

### **SUBMITTED ONLINE**

October 3, 2011

European Securities and Markets Authority ("ESMA") 103 rue de Grenelle 75007 Paris France

Re:

ESMA Consultation Paper: Guidelines on Systems and Controls in a Highly Automated Trading Environment for Trading Platforms, Investment Firms and Competent Authorities/Newedge Group SA ("Newedge")

#### Dear Sir or Madam:

Newedge appreciates this opportunity to comment on the above-referenced Consultation Paper ("Consultation"). Newedge refers to Newedge Group SA and all of its global subsidiaries. Newedge has been quite active over the years, both in Europe and elsewhere, in working with regulators to develop rules and regulations designed to strengthen our financial markets. In Europe, Newedge has provided input to, among others, the European Commission ("EC"), the Committee on European Securities Regulation ("CESR"), the Financial Securities Authority ("FSA"), ESMA and the International Organization of Securities Commissions ("IOSCO") in connection with the formulation of various rules and initiatives. Given our broad experience across asset classes as both an executing and clearing broker – including securities, futures and OTC derivatives – we feel we are strongly positioned to provide such input.

In this letter, we will address a number of ESMA's draft guidelines relating to high-frequency trading ("HFT"), direct market access ("DMA") and sponsored direct market access ("SDMA") (DMA and SDMA collectively referred to as "DMA/SA"). However, before doing so, we set forth below certain fundamental principles relating to HFT and DMA/SA that we have consistently advocated and which we believe regulators should abide by in establishing rules on this topic. These basic tenets are:

- HFT and DMA/SA have had, in general, a positive impact on today's markets, including increased liquidity, lower spreads, lowered transaction costs and, in many cases, decreased volatility.
- The costs, responsibilities and obligations associated with monitoring and controlling the risks of HFT and DMA/SA including pre-trade and post-trade controls and monitoring should be shared equally by all registrants that enjoy the benefits of such trading, including exchanges and other market centers.
- Addressing and resolving conflicts of interest presented by market intermediaries that trade electronically on both a customer and proprietary basis must remain a high priority of regulators.
- Automated pre-trade compliance and risk filters are an important, if not the most important means of controlling the risks of HFT and DMA/SA. Such filters should: involve both compliance and credit controls; be mandated by regulation; involve specific minimum standards and requirements; be harmonized across markets, and; be developed by market centers so as to promote consistency and avoid a "race to the bottom" among brokers. "Naked" DMA/SA should be banned.
- Co-location facilities and the transmission of market data must be regulated, and made available to market participants on a fair and transparent basis.
- Regulators must establish definitive and transparent rules relating to clearly erroneous transactions. Such rules should provide, among other things, that trades executed at prices that fall inside of pre-set numerical guidelines (i.e., "no-bust" zones) will not be broken absent a compelling public interest to the contrary.
- HFT customers accessing markets through brokers should not be subject to separate registration and reporting requirements. However, such customers should be: subject to anti-fraud, anti-manipulation and anti-disruptive trading rules; required to provide relevant information to regulators promptly upon request, and; required to establish internal procedures and controls.
- Fraud and market offenses relating to HFT and DMA/SA (such as momentum ignition, layering, etc.) must be rigorously prosecuted by regulators.

  Regulators must develop the expertise and procure the systems necessary to monitor HFT and DMA/SA.

#### **BACKGROUND**

### 1. Newedge

Newedge, which is one of the world's largest brokerage organizations, offers its customers clearing and execution facilities across multiple asset classes including futures, securities (fixed income, options and equities), FX and various OTC instruments. Newedge maintains offices in over 15 countries, and is a member of over 85 exchanges worldwide. As of June 2011, Newedge had an estimated global market share in listed derivatives of 11% (clearing) and 11.9% (execution), and over Euro 50.8 billion of client assets on deposit. Newedge was ranked among the top brokers on most European exchanges for both clearing and execution volume as of the end of 2010. Newedge's primary function is that of a broker; i.e., to execute and clear customer transactions across multiple asset classes on an agency or back-to-back principal basis. Newedge conducts very little proprietary trading, and then generally only as a hedge in connection with the facilitation of customer orders.

Newedge's clients typically are brokers, banks and other large institutions (such as hedge funds, private investment vehicles and professional trading organizations). Newedge branches and subsidiaries generally offer qualifying clients DMA trading through either internal order routing systems, independent service providers ("ISV") or SDMA arrangements. Many of Newedge's clients are algorithmic or "black box" trading firms that engage in HFT. In addition to its DMA/SA activities, Newedge branches and subsidiaries generally offer customers "live" execution and prime brokerage services. Newedge does not act as a dealer, market maker or specialist, and conducts no banking, advisory or fundamental securities research services.

Newedge has been actively involved with the industry for a number of years in promoting the establishment of fair, robust and transparent rules relating to HFT and DMA/SA. Among other things, Newedge has provided comment letters on HFT, DMA/SA and related topics to the EC, CESR, IOSCO, the US Securities and Exchange Commission ("SEC"), the Canadian Securities Administrators, the Ontario Securities Commission and the Financial Industry Regulatory Authority. In addition, Newedge has provided guidance to the US Commodity Futures Trading Commission ("CFTC") and the Futures Industry Association ("FIA") in connection with the development of best practices and guidelines relating to electronic trading in the US futures markets (including participating in a CFTC Technical Committee and Public Roundtable on this topic).<sup>2</sup>

<sup>&</sup>lt;sup>1</sup> Newedge is a 50%-50% joint venture between Credit Agricole CIB and Société Générale, headquartered in Paris, France.

<sup>&</sup>lt;sup>2</sup> Newedge is a member of numerous industry associations involved in the development of HFT related rules, such as FIA, the Futures and Options Association ("FOA") and the Securities Industry Financial Markets Association ("SIFMA").

# 2. <u>HFT and DMA/SA Generally</u>

In our view, the ability of firms to process large amounts of market data quickly and transmit a large number of orders into the market in a short period of time – <u>i.e.</u>, HFT executed through the use of DMA/SA arrangements – has helped to increase trading volume which, in turn, has helped to increase liquidity, narrow spreads, reduce commissions and reduce overall transaction costs. Indeed, in terms of the speed and costs of execution, we believe today's European markets are more efficient than ever before, and that HFT – and the DMA/SA arrangements through which it is effected – has played a significant role in this development.<sup>3</sup> We also believe that marketplaces become liquid and maintain their liquidity (<u>e.g.</u>, become efficient) by encouraging trading by multiple customer types – including HFT firms accessing markets through DMA/SA arrangements. We note generally in this regard that IOSCO, in its recently issued Consultation Report on Regulatory Issues Raised by the Impact of Technological Changes on Market Integrity and Efficiency ("IOSCO Report"), also takes the view that HFT and DMA/SA have had positive market effects, including a general decrease in execution time and increase in liquidity.<sup>4</sup>

We also believe that HFT in certain instances has decreased volatility and thereby had a stabilizing effect on the market. Indeed, with respect to certain stocks, it appears that HFT firms have, on occasion, taken on the role of specialist or market-maker in "bridging the fluctuations between supply and demand that occur throughout the trading day." As noted by Mr. Cameron Smith, General Counsel of Quantlab Financial, LLC, a Houston, Texas-based quantitative technology and trading company:

[i]f only long-term investors were trading securities, there would not be adequate liquidity to keep markets stable and spreads narrow. Therefore, market intermediaries, whether traditional market makers and specialists or today's high frequency traders, are essential.

HFT firms have also helped to stabilize markets as a result of the market neutral and risk averse nature of their trading strategies. Indeed, HFT firms generally do not speculate or even take overnight positions, which we believe has taken some of the volatility out of the marketplace. In addition, we believe these same positive developments have helped "long-term investors," including retail clients, as well. Among other things, as a result of increased liquidity and lower transaction costs, long-term investors, once they have determined to acquire or dispose of an asset, are often able to do so on a faster and less

<sup>3</sup> We do note, however, that the increase in liquidity and decrease in spreads has occurred primarily among large-cap stocks; mid-cap and low-cap stocks appear to have felt less of the benefits of HFT.

<sup>&</sup>lt;sup>4</sup> <u>See e.g., IOSCO Report,</u> Section 4 ("a number of indicators point to an improvement in market quality [as a result of HFT]. Trade volumes have significantly increased ... even in the context of one of the most turbulent decades in the history of financial markets. Execution speed has fallen from seconds to as little as microseconds ..... [s]ome measures of liquidity have improved with implicit trading costs").

<sup>&</sup>lt;sup>5</sup> <u>See</u> Commentary: How High Frequency Trading Benefits All Investors, Traders Magazine Online News, March 17, 2010, Cameron Smith.

<sup>&</sup>lt;sup>6</sup> The term "long-term investor" generally refers to market participants who provide capital investment and are willing to accept the risk of ownership in listed companies for an extended period of time.

expensive basis. In addition, as a result of the stabilizing effects of HFT, long-term investors are less susceptible to market volatility, and therefore, less likely to lose the value of their investment in a short period of time. In short, rather than "demonize" HFT firms – and the DMA/SA arrangements through which they access markets – for current market issues (as some commentators do), we believe HFT firms – which have succeeded based on their ingenuity and work ethic and which put their own capital at risk on a daily basis – should be recognized for helping bring about the market improvements identified above. To punctuate this point we note that while the market improvements HFT firms have helped to create over the past few years have been numerous, the number of enforcement actions relating to such entities have been minimal.

That being said, we also believe, as we set forth below in more detail, that certain steps should be taken to "level the playing field" and reduce systemic risk with respect to HFT and DMA/SA arrangements, including the implementation of "generic" or "industrywide" pre-trade filters and blocks. We also believe, as noted, that abusive and manipulative trading strategies employed by HFT firms – or any other type of market participant for that matter – should be prohibited (to the extent they are not already) and that perpetrators should prosecuted vigorously.

### **DISCUSSION**

Newedge's comments here focus on Section IV of the Consultation (relating to DMA/SA) and respond specifically to Questions 22 and 24. Our comments relating to DMA/SA involve a general statement regarding the need for pre-trade controls and the allocation of responsibilities between brokers and market centers with respect to such controls (Part A), and a number of other related opinions and requests for clarification (Part B).

### A. <u>DMA/SA Pre-Trade Controls</u>

## 1. "Naked" DMA and SDMA Arrangements Should Be Prohibited.

In our view, "naked" DMA/SA arrangements - <u>i.e.</u>, where a customer can transmit orders into a market center without its broker or the market center being required to regulate the compliance and risk aspects of such order flow – should not be permitted, and regulators should require that risk and compliance controls be implemented for DMA/SA customers on a pre-trade basis. We believe the systemic risk to the markets generally and the capital risks to individual customers and brokers that are inherent in naked DMA/SA arrangements are clear and, for the most part, undisputed. We also believe naked DMA/SA leads to increase regulatory and compliance related violations. Indeed, to address such potential risks, the SEC issued a rule (15c3-5) – which became effective in July 2011 – that prohibits all naked DMA/SA arrangements in the US equity,

<sup>&</sup>lt;sup>7</sup> Question 22 asks, "Are there any areas of the draft guidelines on organizational requirements for investment firms providing DMA/SA where you believe it would be helpful to have more detail," while Question 24 asks, "Do you have additional comments on the draft guidelines on organizational requirements for investment firms providing DMA/SA?" Consultation at 40.

equity option and fixed income markets.<sup>8</sup> And, while we believe that virtually all HFT firms and brokers, in order to preserve their capital, currently utilize reasonably effective pre-trade controls with respect to their DMA/SA trading activities, we believe that more robust filters should be mandated and under the exclusive control of brokers (as is required by SEC Rule 15c3-5) or market centers.

We also believe, with respect to such pre-trade controls, that regulators should mandate certain specific minimum requirements that all brokers and market centers must follow, as opposed to merely requiring that they implement filters and controls "reasonably designed" to minimize credit risk and fulfill compliance requirements. For example, with respect to broker controls, all brokers should be required to impose filters or blocks relating to: per order share size limitations; per order dollar amount limitations; aggregate customer dollar amount limitations; order type restrictions; product restrictions; order handling restrictions; away from the market limitations, etc. Similarly, all market centers in the European Union ("EU") should implement certain harmonized minimum circuit breaker, trading halt, fat finger, duplicative order and away-from-the-market trade blocks. The lack of at least some specific minimum controls and filters could result in a "race to the bottom" among less well-intentioned brokers and market centers.

2. The Responsibility for Controlling HFT and DMA/SA Activities Should Be Allocated Evenly Between Brokers and Market Centers.

We believe the responsibility for controlling and managing the risks of HFT and DMA/SA activities should be allocated evenly between brokers and market centers, however. More specifically, we recommend that:

- a. broad-based filters, blocks and controls such as those relating to orders entered in error, away-from-the-market orders, trading halts, certain short restrictions, unlisted securities, restricted securities, odd lots, market-on-close and limit-on-close restrictions, stop loss orders, unauthorized market making, duplicative orders and unauthorized market access should be implemented by market centers at the exchange level, 9 and;
- b. client-specific filters, blocks and controls such as those relating to credit, share size and capital thresholds should be created by market centers and

<sup>&</sup>lt;sup>8</sup> The US Commodity Futures Trading Commission ("CFTC") also recently proposed a rule that would to require futures commission merchants to implement certain pre-trade controls relating to DMA/SA arrangements. See Proposed CFTC Rule Relating to Clearing Member Risk Management Controls, 76 FR 45724 (August 1, 2011).

<sup>&</sup>lt;sup>9</sup> Our reference to market centers herein refers to exchanges as well as non-exchange trading facilities such as organized trading facilities ("OTF"). Indeed, we believe that the responsibilities for HFT and DMA/SA at the market center level should not be borne solely by exchanges as, among other things, such inequity would be anti-competitive.

then provided to and customized by individual brokers to fit the financial and trading requirements of their customers. 10

In our view, this two-tiered approach and shared allocation of responsibilities between brokers and market centers will yield important and pragmatic benefits. First, establishing market center level controls, where possible, and providing brokers with market center-created risk and compliance filters will, in our view, help to "level the playing field" among market participants with respect to latency. Specifically, we believe that if individual brokers develop and/or purchase their own controls, HFT customers will gravitate to the brokers offering the lowest latency but not necessarily the most rigorous controls. In addition to disadvantaging brokers and customers more concerned with ensuring compliance and reducing the risks associated with DMA trading, such an arrangement could, in our view, expose the markets to more systemic risk.

Second, the approach we recommend would result in a more uniform system of DMA/SA procedures and controls – at both the market center and broker levels – that, in our view, will allow customers, brokers and market centers alike to better understand and comply with the relevant rules, and allow regulators to enforce them more consistently and effectively. Indeed, one of the major requests we have heard throughout the discussion on HFT and DMA/SA regulation is the need for uniformity and consistency among market centers and market participants. We believe markets in the EU have a need for and would benefit from a consistent and harmonized approach to HFT and DMA/SA.

Third, we believe our approach would help to address the potential inequity between HFT brokers and non-brokers. Specifically, a broker that trades in a proprietary (but not necessarily market making or specialist) capacity using its own filters will almost always have a critical but, in our view, unjustified latency advantage over a customer that has to route its orders through third-party filters (because of the extra server involved). Indeed, as a result of this potential inequity in the US, we understand that many customers engaged in HFT are strongly considering creating broker-dealers ("BD") solely for the purpose of staying competitive from a latency perspective. Unfortunately, many such BDs will, we believe, be thinly capitalized and poorly managed, at least initially, considering the haste with which they are likely to be formed. However, "leveling the playing field" by establishing uniform filters at the exchange and BD levels should help resolve this inequity and prevent the proliferation of underfunded BDs. <sup>12</sup>

<sup>&</sup>lt;sup>10</sup> In creating such functionality, we recommend that market centers consult some of the leading HFT firms which, as previously noted, have over the years developed some very robust and sophisticated filters and blocks.

As noted by SIFMA in its February 26, 2009 letter to the SEC regarding a prior DMA rule proposal: SIFMA strongly believes that having a good, consistent, predictable and practical rule [regarding DMA] is critically important to the industry ..... [and that the current collection of exchange DMA rules and requirements] ..... unfortunately deviate from one exchange to the next, creating inconsistencies, confusion and a host of disparate requirements.

<sup>&</sup>lt;sup>12</sup> The creation of a large number of new brokers would also likely put a strain on regulators already dealing with reduced staffing and resources.

Fourth, such an allocation of responsibilities will more evenly split the costs between brokers and market centers – both of which benefit from such HFT and DMA/SA trading. <sup>13</sup> The expense involved for brokers in implementing such controls – to the extent they are solely responsible for creating and implementing them – will be significant and, in some cases, prohibitive. <sup>14</sup> However, requiring market centers to (a) implement certain controls at the exchange level, and (b) provide brokers with "already assembled" controls to be implemented at the broker level would alleviate much of the financial and regulatory burden that would otherwise be placed on brokers. Further, market centers have the best understanding of how their markets work, and placing some of the responsibilities for HFT and DMA/SA on them will leverage their knowledge and expertise.

In short, we believe the two-tiered and "shared allocation of responsibilities" approach to HFT and DMA/SA that we are advocating here – which has worked for some time in the US futures industry – will work effectively in the EU to "level the playing field" and reduce systemic market risk. <sup>15</sup>

### 3. ESMA's Views

We applaud that ESMA recognizes that HFT and DMA/SA activities have had some positive impact on EU markets. For example, ESMA states:

The establishment of a highly automated trading environment has enabled investors to monitor prices in real time and submit orders electronically, facilitated productivity improvements at investment firms executing client orders and at trading platforms, promoted competition between trading platforms and simplified the process of the settlement of trades.

Consultation at 10, Paragraph 13. In addition, we agree in principal with ESMA's recommendations that pre-trade controls for HFT and DMA/SA activities be implemented (Consultation at 37, Paragraph 2, 39) and that both brokers and market centers have responsibilities with respect to such controls. However, as we set forth below, in a number of instances Newedge's views on specific topics differ from those of ESMA's, which we believe are worth noting.

\* First, Newedge recommends that brokers implement filters and blocks for HFT and DMA/SA activities that are created by market centers, while ESMA recommends that such controls "can be the firm's own controls or controls

time-period.

<sup>&</sup>lt;sup>13</sup> As noted by ESMA, for "trading platforms, the primary advantage of allowing members/participants or users to offer DMA/SA arrangements to their clients, is the opportunity to add order volume to their market." Consultation at 34, Paragraph 50.

<sup>&</sup>lt;sup>14</sup> Indeed, we believe the expense of implementing such controls may result in certain smaller brokers leaving the market or consolidating with larger brokers. It is imperative that ESMA consider anti-competitive effects on market participants in crafting and issuing its principles and recommendations.
<sup>15</sup> Indeed, we are aware of no major incidents involving DMA trading in the US futures markets over the past ten years, despite the substantial increase in trading volume such markets have experienced during this

purchased from a vendor (including a trading platform)." We believe, as noted, that in order to "level the playing field" and prevent a "race to the bottom" among brokers, such controls should be developed by market centers.

\* Second, Newedge recommends that market centers bear more responsibility for implementing pre-trade regulatory HFT and DMA/SA filters than it appears does ESMA. For example, Newedge recommends that market centers be responsible for implementing all of the compliance-related filters and blocks set forth on page 6 above, while ESMA states that it is the brokers who should be responsible for implementing pre-trade controls necessary to block orders that would be violate, among other things:

the client order handling rules, or other relevant Union or national legislation, or under the rules of the RM or MTF to which the order is to be sent (including the rules relating to fair and orderly trading).

Consultation at 23, Paragraph 2.<sup>16</sup> For all of the reasons stated above (see pages 6-7), we believe the market centers should be equally responsible for ensuring compliance with regulatory requirements.

\* Third, Newedge recommends that regulators establish specific minimum or "baseline" credit and compliance pre-trade filters that brokers must implement, while ESMA states more generally that:

firms should operate appropriate automated pre-trade controls which stop automatically any order from a DMA/SA client which would either compromise the DMA/SA provider firm's risk appetite or the credit thresholds.

Consultation at 39, Paragraph 57. ESMA does state that firms should be able to block orders that "do not meet set price or size parameters (differentiated as necessary for different financial instruments), either on an order-by-order basis or over a specified period of time, or because orders appear to be duplicative" (Consultation at 23, Paragraph 2); however, we feel that such limitation again provides too much leeway for firms that are not committed to managing their clients' compliance and credit risks adequately. <sup>17</sup> In order to avoid a "race to the

<sup>&</sup>lt;sup>16</sup> See also Consultation at 35, Paragraph 53 ("ESMA believes that DMA/SA arrangements between the trading platform and DMA/SA provider should stress that the DMA/SA provider firm remains responsible for all trades using their market participant ID code").

<sup>&</sup>lt;sup>17</sup> Indeed, ESMA appears to acknowledge this issue in stating:

<sup>[</sup>i]t is clear from feedback to our questionnaire that many investment firms providing DMA/SA services appear to have in place some form of control infrastructure to manage trading and credit risks that may arise from, among other things, their DMA/SA arrangements. However, it would appear that the rigour and risk control standards vary widely between firms and ESMA thinks it is important to set out what DMA/SA provider firms should consider as minimum measures to manage their risks effectively.

bottom" among brokers and market centers, we feel strongly that regulators should mandate certain specific minimum compliance and credit –pre-trade filters on DMA/SA arrangements.

We encourage ESMA to consider these points, and would be happy to discuss them further.

B. Additional Comments and Requests for Clarification Relating to HFT and DMA/SA.

In response to the Consultation, we make the following additional recommendations and requests for clarification.

## Recommendation Regarding Clearing/Executing Brokers

We recommend that ESMA address more completely the responsibilities for controlling and monitoring HFT and DMA/SA in situations where one broker executes the customer's trades and another broker clears and/or custodies them (which we believe to be a relatively common arrangement in the EU). Some questions relating to this circumstance that would, in our view, benefit from further clarification include: which broker is responsible for implementing the pre-trade credit and compliance controls, and does that change depending on whether the executing broker has adequate knowledge of the client's credit risks? Does the clearing/custodial broker have an affirmative duty to advise the executing broker of the specific credit parameters that should be implemented?

### Recommendation Regarding HFT and DMA/SA Testing Environments

We recommend that ESMA outline more robust requirements relating to testing. For example, we believe all market centers should be required to maintain test environments that will allow their HFT and DMA/SA customers, brokers and related ISVs and other third-party vendors to test not only new trading strategies and algorithms in a non-"live" environment, but also test, among other things, new: connectivity, default or back-up server arrangements, transmission lines, mnemonics, give-up arrangements, MPIDs, order and trade capture systems, exception and surveillance reports, order routing systems and software, risk and compliance controls and filters and third-party vendor DMA/SA functionality, systems and mechanisms. As a global broker that provides DMA/SA to customers employing multiple trading algorithms through a variety of different internal and external order routing systems across numerous asset classes, we have witnessed first-hand the need for market centers to have robust testing environments. Unfortunately, some market centers we have encountered do not, which has, on occasion, caused customers to either forego testing they should have conducted or test their new systems, software and connectivity in a live environment or conduct only minimal, and in some cases less than adequate testing in a live environment in order to minimize their capital exposure. In our view, any market center that accepts orders on a

DMA/SA basis should be <u>required</u> to have a robust test environment for brokers and their customers and third-party vendors, and should in fact require that certain types of new systems and software be tested prior to use in a live environment.

### Requests for Clarification

ESMA states that brokers should conduct:

an assessment, periodically reviewed, of the trading activities of direct market access/sponsored access clients to assess the potential market wide impact of the orders that are likely to be sent to the relevant regulated markets and multilateral trading facilities.

Consultation at 37, Paragraph 2. We recommend that ESMA provide further clarification of this proposed requirement. Specifically, what is meant by "potential market wide impact?" How should a firm go about making such an assessment? What level of review is required? And, what actions are firms expected to take based on such an assessment?

#### ESMA states that the:

DMA/SA provider firm should ..... be mindful of its responsibility for all trades executed under its market participant ID. This responsibility should govern the approach the DMA/SA provider firm takes to assessing potential DMA/SA clients and the monitoring of their trading activity.

Consultation at 38, Paragraph 55. We would recommend that ESMA clarify here what is meant by the phrase "mindful of its responsibility," and what specifically a firm should consider in determining whether to grant a customer DMA/SA.

ESMA states that brokers and their DMA/SA clients enter into agreements to provide "clarity over the responsibilities of the respective parties," including the "allocation of responsibility for dealing with actions and errors." Consultation at 39, Paragraph 57. We recommend that ESMA clarify the types of "responsibilities" a client may have with respect to DMA/SA trading activities and, specifically, whether it is suggesting that a customer may be allocated certain regulatory responsibilities with respect to such arrangements.

We greatly appreciate ESMA's efforts in soliciting the public's views on these important issues, and for all of its actions in making the EU financial markets more efficient, transparent, liquid, cost-effective and fair.

Thank you again for allowing us an opportunity to comment on the Consultation. If you have any questions regarding the matters discussed herein, please do not hesitate to contact the undersigned at +1 646 557-8458 or John Nicholas, Global Head of New Regulation Monitoring and Implementation, at +1 646 557-8516.

Sincerely,

Newedge Group

Gany DeWaal

Senior Managing Director and