultations on such draft regulatory technical standards, analysed the potential related costs and benefits and requested the

opinion of the ESMA Securities and Markets Stakeholder Group established in accordance with Article 37 of that Regulation.

HAS ADOPTED THIS REGULATION

CHAPTER I

**Definitions**

Article 1

**Definitions**

For the purposes of this regulation the following definitions shall apply:

'Gateway-to-gateway latency' means the time measured **during the live trading period of the trading day** from the moment a message is received from an outer gateway of the trading system, sent through the order submission protocol, processed by the matching engine, and then sent back until an acknowledgement is sent from the gateway.

'Electronic system' means a system where orders are electronically tradable or where orders are tradable outside the system provided that they are advertised through the given system.

'Voice trading system' means a trading system that do**es** not fall under the definition of 'electronic system' according to letter (b) of this Article.

'Reference time' means the Coordinated Universal Time (UTC) issued and maintained by one of the timing centres listed in the latest Bureau International des Poids and Mesures (BIPM) Annual Report on Time Activities.

CHAPTER II

**General**

Article 2

**Reference time**

(1) Trading venues and their members or participants shall synchronise the business clocks they use to record the date and time of any reportable event against a common reference time.

(2) For the purpose of paragraph (1), reportable events shall include but shall not be limited to the following:

transactions to be reported under Article 26 of Regulation (EU) No 600/2014;

publication of data under Articles 6, 7, 10 or 11 of Regulation (EU) No 600/2014;

any event affecting the orders placed on a trading venue to be kept at the disposal of the competent authority by the trading venue and its members or participants pursuant to Articles 25 of Regulation (EU) No 600/2014 and Articles 16(6) and 17(2) of Directive 2014/65/EU.

Article 3

**Level of accuracy and granularity**

A trading venue operating an electronic system shall ensure that its business clocks do not diverge more than one millisecond from the reference time.

By way of derogation from paragraph 1, a trading venue measuring its gateway-to-gateway latency time in less than one millisecond shall synchronise its business clocks in accordance with Table 1 of Annex I based on the trading venue's gateway-to-gateway latency. The trading venue shall use as a reference the gateway-to-gateway latency time measured at the ninety ninth percentile of all orders advertised through their system, **measured over four weeks for the same month each year, for example, February**.

A trading venue that only operates voice trading systems shall ensure that its business clocks do not diverge more than one second from the reference time.

The members or participants of a trading venue referred in paragraphs 1, 2 ~~or 3~~ above shall ensure that the business clocks used by the relevant system to connect to that specific trading venue are synchronised ~~according~~ **in accordance with Table 2 of Annex I** ~~to the same time accuracy applied by the trading venue. Where a member or participant has a system that connects to multiple trading venues, all business clocks used by that system shall have the same or higher granularity and accuracy compared to the most accurate trading venue of which they are a member or participant~~.

~~For the purposes of paragraph 4, where a trading venue changes the accuracy of its business clocks, the members or participants of that venue shall ensure that they implement a corresponding change in the accuracy of the business clocks that are used by the relevant system in a timely manner.~~

Trading venues ~~and their members or participants~~ shall record the date and time of any reportable event to the level of granularity required under Table 1 of Annex I.

**Members or participants of trading venues shall record the date and time of any reportable event to the level of granularity required under Table 2 of Annex I.**

Article 4

**Entry into force**

This Regulation shall enter into force on the day following that of its publication in the Official Journal of the European Union.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

**Table 1: Accuracy and granularity requirement for trading venues**

| Band | Gateway-to-gateway latency time of the trading venue | Granularity | Accuracy |
|---|---|---|---|
| 1 | 1 millisecond or greater | 1 millisecond | 1 millisecond |
| 2 | 100 microseconds to 999 microseconds | 1 microseconds | 100 microsecond |
| 3 | 10 microseconds to 99 microseconds | 1 microseconds | 10 microseconds |
| 4 | 1 microsecond to 9 microseconds | 1 microsecond | 1 microsecond |

**Table 2: Accuracy and granularity requirements for investment firms**

| | Granularity | Accuracy |
|---|---|---|
| Base requirement | 1 millisecond | 1 millisecond |
| Systems that are involved with high frequency algorithmic trading technique | 1 microsecond | 100 microseconds |