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March 16, 2016

VIA ONLINE SUBMISSION

Mr. Christopher Kirkpatrick
Secretary of the Commission
Commodity Futures Trading Commission
Three Lafayette Centre
1155 21st Street, NW
Washington, DC 20581

Re: Notice of Proposed Rulemaking on Regulation Automated Trading ("Regulation AT"), RIN 3038-AD52

Dear Mr. Kirkpatrick:

CME Group Inc. ("CME Group") appreciates this opportunity to provide comments on the Commodity Futures Trading Commission's ("CFTC" or "Commission") notice of proposed rulemaking regarding "Regulation Automated Trading" ("Proposal" or "Regulation AT").[1]

CME Group is the parent of four U.S.-based designated contract markets ("DCMs"): Chicago Mercantile Exchange Inc. ("CME"), Board of Trade of the City of Chicago, Inc. ("CBOT"), New York Mercantile Exchange, Inc. ("NYMEX") and the Commodity Exchange, Inc. ("COMEX") (collectively, the "CME Group Exchanges" or "Exchanges"). These Exchanges offer a wide range of products available across all major asset classes, including: futures and options based on interest rates, equity indexes, foreign exchange, energy, metals, and agricultural commodities. CME Group's exchanges serve the hedging, risk management and trading needs of our global customer base by facilitating transactions through the CME Globex® electronic trading platform, our open outcry trading facilities in New York and Chicago, as well as through privately negotiated transactions. CME Group also operates a swap execution facility ("SEF") as well as CME Clearing, a derivatives clearing organization ("DCO") which provides clearing and settlement services for exchange-traded and over-the-counter derivatives transactions.

CME Group is committed to protecting market integrity. Market participants turn to the CME Group Exchanges because they are confident that our markets will be fair, efficient, transparent, liquid, dynamic and conducted in accordance with the highest possible standards. CME Group works every day to earn this confidence by implementing and perfecting a wide array of comprehensive and cutting-edge risk control systems. We take this job seriously because it is essential to our business.

[1] *See* Regulation Automated Trading, 80 Fed. Reg. 78824 (Dec. 17, 2015).

As the preamble to the Proposal correctly chronicles, electronic trading in recent years has emerged as the principal trade execution method for futures markets, resulting in important, well-recognized public benefits of increasing liquidity, promoting price discovery, narrowing bid-ask spreads, and lowering risk management costs. Electronic trading has also led to considerable regulatory enhancements that have facilitated trade reconstruction and other compliance efforts of both exchanges and the Commission.

With the advent and evolution of electronic markets, CME Group has been particularly vigilant in proactively analyzing and addressing any market risks that may be created by those markets through the development of sophisticated and extensive means aimed at risk mitigation. Working with market participants and their clearing firms, CME Group has been in the vanguard of efforts to try to ensure that what is called automated or algorithmic trading does not lead to market aberrations or trading dislocations. In this letter, we will summarize CME Group's risk control systems to make sure the Commission's record reflects a full and accurate understanding of how these systems work.

I. EXECUTIVE SUMMARY

The ongoing self-regulatory efforts of CME Group and others in the industry are focused on the same purpose as the Commission's Proposal—attempting to reduce risks to market integrity from algorithmic trading. The Commission itself has already adopted certain federal, principles-based standards in this area for DCMs and futures commission merchants ("FCMs") alike. The National Futures Association ("NFA") also has imposed relevant and important standards. Thus, there is no dispute that risks exist and protections against those risks are appropriate.

The Proposal would add a host of new substantive federal regulatory requirements to the existing slate of extensive protections. According to the Commission, these new rules would codify many of what it characterizes as best practices and self-regulatory measures that are already in place for algorithmic trading in the areas of risk controls, system development, testing and monitoring, and compliance. In this letter, CME Group will discuss in detail our views on the Proposal and will answer the specific questions the Commission has posed where it is appropriate for CME Group to do so. Appendix A to this letter contains our specific responses to those questions.

In summary, we believe that much of the well-intentioned Proposal is unwarranted and could be counterproductive. The Commission's goals for Regulation AT would be better served if it removed the floor trader registration requirement and focused instead on risk mitigation controls under a truly principles-based regime that could be tailored to the different business operations and roles of traders, intermediaries and exchanges. In our view, the Proposal does not provide a clear justification for why additional federal regulation is necessary or appropriate and how the new rules would fulfill those objectives in a workable manner. In addition, as discussed below, major elements of the Proposal are based on a series of fundamental inconsistencies and

flaws. As a result, the Commission has significantly underestimated the Proposal's costs to market users and market operators.

First, the Commission claims that the Proposal is merely "principles-based," a term that historically would mean that the means of compliance with a regulatory objective should be left to the informed discretion of the person to whom the principles-based regulation was to apply. The plain language of the Proposal's rule text contradicts that claim. The Proposal's rules mandate specific performance approximately 87 times. When a Commission rule states that a specific something "shall" be done – whether it is developing systems with certain controls, creating software, testing systems, training staff, filing reports or reviewing reports – that rule imposes a prescriptive requirement that must be met. In the Commission's own words, its Proposal contemplates "a series of pre-trade risk controls and other measures that AT Persons, clearing member FCMs and DCMs *must* implement."[2]

Another significant inconsistency that permeates the Proposal concerns who would be an AT Person subject to special regulation under Regulation AT. This is a fundamental element in the Proposal. The Proposal's rule text confirms, what must be the Commission's view, that the risk controls provided by a clearing member under the Proposal would be sufficient to remove any need to impose special federal regulations on an algorithmic trader if that trader is otherwise not registered with the Commission. To the extent an otherwise *unregistered* algorithmic trader routes its orders through the controls of a DCO clearing member, then that trader would need no special federal regulation under the Proposal; that algorithmic trader would not be considered to have "direct electronic access" ("DEA") to an exchange and therefore would not be required to register as a "Floor Trader" and thus be subject to regulation as an "AT Person."[3] We agree with that Commission conclusion. But the Proposal's rule text also makes clear that if an otherwise *registered* algorithmic trader (say a commodity trading advisor ("CTA") or commodity pool operator ("CPO")) engages in the same trading conduct by routing its orders through the same controls of a DCO clearing member,[4] that trader would be an AT Person and therefore would require special federal regulations as an AT Person under the Proposal.[5] In other words, the Commission seems to suggest that an already registered algorithmic trader inherently needs more regulation than an identically situated unregistered algorithmic trader. We disagree with that aspect of the Proposal; a DCO clearing member's risk controls should be adequate to remove the need to regulate as an AT Person both the registered and unregistered algorithmic trader.

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2 Proposal at 78886 (emphasis added).

3 *See* Proposal at 78937.

4 In Proposed Regulations 1.82 and 1.83, the risk control requirements would apply to clearing member FCMs ("clearing FCMs"). For the purposes of our discussion throughout this letter, CME Group believes these risk control requirements should apply to all clearing members of a DCO, as CME Group's DCO has clearing members that are not FCMs. CME Clearing rules require that all clearing members maintain written risk management policies and procedures, not just FCMs.

5 *See id.*

The Commission never tries to reconcile this fundamental inconsistency or acknowledge such an inconsistency exists. We do not believe the Commission thinks that CFTC registration itself makes an entity so much more risky that special federal regulations are required. Yet that would seem to be the result under the Proposal. If the Commission believes that registrants are inherently riskier than non-registrants, then its Proposal would be further inconsistent insofar as it tries to stretch the "floor trader" definition to include all algorithmic traders (not otherwise registered) that access a DCM's trading platform through DEA, solely in order to require these traders to register. If registration is viewed as increasing risk in one instance involving algorithmic trading, why mandate it in another under the guise of a proposal intended to reduce risk?

The Proposal's stated reason for expanding the floor trader registration requirement is also flawed. The Commission states that registering algorithmic traders is needed to ensure they will comply with CFTC regulations.[6] Yet, *all* market participants today – whether commercial end users, pension funds, farmers, ranchers or algorithmic traders – must comply with *all* aspects of the CEA and CFTC regulations which apply to their activities. Compliance is not reserved for registered persons only. For example, large traders and hedgers are subject to specific CFTC rule regimes and must comply with those regimes, whether or not they are registered. The Proposal's rationale for requiring algorithmic traders to register as floor traders is at odds with these fundamental precepts of jurisprudence under the CEA and the Commission's regulatory experience itself.

The Proposal's preamble and rule text also are often in conflict. Most significantly, the Proposal's intended standard for compliance provides unclear guidance. This problem stems from whether risk controls must *prevent* an "Algorithmic Trading Event" (or one of its two components, an "Algorithmic Trading Disruption" and "Algorithmic Trading Compliance Issue") or *mitigate* the risk of such an event. The preamble implies that controls must merely mitigate risks.[7] That appears to be a sensible approach because no control – like no rule – can always prevent harm as the Chairman himself observed.[8] If, however, a rule proposes that a control must "prevent or mitigate" risks then, by its terms, the rule would be met if the control simply mitigates the identified risks. Cornerstone provisions of the Proposal, however, expressly

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6 *See* Proposal at 78846, 78943.

7 *See, e.g.*, Proposal at 78827 (describing the proposed rules as intended to "mitigat[e] risks arising from algorithmic trading activity."); *id.* at 78839 ("The Commission agrees . . . that it should adopt a multi-layered approach to regulations intended to mitigate the risks of automated trading."); *id.* at 78855 ("The Commission proposes to adopt a multi-layered approach to regulations intended to mitigate the risks of automated trading . . . Please comment on whether an alternative approach . . . would more effectively mitigate the risks of automated trading . . . ."); *id.* at 78871 ("The pre-trade and other risk controls required of DCMs pursuant to proposed § 40.20 reflect Regulation AT's layered approach to risk mitigation in automated trading."); *id.* at 78874 (referencing twice Regulation AT's multi-layered approach to mitigating the risks of automated trading).

8 *See* Proposal at 78943.

direct AT Persons and DCMs to "prevent" the identified possible harms, while allowing the required controls of clearing members to "prevent or mitigate" those same risks.[9] To be sure, DCM-provided risk controls are also directed to "prevent and reduce the potential risk" of algorithmic trading harms under re-codified Regulation 38.255(a), a standard that the Commission wisely has applied already to not require what it says in terms of preventing risk because reducing risk is sufficient. Nonetheless, if the Commission determines to move forward with the Proposal, any final rule text and accompanying preamble must have a consistent, coherent articulation of the applicable and achievable objective for each control requirement, which should focus on mitigation of risk.

The Proposal has one additional inconsistency. The Commission is right that algorithmic trading systems present unique risks to market integrity. No one disputes those risks; they are central to why CME Group and others already have adopted extensive risk controls and systems designed to protect market integrity. The Proposal reflects the Commission's attempt to address those risks through complementary *federal* regulatory requirements for trading on a DCM. The Proposal does not address at all whether those same risks exist if an electronic central limit order book is used by a swap execution facility or a foreign board of trade. Either the identified risks do not require a federal regulatory response or that response must ensure an across the board protection for all electronic trading platforms where algorithmic trading occurs involving U.S. market participants.

In addition to these underlying concerns, the Commission significantly underestimates the costs and implications of its proposals on DCMs, largely because the Proposal does not reflect the current state of our existing DCM controls and systems, as we will show. The Commission prescribes an array of DCM regulatory obligations—from developing and implementing risk control software and testing algorithmic trading systems, to identifying and remediating trader or clearing member deficiencies based on compliance reports received. The Commission estimates that the Proposal's requirements would cost each DCM a total of $348,040 in one-time costs and $349,724 on an ongoing annual basis.[10] Those estimates are very low. For CME Group Exchanges collectively, we believe a more accurate cost estimate for pre-trade risk controls alone would be at least $13 million up front and $2-3 million per year.

Even our estimate likely underestimates the potential cost for DCMs in one critical respect. The Commission's DCM prescriptions are not accompanied by any form of legal compliance standard a DCM must meet to avoid bearing the brunt of liability in the event an algorithmic trading event was to occur. Simply put, we are concerned that if any algorithmic trader experiences a system failure that causes a market aberration of some kind, either the applicable clearing member or the DCM (or both) could be subject to a prolonged enforcement investigation and potentially held accountable by the Commission, even if the due diligence of

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[9] *Compare* proposed §§ 1.80 and 40.20 *with* proposed § 1.82(a)(1).

[10] *See* Proposal at 78925-26.

the clearing member or DCM meets acceptable standards. This kind of open-ended enforcement risk could cripple a clearing member or DCM in the new 21st century electronic trading paradigm. No amount of clearing member or DCM diligence is fail-safe. But if a clearing member or DCM takes reasonable measures to minimize the risks from algorithmic trading in accordance with the Commission's rules, it should know that it would not become the subject of a costly enforcement inquiry looking to place blame for failing to prevent a market dislocation or worse from occurring due to the conduct of others.

The Commission's basic justification for codifying industry best practices as new federal requirements is that doing so will avoid a race to the regulatory bottom that could increase the risk of harm to market integrity. Nowhere in the extensive preamble to the Proposal does the Commission cite any evidence of this threat. Instead, the preamble often points to just the opposite experience – having acknowledged the risk that algorithmic trading poses, the industry has developed and continues to improve methods of, and systems for, reducing those risks. The industry has been engaged in a race to the top, a far cry from the feared race to the bottom.

Imposing federal standards may even inadvertently stifle innovation in the area of mitigating algorithmic trading risks. Changes in technology and electronic trading will easily out pace rigid federal regulatory standards. Rigid rules that address yesterday's risks may miss those of tomorrow. It is possible, therefore, that codifying federal rules could actually restrict the ability of DCMs and other market participants to develop protections in response to new trading techniques and strategies. True principles-based regulation would not suffer from this same deficiency.

The Commission also claims that codifying current best practices will standardize those protections and avoid the risk presented by a non-compliant outlier. ***CME Group would support the CFTC setting truly minimal, principles-based standards to achieve some level of standardized risk controls, so long as those standards allowed different parties facing different risks to tailor risk controls to their business operations.*** But the CFTC's concern about outlier risk does not warrant layering multiple levels of highly prescriptive rules on algorithmic traders, clearing FCMs and DCMs, especially when the Commission does not cite a single instance in the futures markets of any such outlier risk having caused problems in any market.

The Commission candidly admits that the Proposal may have certain adverse effects as increased compliance costs cause market participants to reduce their trading, resulting in both a decline in market liquidity and an increase in the cost of trading.[11] Recognizing that realistic and unfortunate possibility, the Commission states that it has attempted to "mitigate these potential concerns" by "limit[ing] the compliance requirements to what it preliminarily believes is the minimum level needed to protect market participants and the public."[12] CME Group agrees with

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[11] Proposal at 78897.

[12] *Id.*

both the Commission's assessment of this potential risk and the "minimum level" regulatory objective it has enunciated. We question, however, whether the Commission meets its own objective in the Proposal.

CME Group recognizes the challenges the Commission faced in developing proposals in this important area and the considerable effort it has expended to address this subject matter. As the Proposal is extensive, our comments to follow are also extensive. CME Group (as well as others) did formally request an extension for filing comments which was unfortunately denied. It had been our hope that the extension would have allowed us to continue to work with other commenters to not only cite issues or problems with the current Proposal, but to develop more holistic solutions that would meet the market integrity goals we share with the Commission. We nonetheless will continue to work on that effort and look forward to working with the Commission as well to take whatever steps are appropriate and effective to mitigate any risks to market integrity presented by algorithmic trading.

II. OVERVIEW OF SPECIFIC COMMENTS

A. On balance, the Proposal is prescriptive, not principles-based.

The Commission states on various occasions that it has taken a principles-based approach in proposing federal regulations to protect against the potential risks of algorithmic trading.[13] While we do not question the Commission's intentions, we respectfully disagree that the effect of the Commission's written words is anything but prescriptive in nature. By our count, the regulatory text of the Proposal uses the word "shall" sixty-five times and the word "must" twenty-two times in order to command a market participant within the scope of the rule to do something. It is one thing to mandate that a market participant comply with a general core principle, and quite another to mandate precisely *how* the market participant must comply.

As the Proposal notes,[14] CME Group advocated for a principles-based approach to regulating algorithmic trading in response to the Commission's "Concept Release on Risk Controls and System Safeguards for Automated Trading Environments" ("Concept Release").[15] CME Group's intention was that federal mandates should outline broad market integrity objectives to be accomplished through pre-trade risk controls and other measures, but that it should be left up to the discretion of DCMs, clearing FCMs, and algorithmic traders to determine which controls should be used by whom and at what levels of granularity based on the specific

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[13] *See* Proposal at 78838 ("[T]he Commission proposes a principles-based approach to its risk controls requirements, in that *it would require* particular controls but allow the relevant entity . . . discretion in the design of such control and the parameters that would be used.") (emphasis added); Proposal at 78858 (development, testing, monitoring, and compliance of Algorithmic Trading systems); Proposal at 78877 (DCM review of compliance reports).

[14] *See* Proposal at 78837-38.

[15] 78 Fed. Reg. 56542 (Sept. 12, 2013).

market and customer at issue. For example, existing Regulation 38.255 is a prime example of the type of principles-based rule CME Group contemplated. Consistent with Regulation 38.255, CME Group has developed many of its current risk control systems. This regulation would become virtually unrecognizable as a core principle under the weight of additional prescriptive requirements imposed by the Proposal.

Instead, the Commission should codify true principles-based requirements that empower and incentivize CME Group and other market participants to continue developing cutting edge technologies and risk systems that promote market integrity. As the Commission describes in the Proposal, futures trading has evolved rapidly over the past several decades from open outcry to almost exclusively screen-based to nearly a majority algorithmic trading today.[16] The technology fueling futures trading is undoubtedly experiencing a period of growth. ***CME Group believes the most prudent course of action for the Commission would be to promulgate principles-based rules enabling market participants to adapt proactively with the changing times instead of prescriptive blinders that leave exchanges and others unable to see the next risk lurking around the corner.***

B. The expanded "Floor Trader" registration requirement is unnecessary to ensure compliance with the Proposal and lacks legal justification.

The Proposal's registration requirement and related definitions are unnecessarily complex and distract from what should be the ultimate goal of the rulemaking—protecting market integrity from the potential harms posed by algorithmic trading. CME Group believes that registration of algorithmic traders should be a secondary concern to market integrity and requests that the Commission abandon the proposed floor trader registration requirement for the time being. We would further note that CME Group Exchanges already require that every order entered into the Globex match engine identify whether the order was entered through manual or automated means, thus enabling us to identify already which persons may be in need of additional oversight.[17]

The Proposal is premised on the faulty legal theory that, but for registration as a floor trader, the Commission could not require otherwise unregistered algorithmic traders accessing an exchange through DEA to comply with the same requirements imposed on current registrants engaged in algorithmic trading.[18] This view does not take into consideration numerous existing

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[16] *See* Proposal at 78825-26.

[17] CME Group Exchanges, through Rule 536.B (Globex Order Entry), require that every order entered into CME Globex identify whether the order was entered by manual or automated means in FIX Tag 1028 on the order entry message. By requiring such identification, exchanges also set certain obligations for firms based on their type or level of activity—including the application of robust risk controls.

[18] *See, e.g.*, Proposal at 78847 ("Registration of entities with DEA as floor traders would enhance the pre-trade controls and risk management tools discussed elsewhere in the [Proposal] by making such entities subject to the various regulations governing AT Persons.")

areas of futures regulation where the Commission imposes rules on non-registrants, and those non-registrants routinely comply. For example, the Commission's position limits regime applies to all market participants equally, regardless of registration status. In order to claim a bona-fide hedge exemption, a commercial end-user is not required to register with the CFTC, although it is required to file an application with the relevant exchange, comply with certain reporting requirements, and submit to the Commission's books and records and special call authorities.[19] Should an end-user violate a federal limit, the Commission is empowered to bring an enforcement action against such participant.[20]

Even if the Commission disagrees and decides that registration is necessary to ensure compliance with the Proposal, CME Group questions whether the Commission has sufficient legal authority under the CEA to require registration as a "floor trader" of a new type of distinctly non-floor trader. Historically, the scope of CFTC registrants has only been expanded when Congress provides the Commission with new statutory authority.[21] In the absence of such new authority from Congress, the Commission proposes to introduce otherwise unregistered algorithmic traders who access an exchange through DEA into an existing statutory registration category. CME Group is not persuaded by the Commission's argument that Congress could have intended for the definition of "floor trader" to include only this subset of algorithmic traders.[22]

The legislative history makes clear that Congress adopted the floor trader definition and registration requirement as a direct response to FBI and CFTC sting operations involving allegations that floor traders were conspiring with floor brokers to defraud customers through actions on the exchanges' trading floors.[23] Prior to the floor trader registration requirement being enacted in 1992, the CEA had only required registration of intermediaries who dealt directly with customers or handled customer funds. Recognizing that floor trader registration would break from this history, the Commission reasoned before Congress that "[r]equiring the

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19 *See, e.g.*, Parts 18, 19, and 150 of the CFTC's regulations.

20 *See* CEA § 6(d).

21 For example, the introducing broker ("IB") registration category was created by the Futures Trading Act of 1982, the floor trader registration category was created by the Futures Trading Practices Act of 1992, and the swap dealer and major swap participant registration categories were created by the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010.

22 *See* Proposal at 78846-47. In adopting the floor trader registration requirement but deferring to a later time to address how electronic trading would be captured, the Commission acknowledged that the rationale for registering electronic traders would be stronger in scenarios where such trading was more akin to the exchange floor trading environment. *See* Registration of Floor Traders; Mandatory Ethics Training for Registrants; Suspension of Registrants Charged with Felonies, 58 Fed. Reg. 19575, 19576 (Apr. 15, 1993). CME Group questions whether there is a sufficient basis rooted in similarities with the exchange floor trading environment to require some algorithmic traders but not others to register as a floor trader.

23 *See, e.g.*, S. Rep. No. 102-22, at 2-3 (1991); 137 Cong. Rec. 8084-85 (1991) (statement of Sen. Leahy, Chairman, S. Comm. on Agric., Nutrition, and Forestry).

registration of floor traders may be beneficial because unregistered persons trading for their own accounts may aid floor brokers who are handling customer accounts in the commission of offenses that could affect customers. Registration thus would provide an additional regulatory tool to police those whose actions may indirectly affect customers to the same extent as those who deal directly with customers."[24] In other words, given the documented ability of persons trading on the floor of an exchange to indirectly harm specific customers, the floor trader registration requirement was a logical and necessary outgrowth of the floor broker registration requirement. In contrast, algorithmic traders do not pose the same risk to specific customers that floor trader registration was designed to address.

By expanding the floor trader definition to include algorithmic traders accessing an exchange through DEA, the Commission would be establishing a dangerous new precedent that traders risking their own capital who lack both the ability and incentive to harm other customers should be registered. CME Group is concerned such a precedent could lead to federal registration of all or many traders, including commercial end users, which Congress surely has never intended.

C. In determining who is an "AT Person," the Proposal treats registrants and non-registrants in a disparate, unexplained fashion.

The Commission's definition of AT Person is foundational and revealing. It reflects important policy conclusions and a major inconsistency. That inconsistency permeates the entire rule making and raises questions as to why the Commission seems to believe that registration somehow necessarily makes a registrant's Algorithmic Trading more risky and thus in need of more and special regulation as an AT Person.

The Proposal is clear that not all algorithmic traders require special regulation as AT Persons. Under the Proposal, any *non-registrant* that engages in Algorithmic Trading and does not use DEA is *not* an AT Person. This is because the amended definition of Floor Trader would exclude algorithmic traders that do not use DEA.[25] "Direct Electronic Access" is defined to mean "an arrangement where a person electronically transmits an order to a [DCM], without the order first being routed through a separate person who is a member of a [DCO] to which the [DCM] submits transactions for clearing."[26] As a result, an algorithmic trader would not be a Floor Trader if the trader routes its order through a clearing member. If the algorithmic trader is not a Floor Trader and not otherwise registered, the trader would not be an AT Person as defined under the Proposal.

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[24] *Oversight Hearings With Regard to The Reauthorization of the Commodity Futures Trading Commission: Hearings Before the S. Comm. on Agric., Nutrition, and Forestry*, 101st Cong. 178 (1989) (testimony of Dr. Wendy L. Gramm, Chairman, Commodity Futures Trading Commission).

[25] *See* proposed § 1.3(x)(3)(ii).

[26] *See* proposed § 1.3(yyyy).

On the other hand, an already registered person (like an FCM, floor broker, IB, CTA, CPO, Swap Dealer, or Major Swap Participant)[27] that engages in Algorithmic Trading would be regulated as an AT Person.[28] Even if such an AT Person does not use DEA, that algorithmic trader still must comply with all applicable provisions of Proposed Regulations 1.80 and 1.81. Why does the Commission treat an otherwise registered algorithmic trader and an unregistered algorithmic trader, neither of which uses DEA, in this disparate fashion?

We agree with what the Commission must have intended in the Proposal—that no special AT Person regulation should be mandated for otherwise unregistered algorithmic traders whose orders pass through market risk controls administered by a DCO clearing member before reaching the DCM. We do not agree with the Commission that similarly situated, otherwise registered algorithmic traders should be treated differently. It is not at all clear to us why applying clearing member controls to *any* algorithmic trader's orders would not provide adequate protection from the risks of Algorithmic Trading. In this regard, the Proposal's preamble provides no explanation on which we can comment.[29]

If the Commission changes its Proposal to treat equally registered and unregistered algorithmic traders whose orders pass through market risk controls administered by a DCO clearing member before reaching the DCM—i.e., excuses them entirely from the AT Person category of regulation—the AT Person category would remain applicable to any algorithmic trader that eschews a DCO clearing member's market risk controls. Under that framework, CME Group agrees that some means of oversight still would be needed to ensure that the appropriate pre-trade risk controls were applied to the AT Person's order messages. Whether administered by its clearing FCMs or a DCM, some system of oversight should be put in place to ensure the AT Person is subject to the same level of risk controls as non-AT Persons. CME Group believes the Commission should re-propose Regulation AT to obtain meaningful comment on this important gating issue.

To bring about this parity in regulatory treatment of algorithmic traders, CME Group proposes limiting the definition of an "AT Person" to "a person engaged in Algorithmic Trading through Direct Electronic Access." However, the Proposal does not make clear for purposes of the proposed definition of DEA what it means to be "routed through" a DCO clearing member, nor is it clear what the Commission means when it describes an order "flow[ing] through the

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[27] The Proposal is silent on how to treat an associated person of any of these registrants.

[28] *See* proposed § 1.3(xxxx).

[29] Proposed Regulation 40.20(d) accentuates the inconsistent and unexplained nature of the Proposal's treatment of algorithmic traders who do not use DEA. DCMs would be required to implement certain pre-trade risk controls "for orders that do not originate from Algorithmic Trading." *See* proposed § 40.20(d). However, the definition of "Algorithmic Trading" does not mention the use of DEA, meaning the Proposal would require greater regulation of truly manual traders than it would of algorithmic traders who do not use DEA. *See* proposed § 1.3(zzzz). The Commission has provided no explanation for this inconsistent result.

infrastructure of an FCM before entering the market."[30] As the Commission is aware, no customer may access a CME Group Exchange electronically without the authorization of a CME Clearing member. Further, pursuant to CFTC Regulation 1.73, clearing FCMs are already required to impose pre-trade risk limits with respect to all automated orders. As such, it is not clear if any persons would be considered to have DEA as currently defined.[31]

CME Group believes that the definition of DEA should hinge on whether an electronically-submitted order passes through market risk controls administered by a DCO clearing member, and those controls meet the applicable regulatory standard (preferably, one that is principles-based).[32] Depending on the type of control, such administration by a DCO clearing member could occur within the DCO clearing member's own order routing system, through a system licensed from a third party, or through controls provided by the DCM. Accordingly, CME Group proposes that the definition of DEA be "an arrangement where a person electronically transmits an order to a designated contract market, without the order first passing through market risk controls administered by a DCO clearing member."

D. The Proposal would impose prescriptive pre-trade risk control mandates that do not reflect best practices utilized by DCMs today.

CME Group shares the Commission's objective of mitigating the risks posed by algorithmic trading through the use of pre-trade and other risk controls which already are utilized by CME Group Exchanges today and have proven to be highly effective over time. Market integrity is one of the cornerstones of CME Group's business model, and the company employs substantial human resources and technological capabilities to continually develop, implement, and enhance risk controls and system safeguards that will mitigate the risks of automated trading. The innovations that have led to these controls were not developed in response to a government mandate, but rather by the collective desire of all concerned—exchanges, clearing members, industry organizations, and other market participants—to build a resilient, workable, and cost-effective system to protect market integrity. There should be no doubt that the controls in place today represent a significant and continuing financial investment by the futures industry.

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30 Proposal at 78844.

31 Conversely, if the Commission seeks to ensure that more extensive controls are placed on traders by the clearing member that authorized access, then merely "routing" through a clearing member's infrastructure does not accomplish that goal. The trader could be routed through the infrastructure of the clearing member but control its own more granular risk parameters in addition to those applied by the clearing FCM pursuant to CFTC Regulation 1.73 and CME's GC2 controls.

32 Of course, the universe of AT Persons would vary significantly depending on what standard the Commission were to impose. For example, if the standard required that clearing members administer all of the risk controls prescribed under the Proposal currently, then all market participants trading electronically on CME Group Exchanges today would have DEA and thus be AT Persons. Alternatively, if the standard only required that clearing members administer one of the prescribed risk controls under the current Proposal, then no market participant trading electronically on CME Group Exchanges today would have DEA and thus there would be no AT Persons.

Against this backdrop, however, CME Group is concerned that Proposed Regulations 1.80, 1.82, 38.255, and 40.20 may hinder instead of enhance the ability of futures market participants to guard against the risks of algorithmic trading by imposing an undue and unnecessary burden. Moreover, due to the inflexible and redundant approach of the proposed risk control framework, CME Group has serious doubts over its ability to work in practice. We urge the Commission to refrain from prescribing a "one-size-fits-all" regulation and instead move forward with a true principles-based approach that would allow market participants to comply with a certain standard of risk mitigation through the use of controls that already exist today, or may be developed in the future, in a manner that is most appropriate to the market participant's business.

1. CME Group risk controls today.

The Commission has premised the pre-trade risk control component of the Proposal on what it understands to be industry best practices that exist today. In principle, CME Group generally would support a principles-based framework based on *existing* best practices like the one the Commission believes the Proposal would implement.[33] Unfortunately, as illustrated below, the Commission's understanding of current DCM best practices that it proposes to codify is not consistent with the current state of DCM risk controls and overstates certain capabilities. The Commission should rectify that understanding if it intends to move forward with the Proposal.

Most fundamental to the Commission's misunderstanding is that, as described in further detail below, each of CME Group's risk controls is not necessarily administered by clearing FCMs and set at the level of an AT Person. To summarize, we have provided the following chart intended to show for each CME Group risk control (i) when it is administered;[34] (ii) by which layer of the execution chain; and (iii) at what level of granularity.

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[33] *See, e.g.*, Proposal at 78905.

[34] The characterization of certain controls as either "pre-trade" or "post-trade" depends in large part on how one defines these terms. As explained in our description of existing CME Group risk controls, we do not believe that certain "pre-trade risk controls" that would be required under the Proposal can truly be applied on a pre-trade basis.

CME GROUP RISK CONTROLS TODAY	*TIMING*		*ADMINISTERED BY*			*SET AT THE LEVEL OF*			
	Pre-Trade	**Post-Trade**	**Execution Firm**	**Clearing Firm**	**DCM**	**Product**	**Session**[35]	**Execution Firm**[36]	**Account/ Individual**
1. Globex Messaging Volume Controls	x				x		x		
2. Maximum Execution Frequency Per Unit of Time									
3. Messaging Efficiency Policy		x			x			x	
4. Price Banding	x				x	x			
5. Price Protection Points	x				x	x			
6. GC2 Credit Controls (includes Max Order Size)	x			x				x	
7. Max Order Size Protection	x				x	x			
8. Kill Switch	x			x				x	
9. FirmSoft	x		x	x			x	x	x
10. CoD	x			x			x		

The discussion that follows is meant to provide the Commission with a high-level overview of the rich suite of risk control functionalities implemented by CME Group Exchanges to date that relate to the risk control framework that would be mandated under the Proposal. These controls have been developed under a non-prescriptive regime and proven over time to be effective at mitigating the risks of algorithmic trading and enhancing the overall integrity of CME Group's markets. If the Commission truly intends to codify existing best practices, CME Group urges the Commission to refrain from picking and choosing certain practices unless there is a true consensus among similarly situated market participants that such control is currently utilized.

Maximum AT Order Message Frequency Per Unit of Time (applied uniformly by CME Group Exchanges). The CME Group Exchanges employ mandatory automated messaging volume controls at each connection point to the Globex match engine. These controls are not implemented by a clearing FCM and cannot be set more granularly than the trading session level. If messaging through a connection exceeds the CME Group pre-established message-per-second threshold over a rolling three-second window, subsequent messages will be rejected by Globex until the average message-per-second rate falls below the threshold. CME Group Message

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[35] A "session" refers to a connection to a CME Globex gateway. It is the point of login of a trading system into the network. The session could represent a single clearing firm client, an aggregation of clients, or a clearing firm trading for its own account. Clearing firms request sessions and CME Group assigns them. CME Group is in the process of revamping sessions into logical groupings based on products, called Market Segment Gateways.

[36] An "execution firm" is represented by a three digit number, and clearing firms can decide how many different execution firms they will support. Clearing firms can have one execution firm number for all accounts, or multiple execution firm numbers to define different groups of customers.

Controls are always set at a single threshold across all sessions. Since this control is applied at the connection point, it acts to prevent messages from being sent to the Globex match engine that are outside of the acceptable thresholds; therefore, it is a true pre-trade risk control.

The threshold levels that CME Group applies for its Message Controls are based primarily on the capacity of the trading network, and not on the capabilities or business practices of any one market participant. Since this control cannot be utilized by clearing FCMs or set to more granular account or natural person level, it would not fit the mold of the Proposal. CME Group has enhanced this functionality over the years to the point where we believe the control is an extremely valuable tool for purposes of mitigating the risk of Algorithmic Trading Events due to excessive messaging that disrupts, slows down, or impedes normal market activity.[37]

Maximum Execution Frequency Per Unit of Time. This type of control—an execution throttle—is an example of a control that cannot be implemented on a purely pre-trade basis. Prior to the entry of an order into the Globex match engine, there is no way to know for sure that it will be filled. Accordingly, CME Group urges the Commission to remove the requirement for any sort of execution throttle control to be applied on a pre-trade basis.[38] We should point out that CME Group Exchanges have implemented a Messaging Efficiency Policy that operates in some liquid products on a post-trade basis. For this program, CME Group publishes a trade ratio expectation for certain products, and for each execution firm calculates their trade ratio (the number of orders per trade execution) within a calendar month. Parties that exceed the expected ratio are warned or issued surcharges for the activity. This program has been an effective tool for CME Group to incentivize responsible quoting practices, but it is not a pre-trade control and should not be required as such.

Order Price Parameters (applied uniformly by CME Group Exchanges). CME Group's functionality for order price parameters is vastly different than the functionality prescribed under the Proposal. The "price banding" control CME Group has implemented for all Globex markets is set at the individual product level by taking into account how the particular product trades across all order flow. CME Group price band controls cannot be implemented by clearing FCMs or set at the AT Person level.

CME Group price bands are designed to subject all incoming electronic orders on Globex to a price validation process that will reject any non-stop order submitted outside of the price band.[39] For each Globex product, CME Group establishes a "price band variation"

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37 *See* Proposal at 78852.

38 CME Group offers certain functionality that is carefully and strategically utilized in specific markets for market makers that are using mass quote functionality to send in simultaneous quotes for particular options series. These functions are controlled by CME Group, not by FCMs or traders. Since these controls cannot be applied to regular order entry, we do not think they are germane to the current Proposal and will not be detailed here.

39 CME Globex uses one mechanism for futures price banding and a dynamic enhanced options price banding system for options and options spreads traded on the CME Globex platform. Further detail on price banding can *(cont'd)*

("PBV") parameter which is a value relative to a reference price that is symmetrically applied to the upside for bids and downside for offers. The reference price, referred to as the "banding start price," is dynamically calculated based on market information such as last trade price, best bid and offer price, and/or the indicative opening price. Orders entered at prices beyond the PBV parameter relative to the reference price are rejected by the Globex engine. The CME Group Global Command Center monitors these price bands throughout the day and makes adjustments when necessary. For example, if market conditions dictate a wider price band due to market volatility where prices are fluctuating rapidly, CME Group may elect to temporarily relax or suspend the price banding restriction. CME Group's price banding system is designed to prevent antagonistic or clearly erroneous orders from resulting in market-moving trades that require subsequent cancellations.

Other proprietary CME Group functionality applies a limit price (i.e., "protection point") to each market order entered on the CME Globex platform and to each stop order entered without a limit price. This functionality prevents orders from being filled at significantly aberrant price levels in the absence of sufficient liquidity needed to satisfy the order at the time the market order is entered or the stop order is triggered. The protection points for each Globex product are generally defined as half of the product's "non-reviewable range," a value that is established in connection with an exchange's "trade cancellation and price adjustment" rules. The protection point is measured from the best bid price for market sell orders, the best offer price for market buy orders, and the stop trigger price for stop orders. Any quantity on the order that is unfilled at the protection point level becomes a resting limit order at that price.

Both the price banding functionality that applies to all Globex orders and the protection point limits applied to all Globex market orders work vastly differently than how the Commission is prescribing in the Proposal. However, these tools achieve the same aims of the Proposal in that they are effective measures to mitigate Algorithmic Trading Events.

Maximum Order Size Limits (provided by CME Group Exchanges but administered by clearing members). CME Group requires all clearing member firms to utilize its Globex Credit Control ("GC2") system. GC2 contains a functionality that allows a clearing firm risk administrator to set a maximum order size limit per customer. GC2 also contains functionality that allows clearing member firms to set daily exposure limits for execution firms. As a "fat finger" backstop to the more granular order size limits implemented through GC2, CME Globex is embedded with "Maximum Order Size Protection" functionality that sets a pre-defined maximum order size cap on an individual contract basis. Orders entered for a quantity that exceed the prescribed limit are rejected by the Globex engine. This functionality predated GC2

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be found on CME Group's website at: http://www.cmegroup.com/confluence/display/EPICSANDBOX/Limits+and+Banding#LimitsandBanding-PriceBanding.

but still exists today to prevent individual order quantities from entering the Globex match engine that CME deems to be too large for the given product.

Order Cancellation Systems (provided by CME Group Exchanges but administered by clearing members). CME Group utilizes "kill switch" functionality which enables CME Group risk administrators, clearing firm members, and/or authorized execution firm risk administrators to take several risk management actions in a single step for either all or a selected subset of a firm's trading sessions. These actions consist of immediately blocking the entry of any new order and cancelling all working orders based on certain permission levels.

FirmSoft is a browser-based order management tool which provides real-time access to information on working and filled Globex orders, as well as order modification history. Access to FirmSoft can be granted based on one or more Trader IDs, sessions and/or account numbers (thus enabling a clearing firm to grant access to an execution firm). FirmSoft also allows users to cancel an individual order, a group of orders, or all working orders.

CME Group also offers its *optional* Cancel-on-Disconnect ("CoD") service, which monitors the Globex network for involuntary lost connections between connected entities and the CME Globex platform. CoD is implemented by the Exchange and set at the session ID level (the connection point). If a market participant's trading session inadvertently loses connection, CoD cancels all resting orders for that session, except for "Good 'til Cancel" and "Good 'til Date" orders. Once CoD cancels all working orders as a result of a lost connection, the market participant must manually re-enter those orders once the participant's connection is re-established.

While we believe that CoD and "kill switch" functionality serves a valuable risk management purpose, mandating it for all AT Persons or clearing FCMs could pose significant complications and introduce greater risk for certain firms.

Other Notable CME Group Risk Systems (applied uniformly by CME Group Exchanges). Of course, CME Group employs a number of other risk tools that are designed to reduce the potential for price distortions and which also help to mitigate risks posed by Algorithmic Trading. Such tools include, but are not limited to, CME Group's drop copy service, daily price limits, circuit breakers, stop logic, and velocity logic. CME Group detailed these tools as well as several others in response to the Concept Release.[40] We want to make clear that while these tools would not be explicitly mandated under the Proposal—*nor should they be*—CME Group would continue to rely upon them nonetheless as important components of an overall strategy to protect the integrity of our markets. No one control or combination of controls required under the Proposal will mitigate the risks of Algorithmic Trading as effectively without the collective protection provided by other risk tools employed across the execution chain. This is all the more

[40] *See* Appendix A to CME Group's response to the Concept Release, available at http://comments.cftc.gov/PublicComments/ViewComment.aspx?id=59456&SearchText=.

reason for the Commission to adopt a principles-based standard for risk controls that encourages market participants to take a holistic approach to risk mitigation based on an individual's business and trading strategies.

2. The proposed risk control framework is overly prescriptive in that it mandates a specific granularity of application that is unworkable and inconsistent with current market practices.

The Commission believes that its pre-trade risk control approach is principles-based because market participants would be afforded discretion over the design of their controls and the parameters that would be used.[41] While CME Group could support such an approach, the Commission unfortunately does not appropriately apply its own standard in proposing rules for enumerated controls. For instance, the Commission states:

> The [] proposed rules *do not* impose a "one-size-fits-all" standard on DCMs for compliance. Rather the DCM's pre-trade risk controls *must* be set at the level of each AT Person, and exchanges must evaluate whether the controls should be set at a more granular level . . . .[42]

This statement serves to demonstrate the inconsistent and conflicting nature of the Commission's stated intention and its drafting of the proposed pre-trade risk control rules. Requiring DCMs to set all pre-trade controls at the AT Person level—regardless of the type of control, its intended purpose, and what best practices to date have advocated—is nothing more than the establishment of a "one-size-fits-all" standard. Moreover, the broad and sweeping application of pre-trade controls at each layer of the execution chain (AT Person, clearing FCM, and DCM) would be inconsistent with current industry capabilities and practices as illustrated above and as articulated in the FIA's own recommendations on risk controls for automated trading.[43]

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[41] "For example, the Commission proposed a principles-based approach to its risk controls requirements, in that it would require particular controls but allow the relevant entity – a trading firm, clearing member FCM, or DCM – discretion in the design of such control and the parameters that would be used." Proposal at 78838.

[42] Proposal at 78874 (emphasis added).

[43] *See* FIA, "Guide to the Development and Operation of Automated Trading Systems," at 7 (March 2015), https://fia.org/sites/default/files/FIA%20Guide%20to%20the%20Development%20and%20Operation%20of%20Automated%20Trading%20Systems.pdf ("To maximize the effectiveness of a suite of risk controls, their designs should be principles-based and consideration should be given to the location where controls are implemented within the trading lifecycle. The specific implementation of these risk controls should not be prescribed by external regulatory bodies because market participants and exchanges are the best equipped to understand the performance of their systems, the unique needs of their markets and instruments, and the nuances associated with introducing new functionality to their systems. Any regulation or requirement for risk control that is overly prescriptive may fail to take into account the unique characteristics of the diverse market participants, exchanges, trading strategies, and instruments that exist today, thus adding to rather than reducing *(cont'd)*

Under Proposed Regulation 40.20, the Commission seeks to require that DCMs have in place the same systems and controls required under Proposed Regulation 1.80(a), and to make those controls available to clearing FCMs so as to facilitate the FCM's management of Algorithmic Trading risks arising from DEA customers pursuant to Proposed Regulation 38.255(b). The Commission is under the impression that DCMs already have established the requisite risk control functionality capable of being provided to clearing FCMs and set at the AT Person level or more granularly. As explained above, this is not the case. The result is that the Proposal has set forth impracticable requirements.

For example, the Commission does not recognize that DCMs generally do not have the current capability to provide the enumerated pre-trade risk controls to clearing FCMs that can be set at a level of granularity including AT Person, product, account number or designations, *and* one or more identifiers of natural persons associated with an AT Order Message. Yet this is precisely what would be required under the Proposal. While the Proposal would only require DCMs to set the mandatory pre-trade risk controls at the level of each AT Person (a degree of specificity not currently available for many CME Group controls today), the controls provided to clearing FCMs must be capable of being set more granularly than the AT Person level.[44] Therefore, the Commission effectively would obligate all DCMs to establish, maintain and allow for operation of each of the Proposal's pre-trade risk controls at the most precise level articulated by the Commission. Nowhere does the Proposal allow for a DCM to choose which controls to apply, and at what level of granularity, based on the DCM's consideration of the most appropriate means to mitigate a potential market disruption that will not impede efficient and transparent price discovery.

The industry has consistently encouraged the Commission to carefully examine the relevancy and effectiveness of any proposed mandatory risk controls that may have a wide array of unworkable applications. We believe the Commission should establish principles-based rules designed to align with the current state of pre-trade risk controls that DCMs utilize today, taking into consideration a variety of factors which include, but are not limited to, the nature of the entity utilizing such controls, the risk objective the control seeks to mitigate, costs associated with the design, implementation and maintenance, and/or potential effects to market dynamics and price discovery.

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risk. Further, prescriptive requirements may quickly become obsolete as markets, technology, and trading strategies evolve.").

[44] *Compare* proposed § 38.255(b)(1)(ii) *with* proposed § 40.20(a)(2).

E. The annual compliance report is overly burdensome and provides little, if any, benefit to market integrity.

The Proposal's requirement of preparing and submitting annual compliance reports to DCMs creates an unnecessary administrative burden on all parties involved without generating a significant benefit. First, given the proposed timing requirements, the information in the annual compliance reports would be stale by the time the DCMs would receive them for review, and thus they would not necessarily be representative of how a firm is currently addressing risks. Strategies, inputs, parameters, and thresholds on algorithmic trading systems change frequently, as do market conditions, such that the review of a backward-looking report will not facilitate future prevention of market risk or disruptive practices. Annual compliance reports will offer little value regarding specific thresholds or limits, other than enabling DCMs to identify the presence of a robust internal process for evaluating risks. In turn, AT Persons may develop a false sense of security by perceiving DCMs to have "signed off" on their controls which lack a fulsome review. Moreover, CME Group is not practically in a position to determine whether the quantitative settings or calibrations of any AT Person's controls on its algorithmic trading are sufficient. For proper evaluation, CME Group would have to acquire staff with expertise in the quantitative setting of algorithms for every participant's market strategy, which is unduly burdensome and costly for the review of stale reports. Lastly, compliance reports would be onerous and duplicative for clearing FCMs, as they already undergo significant review by their designated self-regulatory organization and clearing organizations. Further unnecessary duplication ensues for AT Persons submitting reports to multiple DCMs, which may also subject them to conflicting comments.

For the aforementioned reasons, CME Group does not believe AT Persons and clearing FCMs should be required to prepare or submit annual reports to DCMs. Instead of compiling a large report, the customer or clearing firm's policies and procedures should be available to the DCM as part of the DCM's review, or upon request if the DCM has specific concerns. Nevertheless, CME Group appreciates that Proposed Regulation 40.22 provides that DCMs must establish a program for "periodic review" and evaluation of reports prepared pursuant to Proposed Regulation 1.83. We understand the meaning of "periodic review" as not requiring review of all reports every year, which further refutes the need for annual submission to DCMs. In place of an annual report, CME Group supports utilizing an annual certification like FINRA requires of its members.[45] This certification model would require appropriate firms or persons to (i) establish, document, and maintain a system of risk management controls and supervisory procedures designed to manage risks of the business activity, (ii) certify annually that controls and procedures are designed to mitigate Algorithmic Trading Events, and (iii) make those certifications available to DCMs or the CFTC for review and evaluation, as applicable. CME Group believes this model will be less burdensome and more effective in satisfying the Commission's goal of mitigating the risks arising from algorithmic trading activity.

[45] *See* FINRA Rule 3130 (2008), http://finra.complinet.com/en/display/display_main.html?rbid=2403&element_id=6286.

F. The Commission has underestimated the Proposal's costs to DCMs.

The Commission has underestimated two main cost components for DCMs under the Proposal—providing and utilizing certain pre-trade risk controls and annually reviewing compliance reports.

Far from "overstat[ing] the actual costs to DCMs"[46] of providing and utilizing pre-trade risk controls, the Commission necessarily has underestimated this cost component because of the faulty "codify existing practices" premise of the Proposal highlighted above. The Commission estimates that for DCMs which already have the required pre-trade risk control systems in place, the total cost to "evaluate current systems, modify or create new code, and test systems" to ensure compliance with Proposed Regulations 38.255(b) and 40.20(a) would be one-time costs of $155,520 per regulation, subject to potential cost savings if systems must be updated to comply with both regulations.[47] Additionally, the Commission estimates that "there will be no additional annual costs to maintain the modifications required to bring the systems into compliance with this regulation" for any DCM that "already has at least some of the controls" required under the Proposal in place.[48] As illustrated above, CME Group's current risk control systems, which have been the result of a continuing collective effort to protect market integrity, differ from those required under the Proposal. As a result, the Commission's estimates are missing at least substantial new research and development costs.

The major cost driver for DCMs of complying with the Proposal's pre-trade risk control component is developing and implementing a technology infrastructure capable of deploying the requisite risk controls to clearing FCMs and AT Persons that can be calibrated and applied at the different levels of granularity required under the Proposal. CME Group already has begun this work by building the infrastructure for its inline credit control ("ICC") system and estimates that total up-front costs for this infrastructure will reach approximately $13 million across all CME Group Exchanges once completed.[49] This figure, however, does not include the up-front costs that would be associated with altering and, in some cases developing from scratch, the other risk controls mandated by the Proposal that CME Group does not currently utilize (*e.g.*, execution throttles).[50] In addition, CME Group estimates that it will cost approximately $2-3 million per year across all CME Group Exchanges to maintain these risk control systems at a level required

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46 Proposal at 78906.

47 *See* Proposal at 78905-06.

48 *See* Proposal at 78905.

49 For the period 2013-2015, CME has spent approximately $10.1 million developing the ICC infrastructure. Of this amount, approximately $5.5 million was spent paying technological staff and consultants while the other $4.6 million was spent acquiring software and hardware.

50 CME anticipates that the cost of altering and developing these controls to comply with the Proposal's requirements would be no more than $100,000 per control.

to facilitate compliance under the Proposal. The magnitude of the delta between CFTC and CME Group cost estimates casts serious doubt on the efficacy of the Commission's cost-benefit analysis.

The Commission also has significantly underestimated the ongoing costs to DCMs of complying with the Proposal's requirement to periodically review AT Person and clearing FCM compliance reports and books and records, and to identify and remediate any insufficient mechanisms, policies and procedures discovered.[51] The Commission estimates that it will cost each DCM approximately $244,080 per year to comply with Proposed Regulation 40.22.[52] CME Group believes this estimate is deficient by approximately 50 percent. Based on years of experience reviewing similar types of compliance reports and books and records, CME Group conservatively estimates the annual cost for each of its four Exchanges would be closer to $525,000. This figure assumes that across all four Exchanges, approximately 650 entities would come within the scope of the proposed compliance report requirements and each entity would be reviewed once every four years (across all four Exchanges). If CME Group Exchanges were required to review each entity's annual report once every two years, the cost would double as CME Group would need to hire twice as many full-time employees. CME Group estimates that it would take approximately one month for a full-time employee to complete each review.[53] The biggest flaw in the CFTC's analysis is its assumption that new full-time employees dedicated to compliance with Regulation 40.22 would not be required.[54] Moreover, for the compliance report component of the Proposal to provide any meaningful benefit to market integrity, DCM personnel would need to spend far more than 15 hours reviewing each report and related books and records.[55] Otherwise, the Commission should not claim that the cost of reviewing compliance reports would be justified by enhanced market integrity.

G. The Proposal does not allow for meaningful comment due to the inconsistent use of "prevent" and "mitigate" as the legal standard for the proposed rules.

The Proposal repeatedly confuses the terms "prevent" and "mitigate" and appears to use them as synonyms in both the proposed rules and the preamble. As a result, the CFTC has set forth confusing and even contradictory standards for AT Persons, clearing FCMs, and DCMs. Unless and until the CFTC clarifies the legal standard applicable to AT Persons, clearing FCMs, and DCMs, it is impossible to know what level of control the CFTC is actually proposing, and it

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51 *See* proposed § 40.22. For the reasons explained in Section II.E, *supra*, CME Group also does not believe that the proposed review of the annual compliance reports is worth the estimated costs we have provided.

52 *See* Proposal at 78908.

53 Accordingly, each CME Group exchange would need to hire approximately 3.5 full-time employees to complete this work at approximately $150,000 per employee in annual salary.

54 *See* Proposal at 78907 (calculating estimates based on hourly rates for employees who presumably would be performing other work).

55 *See* Proposal at 78907.

is challenging, at best, for the affected persons to provide meaningful comments on the Proposal and the CFTC's cost benefit analysis.

The words "prevent" and "mitigate" are not synonyms and should not be used as such in the proposed rules or the preamble. To "prevent" means "[t]o keep from happening."[56] To "mitigate" means "[t]o make or become less severe or intense."[57] If an AT Person, a clearing FCM, or a DCM prevents a disruption, it would have no need to mitigate such an event.

Market integrity is of paramount importance to CME Group. CME Group strives to provide a marketplace free from disruptions. CME Group believes, however, and the CFTC Chairman concedes,[58] it is impossible to prevent every potential disruption caused by algorithmic trading. Therefore, CME Group believes the federal regulatory standard the Commission intends to establish by implementing Regulation AT should require DCMs, clearing FCMs, and algorithmic traders to mitigate, rather than prevent, disruptions arising from algorithmic trading.

The CFTC has not clearly articulated its intent in adopting Regulation AT. The preamble to Regulation AT repeatedly states that the Commission's intent in adopting Regulation AT is to mitigate the risks associated with algorithmic and automated trading.[59] The proposed rules, however, suggest otherwise. The proposed rules use the terms "prevent,"[60] "prevent or mitigate,"[61] and "prevent and reduce the potential risk of"[62] when setting standards applicable to each category of entity subject to proposed Regulation AT. Like other commenters, CME Group seeks clarity regarding the Commission's objective in adopting Regulation AT and, based on that objective, the standards applicable to AT Persons, clearing FCMs, and DCMs. The preamble

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56 *Prevent*, Webster's II New College Dictionary (2001).

57 *Mitigate*, Webster's II New College Dictionary (2001).

58 *See* Proposal at 78943 ("No set of rules can prevent all such problems.").

59 *See, e.g.*, Proposal at 78827 (describing the proposed rules as intended to "mitigat[e] risks arising from algorithmic trading activity"); *id.* at 78839 ("The Commission agrees . . . that it should adopt a multi-layered approach to regulations intended to mitigate the risks of automated trading."); *id.* at 78855 ("The Commission proposes to adopt a multi-layered approach to regulations intended to mitigate the risks of automated trading . . . . Please comment on whether an alternative approach . . . would more effectively mitigate the risks of automated trading . . . ."); *id.* at 78871 ("The pre-trade and other risk controls required of DCMs pursuant to proposed § 40.20 reflect Regulation AT's layered approach to risk mitigation in automated trading."); *id.* at 78874 (referencing twice Regulation AT's multi-layered approach to mitigating the risks of automated trading).

60 *See* proposed § 1.80 (requiring AT Persons to "implement pre-trade risk controls and other measures reasonably designed to *prevent* an Algorithmic Trading Event" (emphasis added)); proposed 40.20 (requiring DCMs to "implement pre-trade and other risk controls reasonably designed to *prevent* an Algorithmic Trading Disruption…or an Algorithmic Trading Compliance Issue" (emphasis added)).

61 *See* proposed § 1.82 (requiring the clearing FCM to "make use of pre-trade risk controls reasonably designed to *prevent or mitigate* an Algorithmic Trading Disruption" (emphasis added)).

62 *See* proposed § 38.255 (requiring the DCM to "establish and maintain risk control mechanisms to *prevent and reduce the potential risk of* price distortions and market disruptions…" (emphasis added)).

and proposed rule text should be consistent, not contradictory, to allow the public to submit meaningful comments.[63]

Proposed Regulation AT inconsistently describes the standard to which AT Persons will be held. Proposed Regulation 1.80 states, "For all AT Order Messages, an AT Person shall implement pre-trade risk controls and other measures reasonably designed to prevent an Algorithmic Trading Event . . . ." (emphasis added). The preamble, however, repeatedly states that Proposed Regulation 1.80 requires controls reasonably designed to prevent or mitigate an Algorithmic Trading Event.[64] More confusingly, the preamble also states that the tools included in Proposed Regulation 1.80 are intended to prevent and mitigate market disruptions.[65] Finally, the preamble even lowers the standard to which AT Persons will be held by stating "proposed § 1.80 should benefit market participants by mitigating credit, market, and operational risks faced by trading firms."[66]

Proposed Regulation AT inconsistently describes the standard to which clearing FCMs will be held. Proposed Regulation 1.82 requires clearing FCMs to "[m]ake use of pre-trade risk controls reasonably designed to prevent or mitigate an Algorithmic Trading Disruption…"[67] To

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63 *See Am. Med Ass'n v. Reno*, 57 F.3d 1129, 1132 (D.C. Cir. 1995) (stating that the APA requires that a notice of a proposed rule include "sufficient detail on its content and basis in law and evidence to allow for meaningful and informed comment"); *U.S. Lines, Inc. v. Fed. Maritime Comm'n*, 584 F.2d 519, 534 (D.C. Cir. 1978) ("[W]e have insisted that agencies set forth their thinking, and disclose their expert knowledge, in notices of proposed rulemaking. Such requirements . . . ensure that parties to agency proceedings are afforded the opportunities guaranteed them by statute meaningfully to participate in those proceedings.") (internal citations and quotations omitted); *Portland Cement Ass'n v. Ruckelhaus*, 486 F.2d 375 (D.C. Cir. 1973) ("Obviously a prerequisite to the ability to make meaningful comment is to know the basis upon which the rule is proposed."); *see also Home Box Office, Inc. v. FCC*, 567 F.2d 9, 36 (D.C. Cir. 1977) ("[A]n agency proposing informal rulemaking [i.e., notice-and-comment rulemaking] has an obligation to make its views known to the public *in a concrete and focused form* so as to make criticism and formulation of alternatives possible.") (emphasis added).

64 *See, e.g.*, Proposal at 78842 (stating "proposed § 1.80…requires the specified controls and measures to be reasonably designed to *prevent or mitigate* an "Algorithmic Trading Event." (emphasis added)); *id.* ("The controls and measures required by proposed § 1.80 must be reasonably designed to *prevent or mitigate* an 'Algorithmic Trading Event.'" (emphasis added)); *id.* (stating "proposed § 1.80 requir[es] AT Persons to implement risk controls that are reasonably designed to *prevent or mitigate* an "Algorithmic Trading Event." (emphasis added)); Proposal at 78853 (stating, at the beginning of the paragraph, that § 1.80's overarching requirement is "that an AT Person shall implement pre-trade risk controls and other measures reasonably designed to *prevent* an Algorithmic Trading Event" and, at the end of the paragraph, "The purpose of [1.80(a)(3)] is to ensure that the AT Person would take any further action that is necessary to *prevent or mitigate* an Algorithmic Trading Event." (emphasis added)); *id.* at 78895 (stating that the proposed definition of AT Person "will mean that certain currently unregistered market participants who actively trade on Commission-regulated markets will be subject to risk control requirements that will *prevent or mitigate* the risks of malfunctioning algorithmic trading systems") (emphasis added)).

65 *See, e.g.*, Proposal at 78855 (describing "the critical importance of controls required in proposed § 1.80 in *preventing and mitigating* market disruptions" (emphasis added)).

66 Proposal at 78899 (emphasis added).

67 Proposal at 78939 (emphasis added).

prevent is a different standard than to mitigate. Perhaps the Commission intends to allow a clearing FCM discretion in determining the standard to which it will calibrate its pre-trade risk controls. If so, the preamble contradicts Proposed Regulation 1.82 with respect to both the standard applicable to clearing FCMs and the type of event at issue.[68] The standard applicable to a clearing FCM and the type of event at issue are fundamental components of Regulation AT. The Commission's inability to consistently articulate these two components undermines the public comment process.

The inconsistencies regarding the standards applicable to AT Persons and clearing FCMs would prohibit a DCM from reviewing an AT Person's or a clearing FCM's compliance with proposed Regulation AT. As noted above, CME Group does not believe a DCM should be required to review annual compliance reports. If, however, the CFTC includes such a requirement in its final rules, it will be imperative for the DCM to know the standard against which it is reviewing those compliance reports. As currently drafted, the Proposal does not include a clearly and consistently articulated standard applicable to either AT Persons or clearing FCMs. That would make it impossible for a DCM to review those compliance reports of AT Persons or clearing FCMs against an ascertainable legal standard of performance.

Proposed Regulation AT inconsistently describes the standard to which DCMs will be held. Proposed 40.20 requires a DCM to "implement pre-trade and other risk controls reasonably designed to prevent an Algorithmic Trading Disruption (or…similar disruption resulting from orders that originate from manual order entry or other non-Algorithmic Trading) or an Algorithmic Trading Compliance Issue."[69] The preamble, however, implies that the standard in proposed 40.20 is for a DCM to "mitigate"[70] or to "mitigate and prevent"[71]

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[68] *See, e.g.*, Proposal at 78853 ("This regulation is intended to be sufficiently flexible that exchanges, AT Persons, and clearing FCMs may set the specific thresholds that will be most effective in *preventing* an Algorithmic Trading Event" (emphasis added)). Proposed Regulation 1.82 and this quoted sentence from the preamble articulate different standards (proposed regulation 1.82 uses "prevent or mitigate" while the preamble uses "prevent") and different events at issue (proposed regulation 1.82 uses "Algorithmic Trading Disruption" while the preamble uses "Algorithmic Trading Event," which includes both an Algorithmic Trading Disruption and an Algorithmic Trading Compliance Issue). *See also* Proposal at 78867 ("The Commission believes that requiring DCMs to establish pre-trade risk controls and order management controls for use by clearing FCMs with respect to their direct access customers will ensure that all orders, regardless of access method, as subject to the same tools that *mitigate* the risks posed by Algorithmic Trading." (emphasis added)).

[69] Proposal at 78940-41 (emphasis added).

[70] *See, e.g.*, Proposal at 78867 ("The Commission believes that requiring DCMs to establish pre-trade risk controls and order management controls for use by clearing FCMs with respect to their direct access customers will ensure that *all orders*, regardless of access method, are subjected to the same tools that *mitigate* the risks posed by Algorithmic Trading." (emphasis added)); Proposal at 78875 ("The Commission requests public comment on the pre-trade and other risk controls required of DCMs in proposed § 40.20. Are any of the risk controls required in the proposed rules unhelpful to operational or other risk *mitigation*, or to market stability, when implemented at the DCM level?" (emphasis added)).

Algorithmic Trading Disruptions or Algorithmic Trading Compliance Issues. Proposed Regulation AT further complicates the regulatory landscape for DCMs by also requiring DCMs to comply with proposed 38.255, which requires a DCM to "establish and maintain risk control mechanisms to prevent and reduce the potential risk of price distortions and market disruptions[.]"[72] It is challenging for CME Group to comment on Regulation AT with such inconsistencies embedded therein.

The Commission should clarify its Proposal in at least this respect before meaningful public comment may be provided. CME Group believes that all market participants subject to Regulation AT should be held to the same federal compliance standard. CME Group does not believe it is appropriate for federal regulations to require AT Persons and DCMs to "prevent" disruptions caused by algorithmic trading but require clearing FCMs to "prevent or mitigate" disruptions. Instead, the federal regulatory standard should require all market participants subject to Regulation AT to mitigate disruptions.

For each type of entity that would be subject to proposed Regulation AT, the Commission does not consistently articulate the legal standard to which that entity will be held. This confusion permeates and undermines the CFTC's cost benefit analysis. The Commission cannot effectively estimate the cost of the Proposal unless it clearly articulates the standard that would be imposed under the Proposal. Furthermore, it is impossible to prevent all disruptions caused by algorithmic trading;[73] thus, it would be impossible for the Commission to quantify the cost to DCMs, clearing FCMs, or AT Persons of preventing a disruption. And yet, despite the impossibility of quantifying the costs of that standard, the Commission has proposed rules that would require an AT Person and a DCM to prevent disruptions.[74]

H. The Proposal treats certain electronic trading platforms differently than others.

The Commission has proposed excluding both SEFs and registered FBOTs completely from the Proposal. The Commission's rules and the CEA, however, contemplate that SEFs and FBOTs will deploy electronic trading systems. CFTC Regulation 37.3(a)(2) requires SEFs to offer order book functionality, which the Commission defines to include operating an electronic trading facility as defined in section 1a(16) of the CEA.[75] Congress has required Foreign Boards of Trade that provide market participants located in the United States with direct access to their

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71 *See, e.g.*, Proposal at 78906 ("[The pre-trade risk and order management requirements that DCMs must implement pursuant to proposed § 40.20] should help reduce unintended market volatility and *mitigate and prevent* significant disruptive activity caused by algorithmic trading malfunctions" (emphasis added)).

72 Proposal at 78939 (emphasis added).

73 *See* Proposal at 78943 ("No set of rules can prevent all such problems.")

74 *See* proposed §§ 1.80 and 40.20.

75 *See* 17 C.F.R. § 37.3(a)(3).

electronic trading and order matching system to register with the Commission.[76] Thus, the CFTC and Congress understand that SEFs and FBOTs may use electronic trading platforms.

Nevertheless, the Commission concludes that SEFs should not be subject to Regulation AT because SEFs are new and have limited liquidity.[77] New DCMs, however, are not afforded a similar exclusion. This is odd because the preamble recites how the Commission's existing rules otherwise treat DCMs and SEFs the same for risk control purposes.[78] In addition, the preamble to the Proposal refers to FBOTs twice but only for purposes of the direct electronic access definitional aspect of the statutory registration requirement.[79] The Commission is silent on why the Proposal would not apply to FBOTs.

The Commission needs to face this disparity in treatment. Either algorithmic trading on electronic platforms involves risks requiring further CFTC regulation, or it does not. If it does, the Commission should consider how that risk is best addressed, consistent with the Proposal.

I. The proposed self-trade prevention rules provide only negligible benefits that would be outweighed by implementation costs.

The Commission's stated goal of Proposed Regulation 40.23 is to benefit market participants and enhance the price discovery process through the prevention of unintentional self-matched trades, while allowing an exception for permitted self-trades initiated by independent decision makers.[80] We share this common interest with the Commission, which is why CME Group proactively developed and implemented its Self-Match Prevention ("SMP") functionality in June 2013. Moreover, we introduced our SMP tool without the intervention or demand of government regulation as a means to preserve the integrity of the marketplace, and we continually look to enhance its functionality so as to provide our customers with the greatest level of flexibility in choosing to implement it on their own accord and without mandate.

In assessing Proposed Regulation 40.23, CME Group commends the Commission for recognizing that matching buy and sell orders for accounts with common beneficial ownership that are independently initiated for legitimate purposes contributes to the price discovery process.[81] These orders convey to the marketplace prices at which there is bona fide buying and selling interest. However, as bona fide self-trades can be permitted under the proposed rule, the ultimate question is whether the remaining self-trades are so prolific that they distort the price

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[76] *See* CEA § 4(b)(1)(A).

[77] *See* Proposal at 78911.

[78] *See* Proposal at 78829.

[79] *See* Proposal at 78844 n. 201 and 78845.

[80] *See* Proposal at 78877.

[81] *See* Proposal at 78941 (proposing § 40.23(c)).

discovery process, thus warranting a special CFTC regulation preventing them. Based on our analysis, the remaining self-trades that would be prohibited by Proposed Regulation 40.23 constitute barely fractions of a single percent of daily volume, rendering the effect of this proposed rule inconsequential to achieving the stated goals. Therefore, we believe the impact of Proposed Regulation 40.23 on the price discovery process will be negligible at best, resulting in practically no benefit to the marketplace at a very high cost that may not serve as the best mechanism for curbing incidental self-matches.

CME Group has provided in Appendix A detailed responses to the Commission's questions regarding Proposed Regulation 40.23. We would like to highlight for the Commission and the public, the analysis we performed before reaching our conclusion.

In the fourth quarter of 2015, more than 85 percent of all order messages submitted to CME Group Exchanges contained instructions to avoid self-trades through the CME Globex SMP functionality. We suspect that if the proposed rule is adopted as drafted, dozens of firms, if not more than a hundred, will seek permission from CME Group pursuant to Proposed Regulation 40.23(c) to allow self-trading for their firms. We thus sought to ascertain the amount of self-trades that would be mandatorily prevented under Proposed Regulation 40.23, assuming a significant number of firms would seek and be granted approval to self-trade pursuant to Proposed Regulation 40.23(c).

For purposes of this analysis, we calculated the total volume from self-trades[82] at the firm-level during the month of February 2015, the month cited in the proposed rulemaking.[83] We then subtracted from that total the self-trade volume of a small group of firms that have demonstrated to CME Group's Market Regulation Department, independence of trading between teams or accounts likely to enable such firms to seek approval to self-trade pursuant to Proposed Regulation 40.23(c). The resulting number equals a very high estimate of the number of self-trades that would be impermissible under Proposed Regulation 40.23. We then calculated this number as a proportion of total exchange volume in February 2015. The self-trade volume that would have been prevented under Proposed Regulation 40.23 as potentially impermissible would have equaled less than 2/10ths of 1 percent of CME Group Exchanges' total volume – and that assumes only a small group of firms would seek approval to self-trade.

$$\frac{February\ 2015\ Firm\ Self-Trade\ Volume\ (minus) February\ 2015\ Permitted\ Self-Trade\ Volume}{Total\ February\ 2015\ Volume\ (sides)} = 0.175\%$$

CME Group performed a similar analysis with respect to the proportion of trades, not volume, that are the result of self-trades. We again excluded self-trades of the same small group of firms that likely would seek approval to self-trade under Proposed Regulation 40.23(c).

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82 The calculation excludes self-matches resulting from implied match events as well as volume marked for give-up.

83 *See* Proposal at 78879 (describing the Commission's analysis of self-trading conducted in February 2015).

During the month of February 2015, approximately 2/10ths of 1 percent of total trades on CME Group markets would have been potentially impermissible self-trades.

The Commission cited a particular futures contract in February 2015 where almost ten percent of all trades (not volume) in that contract were self-trades, increasing to almost 15 percent on individual days.[84] We conducted our own analysis to identify which futures contract, if traded on one of the CME Group Exchanges, was being referenced. Our analysis identified a close match for which 10.3 percent of trades during February 2015 were self-trades at the firm-level. Similar to the analysis discussed previously, we subtracted from the calculation self-trades of the same small group of firms that have demonstrated to CME Group's Market Regulation Department the independence of trading between teams or accounts. The result is that just 3/100ths of 1 percent of the trades in that contract would have been potentially impermissible self-trades. Furthermore, just 3/100ths of 1 percent of the volume in that contract would have been from potentially impermissible self-trades.

These numbers clearly signify that the impermissible self-trading the Proposal seeks to prevent is an inconsequential portion of the market. On the other hand, the costs that market participants would incur to comply with Proposed Regulation 40.23 are significant. As detailed in our response to Question 92 in Appendix A, *market participants would be required to engage in an onerous and burdensome process of seeking a DCM's approval to self-match.* Accordingly, CME Group believes Proposed Regulation 40.23, as written, is unnecessary as it would prevent a negligible percentage of trades and trading volume at great cost to market participants.

While we believe the Proposal is overly burdensome to the marketplace, CME Group could support a regulation that would align with the Commission's intent behind Proposed Regulation 40.23 and an industry rule implemented by at least one DCM today.[85] Alternatively, we would suggest that the Commission require self-match prevention functionality of a specified subset of market participants, such as Principal Trading Firms ("PTFs")[86] engaged in Algorithmic Trading that access a DCM's match engine through DEA (as CME Group defines in Section II.C of this letter). Under this alternative, PTFs should be given the flexibility to utilize

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84 *See id.* (describing the Commission's analysis of self-trading conducted in February 2015).

85 *See* ICE Exchange Notice of Sept 11, 2013, https://www.theice.com/publicdocs/futures_us/exchange_notices/ExNot091113STPFFinal.pdf

86 PTFs were first coined in the context of the U.S. Department of Treasury's Joint Staff Report examining the U.S. Treasury Market on October 15, 2014. As part of this analysis, the Joint Staff broadly grouped market participant by segments based on the participant's business model, corporate structure and certain participant identifiers at various levels of granularity included in trade and order audit trails in both the cash and futures market. Appendix A of the report expressed the "typical characteristics" displayed by this subset of market participant: "Principal investor, deploys proprietary automated trading strategies, low latency typically key elements of trading strategies may be registered as broker dealer but does not have clients as in a typical broker-dealer business model."

their own or a DCM's self-match prevention tools. The rule should support the observance of best practices for all other non-PTF market participants, so as to encourage the use of self-match prevention functionality at levels that are appropriate for the nature of their business and trading structures. Finally, this alternative should rely on the expertise and support of a DCM's market regulation department to reduce unintentional self-trading of other market participant segments that do not utilize a DCM's self-match prevention functionality through clear regulatory guidance, robust trade practice surveillance, and rule enforcement which CME Group has found to be highly effective in serving this purpose.

J. The DCM trade matching system disclosure and transparency rules are ambiguous, overly broad, and add little extra benefit for market participants.

The Proposal sets forth certain additional disclosure and transparency requirements for DCMs with respect to their electronic trading systems. Currently, Regulation 38.401(a)(1)(iii) requires that DCMs have procedures, arrangements and resources for disclosing to the Commission, market participants and the public accurate information regarding the rules and specifications of their electronic matching platforms or trade execution facilities.

The Commission also proposes to amend Regulation 38.401(a)(1) by adding a new requirement (Proposed Regulation 38.401(a)(1)(iv)) that DCMs must disclose to all market participants any known attributes of the electronic matching platform, other than those already disclosed in rules or specifications under section (a)(1)(iii), that materially affect the time, priority, price, or quantity of execution of market participant orders, the ability to cancel, modify, or limit display of market participant orders, or the dissemination of real-time market data to market participants, including but not limited to latencies or other variability in the electronic matching platform and the transmission of message acknowledgements, order confirmations, or trade confirmations, or dissemination of market data.[87] The Commission notes, however, that Proposed Regulations 38.401(a)(1)(iii)-(iv) are not intended to require the disclosure of trade secrets by any DCM.[88]

After reviewing this section of the Proposal, CME Group has significant concerns regarding certain aspects of the substance and the intent of the proposed requirements.

The requirements of the Proposal are ambiguous and overly broad. The Commission proposes to supplement its disclosure requirements to require disclosure of any "known attributes" of an electronic matching platform or trade execution facility that materially impact market participant orders, but which are not readily apparent to the market participants.[89] The Commission specifically calls out "latencies or other variability" in the electronic matching

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87 Proposal at 78868

88 *Id.*

89 *See* Proposal at 78867.

platform and transmission of message acknowledgements, order confirmations, trade confirmations or dissemination of market data.[90]

We have significant concerns that the Proposal's requirements in this area are overly broad in that they would be difficult, if not impossible, for CME Group Exchanges to administer. First, the use of "known attributes" and "materiality" provide DCMs with insufficient clarity to either interpret or administer. Second, the proposed rule requires DCMs to provide metrics on attributes such as latencies based on an incorrect assumption that such metrics exist in some steady state. The Commission fails to recognize that these measures depend on market state and particular orders. Publishing such a metric without reference to particular market states is misleading and useless to traders.

It is virtually impossible for DCMs to determine what is considered "material" or what would be considered to "materially affect" a market participant or its trading strategy when determining whether a known attribute is material. In its simplest form, what constitutes an "attribute" or what is considered "material" will not be definable or implementable in a realistic way. For example, any participant can claim that the smallest measure of time is material to them and to their strategy; therefore, the proposed rule would essentially require disclosure of *any* change which could have *any* impact on timing. Moreover, in order to ascertain what would be considered material to a market participant, it would require the exchange to fully understand and anticipate *every* strategy of every market participant as well as the timing and latencies of each market participant's infrastructure. A DCM cannot know the impact to the user as it does not know the user's intent, strategy, other exchange activities and the user's own system attributes or those of its vendors. A potential impact on one or a discrete subset of users does not necessarily make an attribute material to the vast majority of users thereby necessitating immediate disclosure or categorizing it as a rule. Thus, if taken to its logical conclusion, the proposed rule would have DCMs describe how its systems would operate under every possible market state without considering that circumstances can change based on various market scenarios. In a rapidly evolving marketplace, what the Commission would consider to be "attributes" are the result of customer experience and evolution. A regulatory requirement for a DCM to "have known" or "should have known" of their experience places an undue, if not impossible, burden on the DCMs.

The Proposal only requires the disclosure of known attributes that "materially affect" orders or the dissemination of market data. CME Group agrees that, to the extent a DCM has any obligation to disclose known attributes, that obligation should be limited by a materiality threshold. Equally as important, as the Commission acknowledges, materiality must be defined in the context that the term is used in existing regulations and case law – *i.e.*, that there is a substantial likelihood that a reasonable investor would consider the information important in making a decision to invest.[91] While the Commission appears to agree with such a standard, the

[90] *See* Proposal at 78868.

[91] *See* Proposal at 78869 n.423.

Proposal adds ambiguity when it mentions in passing that the materiality threshold is intended to eliminate the need for disclosure of "aspects of exchange systems that do not have a discernible effect on how orders are entered or executed."[92] The term "discernible effect" is not defined and finds no support in either regulations or case law. While CME Group continues to believe that the disclosure of known attributes should be eliminated from any final rule, at an absolute minimum, the Commission should remove any reference to the term "discernible effect" and clarify that the well-established standard on materiality applies.

Moreover, disclosure of certain of the attributes identified in the Proposal may not yield information that is useful to market participants. As we have pointed out in our prior letter commenting on the Concept Release, in discussing the impact of latency there are many contributors to the time it takes to process an order message and the only measurable latency within the exchange's control is contained within the exchange's infrastructure, which provides an incomplete story to any market user. Many factors outside the control of a DCM may influence the timing of order messaging. Intermediated orders, for instance, travel through devices utilized by the executing and/or clearing firm to route orders and will, if applicable, pass through any pre-trade risk controls that the clearing firm has established for its customers. If executed, the order message is further disseminated to the originating market participant as a trade confirmation and to the trading public as a market data message. The confirmation message must travel back through the same infrastructure of the clearing and execution firm that it traversed in order to make its way to the exchange.

In addition to the variability caused by a market participant's own systems and the manner in which they connect to an exchange, one must consider the complexities within an exchange's trading platform. For example, one of the issues which has received some public attention in the past few years is the latency between the receipt of the private order entry feed and the public market data feed. When the Proposal suggests that a DCM should describe the "known attributes" of such latencies, the Commission fails to take into account the practical reality of how such data is disseminated.[93] At CME Group, communications to and from the match engine occur through two pathways. First, market participants have a private order entry data feed through which they submit private orders to the Exchange and receive back private confirmations of those orders as well as any trades. At the same time, CME Group communicates with all market participants with a public market data feed, which contains information such as trades and order book updates. Pacing these public market data and private order entry data feeds is a complex task and cannot guarantee the order of information disseminated. The public and private data feeds come from two different sources and each varies in length depending on the idiosyncrasies of any given event. For example, market data is typically faster than order entry data, especially with respect to large trade events. In these large trade events, market data involves fewer messages than order entry data. CME Group must

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92 Proposal at 78869.

93 *See* Proposal at 78868-69.

disseminate order entry messages to a number of participants in the trade, as opposed to sending out one public market data message on the faster multicast feed. In small trade events, the opposite can be true—the public data will often lag behind private data. Furthermore, the fill confirmations are not simultaneously disseminated, but rather are sent as a stream of messages to customers whose orders have matched. Market data, too, consists of a stream of messages. This creates a continuum of data—both private and public—that changes for each event. While CME Group understands the Commission's desire to provide market participants with "a better understanding of how their order messages interact with an electronic matching platform,"[94] given the complexities, simply requiring the disclosure of "known attributes" will not achieve that goal. Since it is impossible for an exchange to anticipate, let alone describe, how latencies may exhibit themselves at any particular point in time, the best that can be offered in terms of "known attributes" is high level information on typical performance. Of course, such information may or may not reflect market participants' actual experience with an exchange's electronic matching platform and, as a result, will have limited practical utility to market participants.

The Proposal also anticipates disclosure of other attributes such as self-match prevention and implied spread markets. While we agree that a description of the operation of these functionalities is useful to a potential user of the marketplace, this is already done and, as a commercial matter, should be done in the operation of a business. Any further description of how these would operate and/or impact customer orders under different market conditions is virtually impossible. As discussed above, it is impossible to look at these functions in a vacuum as market participants deploy various trading strategies and there are too many variables to affirmatively state what the impact would be.

The Proposal further would require that any attribute or change to an attribute be disclosed no later than ten business days after identification of or changes to the attributes. CME Group believes that any 10-day timing requirement for disclosure is not practical. Identification of a "known attribute" (or one that we "should have known"), as defined in the Proposal, anticipates that a DCM will be able to identify and describe the material aspects of the attribute in a discrete and limited time period. While in certain instances, it may be easy to anticipate in advance that certain changes may have a material impact, with others, it may not. Certain issues may well require significant testing and evaluation – design and performance may continuously evolve over time – the bright line rule discussed here does not contemplate this process and may, in fact, disincentivize it. Exchanges have thrived based on their ability to adapt to, and participate in, a changing marketplace. This will not continue if DCMs are subject to the disclosure requirements as drafted under the Proposal.[95] The addition of a "should have known"

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[94] *See* Proposal at 78917.

[95] We do note that while the proposed amendment to Regulation 40.1 (definition of "Rule") would apply to SEFs, the disclosure requirements of Part 38 would not. While, as noted above, we have serious concerns regarding the addition of Proposed Regulation 38.401(a)(1)(iv) and do not believe that it should be enacted, it is not clear *(cont'd)*

standard as noted in the preamble adds an even greater level of complication and subjectivity to this analysis. As stated in this section, CME Group already discloses a significant amount of information to our customers and we continue to refine and expand the amount of information available based on user input.[96] CME Group believes the concept of "known attributes" should be eliminated and we would be happy to work with the Commission and other DCMs to determine the correct descriptions of the type of information that should be disclosed as part of compliance with DCM Core Principle Seven.

CME Group already provides a significant amount of information to its market participants regarding the operations of its systems. As the Commission has noted in the Release, one of the stated purposes of the proposal is to ensure that market participants are provided with certain information that will materially affect a market participant's order and provide information to assist that participant in making a determination as to whether to trade a particular marketplace and to have a basis of comparison with other marketplaces.[97]

CME Group believes that the existing rules accomplish this goal. In fact, existing rules already require that DCMs provide a significant amount of information to their market participants and the requirements under the Proposal would not provide any information which would afford more benefits to the marketplace than those which already exist. The Commission should recognize that CME Group has consistently developed and provided comprehensive information and documentation which extensively describes all the aspects of its systems which are relevant to its customers, including CME Globex, CME Group's market data distribution functions as well as other aspects of its systems, including CME Direct. These materials, which are called the CME Group Client Systems Wiki, are located in one place which is easily accessible to the customer base.[98] These materials have been produced as the result of an ongoing iterative dialogue between CME Group and its customers. Through this site, our customer base is informed of changes to our systems.

Consequently, at present, we see little benefit to be gained by the imposition of additional prescriptive rules. CME Group would, however, welcome the chance to work with the

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why the policy reasons set forth to justify the Proposal would not apply to market participants of a SEF. *See supra* Section II.H.

96 As noted in the Proposal, in no event should a DCM be required to disclose any information which would compromise trade secrets. *See* Proposal at 78868. If taken to its logical conclusion, the Proposal could potentially require DCMs to disclose attributes which may compromise system security or efforts to remediate any system vulnerabilities discovered.

97 *See* Proposal at 78870.

98 *See* www.cmegroup.com/confluence/display/epicsandbox. In fact, there is a separate section in the Client Wiki materials which comprehensively describes CME Group's self-match prevention tools and provides many examples of the operations of the tools in various scenarios. *See* http://www.cmegroup.com/confluence/display/EPICSANDBOX/CME+Globex+Self+Match+Prevention

Commission and other market participants to review what incremental information can be provided to accomplish the Commission's goals without imposing uncertainty and undue burdens on DCMs. To that end, given its important and far-reaching nature to both DCMs and market participants, CME Group believes that the topic should be re-proposed or addressed in a separate rulemaking to afford the entire marketplace an opportunity to provide their views. The proposed DCM transparency rules are really an ancillary issue to the main issues that the Proposal is intended to address; market participants that would be impacted by the proposed transparency rules are concentrating their efforts on the main substantive issues with Regulation AT while those not impacted would not necessarily look for the issue embedded in the Proposal.

K. Requiring a DCM to provide test environments that replicate production functionality is reasonable, however a requirement for DCMs to provide environments that *simulate performance* level production trading could be burdensome and difficult to scale.

Proposed Regulation 40.21 requires DCMs to provide a test environment that will enable AT Persons to *simulate* production trading, however the Commission's intent as to the type of simulated environment that would be required of DCMs is unclear. First, the Commission fails to clearly define the term "simulate" in its Proposal. If the Proposal were to require DCMs to maintain and provide a test environment that is, for instance, a production parallel facility that utilizes real-time or near real-time market and transaction data for testing of a market participant's algorithm, then CME Group would submit that the Commission's premise articulated in its cost analysis of Proposed Regulation 40.21 is incorrect.[99] Moreover, such an environment would have significant impact in terms of costs to DCMs. We urge the Commission to provide greater clarity of its intended use of the term "simulate" and allow for public comment to provide a more wholesome analysis of the burdens it may assume.

Further, there are two categories of testing environments that we shall loosely define below, but that have significantly different impacts in terms of scale, efficiency, and cost:

- *Functional Testing*. Functional testing ensures an automated trading system ("ATS") (or any other application interface) can appropriately and reliably send and respond to messaging to and from the Exchange's application interfaces for all supported functionality as defined by the Exchange.

- *Performance Testing.* Performance testing allows ATS testers to determine how an algorithm or trading strategy may perform in a live trading environment in terms of speed, latency, or other factors as defined by the ATS tester or market participant.

[99] *See* Proposal at 78907 ("[M]ost if not all DCM's already provide test environments that would comply with proposed § 40.21.") (error in the original).

CME Group strongly supports the proposition that DCMs should provide functional test environments that *mimic* those of the production environment for purposes of ensuring an ATS connection to a DCM will not adversely impact the trading entity or the broader market, and that the ATS is operating in conformity with exchange rules for all supported functionality – including risk controls. This type of testing is most used by DCMs and market participants today. CME Group recognizes and appreciates the value of providing effective and efficient functional test environments as we currently offer two such facilities to market participants, referred to as the "certification" and "new release" environments. Customers use the CME Group certification environment to perform required DCM certification testing for CME Globex core functionality, maintenance testing, and development testing for new customer system features. Customers use the new release environment to test new CME Globex products and releases prior to production.[100]

In addition to our robust functional testing environments, CME Group allows for mock trading sessions in production during closed market hours whereby it leverages the concept of "historical replay" to simulate live market events of a recent busy or volatile trading day. These sessions are generally offered prior to CME Group implementing performance enhancements or new functionality and allow for a market participant to connect via its production lines. While we provide limited mock trading sessions to effectively serve the needs of market participants to conduct performance testing, access to this environment is provided on a limited and scheduled basis.

We believe market participants are in the best position to maintain responsibility for conducting appropriate performance testing of their trading algorithms, as many firms routinely do today using historical trade data – compiled across multiple venues and jurisdictions as well as a wide range of information that informs trading decisions – to test the performance of particular strategies against a wide range of market conditions.[101] If the Proposal were to be interpreted to require DCMs to provide testing environments that enable AT Persons to simulate production performance trading, we believe extensive costs and complexities across the execution chain would be imposed, which should require substantial analysis and comment by the industry.

For example, in order for multiple DCMs to support a full scale production-like or production parallel performance testing facility for all market participants at all times, it would require significant investments in infrastructure and human capital as well as market participants

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[100] Further elaboration of our certification and new release testing environments may be found in our response to questions 56-58 of the CFTC's Concept Release, *available at* http://comments.cftc.gov/PublicComments/ViewComment.aspx?id=59456&SearchText=.

[101] Market participants may capture and store data in-house for these purposes or rely on vendors who compile and can replay data feeds from exchanges around the world, thereby allowing market participants to back-test their algorithms across multiple venues or against a variety of particular market conditions, including, for example, high volatility environments or sudden liquidity crises.

looking to utilize such a facility to invest in connections to our certification data centers. Thus, the cost of such an environment would need extensive further analysis in relation to any risk mitigation benefit that might be derived as a result.

We urge the Commission to adopt a *functional* testing regime that reflects the intent behind the key best practices that exist today for such testing, all of which aim to reduce risk. These include requiring that the ATS is in compliance Commission and DCM rules, that the functionality within the ATS works as intended, and that the ATS operatives effectively in stressed market conditions utilizing historical data. We believe this approach would best align with the current state of DCM capabilities and more appropriately address the Commission's concerns regarding an AT Person's systems causing an Algorithmic Trading Event.

L. Market maker and incentive program transparency requirements should apply to all trading markets, not just DCMs.

CME Group generally supports the Commission's proposed rules regarding market maker and trading incentive programs. We agree with the principle of increasing transparency in exchange market maker and incentive programs ("MMIPs"). In fact, CME Group Exchanges have, for several years, been making filings with the Commission that would largely satisfy the transparency requirements in the proposed rules. As part of that process, each DCM certifies that the terms of each program comply with all applicable requirements of the CEA. These filings are publicly available on CME Group's public website. CME Group supports basic transparency principles in CFTC regulations because other markets have historically not provided much transparency regarding MMIPs.

Although CME Group supports the Commission's goal of increasing transparency, we do not support applying the proposed MMIP transparency requirements to DCMs only. The CFTC has not articulated any reason why DCMs should be treated differently than FBOTs or SEFs. Indeed, DCMs, FBOTs, and SEFs may all offer similar products and programs to similar clients. Therefore, CME Group urges the Commission to consider and address this disparity in treatment.

M. The source code open access requirement is unnecessary, unworkable, and raises serious confidentiality concerns.

CME Group joins fellow commenters and CFTC Commissioner Giancarlo[102] in expressing great concern regarding Proposed Regulation 1.81(a)(vi). As proposed, 1.81(a)(vi) would require an AT Person to keep its source code and related history available to any representative of the CFTC or the Department of Justice for any reason. Specifically, this provision raises concerns regarding confidentiality and cost.

[102] *See* Proposal at 78947.

Source code is not a routine business record and should not be treated as such; the CFTC and the Department of Justice should not be allowed unfettered access to this confidential, proprietary information. Indeed, providing valuable proprietary information to the government exposes that information to the risk of misappropriation and targeted attack.

Proposed Regulation 1.81(a)(vi) would impose significant burdens and costs on any entity that does not currently maintain a source code repository. Moreover, many market participants purchase programs or algorithms from vendors. Such a market participant does not have access to the underlying source code that is the intellectual property of the vendor, but the Proposal would still require that market participant to have a repository containing the code it purchased from a vendor. The vendor, however, would not be subject to the Proposal and therefore would not be required to maintain the code. The Proposal thus would impose an impractical requirement upon any market participant that relies on a software vendor.

The CFTC has not demonstrated any need for such open access to source code, let alone a need that outweighs these cost and confidentiality concerns. Currently, if the CFTC has reason to believe that it needs access to a market participant's source code for a legitimate law enforcement purpose, it can obtain the code subject to adequate confidentiality protections.[103] CME has found this kind of targeted access to source code to be more than sufficient for its investigatory and disciplinary purposes.

N. The Proposal's involvement of RFAs could result in duplicative oversight and inconsistent or contradictory rules governing algorithmic trading.

CME Group appreciates the important role that the NFA currently plays in the derivatives industry, and commends its efforts to ensure market integrity through effective and efficient oversight. However, we do not believe there is a need for CFTC-mandated RFA standards for algorithmic trading. Our conclusion flows from our view that requiring registration of AT Persons would not provide any significant benefit to the marketplace or the Commission.[104] Before strictly mandating membership with an RFA under Proposed Regulation 170.18, CME Group believes such a requirement needs careful scrutiny to ensure consistency with statutory authorizations and practical impacts. Furthermore, CME Group is concerned that Proposed Regulation 170.19 has the potential to inject fragmentation, duplication, and inconsistency between RFAs and DCMs in their regulatory authorities.

CME Group cautions the Commission that Proposed Regulation 170.19 would allow an RFA extensive latitude in imposing rules involving risk controls, system safeguards, testing regimes, and electronic access. Giving any current or future RFA such broad discretion to institute rules on its members that is potentially overly-prescriptive or conflicting could

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[103] *See* CEA § 8.

[104] *See supra* Section II.B.

undermine well-established rules of an exchange, which we would argue has the most intimate knowledge of its markets and the participants trading in those markets. Rather, CME Group recommends that the Commission consider language that would authorize RFAs to adopt only generalized best practices for its members related to automated trading, so long as those practices do not conflict with DCM requirements. Moreover, pursuant to Proposed Regulation 170.19, the Commission anticipates that an RFA would prospectively and routinely conduct examinations of its members to assure those members are complying with the CFTC's proposed mandates.[105] These examinations would create clear overlap between the role of an RFA and the role of a DCM, based on the Proposal's amendments to Parts 38 and 40 of the CFTC's regulations. CME Group opposes regulation that is duplicative in nature, creates inefficiencies, and would further complicate the existing coordinated efforts of the NFA and relevant DCMs.

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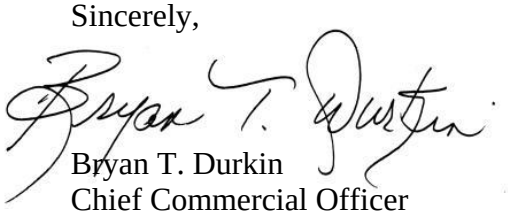
CME Group and the Commission share the same goal – to protect the market from potential disturbances or aberrations caused by algorithmic trading. To that end, CME Group has been working diligently to formulate an appropriate and realistic alternative framework for many aspects of the Proposal. We did not want our comment letter to simply convey criticisms; we wanted to help offer proposed solutions for the Commission's consideration. Unfortunately, we have not had sufficient time to fully develop a counter-proposal, given the complexities of the issues outlined in this response and the need for greater clarity regarding how and to whom the Commission intends for the proposed requirements to apply. Hence, we requested an extension to the comment period in order to sort through these complexities which was not granted. Regardless, we will continue to develop an alternative approach to the Proposal that is consistent with our views in this letter and what we believe should be the most important goals of any federal rule designed to protect against potential risks of algorithmic trading. We are committed to working with the Commission and its staff to achieve this outcome.

We are happy to discuss any questions the Commission or its staff might have with respect to the comments contained in this letter. Please do not hesitate to contact me at (312) 435-3687 or via email at Bryan.Durkin@cmegroup.com.

Sincerely,



Bryan T. Durkin
Chief Commercial Officer

[105] *See* Proposal at 78848.

cc: Chairman Timothy G. Massad
Commissioner Sharon Y. Bowen
Commissioner J. Christopher Giancarlo
Vince A. McGonagle, Director, Division of Market Oversight
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IV(D) Codification of Defined Terms	
1	**Is the Commission's definition of ''Algorithmic Trading'' generally consistent with what algorithmic trading is understood to mean in the industry? If not, please explain how it is inconsistent and how the definition should be modified. In your answer, please explain whether the definition inappropriately includes or excludes a particular type or aspect of trading.**

The definition is broader than and inconsistent with algorithmic trading as that activity is understood by the futures industry. A major reason for this inconsistency is the definition captures automated (electronic) systems that process orders and messages related to orders. In other words, all electronic trading activity that touches orders appears to be captured by the definition. Some of this captured activity even reaches normal, non-trading decision related functions including managing the sequencing of orders in relation to other orders, the partition of orders into smaller components, and managing orders after submission.

The definition also is not clear in light of the preamble. For example, the Proposal notes that if a customer submits an order to its clearing FCM, which then submits the order to a DCM, such order would still be considered "electronically submitted for processing on or subject to the rules of a designated contract market," notwithstanding the fact that the order is routed through the intervening clearing FCM.

At the same time, the Proposal states that if an entity (such as an introducing broker) uses certain electronic systems as part of its business practices, but does not submit orders to a trading platform, that entity's use of electronic systems would not of itself be considered Algorithmic Trading. The Proposal seems to indicate that only the trader, the executing-FCM and the clearing-FCM in the downstream flow of orders would be considered as entities that submit orders to a trading platform. The Proposal should contain, at a minimum, a carve out for systems that do not have direct proximity to the order execution chain.

The Commission states that: "Finally, the application of risk filters to an order that is otherwise entered through entirely manual means (i.e. an order whose every parameter or attribute is manually entered into a front-end system by a natural person, with no further discretion by any computer system or algorithm) would not be considered Algorithmic Trading solely due to the use of risk filters. For example, existing Proposed Regulations 1.11 and 1.73 require FCMs and clearing FCMs, respectively, to establish certain automated financial or risk-based controls, including limits based on position size, order size and margin requirements or capital, credit or volume thresholds. The application of such automated controls would not, on their own, cause an order to fall within the definition of Algorithmic Trading." The proposed definition does not, however, reflect this same exclusion.

There must be an explicit and broad carve out for automated systems that apply compliance or regulatory limitations or conditions to orders, regardless of the upstream or downstream use of such limitations or conditions on orders. Otherwise, the Commission's definition could compromise the utility of compliance and regulatory procedures that are automated.

2	**Should the Commission adopt a definition of ''Algorithmic Trading'' that is more closely aligned with any definition used by another regulatory organization?**

The definition of Algorithmic Trading adopted in any regulation by the Commission should focus first on the purposes of the regulation the Commission is adopting and align with the regulation set the Commission promulgates. The Commission may be informed by other definitions, but it should not uncritically adopt a definition offered by another regulatory body for another purpose.

3	**For purposes of the Commission's definition of Algorithmic Trading, is it necessary for the Commission to define ''computer algorithms or systems''? If so, please explain what should be included in such a definition.**

No, that phrase "Algorithmic Trading" is adequate to convey the appropriate meaning as we understand it. The Commission and others may need to interpret that phrase in applying any regulations it adopts, but that interpretation will be guided by the regulatory purpose and context of the adopted regulations. In the abstract, it is difficult to answer otherwise.

4	**Should the Commission's definition of ''Algorithmic Trading'' include systems that only make determinations as to the routing of orders to different venues (which is contemplated in the proposed definition)? With respect to the definition of ''Algorithmic Trading,'' should the Commission differentiate between different types of algorithms, such as alpha-generating algorithms and order routing algorithms?**

Again, the context of any specific regulations the Commission adopts will inform the answer to this question. In the abstract, it is difficult to answer. The granularity of the question, however, supports one of CME Group's main themes that any federal regulation should be principles-based to allow the applicable party to adapt to market realities in developing market controls and should not be locked into a rigid, one-size-fits-all standard. Many market participants of varying sizes and levels of trading sophistication utilize automated order routing systems with different degrees of automated complexity. We urge the Commission to provide some level of clarity, so as not to unnecessarily – and potentially inadvertently – categorize those market participants utilizing less complex or "dumb" automated order routing as AT Persons.

5	**Is the Commission's understanding correct that most entities using automated order routers will be using similar or related automated technology to determine other parameters of an order?**

We do not have empirical information on this topic. However, we understand that most of our market participants who use off-the-shelf automated order routers – like auto spreaders – would not otherwise use automated technology.

6	**The Commission posits a scenario in which an AT Person submits orders through Algorithmic Trading, and a non-clearing FCM or other entity acts**

	only as a conduit for these AT Person orders. If the non-clearing FCM or other entity does not make any determinations with respect to such orders, the conduit entity would not be engaged in Algorithmic Trading, as that definition is currently proposed. Should the definition of Algorithmic Trading be modified to capture a conduit entity such as a non-clearing FCM in this scenario, thereby making the entity an AT Person subject to Regulation AT? In other words, should non-clearing FCMs be required to manage the risks of AT Person customers? How would non-clearing FCMs do so if the non-clearing FCMs do not have risk controls comparable to the risk controls specified in proposed § 1.82?
Please see our discussion of the AT Person definition in our comment letter at Section II.C.	
7	**The Commission, recognizing that natural person traders who manually enter orders also have the potential to cause market disruptions, is considering expanding the definition of Algorithmic Trading to encompass orders that are generated using algorithmic methods (e.g., an algorithm generates a buy or sell signal at a particular time), but are then manually entered into a front-end system by a natural person, who determines all aspects of the routing of the orders. Such order entry would not represent Algorithmic Trading under the currently proposed definition. The Commission requests comment on this proposed expansion of the definition of Algorithmic Trading, which the Commission may implement in the final rulemaking for Regulation AT. The Commission requests comment on the costs and benefits of this proposal, in addition to any other comments regarding the effectiveness of this proposal in terms of risk reduction.**
It is important to recognize that risk based mitigation principles and best practices are equally as important in the context of manually entered orders in an electronic environment as they are in the context of orders entered via automated trading systems because the method of order entry does not impact the effect of a particular order on the market. Notwithstanding this, we would oppose expanding the Proposal in this manner. It does not appear to be necessary or appropriate to bring manual order entry activity within an "automated" regulation set.	
8	**Should the definition of Algorithmic Trading Compliance Issue be modified to include other potential compliance failures involving an AT Person that may have a significant detrimental impact on such AT Person, the relevant DCM, or other market participants?**
The definition should be narrowed, not broadened. By aligning an AT Person's compliance obligations with internal requirements as well as those imposed by others like clearing FCMs, the Commission would be creating a disincentive to have robust internal controls in place. Compliance issues should focus on violations of regulations or requirements that could result in administrative or self-regulatory enforcement or disciplinary actions, and no more. This is especially true given the difficulty of applying a causation standard to internal policies or third	

party, privately imposed controls. A significant detrimental impact standard would only exacerbate that uncertainty.

9	**Should the definition of Algorithmic Trading Disruption be modified to include other types of disruptive events that may originate with an AT Person?**

We would recommend that the Commission rethink this definition to make it workable and administrable by those whose regulatory obligations would flow out of a potential Algorithmic Trading Disruption. For example, an event originating with an AT Person that affects the operations of a DCM may not have anything to do with Algorithmic Trading, but such an event would appear to be considered an Algorithmic Trading Disruption. In addition, concepts such as "the operation" of DCMs or "the ability of other market participants to trade" read like broad statutory mandates and are too amorphous to function as triggers for cascading regulatory requirements.

10	**Should the definition be expanded to include other types of disruptive downstream consequences that may result from an Algorithmic Trading Disruption originating with an AT Person, and which may negatively impact the relevant designated contract market, other market participants, or other persons? Alternatively, should the scope of the definition be reduced, and if so, why?**

The definition should be narrowed to apply exclusively to disruptions that prevent market participants from using trading venues for price discovery or risk management purposes. Market participants should ensure that their trading activity will not interfere with the ability of risk managers and others to effectively use derivatives markets. In this regard, the Commission should consider referring to already enunciated regulatory prohibitions against disruptive and manipulative trading as the focus of the definition.

11	**In addition, should the reference to ''materially degrades'' in the definition of Algorithmic Trading Disruption be expanded or otherwise modified to encompass other types of disruptions that may impact the relevant designated contract market, other market participants, or other persons? Please provide examples of real-world events originating with AT Persons (as defined under Regulation AT) that resulted in disruptions that may not be captured by the reference to ''materially degrades'' in the definition.**

We believe that the phrase "materially degrades" would be difficult to apply in practice because it could have so many different meanings. We also believe, as we explain in our comment letter in Section II.C, that AT Persons should be re-defined to cover only algorithmic traders relying on direct electronic access.

12	**Please comment on the proposed scope of the Commission's definition of AT Order Message. Is the proposed definition too expansive, in that it would limit the submission of messages that do not have the potential to disrupt the**

	market? Alternatively, is the scope of the AT Order Message too limited, in that it could allow messages not related to orders (i.e., heartbeat messages or requests for mass quotes) to intentionally or unintentionally flood the DCM's systems and slow down the matching engine? Please explain how this definition would be more appropriately limited or expanded.

The definition is consistent with ESMA's definition of message in its HFT analysis. The definition is really dependent on the definitions of Algorithmic Trading and AT Person, where we have suggested revisions. The reason for the definition is to require certain controls, including a maximum AT Order Message frequency per unit time. As we explain in our comment letter in Section II.D.2, the technology does not exist to provide this functionality at the present time. In any event, the definition should not encompass non-actionable messages such as Request for Quotes, Request for Cross, heartbeat messages and Mass Quotes. It should be up to DCMs to determine what type of activity is disruptive in the context of non-actionable messages.

13	**The Commission notes that the FIA Guide recommends certain pre-trade risk controls and contemplates three levels at which these controls can be placed: Automated trader, broker, and exchange. FIA defines ''automated trader'' as any trading entity that uses an automated system, including hedge funds, buy-side firms, trading firms, and brokers who deploy automated algorithms, and defines ''broker'' as FCMs, other clearing firms, executing brokers and other financial intermediaries that provide access to an exchange.** **a. Should the Commission's definition of ''AT Person'' explicitly include or exclude any of the classes of parties included in FIA's term ''automated trader''? Please explain. Are there any types of entities not present in this list that should be included in the ''AT Person'' definition?** **b. Should Regulation AT use the term ''broker,'' as understood by FIA? If so, please explain. Is there another term that would be more appropriate in defining the scope of AT Persons?**

Our comment letter describes our recommendations for how to define AT Person and Direct Electronic Access in Section II.C and discusses our view as to why registration is not necessary or appropriate to accomplish the Proposal's goals in Section II.D. In addition, if the Commission adopts a regulation that continues to distinguish AT Persons based solely on the registration status of similarly situated persons, the Commission should make clear that those exempt or excluded from registration are not required to register as Floor Traders.

14	**Algorithmic Trading carries technological and personnel costs, and the Commission expects that such trading will be performed by entities, not natural persons. Is this a reasonable assumption? For purposes of quantifying the number of AT Persons that will be subject to the regulations, do you believe that any AT Person (a definition that encompasses the**

	following persons if engaged in Algorithmic Trading: FCMs, floor brokers, swap dealers, major swap participants, commodity pool operators, commodity trading advisors, introducing brokers, and newly registered floor traders using Direct Electronic Access) will be a natural person or a sole proprietorship with no employees other than the sole proprietor?
The Proposal could encompass natural persons, even those now registered as Floor Traders (who are considered to be unregistered persons under Proposed Regulation 1.3(x)(3)(iii)), because of the breadth of the Proposal's definitions. Regulation AT as proposed would apply to a variety of market participants, including but not limited to sole proprietors, small trading houses, pension funds, commercial firms that are primarily hedgers, asset managers and Commission registrants, regardless of their resources.	
15	**The Commission recognizes that a CPO could use Algorithmic Trading to enter orders on behalf of a commodity pool which it operates. In these circumstances, should the Commission consider the CPO that operates the commodity pool or the underlying commodity pool itself as ''engaged in Algorithmic Trading'' pursuant to the definition of AT Person?**
Treating the commodity pool itself as an AT Person and requiring the pool to register as a floor trader would appear to be unauthorized under the statute. Congress has made clear for decades its preference for avoiding the registration and regulation of the commodity pool itself. As we discuss in our comment letter in Section II.B, we do not believe the CFTC could or should register any algorithmic trader as a floor trader. That would be especially true for a commodity pool which has never been a registration category under the CEA.	
16	**The Commission notes that pursuant to § 1.57(b) of the Commission's regulations IBs may not carry proprietary accounts. However, certain customer relationships may cause an IB to fall under the definition of AT Person. The Commission requests comment on the types of IB customer relationships that could cause IBs to fall under the definition of AT Persons. What activities are currently being conducted by IBs that could cause an IB to be considered engaging in Algorithmic Trading on or subject to the rules of a DCM and would therefore cause the IB to be considered an AT Person?**
IBs process orders, often through the use of automated technologies. The breadth of the term "Algorithmic Trading" could be read to include any automated activity that touches orders. We believe IBs generally should not be considered to be AT Persons where they are not engaged in trading for their own account through algorithmic means.	
17	**Should the definition of AT Person be limited to persons using DEA? In other words, should the definition capture persons registered or required to be registered as FCMs, floor brokers, SDs, MSPs, CPOs, CTAs, or IBs that engage in Algorithmic Trading on or subject to the rules of a DCM, or persons registered or required to be registered as floor traders as defined in § 1.3(x)(3), in each case if such persons are using DEA? The Commission**

	requests comment on the costs and benefits of this approach, including comments on whether this more limited definition of AT Persons would adequately mitigate the risks associated with algorithmic trading.

We believe that only those persons engaged in Algorithmic Trading through "Direct Electronic Access," as CME Group has proposed such term be defined in our comment letter in Section II.C, should be considered to be AT Persons.

18	**Please explain whether the Commission's proposed definition of DEA will encompass all types of access commonly understood in Commission regulated markets as ''direct market access.'' In light of the proposed regulations concerning pre-trade and other risk controls and standards for the development, testing and supervision of algorithmic trading systems, do you believe that the proposed definition of Direct Electronic Access is too limited (or, alternatively, too expansive)? If so, please explain why and how the definition should be revised.**

Our comment letter addresses our recommended changes to DEA in Section II.C.

In addition, we believe DEA needs to be clarified by the Commission for other reasons. In the preamble to the Proposal, the Commission states that its goal is to require AT Order Messages originating with an AT Person and submitted by AT Persons through DEA "be subjected to the same types of pre-trade and other risk controls that such orders would pass through if they flowed through the *infrastructur*e of a clearing FCM before entering the market." Current CFTC Regulation 1.73 requires the establishment of risk-based limits for each proprietary and customer account. Even in circumstances where the connection to the match engine is directly from an ISV or, in the case of CME Group, when parties enter orders through CME Direct as an entryway into CME Globex, the order entries are still subject to the requisite risk-based limits established by the clearing FCM. We believe that so long as a clearing FCM's controls apply to such orders, they should not be considered to be DEA under the Proposal.

The CFTC should recognize that orders can pass through software that is calibrated by clearing members but maintained and owned by a clearing member's IT provider (e.g., TT or Bloomberg). If these orders are viewed as DEA orders because they are mischaracterized as bypassing clearing FCM controls, then the DEA definition will capture trading activity from significantly more firms (1000s) than the 100 firms mentioned in the rulemaking.

The vast majority of software vendors of algorithmic trading tools provide a risk administration module for the clearing FCM. Even in cases where the trading is occurring outside of the clearing FCM's physical infrastructure, the vendor's risk administration module at the FCM offers a layer of risk controls implemented by the clearing FCM that stands between the AT Person and the DCM. From a practical application perspective, the CFTC is correct to focus on the concept of an FCM having a "layer" of risk controls that allow the clearing FCM to apply pre-execution risk controls to orders before they get to the DCM.

19	**Should the Commission define ''routed'' in its definition of DEA? If so, how?**

	Are there specific examples of trading or routing arrangements where it would be unclear whether trading was performed through DEA?
Please see our comment letter at Section II.C.	
20	**Should the Commission use the term ''direct market access'' instead of DEA, and if so why?**
Either label would be fine if the substance of the definition is changed as we recommend. Please see our comment letter at Section II.C.	
21	**Should the Commission define sub-categories of DEA, such as sponsored market access?**
No, sub-definitions would be unnecessary and would further complicate the definition.	
22	**(a) The Commission's proposed definition of DEA in § 1.3(yyyy) differs from definitions of direct electronic access in § 38.607 and direct access for FBOTs in § 48.2(c). The Commission believes that the more technical definition in proposed 1.3(yyyy) is appropriate for Regulation AT. The Commission solicits comment regarding proposed 1.3(yyyy), whether all definitions of ''direct'' access should be harmonized across the Commission's rules, and if so how.** **(b) Do you believe that two definitions would create confusion with respect to Commission requirements as to direct electronic access?** **(c) With respect to §§ 1.80, 1.82, and 38.255(b) and (c) provisions imposing risk control requirements on AT Persons, FCMs and DCMs, should the Commission use the existing definition of direct electronic access provided in § 38.607?**
(a) Ideally, the Commission's use of the term "direct" would be harmonized across all regulations in a manner that would permit a common understanding of what is encompassed by the term. However, the substance of the definition for Regulation AT purposes is more important than harmonization. (b) Possibly. (c) No. Please see our comment letter at Section II.C.	

IV(E) Registration of Certain Persons Not Otherwise Registered With Commission—§ 1.3(x)	
23	**Should firms operating Algorithmic Trading systems in CFTC regulated**

	markets, but not otherwise registered with the Commission, be required to register with the CFTC? If not, what alternatives are available to fully effectuate the purpose and design of Regulation AT?
No. Please see our comment letter at Section II.B.	
24	**Should all firms deploying Algorithmic Trading systems be required to register with the Commission? Are there additional characteristics of AT Persons that should be taken into consideration for registration purposes? For example, should the Commission limit registration to trading firms meeting certain trading volume, order or message levels? In other words, should there be a minimum volume, order or message test in order to meet the definition of ''floor trader,'' or otherwise to meet the definition of AT Person? If so, what should be measured and what specific thresholds should be used?**
No. Please see our comment letter at Sections II.B-C.	
25	**In the alternative, should the Commission broaden the registration requirements in proposed § 1.3(x)(3)(ii) so that all persons trading on a contract market through DEA are required to register, instead of only those who are engaged in Algorithmic Trading?**
No. Please see our comment letter at Sections II.B-C.	
26	**Please supply any information or data that would help the Commission in deciding whether firms may or may not meet the definition of ''floor trader'' in Section 1a(23) of the Act.**
We have no response to this question.	
27	**Do you believe that the registration of such firms as ''floor traders'' would help effectuate the purposes of the CEA to deter and detect price manipulation or any other disruptions to market integrity? If you believe that registration of such firms will not help effectuate the purposes of the CEA, or that the same purposes can be achieved by other means, please explain.**
No. Please see our comment letter at Section II.B.	

IV(F) RFA Standards for Automated Trading and Algorithmic Trading Systems—§ 170.19	
28	**The Commission requests comment on the scope of responsibilities assigned to RFAs under proposed § 170.19. Should RFAs be responsible for fewer or additional areas regarding AT Persons, ATSs, and algorithmic trading than specified in proposed § 170.19, prongs (i), (ii), (iii), and (iv)? Regulation 170.19 requires RFAs to consider the need for rules in the areas listed in prongs (i)-**

	(iv). Should RFAs be responsible for considering whether to adopt rules in fewer or additional areas?
Because CME Group does not believe additional persons engaged in algorithmic trading should be required to register, we do not believe that RFAs should have any oversight role with respect to AT Persons. Moreover, to the extent additional oversight of AT Persons would be necessary, CME Group is concerned that the Proposal could create duplicative duties among exchanges and RFAs and could lead to inconsistent algorithmic trading guidance.	
29	**The Commission requests comment on the latitude afforded to RFAs in proposed § 170.19. Should RFAs have more or less latitude to issue rules than specified in proposed § 170.19?**
As discussed in our comment letter in Section II.N, the Commission should be cautioned in allowing an RFA too wide of latitude to impose rules at its discretion involving risk controls, system safeguards, testing regimes and electronic access that would be required of AT Persons. Allowing any current or future RFA the extensive freedom to institute potentially inflexible, overly prescriptive, or conflicting rules on its members could act as a backdoor to govern how AT Persons conduct business with multiple levels of the futures industry "supply chain" (trading firms, clearing firms, and exchanges) or undermine the rules of an exchange – which arguably is in a superior position to assess the appropriate controls, control levels, and how market participants interact with its trading environment.	
30	**The Commission requests comment on RFAs' obligation in proposed § 170.19 to establish and maintain a program for the prevention of fraud and manipulation, protection of the public interest, and perfecting the mechanisms of trading, including through rules it may determine to adopt pursuant to § 170.19. The proposed rules anticipate that an RFA's program will include examination and enforcement components. Is this the appropriate approach?**
Consistent with our position in our comment letter in Section II.N and in our responses to questions 28 and 29, CME Group cautions the Commission in establishing regulations that may otherwise create overlap or conflict between an RFA and a DCM.	
31	**The Commission requests comment on whether proposed § 170.19 may result in duplicative obligations on AT Persons or any other market participant. In particular, please comment on potential duplication, if any, between algorithmic trading requirements that an RFA may impose upon its members pursuant to § 170.19, and similar requirements that may be imposed by a DCM in its role as a self-regulatory organization. What amendments would be appropriate in any final rules arising from this NPRM to clarify that unintended overlap between the role of an RFA and a DCM in this context?**
Please see our comment letter at Section II.N and our responses to questions 28 and 29.	

IV(G) AT Persons Must Become Members of an RFA—§ 170.18	
32	**The Commission requests comment on whether the regulatory framework established by Regulation AT would require all AT Persons to be members of an RFA in order to be effective. Alternatively, could the goals of Regulation AT be realized without requiring all AT Persons to be members of an RFA?**

No, as we discuss in our comment letter in Section II.B, a regulatory framework can be effective without requiring registration and membership with an RFA.

IV(H) Pre-Trade and Other Risk Controls for AT Persons—§ 1.80	
33	**Are any pre-trade and other risk controls required by § 1.80 ineffective, not already widely used by AT Persons, or likely to become obsolete?**

The controls that would be required under Proposed Regulation 1.80 are all controls used in some manner throughout the industry but generally are not applied redundantly or at the level of granularity required under the Proposal by each of an AT Person, Clearing Firm, and DCM. Some DCM-provided controls may be set at standard levels for particular markets or for all order flow through direct connections. In the Commission's current formulation, many of a DCM's controls would need to be completely redesigned and redeveloped to meet the prescriptive and inflexible requirements of Proposed Regulation 1.80.

The Proposal goes too far in trying to describe a one-size-fits-all model. The particular controls that an AT Person would implement would be influenced by the type of system the AT Person has developed, the type of trading or quoting the AT Person engages in, and the number of products and trading strategies employed. The appropriate controls used by an AT Person would vary considerably based on these factors. Further, some controls or disciplines are applied after taking in post-trade information, and so are not pre-trade controls. Forcing all the controls in Proposed Regulation 1.80 on every party that might be an AT Person may result in non-optimal application, which could serve to increase risks.

For example, the CFTC should not mandate that DCMs provide "message frequency per unit of time" controls. While CME Group utilizes this type of control, it is set at higher levels than a single AT Person, typically at the connection gateway (session) level, and is designed to prevent situations where messaging through one connection point exceeds an acceptable level. CME Group applies this control systematically across all connections, without regard to a specific end participant.

The proposed "maximum execution frequency per unit of time" risk control is an example of a control that cannot be implemented on a purely pre-trade basis because there is no way to know for sure whether an order will be filled once it hits the Globex match engine. Accordingly, this control should not be mandated.

34	**Are there additional pre-trade or other risk controls that should be specifically enumerated in proposed § 1.80?**
No, CME Group urges the Commission to adopt a principles-based regulation and remove the prescribed controls from Proposed Regulation 1.80.	
35	**Do you believe that the pre-trade and other risk controls required in § 1.80 sufficiently address the possibility of technological advances in trading, and the development of new, more effective controls that should be implemented by AT Persons?**
The prescriptive requirements and associated costs would burden and potentially delay further innovation. A core principle requirement, on the other hand, would likely provide incentives for continued innovation. DCMs, clearing FCMs, and market participants all have a common interest in limiting risks to the extent possible, but such risk mitigation must be done in an effective manner and at a reasonable cost. A prescriptive regulation will force development of non-optimal solutions that will not foster a safer marketplace.	
36	**The Commission welcomes comment on whether the regulation's requirements relating to the design of controls and the levels at which the controls should be set are appropriate and sufficiently granular.**
CME Group urges the Commission not to prescriptively require certain controls or the granularity at which those controls must be set. We think the Commission should establish a principles-based standard for risk controls and continue to allow the industry to determine which controls should be implemented, how those controls should be designed, and at what level of granularity they should be set. Technology and system architecture changes can advance rapidly, but if the Commission locks in certain controls, it may hinder future innovation and development.	
37	**The Commission notes that § 1.80(d) requires that prior to initial use of Algorithmic Trading, an AT Person must notify its clearing member FCM and the DCM that it will engage in Algorithmic Trading. The Commission welcomes comment on whether the content of that notification requirement is sufficient, or whether clearing member FCMs and DCMs should also be notified of additional information. For example, should AT Persons be required to notify their clearing member FCMs of particular changes to their Algorithmic Trading systems that would affect the risk controls applied by the clearing member FCM?**
We believe that clearing FCMs already obtain a significant amount of information from their clients about the type of trading the client anticipates engaging in so that the clearing FCM can comply with CFTC Regulations 1.11 and 1.73 and CME Rules 949 and 982. CME Group does not believe that the Commission needs to step in between the relationship of an FCM and its client by prescribing certain information that must be communicated.	

38	**Is § 1.80(f)'s requirement that each AT Person periodically review its compliance with § 1.80 appropriate? Should there be more prescriptive and granular requirements to ensure that each AT Person periodically reviews its pre-trade and other risk controls and takes appropriate steps to update or recalibrate them in order to prevent an Algorithmic Trading Event? Alternatively, is § 1.80(f) necessary? Does the Commission need to explicitly require AT Persons to conduct a periodic review of their compliance with § 1.80?**
The current language of Proposed Regulation 1.80(f) would appear to be sufficient in that it places the onus on the AT Person to conduct periodic reviews for sufficiency and effectiveness of its controls.	
39	**AT Persons that are registered FCMs are required by existing Commission regulation 1.11 to have formal "Risk Management Programs," including, pursuant to § 1.11(e)(3)(ii), "automated financial risk management controls reasonably designed to prevent the placing of erroneous orders" and "policies and procedures governing the use, supervision, maintenance, testing, and inspection of automated trading programs." As described in § 1.11, an FCM's Risk Management Program must include a risk management unit independent of the business unit; quarterly risk exposure reports to senior management and the governing body of the FCM, with copies to the Commission; and other substantive requirements. The Commission requests public comment regarding whether one or more of the proposed requirements applicable to FCMs in §§ 1.80, 1.81, 1.83(a), and 1.83(c) should be incorporated within an FCM's Risk Management Program and be subject to the requirements of such program as described in § 1.11. In this regard, any final rules arising from this NPRM could place all requirements applicable to FCMs in §§ 1.80, 1.81, 1.83(a), and 1.83(c) within the operational risk measures required in § 1.11(e)(3)(ii). Such incorporation could help improve the interaction between an FCM's operational risk efforts and its pre-trade risk controls; development, monitoring, and compliance efforts; and reporting and recordkeeping requirements, pursuant to §§ 1.80, 1.81, 1.83(a), and 1.83(c). It could also help ensure that an FCM's §§ 1.80, 1.81, 1.83(a), and 1.83(c) processes benefit from the same internal rigor and independence required by the Risk Management Program in § 1.11.**
Regulation 1.11 appears to apply only to registered clearing FCMs with respect to general risk management requirements which could include management of automated trading risks. Proposed Regulations 1.80, 1.81, and 1.83 would apply to firms providing access to automated systems which may not necessarily be limited to clearing FCMs. CME Group Exchanges have clearing members that are not registered clearing FCMs. We do not see a conflict between the various requirements (both existing and proposed) and therefore would advocate keeping the requirements consistent, but separate. That said, we do not believe the prescriptive nature of the proposed regulations is appropriate in the first place such that combining or separating the regulations would matter.	

40	**The Commission proposes to adopt a multi-layered approach to regulations intended to mitigate the risks of automated trading, including pre-trade risk controls and other procedures applicable to AT Persons, clearing member FCMs and DCMs. Please comment on whether an alternative approach, for example one which does not impose requirements at each of these three levels, would more effectively mitigate the risks of automated trading and promote the other regulatory goals of Regulation AT.**

The Proposal's current requirement for identical risk controls at the DCM, clearing FCM, and AT Person levels is overly prescriptive and does not reflect industry best practices. The DCM's role should be to set controls at the direct connect or the market level: Message Controls, Price Banding, and Order Cancellation Systems are all good examples of the types of controls set by DCMs at these levels. DCMs will not be in the best position to customize risk controls for each AT Person. Under existing Commission Regulation 1.73, clearing FCMs already have a responsibility to set risk controls. It does not serve any purpose for the DCM to set exactly the same controls. However, the DCM controls at the connection level or market level can act as a backstop. While a clearing FCM may require its client to have certain controls that are appropriate to the client's business, there are also situations in which a clearing FCM's controls are sufficient enough for a particular system that it can set the controls and relieve the end client of such a burden. CME Group believes that adopting a truly principles-based requirement is the best approach for the Commission in this area because a prescriptive requirement will not allow the flexibility necessary under a set of particular circumstances. The Commission should recognize that each party in the chain of execution may have multiple goals for applying risk controls. For instance, in addition to mitigating the chances of an Algorithmic Trading Event, the DCM has a larger goal of protecting market integrity; an FCM has the goal of controlling credit or market risk on its books; a market participant using an algorithmic trading system will want to monitor its trading system to make sure it operates as intended. Inherently, these goals would not necessitate identical controls or setting the same level of granularity.

CME Group Rules already require clearing firms to apply pre-trade credit controls. CME Group has continually rolled out functionality to clearing FCMs in the past without CFTC mandates or involvement. Clearing FCMs also have their own interests in ensuring that the business they guarantee is subject to appropriate controls. Once again, the CFTC should only adopt principles-based standards and let the industry continue to innovate.

IV(I) Standards for Development, Testing, Monitoring, and Compliance of Algorithmic Trading Systems -- § 1.81	
41	**The Commission understands that the requirements for developing, testing, and supervising algorithmic systems proposed in § 1.81(a)–(d) are already widely used throughout the industry. Are any specific requirements proposed in this section not widely used by persons that would be designated as AT Persons under Regulation AT, and if not, why not? If any requirements described in § 1.81(a)–(d) are not widely used, please provide an estimate of**

	the cost that would be incurred by an AT Person to implement such requirements.

CME Group supports proportionate development, testing and supervision for AT Persons. However, CME Group does not support prescriptive requirements in the following areas as set forth in Proposed Regulation 1.81 that we believe are not widely used by AT Persons today:

- Back testing;
- Continuous real-time monitoring by natural persons unrelated to trading; and
- Testing of every change to an algorithm with each DCM.

Back Testing: Back testing is a complex and costly exercise with a limited scope for mitigating risk. Back testing does not provide the appropriate conditions to avoid future risk as back testing replicates past scenarios and will not reflect the most recent updates from the system or how any algorithm may act in real market conditions. As market conditions change and reproduction is not exact, the costs to establish the extensive infrastructure for AT Persons or DCMs far exceed the benefits. Robust and current testing methodology for systems and surveillance as recommended in earlier sections provides more relevant, risk averse solutions.

Further, back testing as proposed likely would be very expensive, requiring AT Persons to have access to additional infrastructure with large amounts of historical data across multiple venues, to develop testing methods and tools, and to potentially attempt to imitate DCM level matching behavior and market dynamics. Further, it would not be possible for the DCM to provide, in any cost effective manner, a historical back testing environment of the scale contemplated under the Proposal for the breadth of customers potentially determined to be AT Persons, whose testing needs will span various product complexes, time windows, and market conditions.

As stated elsewhere throughout our responses, CME Group instead recommends implementing principles-based regulations that could include requirements to maintain, and periodically review, development testing and supervision methods for AT Persons designed to mitigate any Algorithmic Trading Event.

Real Time Monitoring by Persons Not Associated with Algorithmic Trading: CME Group does not believe that it would be consistent with current market practice to require all AT Persons to have independent personnel monitor algorithmic trading programs in real time. Often, the trader is the best person to monitor the algorithm as he or she will have the greatest capability to assess aberrations. Any final regulation should be flexible enough to allow the most reasonable approach for real-time monitoring that is proportional to the AT Person's business model, size and risk profile. In some cases, this may mean the trader or traders are the same person or persons with responsibility for monitoring the algorithm. This is consistent with CME Group's requirement that all clearing member firms maintain risk management policies tailored to the type and size of their business.

Testing Of Changes with DCMs (Proposed Regulation 1.81(a)(ii)): In CME Group's view,

"any" change makes for too vague and too expansive of a definition and may encompass testing for changes to systems which would not reduce risk to the AT Person or the overall markets, but could be a significant cost burden for AT Persons and the DCM. Additionally, the vague nature of this requirement is complicated further when considering how to manage responsibility for testing with regard to AT Persons and the use of third party applications. In CME Group's experience, market participants seem capable of assessing which changes must be tested as those which may have some impact on CME Group's markets or systems, versus changes that are routine and not impactful. As discussed in later sections, CME Group maintains a testing environment that all market participants, including clearing members and customers, utilize frequently to conduct exchange-based testing. CME Group suggests that a principles-based development and testing approach would provide market participants the flexibility to appropriately assess changes for impact prior to introducing to production.

42	**Are there any aspects of § 1.81(a)–(d) that are unnecessary for purposes of reducing the risks from Algorithmic Trading, and should not be mandated by regulation? If so, please explain.**

As discussed more extensively in our comment letter in Section II.M, CME Group joins fellow commenters in expressing concern regarding the source code repository requirement. While source code can be a valuable investigatory tool after the fact, creating a repository where the code is available on demand does not reduce any risks from Algorithmic Trading. It does, however, increase the risk that the source code may be accessed by those who seek to do the markets harm.

43	**Are the procedures described above for the development and testing of Algorithmic Trading sufficient to ensure that algorithmic systems are thoroughly tested before being used in production, and will operate in the manner intended in the production environment?**

CME Group supports principles-based proportionate development and testing of Algorithmic Trading systems. CME Group has concerns regarding the prescriptive nature of the requirements set forth in Proposed Regulation 1.81. These requirements will introduce significant cost and inefficiencies without the benefit of reduced risk to DCMs and market participants. CME Group feels that the Commission has significantly underestimated the cost to both market participants and DCMs to support performance level production testing.

As discussed in our comment letter in Section II.K, while we offer test environments that mimic current and future production functionality as well as production mock trading sessions for our customers, the Proposal's requirement to offer simulated production trading in a test environment would be overly burdensome and, in most cases, AT Persons would not be able to handle the volume that would be necessary to replicate a production environment.

Requiring DCMs to provide test environments that simulate production performance levels would be costly and would not be as effective as the current market practice of AT persons designing and developing their own, scaled environment with the support of the DCM. Further, no test environment can anticipate how software will perform in live market conditions.

44	**Are there any additional procedures for the development and testing of Algorithmic Trading that should be required under Regulation AT?**

No, as discussed throughout our comment letter, CME is advocating for principles-based regulations for all aspects of Regulation AT.

45	**Are any of the required procedures for the development and testing of Algorithmic Trading likely to become obsolete in the near future as development and testing standards evolve?**

CME Group agrees that all persons engaged in Algorithmic Trading should maintain relevant and appropriate testing methods, written procedures and monitoring protocols that are proportional and reasonable based on the size and nature of the AT Person's business. However, CME Group believes that the prescriptive nature of the type of procedures, documentation and monitoring that would be required under the Proposal inherently makes it likely that such requirements will become obsolete in the future. As we have noted throughout our response, a principles-based set of requirements that each organization can tailor to its particular type of business and which can be evaluated by exchanges and the CFTC in the normal course of business are more likely to adapt to changing market structure and evolving technology.

46	**Are the procedures for designating and training Algorithmic Trading staff of AT Persons sufficient to ensure that such staff will be knowledgeable in the strategy and operation of Algorithmic Trading, and capable of identifying Algorithmic Trading Events and promptly escalating them to appropriate staff members?**

CME Group supports the development of appropriate procedures for designating and training Algorithmic Trading staff of AT Persons that ensure prompt identification of Algorithmic Trading Events, that in no way creates or contributes to a disorderly market, and that facilitates corrective actions suitable to operational risk. However, we would caution the Commission from imposing a prescriptive one-size-fits-all standard. Instead, the Commission should allow AT Persons to develop policies, training, and procedures that are in line with the nature of their businesses. As noted above, some market participants may not be large or sophisticated enough to have separate risk monitoring, design and testing personnel who differ from compliance or trading personnel. As with all other aspects of the Proposal, the training requirement should be predicated on the nature of the algorithmic trading being conducted.

47	**Is it typical that persons responsible for monitoring algorithmic trading do not simultaneously engage in trading activity?**

Whether a person responsible for monitoring trading is also engaged in trading activity is determinant on a number of factors including, but not limited to, the classification or type of market participant based on its business model and corporate structure, the complexity and sophistication of a market participant's systems, and the trading strategies employed. As such, we support the proposition that market participants should monitor and instill appropriate

operational procedures designed to identify and respond to any algorithmic trading related issues as appropriate. This structure should be in conformity with the nature of the market participant's business model to ensure algorithmic trading in no way creates or contributes to an Algorithmic Trading Event.

We believe any final regulation should be flexible enough to allow the most reasonable approach for real-time monitoring that is proportional to the AT Person's size and risk profile. In some cases, this may mean the same person or multiple persons with a division of responsibility to appropriately and effectively monitor trading activity to and procedures in place to mitigate risk of an algorithmic trading issue.

48	**Proposed §§ 1.80, 1.81, and 1.83 would impose certain requirements on all AT Persons regardless of the size, sophistication, or other attributes of their business. The Commission requests public comment regarding whether these requirements should vary in some manner depending on the AT Person. If commenters believe proposed §§ 1.80, 1.81, and 1.83 should vary, please describe how and according to what criteria.**

CME Group urges the Commission to avoid inflexible requirements in the context of Proposed Regulation 1.80, 1.81, and 1.83. It is still unclear to us how many and what types of market participants will be affected by these regulations as currently proposed. Effective risk management programs should feature robust pre- and post-trade risk management protocols and supervisory procedures that are reasonably designed to control access, effectively monitor trading, and prevent errors as well as other inappropriate activity that poses a material risk of causing a significant market disruption. However, as mentioned in our response to Question 47, there are a variety of important factors that must be considered in determining the scale with which an effective risk management program should be designed and implemented. We urge the Commission to avoid promulgating regulations that would significantly and adversely affect smaller or less sophisticated market participants that may otherwise be classified as AT Persons.

IV(J) Risk Management by Clearing Member FCMs -- § 1.82	
49	**Are any pre-trade or other risk controls required by § 1.82 ineffective, not already widely used by clearing member FCMs, or likely to become obsolete?**

Many of the controls described in Proposed Regulation 1.82 are widely used at some level and are effective. While the controls detailed create a comprehensive framework for risk controls, in its current state, the Proposal is too prescriptive. Not every control is appropriate to administer at every level of execution. For all market risk controls, application and granularity should depend on the level of execution at issue (trading firm, executing FCM, clearing member or DCM). In some cases, applying the same controls at multiple layers but different levels of granularity may be appropriate.

50	**Are there any aspects of proposed § 1.82 that pose an undue burden for clearing member FCMs and are unnecessary for purposes of reducing the risks associated with Algorithmic Trading? If so, please explain (1) the burden; (2) why it is not necessary to reduce the risks associated with Algorithmic Trading, particularly in the case of DEA. What alternatives are available consistent with the purposes of Regulation AT?**
We defer to others to respond.	
51	**Please describe the technological development that would be required by clearing member FCMs to comply with the requirement to implement and calibrate the pre-trade and other risk controls required by § 1.82(c) for non-DEA orders. To what extent have clearing member FCMs already developed the technology required by this provision, for example in connection with existing requirements under § 1.11, and §§ 1.73 and 38.607 for clearing FCMs to manage financial risks?**
We defer to others to respond.	
52	**Are there additional pre-trade or other risk controls that should be specifically required pursuant to proposed § 1.82?**
No, the regulation as proposed is too prescriptive. Any framework for establishing base line categories of market risk controls (not just pre-trade risk controls) must be flexible to allow a clearing FCM (and market participants and DCMs) to take into consideration the nature of its business and customers and the evolution of technology capable to manage market risk and accidental overtrading. Clearing FCMs must be allowed to continue to implement credit controls on a post-trade basis as well.	
53	**Do you believe that the pre-trade and other risk controls required in § 1.82 sufficiently address the possibility of technological advances in trading and development of new, more effective controls that should be implemented by FCMs?**
CME Group believes the prescriptive nature of the proposed regulations would make it difficult to assure appropriate application in the future. Rigid requirements as proposed in the regulations today will inherently not keep up with technology and innovation. The CFTC should adopt a principles-based framework that provides flexibility as to the location and granularity of each such control, which would include how those principles should be interpreted in the future.	
54	**The Commission welcomes comment on whether the requirements of § 1.82 relating to the design of controls and the levels at which the controls should be set are appropriate and sufficiently granular.**
For the clearing FCM, the AT Person (entity) is the customer and generally the FCM manages the customer risk as whole. For the AT Person, it may be that there are multiple traders with	

multiple strategies that the AT Person wishes to control at a more granular level, or the AT Person's clearing FCM requests that the AT Person set such control at a more granular level. We believe that the Commission should not focus on what level of granularity should be applied and instead be general enough to address the activity that the regulation is attempting to mitigate.	
55	**Proposed § 1.82 does not require FCMs to have connectivity monitoring such as "system heartbeats" or automatic cancel-on-disconnect functions. Do you believe that § 1.82 should require FCMs to have such functionality?**
We defer to others to respond.	
56	**Proposed § 1.82 requires clearing FCMs to implement controls with respect to AT Order Messages originating with an AT Person. The Commission is considering modifying proposed § 1.82 to require clearing FCMs to implement controls with respect to all orders, including orders that are manually submitted or are entered through algorithmic methods that nonetheless do not meet the definition of Algorithmic Trading. Such a requirement would correspond to the requirement under proposed § 40.20(d) that DCMs implement risk controls for orders that do not originate from Algorithmic Trading. If the Commission were to incorporate such amendments in any final rules arising from this NPRM, its intent would be to further reduce risk by ensuring that all orders, regardless of source, are screened for risk at both the clearing member FCM and the DCM level. Risk controls at the point of order origination would continue to be limited to AT Persons. The Commission requests comment on this proposed amendment to §1.82, which the Commission may implement in the final rulemaking for Regulation AT. The Commission requests comment on the costs and benefits to clearing FCMs of this proposal, in addition to any other comments regarding the effectiveness of this proposal in terms of risk reduction.**
We defer to others to respond.	

IV(K) Compliance Reports Submitted by AT Persons and Clearing FCMs to DCMs; Related Recordkeeping Requirements -- § 1.83	
57	**The Commission welcomes comment on the type of information that should be included in the reports required by proposed § 1.83. Should different or additional descriptions be included in the reports, which will be evaluated by DCMs under proposed § 40.22?**
As discussed in our comment letter in Section II.E, CME Group does not believe that annual reports in this context are useful or necessary. CME Group staff is not in any position currently to determine whether the quantitative settings or calibrations of any AT Person's controls are sufficient. While CME Group itself requires market participants to comply with its rules, deploy certain credit controls and supervise its employees, CME Group does not require that any reports	

be filed as CME Group simply would not have the resources to review such reports.

First, it is important to recognize that the information required to be included in an annual report, namely details of the AT Person's pre-trade risk controls, will be stale the day the information is received. The pre-trade risk controls described in Proposed Regulation 1.83 are fluid controls. If the controls are designed to minimize operational risks, like malfunctioning algorithms, the controls may change as each algorithmic strategy changes. Or, if the controls are designed to minimize market liquidity risks, they may change with the market. Given this, the reports the AT Persons would be submitting to the DCMs would contain stale and irrelevant data, which the DCMs would nonetheless be required to review and evaluate under Proposed Regulation 40.2.

Second, such a backward looking report does nothing to prevent market risk or disruptive practices that may occur tomorrow. Without a fulsome review, a moral hazard is created whereby the AT Person will believe the DCM has "signed off" on such controls when the DCM is not in a position to evaluate all reports on a timely basis, nor is it required to do so under Proposed Regulation 40.22. This may result in a false sense of security and attentiveness at the AT Person level with respect to such controls.

In addition, CME Group would have to hire additional staff with expertise in the design and review of quantitative settings of algorithms representing market strategies of all of its participants. To hire such staff to review a stale document would be unduly burdensome and costly as detailed earlier in this response.

Finally, filing a document with every DCM where the AT Person trades potentially would subject clearing FCMs and AT Persons to conflicting comments from all competing DCMs. This is duplicative and unnecessary. Each DCM has the right to inquire of its members and market participants as to any policies and procedures where the DCM has cause for concern.

58	**How often should the reports required by proposed § 1.83 be submitted to the relevant DCMs? Should the report be submitted more or less frequently than annually?**

CME Group does not believe that AT Persons and clearing FCMs should be required to submit any reports to DCMs. As discussed in our comment letter in Section II.E and in our response to question 57, annual reports should not be created or submitted as the compiling of another large report does not serve to prevent or detect disruption, errors or manipulative behavior. The customer or clearing firm's policies and procedures, including change management, risk procedures and compliance procedures, should be available to the DCM as part of the DCM's review, or upon request if the DCM has specific concerns.

Nonetheless, Proposed Regulation 40.22 provides that each DCM must establish a program for effective "periodic review" and evaluation of the reports prepared pursuant to Proposed Regulation 1.83. We understand the phrase "periodic review" is intended to mean that a DCM would not be required to review all annual reports every year – DCMs instead would be required to only "periodically" review the annual reports. This interpretation is supported by the cost-benefit analysis for this section, which bases the cost calculations on a DCM reviewing 120

reports per year, while there will be an estimated 577 AT Persons. If the DCM is only required to "periodically" review AT Person reports, it is illogical to require the AT Persons to submit reports to the DCM annually.

Finally, the FINRA model of an internal certification regarding market access controls satisfies the Commission's goal of mitigating (but not preventing) risks arising from algorithmic trading activity. Similar to what FINRA requires, CME Group would support a model where certain firms or persons are required to:

- Establish, document, and maintain a system of risk management controls and supervisory procedures reasonably designed to manage the financial, regulatory, and other risks of this business activity. Such policies and procedures should be tailored to the types of business conducted, the products traded and the size and complexity of the market participant;

- Certify on an annual basis that it has reviewed such risk management controls and supervisory procedures and they are reasonably designed to mitigate Algorithmic Trading Events; and

- Make the certifications available to the DCMs or the CFTC for review and evaluation.

Please note, however, that CME Group's rules already require all clearing members to have written risk management policies and procedures, as does CFTC Regulation 1.11.

59	**When should the reports required by proposed § 1.83 be submitted to the relevant DCMs? Should the reports be submitted on a date other than June 30 of each year?**

Please see our response to question 58. CME Group does not believe the reports should be compiled or submitted to the DCMs.

60	**Should a representative of the AT Person or clearing member FCM other than the chief executive officer or the chief compliance officer be responsible for certifying the reports required by proposed § 1.83? Should only the chief executive officer be permitted to certify the report? Alternatively, should only the chief compliance officer be permitted to certify the report?**

While we previously opined in response to the Concept Release that any attestation to the certification of a firm's risk based systems and safeguards should lie with the supervisors with business line responsibility and knowledge for the systems at issue, after further consideration, we believe a higher level certification could be warranted given the scope of Regulation AT. In instances where the primary business of the market participant is to engage in trading, the certification may be more appropriate from the most senior officer. However, for end users utilizing futures markets for hedging purposes such as agricultural entities, airlines, and transportation companies, it may be more appropriate to have the most senior employee with

knowledge of the role that algorithmic trading plays make the certification.

However, similar to FINRA, the CFTC and the DCMs should recognize "that supervisors with business line responsibility are accountable for the discharge of a member's compliance policies and written supervisory procedures. The signatory to the certification is certifying only as to having processes in place to establish, maintain, review, test and modify the member's written compliance and supervisory policies and procedures and the execution of this certification and any consultation rendered in connection with such certification does not by itself establish business line responsibility." (FINRA Supplementary Material .07).

61	**Are there any aspects of proposed § 1.83(b) that pose an undue burden for clearing member FCMs and are unnecessary for purposes of reducing the risks associated with Algorithmic Trading? If so, please explain (1) the burden; (2) why it is not necessary to reduce the risks associated with Algorithmic Trading, particularly in the case of DEA. What alternatives are available consistent with the purposes of Regulation AT, including in particular Regulation AT's intent that § 1.83 reports benefit from the third-party SRO review performed by DCMs with respect to such reports?**

Clearing FCMs already undergo significant review by their designated self-regulatory organization ("DSRO") and by the clearing organizations. At CME Group, clearing member firms are required to regularly produce to the clearing house documentation on policies and procedures for monitoring credit risks of accepting trades; monitoring risks associated with house trading; limiting impact of significant market moves through the use of tools such as stress testing or position limits; maintaining an ability to monitor account activity on an intraday basis; and ensuring order entry systems, which include the ability to set automated credit controls or position limits or requiring a firm employee to enter orders.

Importantly, the clearing house reviews of clearing member firms includes a requirement that the firms provide documentation on the types of testing/requirements necessary for the approval of an ATS and the types of risk-based limits and controls for these accounts. Similarly, the firms have to explain their procedures for cutting off an ATS. The DSRO's review of FCM's written Risk Management Program and verifies the program takes into account the following:

- Market
- Credit
- Liquidity
- Foreign currency
- Legal
- Operational
- Settlement
- Segregation
- Technological
- Capital risks
- Risks posed by affiliates

- Lines of FCM business
- FCM trading activity

As stated previously, with respect to the benefit of having a DCM review reports, the information contained in these reports would be stale the day the information was received by the firm from the trading team. Strategies, inputs, parameters, and thresholds on algorithmic trading systems change frequently, as do market conditions. There is little value in reviewing specific thresholds or limits after the fact for this reason, beyond simply knowing the firm has a robust internal process for evaluating its risks.

62	**Should the reports required by proposed § 1.83 be sent to any entity other than each DCM on which the AT Person operates, such as the Commission or an RFA? For example, should the Commission require that AT Persons that are members of a RFA send compliance reports to RFA upon NFA's request?**

As stated previously, CME Group does not believe the reports should be filed at all. Needless to say, filing with every DCM, the RFA and the Commission would be duplicative and unlikely to lead to any benefit in reviewing stale information.

63	**Proposed § 1.83(c) includes recordkeeping requirements imposed on AT Persons, and proposed § 1.83(d) includes recordkeeping requirements imposed on clearing member FCMs. Should the recordkeeping requirements of § 1.83(c) be distributed throughout the sections of the Commission's regulations that contain recordkeeping requirements for various categories of Commission registrants that will be classified as AT Persons? Should § 1.83(d) be transferred to section 1.35 of the Commission's regulations, which contains recordkeeping requirements for clearing member FCMs?**

As discussed in Section II.B of our comment letter, CME Group does not believe a new registration category is warranted or has been authorized by Congress. Clearing FCMs and members of contract markets are already subject to recordkeeping requirements. CME Group would welcome the opportunity to work with the Commission to update existing recordkeeping requirements to reflect the changes in the markets since such regulations were originally written. However, CME Group does not believe that Regulation AT should be used for this purpose.

IV(L) Direct Electronic Access Provided by DCMs § 38.225(b) and (c)	
64	**Are there any pre-trade and other risk controls required by § 38.255(b) and (c) that will be ineffective, not already widely provided by DCMs for use by FCMs, or likely to become obsolete?**

Generally, yes. As we discuss in our comment letter in Section II.D.2, certain risk controls are not currently utilized or provided at the level of granularity by DCMs for use by clearing FCMs as would be required under Proposed Regulation 38.255.

65	**Are there additional pre-trade or other risk controls that DCMs should be specifically required to provide to FCMs pursuant to proposed § 38.255(b) and (c)?**

CME Group supports the proposition that effective risk management protocols are necessary for all market participants and clearing firms in an effort to substantially reduce the likelihood that a single point of failure will threaten the integrity or stability of the marketplace. However, we oppose Proposed Regulation 38.255 mandating DCMs to provide risk controls to clearing member firms in the manner and form outlined in the Proposal as it would impose significant and unnecessary cost and liability.

66	**Do you believe that the pre-trade and other risk controls required pursuant to § 38.255(b) sufficiently address the possibility of technological advances in trading? For example, do they appropriately address the potential for the future development of additional effective controls that should be provided by DCMs and implemented by FCMs?**

As we outlined and supported throughout our Response to the Concept Release, derivatives market participants, FCMs, clearing members, DCMs, and others deeply interconnected to the futures industry have for more than 15 years pioneered the development of comprehensive and highly advanced risk based controls and surveillance systems that continue to adapt to changing technology and market behavior. These tools have been instrumental in protecting our markets from market abuse and disruption despite the changing futures industry landscape and without the interference or demand of government regulation. This collective standard of excellence by all levels of the industry is a testament to the integrity, resiliency, and progression of the futures markets. Thus, we are concerned that the Proposal's prescriptive pre-trade risk control requirements will disrupt the current paradigm in a manner that will impede technological risk mitigation responses to an ever-evolving trading landscape.

Notwithstanding, we do not believe DCMs should be the "purveyor" of all risk controls at all levels to clearing FCMs, and that prudent risk management through the development and use of effective risk mitigation tools should be obligations that are shared by exchanges, clearing members, and market participants alike.

67	**The Commission welcomes comment on whether §38.255(b)'s requirements relating to the design of controls and the levels at which the controls should be set are appropriate and sufficiently granular.**

As discussed throughout our comment letter, CME Group supports a more flexible, principles-based regime that is built upon a solid understanding of existing best practices. The Proposal seeks to impose specific structural and operational parameters of certain risk controls that CME Group and other DCMs do not offer today and, in some instances, may run contrary to effective risk management. DCMs should have the greatest flexibility in determining which controls to apply and at what levels of granularity such controls should be set. Requiring otherwise simply would not be practicable from a regulatory perspective without significant costs or consequences to the way in which our markets operate.

68	**Proposed § 38.255(b) and (c) do not require DCMs to provide to FCMs connectivity monitoring systems such as "system heartbeats" or automatic cancel-on-disconnect functions. Should § 38.255 require such functionality?**

Please see our comment letter at Section II.D.1 for a description of CME Group's Cancel on Disconnect ("CoD') system.

While we believe that CoD serves a valuable risk management purpose, mandating CoD for all AT Persons could pose significant complications and introduce greater risk for certain firms. For instance, if the Commission were to mandate CoD for a firm that qualified as an AT Person and that employed a strategy which involved holding long term positions, in the event that firm disconnected from its Globex trading session, CoD would potentially cancel thousands of strategically placed resting orders – a result that could be extremely detrimental to the firm's viability. Moreover, clearing firms have several more targeted tools at their disposal to restrict or cancel orders for a specific firm, trading account, session ID, or combinations of the aforementioned.

IV(M) Disclosure and Transparency in DCM Trade Matching Systems -- § 38.401(a)	
69	**The Commission has proposed that certain components of an exchange's market architecture should be considered part of the "electronic matching platform" for purposes of the DCM transparency provision. Are there any additional systems that should fall within the meaning of "electronic matching platforms" for purposes of proposed § 38.401(a)?**

As explained in our comment letter in Section II.J, CME Group continues to believe that the current regulatory scheme is sufficient and that CME Group Exchanges, like other DCMs, are already providing the information that is material to market participants. Notwithstanding this view, CME Group does not believe that there are additional systems that should fall within the meaning of "electronic matching platforms" for the purposes of Proposed Regulation 38.401(a). To the contrary, CME Group believes the Commission should consider narrowing the scope of these requirements. For example, the Commission should consider whether it should clarify that the disclosure obligations extend solely to a DCM's systems from gateway to gateway – meaning from the time an order enters the DCM's gateway until a confirmation and/or market data exits the gateway back to the market participant. CME Group welcomes the chance to work with the Commission and other interested parties to tailor the definition of "electronic matching platforms" in a way that meets the Commission's objectives without placing uncertainty or undue burden on DCMs.

70	**The Commission has specifically identified, as "attributes" that must be disclosed, latencies within a platform and how a self-trade prevention tool determines whether to cancel an order. Are there any other attributes that would materially affect the execution of market participant orders and therefore should be made known to all market participants? Should the**

	Commission revise the final rule so that it only applies to latencies within a platform and how a self-trade prevention tool determines whether to cancel an order?

CME Group understands the Commission's desire to provide market participants with, among other things, fulsome information as to how the user experiences the market. In accordance with their responsibilities under the Core Principles and applicable regulations, we respectfully submit that DCMs, through their rule sets and other documentation, already provide a comprehensive amount of information as to how the user experiences the market. Therefore, we submit that any additional requirements should be more circumscribed and should offer more clarity to the marketplace as to what is required and what will be provided. As we stated in our comment letter, requiring the disclosure of "known attributes" will not necessarily achieve that goal. Without further clarity, it is difficult to determine how best to express additional information to the marketplace. CME Group would welcome the chance to work with the Commission and other interested parties on further defining the parameters of any such disclosure so that market participants are provided the necessary information without imposing uncertainty and undue burden on DCMs.

As stated in our comment letter in Section II.J, there are numerous difficulties in determining how latencies may exhibit themselves at any particular point in time – the best that can be offered is high level information on typical performance. Of course, such information may or may not reflect a market participant's actual experience with the electronic matching platform and, as a result, has limited practical utility to market participants. Many of these examples, which would be considered "attributes" under the Proposal, are subject to these types of variabilities. The operation of the self-match prevention tool can be (and has been previously) disclosed to the marketplace. We believe we provide ample narrative description of the operation of that tool.

71	**What information should be disclosed as part of the description of relevant attributes of the platform? For instance, with latencies within a platform, should statistics on latencies be required? If so, what statistics would help market participants assess any impact on their orders? Would a narrative description of attributes be preferable, including a description of how the attributes might affect market participant orders under different market conditions, such as during times of increased messaging activity?**

Please see our response to question 70.

72	**The Commission notes that proposed § 38.401(a)(1)(iii) and (iv) are not intended to require the disclosure of a DCM's trade secrets. The Commission requests comments on whether the proposed rules might inadvertently require such disclosure, and if so, how they might be amended to address this concern. Furthermore, the Commission anticipates that the mechanisms and standards for requesting confidential treatment already codified in existing § 40.8 could be used by DCMs to identify and request confidential treatment for information otherwise required to be disclosed pursuant to proposed §**

	38.401(a)(1)(iii) and (iv), for example by incorporating § 40.8's mechanisms and standards into any final rules arising from this Proposal. If commenters believe that the mechanisms and standards in § 40.8 are inappropriate for this purpose, please describe any other mechanism that should be included in any final rules to facilitate DCM requests for confidential treatment of information otherwise required to be disclosed pursuant to proposed § 38.401(a)(1)(iii) and (iv).

Given the breadth of the term "attribute", the Proposal could possibly require the disclosure of trade secrets, despite the Commission's statement that it does not intend to require this. DCMs should not be required to make any filing or public disclosure regarding trade secret information.

The mechanisms of CFTC Regulation 40.8, and through their incorporation by reference, the requirements of the Commission's Freedom of Information Act requirements in Regulation 145.9, are not well suited for protecting trade secrets and other DCM proprietary information. The mechanisms of Regulation 40.8 allow for Commission staff to review and determine whether or not information should be protected as confidential. This type of submission and review is counter to the concept of trade secrets, which are protected from disclosure. While patents and trade secrets are not mutually exclusive concepts, in contrast to the patent process, information protected as trade secrets is not filed with a governmental body for review and a determination regarding the status of the information as a trade secret. Also unlike patents, trade secrets do not expire. In contrast, the proposal would have DCMs submit to the Commission their proprietary, non-public information for governmental review to a process that recognizes time limits on confidential treatment. Without the benefit of clear regulatory standards, Commission staff will need to weigh the importance of protecting a DCM's proprietary, confidential information, possibly even without the benefit of fully understanding the sensitivity of the information, against its own policy goals of implementing regulations that require public disclosure of certain (but not specifically defined) trading platform attributes.

The Commission has stated that Proposed Regulations 38.401(a)(1)(iii)-(iv) are not intended to require the disclosure of a DCM's trade secrets. To the extent the Commission moves forward with this portion of the proposed regulation, CME Group suggests that this be memorialized in any final regulation.

73	**The Commission notes that DCMs are required, as part of voluntary submissions of new rules or rule amendments under § 40.5(a) and self-certification of rules and rule amendment under § 40.6(a), to provide inter alia an explanation and analysis of the operation, purpose and effect of the proposed rule or rule amendment. Would the information required under §§ 40.5(a) or 40.6(a) provide market participants and the public with sufficient information regarding material attributes of an electronic matching platform?**

In general, CME Group believes that the information currently provided in its rule submissions provides a baseline of information for a market participant to understand the operation and purpose of a proposed rule.

74	**The Commission recognizes that DCMs are required to have system safeguards to ensure information security, business continuity and disaster recovery under DCM Core Principle 20. The Commission understands that some attributes of an electronic matching platform designed to implement those safeguards should be maintained as confidential to prevent cybersecurity or other threats. Does existing § 40.8, 17 CFR 40.8 (2014) provide sufficient basis for DCMs to publicly disclose the relevant attributes of their platforms while maintaining as confidential information concerning system safeguards?**

Requiring DCMs to disclose certain attributes of their systems that are associated with system safeguards concerns may result in unnecessary security risks. For example, publicly disclosing capacity information or network or system diagrams may pose security risks. Existing Regulation 40.8 may not offer sufficient protections or compensating controls to address the inherent risks in the process of disclosing and requesting confidential treatment for certain information concerning system safeguards. Further, the proposal may inadvertently concentrate risk, even if confidential treatment is granted, by making the Commission a de facto central repository of all DCMs most highly sensitive information. If the information will not be publicly disclosed, there is no benefit realized by having the Commission staff receive such sensitive information. The Commission regularly exercises separate authority under DCM Core Principle 20 to examine for systems safeguards compliance, and receiving certain information that should not be publicly disclosed under Proposed Regulations 38.401(a)(1)(iii)-(iv) would be unnecessarily duplicative and would not result in a commensurate benefit. To the extent that the Commission was to move forward with this portion of the Proposal, CME Group suggests that the Commission memorialize in a final regulation an exclusion allowing a DCM to make available to the Commission, but not submit, any information that the DCM, in good faith, believes may compromise system safeguards were the information to be publicly released.

75	**With respect to material attributes affecting market participant orders caused by temporary or emergency situations, such as network outages or the temporary suspension of certain market functionality, what is the best way for DCMs to alert market participants? How are DCMs currently handling these situations?**

The material connectivity scenarios that may affect market participants, be it one market participant or all of them, are as varied as the market participants themselves. In the case of a full market-wide outage or temporary halt, all users should be notified, but it is potentially disruptive to notify all users when they are not affected. The issue may be unique to a particular vendor, region, country or customer. CME Global Command Center (GCC) maintains a Targeted Messaging System that communicates via email with specific market users regarding events that impact the user depending on the type of incident and such user's connectivity to CME Group Exchanges (e.g., an event affecting our Exchange's trading software, CME Direct, would go only to those users whereas an event regarding trading connectivity to the Exchange's trading platform goes to all market participants).

In some instances, GCC may be able to determine the affected participants, such as when a

particular hub has an issue. In such cases, GCC would email only the users of the hub that could be affected in order to alert them to the issue. However, a group of affected users may not be determinable (e.g., an iLink disconnect has been reported by some, but not all, iLink users). The communication in that situation is to make iLink users aware that there may be a situation which could affect them and that CME Group is working to resolve it. This targeted messaging serves to both communicate the awareness of and/or status of the problem or solution, but not to flood all market users with messages regarding all issues, such that the messages are ignored.

CME Group has found that using targeted email lists to contact those persons or market users that have the direct control and authority over the connectivity to the exchange has been the most productive. CME Group believes the most important response to such temporary or emergency outages or other system issues is to timely communicate timely to the possible affected users that CME Group is aware of/working on the issue as well as the possible (if known) timing of resolution.

CME Group has developed these practices over decades and believes the following to be the best method for DCMs to alert affected market participants of outages or halts:

EVENT: Emergency Situation resulting in an outage that will affect a significant number of market users and/or has the potential to require an emergency market halt.

METHOD OF COMMUNICATION: CME Group will post a message on CMEGroup.com and notifies the subscribed customers via email.

EVENT: Emergency Situation resulting in market being halted.

METHOD OF COMMUNICATION: Emails to all users at intervals throughout the event investigation. When issue is resolved, email to announce the market pre-open and re-opening time.

EVENT: Discovery of a possible event of limited scope affecting a determinable group of market participants.

METHOD OF COMMUNICATION: Email to affected users.

EVENT: Discovery of a possible event with an indeterminable group of market participants (e.g., a iLink disconnect).

METHOD OF COMMUNICATION: Email to alert all possible affected users.

EVENT: Discovery of an issue limited to a single user.

METHOD OF COMMUNICATION: Email or telephone call to authorized firm contact.

76	**The Commission proposes that DCMs provide a description of the relevant material attributes in a single document "disclosed prominently and clearly"**

	on the exchange's website. The Commission also proposes that this document be written in "plain English" to allow market participants, even those not technically proficient, to understand the attributes described. Would these requirements be practical and help market participants locate and understand the information provided?
Regulation 38.401(a)(1)(iii) currently requires that DCMs have procedures, arrangements and resources for disclosing to the Commission, market participants and the public accurate information regarding the rules and specifications of their electronic matching platforms or trade execution facilities. This has already resulted in a plethora of rules and information regarding CME Group electronic trading platforms. It is unclear what benefit an additional document would bring.	
77	**The Commission proposes requiring DCMs to disclose information on the relevant attributes:** **(a) when filing a rule change submission with the Commission for changes to the electronic matching platform; or** **(b) within a "reasonable time, but no later than ten days" following the identification of such attribute.** **Do the proposed timeframes provide sufficient time for DCMs to disclose the relevant information? Do the proposed timeframes offer sufficient notice of changes or discovered attributes to market participants to allow them to adjust any systems or strategies, including any algorithmic trading systems?**
Given the breadth of the term "attribute," it is difficult, if not impossible to come up with a bright line rule. CME Group believes that any 10-day timing requirement for disclosure is not practical. Identification of a "known attribute" (or one that we "should have known"), as defined in the proposed regulation, anticipates that a DCM will be able to identify and describe the material aspects of the attribute in a discrete and limited time period. While, in certain instances, it may be easy to anticipate in advance that certain changes may have a material impact, with others, it may not be.	
78	**The Commission proposes requiring disclosure of newly identified attributes within 10 days of discovery. Does this provide DCMs sufficient time to analyze the attribute and provide a description? Should DCMs be required to provide notice of the existence of the attribute and supplement as further analysis is performed?**
As stated in our comment letter in Section II.J and in our response to question 77, CME Group believes that any 10-day timing requirement for disclosure is not practical. The practicality of the ability to supplement information would depend upon the scope of any final regulation.	

IV(N) Pre-Trade and Other Risk Controls at DCMs § 40.20	
79	**The Commission proposes to require DCMs to set pre-trade risk controls at the level of the AT Person, and allows discretion to set controls at a more granular level. Should the Commission eliminate this discretion, and require that the controls be set at a specific, more granular, level? If so, please explain the more appropriate level at which pre-trade risk controls should be set by a DCM.**

CME Group believes the proposed regulation is too prescriptive as to the granularity of the control being offered by the DCM. Current Regulation 38.255 already charges DCMs with the responsibility to reduce the potential risk of price distortions and market disruptions. We believe that this requirement is consistent with the Proposal's aim to require measures reasonably designed to mitigate algorithmic events. A DCM has a great incentive to establish well-functioning markets, and it should have flexibility to design and implement controls at the levels of granularity that work best for its particular markets. The Commission should not dictate the specific controls required, nor should it eliminate discretion in how controls are applied. A principles-based framework for applying basic risk controls is the best way to achieve the goals of the Proposal, and it is the best way to let markets and market technology develop going forward.

80	**The Commission requests public comment on the pre-trade and other risk controls required of DCMs in proposed §40.20. Are any of the risk controls required in the proposed rules unhelpful to operational or other risk mitigation, or to market stability, when implemented at the DCM level?**

CME Group does not believe the DCM should be required to implement controls at the level of AT Persons. These controls must be flexible in terms of the level with which a DCM can apply them to best serve to mitigate market risks. As further discussed in our comment letter in Section II.D.1, not all controls described in the Proposal are necessarily pre-trade.

81	**Are there additional pre-trade or other risk controls that should be specifically enumerated in proposed § 40.20?**

No, CME Group does not believe any controls should be specifically enumerated. As discussed throughout our comment letter, the Commission should adopt a principles-based regulation that provides for flexibility as to how, where and with what level of granularity controls are deployed. The marketplace will continue, as it has done without any rulemaking, laws, or regulatory mandate, to enhance risk controls in response to evolving technology.

82	**The Commission proposes, with respect to its kill switch requirements, to allow DCMs the discretion to design a kill switch that allows a market participant to submit risk-reducing orders. The Commission also does not mandate particular procedures for alerts or notifications concerning kill switch triggers. Does the proposed rule allow for sufficient flexibility in the design of kill switch mechanisms and the policies and procedures concerning**

	their implementation? Should the Commission consider more prescriptive rules in this area?
The Commission should not consider prescriptive rulemaking in this area. Kill switch functionality is not the goal; it is the backstop to more effective pre-trade and market quality risk management controls. When a DCM activates the kill switch, it is a last resort to take the participant out of the market with respect to some or all of its orders. At this point of last resort the DCM is not in a position to gauge what a "risk-reducing" order might be for any one particular market participant as a DCM does not have a full and complete view of a market participant's risk profile or its cross-market positions. The Commission should not prescribe how kill switch functionality should be built. The decision to allow the market participant to place risk reducing trades is one better made by that market participant's clearing firm, in consultation with the DCM and with the aforementioned pre-trade risk management controls offered by the clearing FCM and DCM.	
83	**Does existing § 38.1051 provide the Commission with adequate authority to require DCMs to adequately test planned changes to their matching engines and other automated systems?**
Existing Regulation 38.1051 already requires DCMs to test matching engines and automated systems. There does not need to be another regulation simply for one aspect of those systems.	

IV(O) DCM Test Environment for AT Persons § 40.21	
84	**Should the test environment provided by DCMs under proposed § 40.21 offer any other functionality or data inputs that will promote the effective design and testing of Algorithmic Trading by AT Persons?**
In accordance with our more detailed responses to Questions 41-43 and in Section II.K of our comment letter, and absent greater clarity at this time, CME Group strongly supports a *functional testing* regime designed to ensure that an ATS is in compliance with Commission and exchange rules, that the functionality within the ATS works as intended, and that the ATS operates effectively in stressed market conditions utilizing historical data – all of which aim to reduce risk. We believe that this would best align with the current state of DCM capabilities and more appropriately address the Commission's concerns of an AT Person's systems causing or adding to an Algorithmic Trading Event or Disruption.	

IV (P) DCM Review of Compliance Reports by AT Persons and Clearing FCMs; DCM Rules Requiring Certain Books and Records; and DCM Review of Such Books and Records as Necessary— § 40.22	
85	**In lieu of a DCM's affirmative obligation in proposed § 40.22 to review AT Person and clearing member FCM compliance reports, should DCMs instead be permitted to rely on the CEO or CCO representations required by**

	proposed § 1.83(a)(2)? If so, what events in the Algorithmic Trading of an AT Person should trigger review obligations by the DCM?
Yes, as discussed in Section II.E of our comment letter and in our response to question 58, we believe requiring a high-level executive at an AT Person or clearing FCM to certify and attest that the firm has such policies, procedures, and systems necessary to comply with Regulation AT satisfies the Commission's goal of ensuring such market participants maintain procedures for mitigating risks arising from algorithmic trading. In conjunction with having high-level certification, CME Group agrees that the DCMs should have programs designed to scrutinize and test the adequacy of the firms' controls, policies, and procedures when necessary. Such programs should also be administered on a risk based approach. We believe that the type of events that should trigger a detailed review should rest with the discretion of the DCMs.	
86	**Should § 40.22(c) provide more specific requirements regarding a DCM's establishment of a program for effective periodic review and evaluation of AT Person and clearing member FCM reports? For example, § 40.22(c) could require review at specific intervals (e.g., once every two years). Alternatively, § 40.22(c) could provide greater discretion to DCMs in establishing their programs for the review of reports. Please comment on the appropriateness of these alternative approaches.**
CME Group does not believe annual reports should be required as discussed in our comment letter at Section II.E and in our response to question 57. Moreover, CME Group does not believe Proposed Regulation 40.22(c) should provide more specific requirements as we generally support a more principles-based regulation. We believe the most effective approach allows DCMs to have discretion in administering risk-based programs.	
87	**Should § 40.22(e) provide more specific requirements regarding the triggers for a DCM to review and evaluate the books and records of AT Persons and clearing member FCMs required to be kept pursuant to § 40.22(d)? For example, § 40.22(e) could require review at specific intervals (e.g., once every two years), or it could require review in response to specific events related to the Algorithmic Trading of AT Persons. Please comment on the appropriateness of these alternative approaches.**
No, CME Group generally supports a more principles-based regulation. We believe programs should be administered on a risk-based approach where a statistically significant proportion of AT Persons and clearing FCMs would be reviewed in a 36-48 month time horizon.	
88	**Does § 40.22 leave enough discretion to the DCM in determining how to design and implement an effective compliance review program regarding Algorithmic Trading? Alternatively, is there any aspect of this regulation that should be more specific or prescriptive?**

CME Group does not believe Proposed Regulation 40.22 should require annual reports as discussed in our comment letter in Section II.E and in our response to question 57. CME Group generally supports a more principles-based regulation and does not believe this regulation should be more prescriptive.	
89	**Should § 40.22 specifically authorize a DCM to establish further standards for the organization, method of submission, or other attributes of the reports described in § 40.22(a)?**
CME Group does not believe Proposed Regulation 40.22 should require annual reports as discussed in our comment letter in Section II.E and in our response to question 57. CME Group generally supports a more principles-based regulation and does not believe Proposed Regulation 40.22 needs to be more prescriptive.	

IV(Q) Self-Trade Prevention Tools—§ 40.23	
90	**The Commission seeks to require self-trade prevention tools that screen out unintentional self-trading, while permitting bona-fide self-matched trades that are undertaken for legitimate business purposes. Under the regulations proposed above, DCMs shall implement rules reasonably designed to prevent self-trading ("the matching of orders for accounts that have common beneficial ownership or are under common control"), but DCMs may in their discretion implement rules that permit "the matching of orders for accounts with common beneficial ownership where such orders are initiated by independent decision makers."** **a. Do these standards accomplish the goal of preventing only unintentional self-trading, or would other standards be more effective in accomplishing this goal? For example, should the Commission consider adopting in any final rules arising from this NPRM an alternative requirement modeled on FINRA Rule 5210 and require market participants to implement policies and procedures to review their trading activity for, and a prevent a pattern of, self-trades?** **b. While the regulations contain exceptions for bona fide self-match trades (described in § 40.23(b)), the regulations are intended to prevent all unintentional self-trading, and do not include a de minimis exception for a certain percentage of unintentional self-trading. Should the regulations permit a certain de minimis amount of unintentional self-trading, and if so, what amount should be permitted (e.g., as a percentage of monthly trading volume)?** **c. The following terms are used in proposed § 40.23(a) and (b): (1)**

		self-trading, (2) common beneficial ownership, (3) independent decision makers, and (4) common control. Do any of these terms require further definition? If so, how should they be defined? Should any alternatives be used and, if so, how should such substitute terms be defined? **d. With respect to "common beneficial ownership," the Commission requests comment on the minimum degree of ownership in an account that should trigger a determination that such account is under common beneficial ownership. For example, should an account be deemed to be under common beneficial ownership between two unrelated persons if each person directly or indirectly has a 10% or more ownership or equity interest in such account? The Commission refers commenters to the aggregation rules in part 150 of its regulations, including specifically § 150.4, and requests comment on a potential Commission definition of common beneficial ownership that is modeled on § 150.4.** **e. The Commission also requests comment on whether "common beneficial ownership" should be defined in any final rules arising from this NPRM, or whether such definition should be left to each DCM with respect to its program for implementing proposed § 40.23.**

(a) The proposed regulation as drafted appropriately recognizes the legitimacy of certain bona fide self-trades, which contribute to the price discovery process just as competitively executed orders from different beneficial account owners. Importantly, though, firms would be required to engage in an onerous and burdensome process of seeking the DCM's approval to self-match, as discussed in our response to question 92. It is conceivable that given these burdens, some firms may choose to not seek approval and rather have their otherwise bona fide self-trades prevented. Removing from the market legitimate and bona fide trades obviously will degrade the price discovery process.

The alternative suggested, modeling Regulation AT on FINRA Rule 5210, is consistent with how CME Group has approached self-trading. Our Market Regulation Advisory Notice on Wash Trading provides that firms have an obligation to supervise the trading by their employees and algorithms.[1] It further provides that firms must be able to demonstrate the independence of the traders/trading groups/algorithms and should have and enforce policies and procedures that preclude the traders from having access to or knowledge of one another's orders.[2] The advisory also recommends that if a firm or trader's self-trading occurs on more than an incidental basis, they employ functionality

[1] *See* CME Group RA1411-5RR, Question & Answer 12.

[2] *See id.*

such as CME Globex SMP that will minimize the potential for their buy and sell orders to match with each other.[3] ICE Futures US also has similar language in its Wash Sale advisory.

We have found that sound regulatory guidance, robust trade practice surveillance and enforcement of rules, and optional self-trade prevention functionality have been highly effective at reducing unintentional self-trading. Self-trading at the trader-level has declined nearly ten-fold in two years, from an already low percentage of daily volume (1/10th of 1%) to an even lower percentage (1/100ths of 1%).

While the alternative of modeling the proposed regulation after FINRA Rule 5210 is consistent with how the exchanges have effectively approached self-trading, it is for that same reason additional regulation is not needed. It would be duplicative of rules already being enforced.

(b) The basic notion of excepting *de minimis* amounts of self-trading is logically sound but technologically complicated. As noted previously, the CME Globex SMP functionality prevents self-trading from occurring where portions of the order messages on the buy and sell match (SMP ID and Executing Firm ID). This is not technologically complicated. However, this would become highly complicated if, in addition to identifying matching information in order messages, the exchange match engines then have to perform a historical lookup of cleared trade data for that participant to ascertain whether the execution of those orders would breach a predefined self-trade threshold (e.g. a percent of monthly volume; a percent of market volume; etc.). These additional calculations in the trade match process would add latency to the match process, which creates trade uncertainty. This would also add variability in the matching process because not every matched trade would be subjected to a lookup. These are not factors that would apply only to CME Group – any exchange matching engine required to perform this type of lookup and review would introduce latency, variability, and uncertainty to the trade matching process.

The best solution is the one that presently exists. CME Group Exchanges review firms for elevated levels of self-trade activity (e.g. elevated in terms of percent of daily/weekly/monthly volume); percent of market volume; percent of timeframe volume (i.e. settlement period); percent of large order executions; percent of total executions; self-trades at the user-level; self-trades at the account-level; self-trades across the firm; etc.). Where self-trading appears to occur on more than an incidental basis or where it appears that the participant may have intended to trade against himself, the exchanges investigate and pursue disciplinary action if warranted.

(c) For a significant period of time the terms noted in question 90(c) were descript and well-understood by the marketplace. Regulation AT, at least as currently drafted, changes that. The term "self-trading" arose as a direct response to the changing dynamics within the

[3] *See* CME Group RA1411-5RR, Question & Answer 11; Question & Answer 13.

market place. It was used in context of the exchanges' prohibition on wash sales, which courts and the Commission have defined as transactions involving no change in beneficial ownership. However, Regulation AT would extend the common usage of the term to include trades between different beneficial owners but "under common control."

Traditionally, trades between accounts with different beneficial owners but under common control have been defined cross trades, not wash trades and not self-trades. Cross trades, unlike self-trades and wash trades, clearly shift risk between different market participants. And for decades, cross trades have been permitted by the exchanges and by the Commission so long as they are executed in accordance with exchange rules.[4]

Requiring participants who execute cross trades to comply with the burdens of Proposed Regulation 40.23 is not warranted. First, self-trade prevention is not an option. As stated previously, cross trades shift risk between different participants. If an order enterer is prevented from executing opposing orders, he would be forced to execute each order opposite the market separately. This not only has the potential to cause price volatility, but it also degrades the price discovery process by forcing an inefficient execution of orders.

The one aspect not part of the audit trail today is whether the participant has control over certain accounts (i.e. the participant has discretion over the accounts). This will change when the CFTC's Ownership and Control Reporting rules are effective. However, even assuming the Ownership and Control Reporting regime is further delayed, knowing which accounts a participant has under common control over will do little from the perspective of cross trades. If a participant does not have control over an account, then it is not a cross trade or a self-trade, as defined in Proposed Regulation 40.23.

It is our opinion that "self-trading" should be defined for purposes of Proposed Regulation 40.23 as "the matching of orders for accounts that have common beneficial ownership." Please see our response to Question 90(d) for purposes of defining "common beneficial ownership" with respect to self-trades.

Finally, we believe the term "independent decision maker" is a term that does not need further definition in the federal regulations. CME Group DCMs have successfully enforced self-trading rules that for years have contained language about independence between decision makers. In practice, firms demonstrate (or fail to demonstrate) independence in a variety of ways (e.g. physical and technological barriers; profit and loss separation; different supervisory channels; unshared services and support). A definition could not incorporate all of these variations without limiting the means to truly establish independence.

[4] In electronic markets, CME Group's rules allow opposite orders for different beneficial owns that are simultaneously placed by a party with discretion over both accounts (an account controller) may be entered on the electronic platform provided that one order is exposed for a minimum of five seconds for futures or fifteen seconds for options. *See* CME Rules 533 and 531; and associated Market Regulation Advisory Notice CME Group RA1501-5.

(d) In answering this question it is first important to highlight that the Proposed Regulation 40.23 is intended to prohibit and/or impose rules around a category of trades that do not inherently violate any provision of the Commodity Exchange Act. In fact, as articulated previously, an overwhelming portion of self-trades contribute to the price discovery process just as bona fide trades from independent decision makers. With this in mind, any threshold that would ensnare legitimate and bona fide trading activity needs to be carefully considered.

As a point of reference for a threshold, the Commission cites to the ownership threshold for purposes of position limit aggregation rules. This should not be the measuring stick for a threshold for the commonality of ownership with unintentional self-trades. As provided in the Commodity Exchange Act, position limits exist "to reduce the potential threat of market manipulation or congestion (especially during trading in the delivery month)."[5] In the context of intentional conduct like manipulation and wash sales, it makes sense to require entities to aggregate and report positions that are held between accounts with a low level of common ownership (i.e. 10%) in order to preserve the integrity of the markets. The same concerns are not presented with unintentional self-trades targeted by Regulation AT, which do not violate any provision of the Commodity Exchange Act.

For example, we should consider a scenario where managed funds A and B enter opposing orders in the market at the same time. Fund A and Fund B each have 1,000 investors and 100 (10%) are common between the funds. Despite both orders being bona fide, if the managing funds did not seek approval to self-trade, these orders would be prevented from trading against each other. To get their desired fills, each fund would have to trade against the market, exposing not only the 10% common owners but also the 90% uncommon owners to market and execution risk, which thereby creates inefficient trade executions for all owners as a result of the 10% common owners.

While we do not believe a 10% common beneficial ownership threshold is the right threshold for unintentional self-trades, we do believe some threshold should be established to minimize regulatory uncertainty. For unintentional self-trades, our recommendation is that "common beneficial ownership" should be defined as accounts having greater than 50% common ownership. In addition, DCMs should have discretion to subject accounts with 50% or less common ownership to rules prohibiting or permitting self-trades given certain circumstances, such as the frequency of self-trades, self-trade volume of the firm, or self-trade volume in the contract.

The primary justification for a threshold of greater than 50% is that at that level the majority owner or his agent can decide how to handle opposing orders for the commonly owned accounts without impacting a larger percentile owner. The majority owner would have to decide the type of self-trade prevention functionality – whether to cancel the

[5] 7 U.S.C.A. § 7(d)(5).

resting or passive order, whether to seek approval to permit the accounts to self-trade, etc.

(e) While we articulated support for a threshold in our response to question 90(d), we believe it should be up to the DCMs to set the thresholds that work for their markets.

91	**Are there any other types of self-trading that should be permitted in addition to the exceptions permitted in § 40.23(b)(i) and (ii)? If so, please describe such other types of acceptable self-trading and explain why they should be permitted.**

To the extent Proposed Regulation 40.23 is even necessary, there are several types of self-trading that should be permitted in addition to the exceptions permitted in Proposed Regulations 40.23(b)(i)-(ii). This minimally includes self-trades that result from the execution of implied orders; self-trades between accounts with common beneficial ownership from different execution firms; self-trades that result from post-trade allocations; self-trades in omnibus accounts; and self-trades that result from order matches following a pre-open or reserve state. Reasons self-trades should be permitted in each of these is described below.

Self-Trades Resulting from Execution of Implied Orders – CME Globex has functionality that generates orders from other orders. The generated orders are referred to as "implied orders." An implied order is generally created in one of two scenarios: (1) an implied order in a spread market is generated from existing orders in the outright markets; or (2) an implied order in an outright market is generated from an existing order or orders in the spread market(s). In this process, it is possible for a participant to trade against an order implied from one of his existing orders, resulting in an unintentional self-trade. There is no rational reason to prohibit this type of self-trade.

For example, assume Participant A enters an order to buy ten March 2016 corn futures contracts at 358'4 and Participant B enters an order to sell ten May 2016 corn futures contracts at 363'4. The implied functionality may combine those orders to create an implied order to buy the March - May spread at a differential of five. Participant A, or even another trader at the same firm, subsequently enters an order to sell the March - May spread at a differential of five. This order trades against the implied spread order resulting in a self-trade on the March leg of the spread for Participant A. In this hypothetical, Participant A's unintentional self-trade not only contributed to the price discovery process but it also provided liquidity which helped fill Participant B's order.

Self-Trades Between Accounts with Common Beneficial Ownership from Different Execution Firms – In today's market, it is not uncommon for participants to use different execution firms for order entry. And it is not uncommon for opposing orders executed by different firms for the same ultimate beneficial owner to match in the competitive market. CME Group's self-trade prevention functionality currently cannot prevent those orders from trading. CME Group's SMP prevents self-trades where opposing orders have the same SMP ID in the order message *and* the orders were entered by the same execution firm. In other words, it cannot prevent self-trades between execution firms.

The execution firm number is part of the formula as a safeguard. It is possible for a firm to input

an incorrect SMP ID into their order message. Without the second prong checking the execution firm number, that incorrect SMP ID could errantly cancel an order from another firm if the opposing order message had the same (yet correct) SMP ID. We are continually making enhancements to our SMP technology, and while we may offer a tool in the future that prevents self-trades across execution firms, our current SMP technology cannot.

Self-Trades that Result from Post-Trade Allocations – Exchange rules permit orders to be entered using a suspense account, which is a temporary holding account that does not map to a particular owner at execution. Post-trade positions are allocated to customer specific accounts. At execution, if a suspense account trades against itself it is not evident a self-trade will be effected because the resulting positions could be allocated to accounts with different beneficial owners. Self-trade prevention functionality is not workable in this scenario.

Self-Trades in Omnibus Accounts – Generally, an omnibus account is an account held in the name of an entity or person that may be used for placing and clearing the trades of one or more undisclosed customers of the account holder. It may be the case that orders entered for an omnibus account may have been entered on behalf of the same principal or different principals. Accordingly, self-trade prevention for trades between the accounts could prevent trades that would not, in fact, have been self-trades. Our guidance related to Rule 534 (Wash Trades Prohibited) provides that if a participant receives simultaneous buy and sell orders for an omnibus account, the participant has a duty to inquire as to whether the orders are for different account owners within the omnibus account.[6] This requirement is sufficient to avoid even unintentional self-trades.

Self-Trades Resulting from Pre-Open Matching – Prior to CME Group markets opening a new trading session or resuming trading after a halt, the markets are in a state where orders can be entered or modified but no matching occurs. These states are generally referred to as the pre-open or reserve states. During these states, an indicative opening price ("IOP") is calculated based on the equilibrium of the current book and order activity. The IOP provides participants a probable price at which the market will open or reopen. Because orders do not match during these states, self-trade prevention technology is not enforced and opposing orders from accounts with common beneficial ownership are included in the equilibrium calculation. When the market opens or re-opens at the conclusion of these states, bids and offers at the equilibrium are matched. This includes matching bids and offers that result in self-trades even if each respective bid or offer order message contains instructions to prevent self-trades.

There would be several complications if self-trades were prohibited in this scenario. First, if self-trade prevention was enforced for the opening matches, the opening price could differ from the pre-open IOP because the IOP would have included the opposing orders in the equilibrium calculation but those orders would not participate in the opening match. This could have a significant impact on participants relying on the IOP calculation for strategies or trading decisions coming into a new market state.

[6] *See* CME Group RA1411-5RR.

Second, self-trade instructions of the participant could not be enforced. Today, participants can choose to cancel the aggressor order or cancel the passive order to prevent-self trades. In either scenario, at least one order would remain. In an opening match event, a participant's opposing buy and sell orders would both technically be passive. The exchange would have to either cancel both buy and sell orders or choose which passive order to cancel. Canceling both orders could have a detrimental impact on the participant who would lose any opportunity to participate in the opening match. Canceling only one of the participant's orders (the newest or oldest) could result in a crossed order book at the market open or re-open if the remaining order was a bid higher or offer lower than the opening matches.

As a matter of course, CME Group's Market Regulation Department monitors activity in the pre-open sessions, including instances where a participant has opposing orders at prices that would match and instances where a participant in fact has self-trades on the opening match. If we see conduct in the pre-open or opening matches that has the potential to impair the integrity of our markets, we subject the conduct to the same investigatory process and disciplinary procedure as other rule violations. Because this has proven effective, we do not believe imposing federally mandated self-trade prevention regulations is warranted or necessary.

92	**Proposed § 40.23 provides that DCMs may comply with the requirement to apply, or provide and require the use of, self-trade prevention tools by requiring market participants to identify to the DCM which accounts should be prohibited from trading with each other. With respect to this account identification process, the Commission's principal goal is to prevent unintentional self-trading; the Commission does not have a specific interest in regulating the manner by which market participants identify to the DCMs the account that should be prohibited from trading with each other, so long as this goal is met. Should any other identification methods be permitted in § 40.23? For example, please comment on whether the opposite approach is preferable: market participants would identify to DCMs the accounts that should be permitted to trade with each other (as opposed to those accounts that should be prevented from trading with each other).**

As drafted, Proposed Regulation 40.23 would require each participant and/or firm to affirmatively report to each DCM and to continually update regarding the accounts that should be prohibited from trading with each other on that DCM. This places a significant regulatory burden on participants that may never have self-traded in the past and may be at zero risk of self-trading in the future. The better approach is the one suggested in this question – if a participant knows or reasonably know accounts with common beneficial ownership are likely to self-trade, she must request approval from the DCM to self-trade pursuant to Proposed Regulation 40.23.

To the extent the Commission approves any regulation with respect to self-trades, the regulation should not be prescriptive – the regulation should afford the DCMs discretion to structure a self-trade program that works. Self-trade prevention is not simply a matter of identifying accounts that should be prohibited from trading with each other. In many instances, it will be a combination of an account or group of accounts and a trader or user.

93	**The Commission believes that its requirements concerning self-trade prevention tools must strike the appropriate balance between flexibility (allowing market participants with diverse trading operations and strategies the discretion in implementation so as effectively prevent only unintentional self-trades) and simplicity (a variety of design and implementation options may render this control too complex to be effective. Does the Commission allow sufficient discretion to exchanges and market participants in the design and implementation of self-trade prevention tools? Is there any area where the Commission should be more prescriptive? The Commission is particularly interested in whether there is a particular level at which it should require implementation of self-trade prevention tools, i.e., if the tools must prevent matching of orders from the same trading firm, the same trader, the same trading algorithm, or some other level.**

The Commission should avoid a prescriptive regulation directing how self-trade prevention tools should be designed or used. As articulated previously, CME Group's self-trade prevention functionality allows an executing firm to prevent the matching of orders for accounts with common ownership if both the buy and sell orders to a potential trade contain the same SMP ID and Executing Firm ID. This allows firms to apply the self-trade functionality at the user level by attaching an SMP ID to a particular user's order messages; at the account level by attaching the SMP ID to any order from a particular account; or at the firm level by attaching the SMP ID across users, teams, or accounts. The functionality is purposefully flexible so that it can be an effective tool for the myriad of different firms executing orders in CME Group markets.

94	**Proposed § 40.23(a) would require DCMs to either apply, or provide and require the use of, self-trade prevention tools. Please comment on whether § 40.23(a) should, in addition, permit market participants to use their own self-trade prevention tools to meet the requirements of proposed § 40.23(a), and if so, what additional regulations would ensure that DCMs are able to: Ensure that such tools are comparable to DCM-provided tools; monitor the performance of such tools; and otherwise review such tools and ensure that they are sufficiently rigorous to meet the requirements of § 40.23.**

A participant should always be able to use proprietary functionality or technology to prevent self-trades. To the extent that they do, the DCMs would not need to be in a position of ensuring the tools are comparable to DCM tools or ensuring that they are "sufficiently rigorous." If the tools fail, the self-trades would be identifiable in audit trail records, and the DCMs could require the firm to use DCM-provided tools.

95	**Is it appropriate to require implementation of self-trade prevention tools with respect to all orders? Should such controls be mandatory for only a particular subset of orders, i.e., orders from AT Persons or orders submitted through DEA?**

Please see our comment letter at Section II.I where we discuss alternatives to the current proposed regulations that we could support.

96	**Please comment on the requirement that DCMs disclose self-trade statistics. Is the data required to be disclosed appropriate? Is there any other category of self-trade data that DCMs should be required to disclose?**

As we have articulated previously, the type of unintentional self-trades targeted by this proposed regulation contributes to the price discovery process just like orders from independent decision makers at different firms. We struggle to see the benefit of reporting statistics on a type of trade that is no different, from a market integrity perspective, than any other trade.

It is far more likely a participant's uninformed reliance on self-trade statistics could have a greater detrimental impact on the market than any perceived benefit. Take for example the Commission's citation to a particular futures contract in February 2015 where almost 10% of all trades (not volume) were self-trades, increasing to almost 15% on individual days. Our analysis established that more than 99.97% of those were from firms that previously demonstrated the independence of their trading teams (i.e. the trades would have been permitted self-trades). From the statistics drafted in Proposed Regulation 40.23(d), a participant could not gain a meaningful and informed understanding of the sources and characteristics of liquidity in a product. To understand the sources and characteristics of liquidity in this product, one would need far more information, such as the duration of the passive orders prior to the self-trades; the minute/hour/day of the self-trades; the type of participant (i.e. hedge fund; bank; commercial; proprietary firm; individual; etc.); the number of participants; etc.

97	**Should DCMs be required to disclose the amount of unintentional self-trading that occurs each month, alongside the self-trade statistics required to be published under proposed § 40.23(d)?**

Please see our response to question 96.

98	**As noted above, the Commission understands that there is some potential for self-trade prevention tools to be used for wrongful activity that may include disruptive trading or other violations of the Act or Commission regulations on DCMs. Are there ways to design self-trade prevention tools so that they do not facilitate disruptive trading (such as spoofing) or other violations of the Act or Commission regulations on DCMs? Are additional regulations warranted to ensure that such tools are not used to facilitate such activities?**

Assuming *arguendo* that DCM self-trade prevention tools could be designed so they did not facilitate forms of disruptive trading, nothing would prevent a wrong-doer from using their own technology or technology from a third party to accomplish their misdeeds.[7] To the extent a participant uses any tool, whether provided by a DCM or someone else, to engage in disruptive

[7] The most notable alleged misuse of commercially available self-trade prevention tools is summarized in a recent complaint filed in federal court by the CFTC against a trader and his firm. *See* Case 1:15-CV-09196 filed in the United States District Court for the Northern District of Illinois, Eastern Division.

conduct, the conduct itself is prosecutable under existing rules and regulations. Additional regulations are not necessary.

IV(R) DCM Market Maker and Trading Incentive Programs—§§ 40.25–40.28	
99	**To what extent do market participants currently trade in ways designed primarily to collect market maker or trading incentive program benefits, rather than for risk management purposes?**

Market makers serve an important role and provide liquidity for all market participants. Program participants clearly take many factors into account when determining whether and how to trade, including the cost of execution. The premise of the question is that market makers either trade for the purpose of risk management or to collect program benefits. This premise is unfounded.

100	**To what extent do that market maker and trading incentive programs currently provide benefits for self-trades? To what extent do market participants collect such benefits for self-trades?**

CME Group Exchanges, as a matter of policy, currently exclude self-match volume when determining whether any prospective program applicant meets initial onboarding criteria as well as when determining a participant's on-going eligibility for programs with volume-based entrance criteria.

Further, as a general matter, each CME Group Exchange has sole discretion under exchange rules to determine all qualifications, eligibility, product scope, start and end date, requirements, restrictions, obligations and incentives for each program. Thus, each exchange has the right to disallow any trades in any program on an ongoing basis. For example, if a CME Group Exchange determines in its discretion that any particular trades by a program participant appear to have been executed for the sole purpose of reaching higher eligibility thresholds in order to receive incentives, the exchange would have the authority under its current rules to disallow those particular trades from the applicable incentive calculations.

101	**The Commission requests comment regarding whether the information proposed to be collected in § 40.25 would be sufficient for it to determine whether a DCM's market maker or trading incentive program complies with the impartial access requirements of § 38.151(b). If additional or different information would be helpful, please identify such information.**

Yes, we believe the information proposed to be collected in Proposed Regulation 40.25 is sufficient. CME Group Exchanges have been making filings regarding market maker and incentive programs for several years. As part of that process, each exchange certifies that the terms of each particular program meet all applicable requirements of the Commodity Exchange Act, which includes Regulation 38.151(b). Our current filings therefore already include information that describes the eligibility criteria for participation. We believe the level of detail we already provide in this area meets the requirements of Part 40 and should also be seen to

provide a sufficient level of detail to meet the standards in Proposed Regulation 40.25.

102	**The Commission requests comment regarding whether DCMs should be required to maintain on their public Web sites the information required by proposed § 40.25(a) and (b) for an additional period beyond the end of the market maker or trading incentive program. The Commission may determine to include in any final rules arising from this NPRM a requirement that such information remain publicly available pursuant to proposed § 40.25(b) for an additional period up to six months following the end of a market maker or trading incentive program.**

All CME Group MMIP filings are posted publicly on CME Group's public-facing filing website when they are submitted to the Commission, along with all other CME Group rule filings. These filings remain on our website – CME Group MMIP filings since 2011 (when CME Group Exchanges began making MMIP submissions) are currently posted. Thus, as far as CME Group Exchanges are concerned, it would not be burdensome to require DCMs to make MMIP filings available for an additional period after expiration of a program.

We note that the Proposed Regulation 40.25(b) requires that certain information regarding MMIPs (i.e., the information required under Proposed Regulation 40.25(a)(1) through (a)(8)) to be easily located on an exchange's public website "from the time that such designated contract market begins accepting participants"[8] in the MMIP. However, it seems that participants would not actually be "accepted" into any MMIP until at least after the point in time that an MMIP has been filed (and probably certified) by the CFTC. The current language of Proposed Regulation 40.25(b) suggests that program applicants could actually be accepted into an MMIP prior to the point in time that the program was filed (or certified) with the Commission.

103	**The Commission requests comment regarding whether the text of proposed § 40.27(a) identifies with sufficient particularity the types of trades that are not eligible for payments or benefits pursuant to a DCM market maker or trading incentive program. What amendments, if any, are necessary to clearly identify trades that are not eligible?**

As highlighted in CME Group's comments on Proposed Regulation 40.23, we believe it is clear that intentional self-matched transactions distort the price discovery process while bona fide (i.e., independently initiated) self-matched trades do not. Proposed Regulation 40.23 would generally prohibit self-match trades but would allow certain permitted self-matches, i.e., those that are independently initiated. We do not believe the approach in Proposed Regulation 40.23 is warranted. A better approach is to allow markets to simply review for elevated levels of self-trade activity and then take disciplinary action where self-trading occurs on more than an incidental basis.

Given our views in the context of Proposed Regulation 40.23, we would urge the Commission to

[8] Proposal at 78942.

reconsider Proposed Regulation 40.27(a) as well. The current language would prohibit the inclusion of any "self-match" volume from MMIP calculations and incentives. We do not believe the Commission should broadly prohibit all self-matches from MMIP calculations and incentives. Rather, markets applying MMIPs could be afforded discretion to claw back payments from participants if and when prohibited self-trade activity is discovered.

In any event, DCM-permitted categories or self matches should be allowed to be included in MMIP calculations and incentives.

104	**Section 40.27(a) provides that DCMs shall implement policies and procedures that are reasonably designed to prevent the payment of market-maker or trading incentive program benefits for trades between accounts under common ownership. Are there any other types of trades or circumstances under which the Commission should also prohibit or limit DCM market-maker or trading incentive program benefits?**

Please see our response to question 103.

105	**The Commission is proposing in § 40.27(a) certain requirements regarding DCM payments associated with market maker and trading incentive programs. Please address whether the proposed rules will diminish DCMs' ability to compete or build liquidity by using market maker or trading incentive programs. Does any DCM consider it appropriate to provide market maker or trading incentive program benefits for trades between accounts known to be under common beneficial ownership?**

It can be appropriate to include bona fide self-trades in the calculation of MMIP benefits in certain circumstances. Bona fide, independently initiated self matches do not distort the price discovery process like prohibited, intentional self-matches. The determination of what is included in MMIP calculations and incentives should be left to the discretion of the DCMs.

106	**In any final rules arising from this NPRM, should the Commission also prohibit DCMs from providing trading incentive program benefits where such benefits on a per-trade basis are greater than the fees charged per trade by such DCMs and its affiliated DCO (if applicable)? The Commission also specifically requests comment on the extent, if any, to which one or more DCMs engage in this practice.**

A proscriptive prohibition on benefits exceeding per-trade fees is unnecessarily limiting. It is appropriate for exchanges to be able to use incentives that are not limited in this way to stoke liquidity in nascent markets, new products, or otherwise illiquid products. There are high costs associated with the ability to provide dependable liquidity in these circumstances that can warrant appropriate compensation.

107	**Proposed § 40.25(b) imposes certain transparency requirements with respect to both market maker and trading incentive programs. The Commission**

	requests public comment regarding: **a. The most appropriate place or manner for a DCM to disclose the information required by proposed § 40.25(b);** **b. The benefits or any harm that may result from such transparency, including any anti-competitive effect or pro-competitive effect among DCMs or market participants;** **c. Whether transparency as proposed in § 40.25(b) is equally appropriate for both market maker programs and trading incentive programs, or are the proposed requirements more or less appropriate for one type of program over the other?** **d. Whether any of the enumerated items required to be posted on a DCM's public Web site pursuant to proposed § 40.25(b) could reasonably be considered confidential information that should not be available to the public, and if so, what process should be available for a DCM to request from the Commission an exemption from the requirements of proposed § 40.25(b) for that specific enumerated item?**

(a) We believe an exchange's public website is the most appropriate place to disclose the information required by Proposed Regulation 40.25(b).

(b) The most important principle is uniform application. There is potential for harm if the proposed requirements were applied unevenly. If, for example, the proposed transparency requirements were not applied to an FBOT targeting the same clientele as a DCM, the FBOT could obtain an unfair competitive advantage in offering MMIPs to the overlapping clients. The Commission should consider and address this disparity in treatment.

(c) The proposed transparency requirements are in our view equally appropriate for both market maker and incentive programs.

(d) While we acknowledge that the elements of Proposed Regulation 40.25(a) must be set forth in the public rule filing, we also recognize that the Commission has noted that it is cognizant that a DCM may consider certain information required by Proposed Regulation 40.25(a) to be non-public and, in this regard, the Commission notes that existing CFTC Regulation 40.8 provides a mechanism for registered entities to request confidential treatment when submitting rule filings pursuant to Regulations 40.5 and 40.6. Given this, we request clarification about whether the specific elements of Proposed Regulation 40.25(a) are suitable for Regulation 40.8 protection. In any event, if the proposed transparency requirements are uniformly applied to all markets trading similar products, CME Group is supportive of the proposed transparency requirements.

Related Matters—A. Calculation of Number of Persons Subject to Regulations	
108	**The Commission requests comment on its calculation of the number of AT Persons, newly registered floor traders, clearing member FCMs, and DCMs that will be subject to Regulation AT.**
We have expressed serious reservations about the AT Person and registered floor trader aspects of this proposal and would withhold further comments until those issues have been resolved.	

Related Matters—C. Regulatory Flexibility Act Analysis	
109	**The Commission requests comment on each element of its RFA analysis. In particular, the Commission specifically invites comment on the accuracy of its estimates of potential firms that could be considered ''small entities'' for RFA purposes.**
We have no comment on this aspect of the proposal.	
110	**The Commission also requests comment on whether any natural persons will be designated as AT Persons under the proposed definition of that term.**
It is possible that natural persons could become AT Persons under the Proposal. Nothing excluded natural persons from the relevant definitional categories as we read them.	

Related Matters-E Cost Benefit Considerations	
111	**Beyond specific questions interspersed throughout its discussion, the Commission generally requests comment on all aspects of its consideration of costs and benefits, including:** **(a) Identification, quantification, and assessment of any costs and benefits not discussed therein;** **(b) whether any of the proposed regulations may cause FCMs or DCMs to raise their fees for their customers, or otherwise result in increased costs for market participants and, if so, to what extent;** **(c) whether any category of Commission registrants will be disproportionately impacted by the proposed regulations, and if so whether the burden of any regulations should be appropriately shifted to other Commission registrants;**

	(d) what, if any, costs would likely arise from market participants engaging in regulatory arbitrage by restructuring their trading activities to trade on platforms not subject to the proposed regulations, or taking other steps to avoid costs associated with the proposed regulations; **(e) quantitative estimates of the impact on transaction costs and liquidity of the proposals contained herein;** **(f) the potential costs and benefits of the alternatives that the Commission discussed in this release, and any other alternatives appropriate under the CEA that commenters believe would provide superior benefits relative to costs;** **(g) data and any other information to assist or otherwise inform the Commission's ability to quantify or qualitatively describe the benefits and costs of the proposed rules; and** **(h) substantiating data, statistics, and any other information to support positions posited by commenters with respect to the Commission's consideration of costs and benefits**
We discuss several of the points mentioned above throughout our comment letter as well as in response to various questions in this appendix.	

§ 1.80 Pre-Trade and Other Risk Controls	
112	**How would an alternative definition of Algorithmic Trading that excludes automated order routers affect the costs and benefits of the pre-trade and other risk controls in comparison to the costs and benefits of the proposed definition that includes automated order routers? Would such an alternative definition reduce the number of AT Persons captured by Regulation AT?**
Yes, reducing the reach of the definition would change the cost-benefit analysis in some respects. It would not address our basic concerns as expressed in our comment letter.	
113	**Would the benefits of Regulation AT be enhanced significantly if the definition of Algorithmic Trading were modified to capture a conduit entity such as a non-clearing FCM, thereby making the entity an AT Person subject to Regulation AT? How would such a modification affect costs?**
We would defer comment until we see a specific language change the Commission would propose. We believe any parties registered as FCMs, even if non-clearing, could be AT Persons under text of Proposed Regulation 1.3(xxxx). In fact, we do not see any other way to interpret the Proposed Regulation.	

114	**Would the benefits of Regulation AT be enhanced significantly if the definition of Algorithmic Trading were expanded to encompass orders that are generated using algorithmic methods (e.g., an algorithm generates a buy or sell signal at a particular time), but are then manually entered into a front-end system by a natural person? How would such a modification affect costs? Please comment on the costs and benefits of an alternative whereby the Commission would implement specific rules regarding the appropriate design of the specific controls required by Regulation AT and compare them to the costs and benefits of the Commission's proposal whereby the relevant entities—trading firms, clearing firms, and DCMs—would have the discretion to determine the appropriate design of those controls.**
As we discuss in our comment letter in Section II.A, we believe a true principles-based regulatory approach would be sound and cost-effective in this area.	
115	**Does one particular segment of trading firms, clearing member FCMs or DCMs (e.g., smaller entities) currently implement fewer of the pre-trade and other risk controls required by Regulation AT than some other segment of trading firms, clearing member FCMs or DCMs? If so, please describe any unique or additional costs that will be imposed on such persons to develop the technology and systems necessary to implement the pre-trade and other risk controls required by Regulation AT.**
Please see our comment letter at Section II.F.	
116	**In question 14, the Commission asks whether there are any AT Persons who are natural persons. Would AT Persons who are natural persons (or sole proprietorships with no employees other than the sole proprietor) be required to hire staff to comply with the risk control, testing and monitoring, or compliance requirements of Regulation AT?**
As the Proposal is currently worded, the answers would be likely yes and, if so, yes.	
117	**Do you agree with the accuracy of cost estimates provided by the Commission as to how much it will cost a trading firm, clearing member FCM or DCM to internally develop the technology and systems necessary to implement the pre-trade and other risk controls required by Regulation AT? If you disagree with the Commission's analysis, please provide your own quantitative estimates, as well as data or other information in support. Please specify in your answer the type of entity and which specific pre-trade risk or order management controls for which you are providing estimates. In addition, please differentiate between the situations where an entity (i) already has partially compliant controls in place, and only needs to upgrade such technology and systems to bring it into compliance with the regulations; and (ii) needs to build such technology and systems from scratch. Please include, as applicable, hardware**

	and software costs as well as the hourly wage information of the employee(s) necessary to develop such risk controls (i.e., technology personnel such as programmer analysts, senior programmers and senior systems analysts).
We do not believe the cost estimates for DCMs are accurate for the reasons stated in our comment letter at Section II.F. We also do not believe that the cost estimates are accurate for trading firms or clearing FCMs, but will leave it to others to make those points to the Commission.	
118	**The Commission has assumed that the effort to adjust any one risk control (by ''control,'' in this context, the Commission means the pre-trade risk controls, order cancellation systems, and connectivity systems required by § 1.80) will require assessment and possible modifications to all controls. Is this assumption correct, and if not, why not?**
This is generally correct. Modifying one aspect of a system requires assessment of the impact that modification may have on other systems.	
119	**As indicated above, the Commission lacks sufficient information to provide full estimates of costs that a trading firm, clearing member FCM or DCM will incur if it chooses not to internally develop such controls, and instead purchases the solutions of an outside vendor in order to comply with Regulation AT's pre-trade and other risk controls requirements. Please provide quantitative estimates of such costs, including supporting data or other information. In addition, please specify in your answer the type of entity and which specific pre-trade risk or order management control for which you are providing estimates. In addition, please differentiate between the situations where an entity (i) already uses an outside vendor to at least some extent to implement the controls; and (ii) does not currently implement the controls and must obtain all applicable technology and systems from an outside vendor necessary to comply with Regulation AT. Please include, if applicable, hardware and software costs as well as the hourly wage information of the employee(s) necessary to effectuate the implementation of such controls from an outside vendor.**
We do not have sufficient data to respond to this question at this time.	
120	**Do you agree with the Commission's estimates of how much it will cost a trading firm, clearing member FCM or DCM to annually maintain the technology and systems for the pre-trade and other risk controls required by Regulation AT, if it uses internally developed technology and systems? If not please provide quantitative estimates and supporting data or other information with respect to how much it will cost a trading firm, clearing member FCM or DCM to annually maintain the technology and systems for pre-trade and other risk controls required by Regulation AT, if it uses an outside vendor's technology and systems.**

We generally believe the Commission's estimates are seriously understated. Please see our comment letter at Section II.F.	
121	**Is it correct to assume that many of the trading firms subject to § 1.80 are also subject to the SEC's Market Access Rule, and, accordingly, already implement many of the systems required by Regulation AT for purposes of their securities trading? Please specify in your answer the type of entity and which specific pre-trade risk or order management control is already required pursuant to the Market Access Rule, and the extent of the overlap.**
We defer to others to respond.	
122	**Please comment on the costs and benefits (including quantitative estimates with supporting data or other information) to clearing FCMs of an alternative to proposed § 1.82 that would require clearing FCMs to implement controls with respect to all orders, including orders that are manually submitted or are entered through algorithmic methods that nonetheless do not meet the definition of Algorithmic Trading and compare those costs and benefits to those costs and benefits of proposed § 1.82.**
We will defer to FIA among others to respond.	
123	**Please comment on the additional costs (including quantitative estimates with supporting data or other information) to AT Persons of complying with each of the following specific requirements of § 1.80: a. § 1.80(a)(2) (pre-trade risk control threshold requirements); b. § 1.80(a)(3) (natural person monitors must be alerted when thresholds are breached); c. § 1.80(d) (notification to DCM and clearing member FCM that AT Person will use Algorithmic Trading); d. § 1.80(e) (self-trade prevention tools); and e. § 1.80(f) (periodic review of pre-trade risk controls and other measures for sufficiency and effectiveness).**
We defer to others to respond.	
124	**The Commission welcomes comment on the estimated costs of the pre-trade risk controls proposed in § 1.80 as compared to the annual industry expenditure on technology, risk mitigation and/or technology compliance systems.**
As discussed in our comment letter in Section II.F, we believe the Commission generally understates the costs and seriously understates the costs for DCMs. We are not aware that anyone has compiled (or could compile) an industry-wide number as the question contemplates.	
125	**Please comment on the costs to AT Persons and clearing member FCMs of complying with DCM rules requiring retention and production of records relating to §§ 1.80, 1.81, and 1.82 compliance, pursuant to § 40.22(d),**

	including without limitation on the extent to which AT Persons and clearing member FCMs already have policies, procedures, staffing and technological infrastructure in place to retain such records and produce them upon DCM request.
We defer to others to respond.	
126	**The Commission anticipates that Regulation AT may promote confidence among market participants and reduce market risk, consequently reducing transaction costs, but has not estimated this reduction in transaction costs. The Commission welcomes comment on the extent to which Regulation AT may impact transaction costs and effects on liquidity provision more generally.**
We would expect that Regulation AT would harm market liquidity by imposing substantial new mandates on market participants. We also would expect that if Regulation AT is not changed to a truly principles-based regulatory approach market confidence may decline and market risk may increase if future innovation is blunted by rigid federal mandates. We do not believe that prescriptive federal regulations can be changed quickly enough to address all future forms of market risk that may arise.	

AT Person Membership in RFA; RFA Standards for Automated Trading and Algorithmic Trading Systems	
127	**The Commission estimates that the costs of membership in an RFA associated with proposed § 170.18 will encompass certain costs, such as those associated with NFA membership dues. Has the Commission correctly identified the costs associated with membership in an RFA?**
We defer to others to respond.	
128	**The Commission expects that entities that will be required to become members of an RFA would not incur any additional compliance costs as a result of their membership in an RFA. The Commission requests comment on the accuracy of this expectation. What additional compliance costs, if any, would a registrant face as a result of being required to become a member of an RFA pursuant to proposed § 170.18?**
If there are no additional compliance costs, that should be a signal that requiring RFA membership is at best inconsequential. We are concerned that registrants may face costly, duplicative or, even worse, conflicting regulatory requirements.	
129	**Has the Commission accurately estimated that approximately 100 entities will be affected by the membership requirements of § 170.18?**

We will defer to others to respond, but we have serious doubts about the wisdom of any registration or membership requirement, as our comment letter describes at Section II.N.	
130	**The Commission invites estimates on the cost to an RFA to establish and maintain the program required by § 170.19, and the amount of that cost that will be passed along to individual categories of AT Person members in the RFA.**
We are not sure how anyone can answer this question without knowing what the program will entail.	

Development, Testing, and Supervision of Algorithmic Systems	
131	**Proposed § 1.81(a) establishes principles-based standards for the development and testing of Algorithmic Trading systems and procedures, including requirements for AT Persons to test all Algorithmic Trading code and related systems and any changes to such code and systems prior to their implementation. AT Persons would also be required to maintain a source code repository to manage source code access, persistence, copies of all code used in the production environment, and changes to such code, among other requirements. Are any of the requirements of § 1.81(a) not already followed by the majority of market participants that would be subject to § 1.81(a) (or some particular segment of market participants), and if so, how much will it cost for a market participant to comply with such requirement(s)?**
We defer to others to respond.	
132	**Proposed § 1.81(b) requires that an AT Person's Algorithmic Trading is subject to continuous real-time monitoring and supervision by knowledgeable and qualified staff at all times while Algorithmic Trading is occurring. Proposed § 1.81(b) also requires automated alerts when an Algorithmic Trading system's AT Order Message behavior breaches design parameters, upon loss of network connectivity or data feeds, or when market conditions approach the boundaries within which the ATS is intended to operate, to the extent applicable, among other monitoring requirements. Are any of the requirements of § 1.81(b) not already followed by the majority of market participants that would be subject to § 1.81(b), and if so, how much will it cost for a market participant to comply with such requirement(s)?**
We do not have sufficient data to respond to this question.	

133	**Proposed § 1.81(c) requires that AT Persons implement policies designed to ensure that Algorithmic Trading operates in a manner that complies with the CEA and the rules and regulations thereunder. Among other controls, the policies should include a plan of internal coordination and communication between compliance staff of the AT Person and staff of the AT Person responsible for Algorithmic Trading regarding Algorithmic Trading design, changes, testing, and controls. Are any of the requirements of § 1.81(c) not already followed by the majority of market participants that would be subject to § 1.81(c), and if so, how much will it cost for a market participant to comply with such requirement(s)?**
We do not have sufficient data to respond to this question.	
134	**Proposed § 1.81(d) requires that AT Persons implement policies to designate and train their staff responsible for Algorithmic Trading, which policies should include procedures for designating and training all staff involved in designing, testing and monitoring Algorithmic Trading. Are any of the requirements of § 1.81(d) not already followed by the majority of market participants that would be subject to § 1.81(d), and if so, how much will it cost for a market participant to comply with such requirement(s)?**
We do not have sufficient data to respond to this question.	

AT Person and FCM Compliance Reports	
135	**Please comment on whether any of the alternatives discussed above regarding compliance reports would provide a superior cost-benefit profile relative to the Commission's proposal.**
Please see our comment letter at Section II.E.	

DCM Test Environments	
136	**Do any DCMs not currently offer a test environment that simulates production trading to their market participants, as would be required by proposed § 40.21? If so, how much would it cost a DCM to implement a test environment that would comply with the requirements of § 40.21?**
CME Group requests the Commission provide greater clarity as to what constitutes a test environment that "simulates" production, as Proposed Regulation 40.21 could impose significant costs to DCMs and market participants that would be determinant on the Commission's intent of this requirement. Please see our comment letter at Section II.K for further clarification of our position on this	

topic.

DCM Review of Compliance Reports	
137	**Please comment on the cost estimates provided above with respect to DCMs' review of compliance reports provided under § 40.22 and related review requirements, including the estimated cost for DCMs to: Establish the review program required by § 40.22; review the reports provided by AT Persons and clearing member FCMs; communicate remediation instructions to a subset of AT Persons and clearing member FCMs; and review and evaluate, as necessary, books and records of AT Persons and clearing member FCMs as contemplated by proposed § 40.22(e).**
Please see our comment letter at Section II.F.	

Section 15(a) Considerations	
138	**The Commission requests comment on its discussion of the effects of the proposed rules on the considerations in Section 15(a) of the CEA.**
CME Group believes the Commission has overstated the benefits that will be derived from many of the prescriptive requirements of the Proposal in its Section 15(a) analysis. For example, we would disagree that registration of additional floor traders would enhance market competition due to the disparate treatment of similarly situated algorithmic traders with Direct Electronic Access, or promote efficient price discovery since compliance with pre-trade risk controls is not contingent upon registration. In general, we are concerned that the Proposal could have a long-term negative effect on market integrity due to the overall prescriptive nature not allowing for market participants to innovate and update risk control systems and practices to keep pace with evolving market dynamics. Most importantly, the Section 15(a) benefits in no way outweigh the high costs that the Commission simultaneously has understated. Please see section [X] of our comment letter for further discussion of our cost estimates.	
139	**Are the compliance costs associated with the proposed rules of sufficient magnitude to potentially cause smaller market participants, FCMs, or DCMs to cease or scale back operations? Do these costs create significant barriers to entry?**
Yes. As noted in our comment letter, the Commission greatly underestimates the compliance costs of the Proposal—particularly with respect to DCMs. The costs of complying with the Proposal would create significant barriers to entry for new DCMs. Compliance costs also have the potential to cause DCMs, clearing FCMs, and AT Persons to scale back operations, which would be detrimental to the markets the CFTC is tasked to protect.	

Registration—§ 1.3(x)(3)	
140	**The Commission estimates that the costs of registration will encompass direct costs (those associated with NFA membership, and reporting and recordkeeping with the Commission), and indirect costs (e.g. those associated to risk control requirements placed on all registered entities). Has the Commission correctly identified the costs associated with the new registration category? What firm characteristics would change the level of direct and indirect costs associated with the registration?**
Under the Proposal, already registered persons have costs complying with Regulation AT. Newly registered persons also have costs complying with Regulation AT. The best way to address these costs is to limit the AT Person category to those who voluntarily eschew clearing FCM risk controls and develop and implement their own controls, which we discuss in our comment letter at Section II.B .	
141	**Has the Commission accurately estimated that approximately 100 currently unregistered entities will be captured by the new registration requirement in proposed § 1.3(x)(3).**
Due to the language defining the scope of the Floor Trader and AT Person definitions being sufficiently ambiguous, which we discuss in our comment letter in Section II.B-C, this estimate may be either far too high or far too low.	
142	**Has the Commission accurately estimated that each currently unregistered entity captured by the new registration requirement in proposed § 1.3(x)(3) will have approximately 10 persons required to file Form 8–R?**
We defer to others on this question.	
143	**As defined, the new floor trader category restricts the registration requirement to those who make use of Direct Electronic Access. Is this requirement overly restrictive or unduly broad from a cost-benefit perspective? Are there alternate, or additional, characteristics of trading activity to determine registration status that would be preferable from a cost-benefit standpoint? For example, should persons with trading volume or message volume below a specified threshold be exempted from registration?**
As we discuss in our comment letter in Section II.B, we do not believe any registration requirement is authorized, necessary or appropriate.	
144	**Will any currently unregistered entities change their business model or exit the market in order to avoid the proposed registration requirement?**
We would defer to others on this question.	

145	**The Commission believes that the risk control protocols required of registered entities, specifically those under the new registration category, will provide a general benefit to the safety and soundness of market activity and price formation. Has the Commission correctly identified the type and level of benefits which arise from placing these requirements on a new set of significant market participants?**
We do not agree with the question's premise. Please see our comment letter at Section II.B-C and our response to question 126.	
146	**The Commission requests comment on its discussion of the effects of the proposed rules on the considerations in Section 15(a) of the CEA.**
Please see our response to question 138.	

Transparency in Exchange Trade Matching Systems	
147	**The Commission anticipates that costs associated with the transparency requirement would come from some additional testing of platform systems and from drafting and publishing descriptions of any relevant attributes of the platform. What new costs would be associated with providing descriptions of attributes of electronic matching platforms that affect market participant orders and quotes?**

As discussed in our comment letter in Section II.J, the Proposal may be considered so broad that it potentially encompasses virtually every program and the architecture of the exchange that touches a market participant's order message or market data. As such, it is difficult to provide an accurate analysis at this time.

CME Group anticipates that to constantly monitor each change to the matching system and take the prescribed actions, we would need to take into consideration the costs of:

1. Additional IT staff to analyze the data to determine the impact of the change or new attribute to determine materiality;

2. Additional legal or compliance staff to work in conjunction with IT to determine if the attribute is material only for the purpose of being disclosed to users or whether the level of materiality is high enough to warrant a filing under Regulation 40.10;

3. Additional legal clerical staff to file the requisite submissions;

4. Additional website support staff to ensure each change is published within the requisite posting period.

148	**Please compare the costs and benefits of the alternative of applying the**

	transparency requirement only with respect to latencies within a platform and how a self-trade prevention tool determines whether to cancel an order with the costs and benefits of the proposed rule.
As noted in our response to question 147, it is difficult to provide an accurate analysis at this time of the cost of the Proposal as it is may be considered so broad that it potentially encompasses virtually every program and every aspect of the exchange's architecture that touches a market participant's order message or market data. Any pared down version of the Proposal should be less of a cost to a DCM than the full-scale version. The amount of that difference depends on the scope of requirements imposed by the final regulation. For further discussion of the benefits, please see Section II.J. of our comment letter and our response to question 70.	
149	**What benefits might market participants receive through increased transparency into the operation of electronic matching platforms, particularly for those market participants without direct electronic access who may not be able to accurately measure latencies or other metrics of market efficiency?**
As we have noted in our comment letter in Section II.J, in accordance with their responsibilities under the Core Principles and applicable regulation, DCMs, through their rule sets and other documentation, already provide a comprehensive amount of information as to how the user experiences the market, both in the form of existing rules and supplemental information. Thus, many of these benefits have already been realized. Section II.J. of our comment letter discusses the difficulties and variability associated with latency metrics.	
150	**The Commission requests comment on its discussion of the effects of the proposed rules on the considerations in Section 15(a) of the CEA.**
Please see our responses to questions 138 and 139.	

Self-Trade Prevention	
151	**Please comment on the cost estimates described above for DCMs and market participants to comply with the requirements of § 40.23. The Commission is interested in commenter opinion on all aspects of its analysis, including its estimate of the number of entities impacted by the proposed regulation and the amount of costs such entities may incur to comply with the regulation.**
Similar to other parts of the proposed regulations, the Commission's cost-benefit analysis is flawed due to a miscomprehension of current DCM self-trade prevention functionality. It is noted in the cost-benefit analysis that Proposed Regulation 40.23 standardizes existing industry best practices, and as a result the requirements under Proposed Regulation 40.23 will not impose additional costs on DCMs. The error here is that CME Group's current self-trade prevention functionality does not operate in a manner consistent with the proposed regulations. As articulated in response to question 91, CME Group's self-trade prevention functionality prevents	

	self-trades where opposing orders have the same SMP ID in the order message *and* the orders were entered by the same execution firm. In other words, the technology cannot prevent self-trades where orders are entered by different execution firms. As drafted, Proposed Regulation 40.23 would clearly require the technology to work across execution firms. Because of this, there is a significant cost associated with enhancing self-trade prevention technology to comport with the requirements of the proposed regulation. We estimated the cost to deploy self-trade prevention technology across execution firms to be approximately $325,000. Similarly underestimated is the Commission's cost calculation associated with the DCM review of approval requests. For years, CME Group's Market Regulation Department has reviewed and analyzed self-trades in CME Group markets. Part of this includes reviewing traders, accounts, firms, and market participants that experience elevated levels of self-trading. During these reviews, we regularly require firms to demonstrate the independence between strategies, trading desks, traders, or offices – we inquire about physical and technological barriers; commonality in supervision and management; employment history and team assignments; profit sharing, pay and bonus structures; shared services (e.g. development support); etc. For an average sized trading firm, we estimate two Market Regulation staff spend approximately 40 hours each conducting this type of review, totaling 80 hours. For a large or more complex firm, we spend multiples of this conducting the reviews, in some cases easily surpassing 800 hours per firm. The Commission's estimate that a DCM will incur a total cost of $22,000 to review Proposed Regulation 40.23 approval requests is an insufficient estimate to even conduct a partial review on just a single large firm. Interestingly, the Commission estimates that the number of market participants that will submit approval requests will equal the number of AT Persons calculated in the proposed regulation (i.e. 420). Yet, the Commission estimates that each DCM will devote a total of 400 hours (200 hours for a compliance examiner and 200 hours for a business analyst) reviewing these approvals. In other words, less than one hour would be devoted to each request. In our experience, this would be a woefully inadequate amount of time to review even a small firm for compliance with Proposed Regulation 40.23(b). As mentioned in our comment letter at Section II.I, we expect dozens if not more than a hundred firms to seek approval to self-trade under Proposed Regulation 40.23 if approved as drafted. Moreover, as drafted, the proposed regulation would require firms to continually update their approvals as strategies, teams, or traders change. As a result, on an annual basis, we could easily receive hundreds of approval requests for review and approval. Again, we believe the Commission's cost estimates for a DCM to review these approval requests is significantly low, that is unless we significantly curtail how we presently review firms for independence between decision makers.
152	**Please comment on the benefits described above. Do you agree with the Commission's position that self-trade prevention requirements will result in more accurate indications of the level of market interest on both sides of the market and help ensure arms-length transactions that promote effective price**

	discovery? Are there additional benefits to regulatory self-trade prevention requirements not articulated above?
With all due respect, we disagree with the Commission's position that self-trade prevention requirements will result in more accurate indications of market interest and help ensure arms-length transactions that promote effective price discovery. As articulated in our comment letter at Section II.I, the proportion of daily volume and trades from arguably "impermissible" self-trades is statistically insignificant.	
153	**Are there any DCMs that neither internalize and apply self-trade prevention tools, nor provide self-trade prevention tools to their market participants? If so, please provide an estimate of the cost to such a DCM to comply with the requirement under § 40.23(a) to apply, or provide and require the use of, self-trade prevention tools.**
We defer to others to respond to this question as CME Group applies self-match prevention controls.	
154	**Would any DCMs that currently offer self-trade prevention tools need to update their tools to meet the requirements of § 40.23? If so, please provide an estimate of the cost to such a DCM to comply with the requirements of § 40.23.**
As noted in response to question 151, we estimate costs of approximately $325,000 to enhance current self-trade prevention technology to be operable across execution firms. This does not include other costs that would be required to comply with Proposed Regulation 40.23 as drafted. For example, it does not include the cost of having self-trade prevention functionality apply for cross-trades, which we discuss in our response to question 90(c). The cost estimate similarly does not include costs that would be required to modify the implied matching process to prevent self trades, which we discuss in our response to question 91. And it does not include costs that would be required to modify the pre-open matching process to prevent self-trades. As noted in our response to question 91, the market impact from effecting this change could be significant.	
155	**What percentage of market participants do not currently make use of exchange-provided self-trade prevention tools, when active on a DCM that provides, but does not require such tools? Please provide an estimate of the cost to such a market participant to initially calibrate and use exchange provided self-trade prevention tools, in accordance with § 40.23. Please also comment on any other direct or indirect costs to a market participant that does not currently use self-trade prevention tools arising from the proposed requirement to implement such tools.**
As noted in in our comment letter at Section II.I, during the fourth quarter of 2015, more than 85% of all order messages contained instructions to avoid self-trades through the CME Globex SMP functionality. We do not know what portion of the remaining 15% may have proprietary or vendor provided self-trade prevention functionality deployed. We defer to others to respond with respect to the cost to initially calibrate and implement exchange provided self-trade	

prevention tools.	
156	**The Commission estimates above that the number of market participants that will submit the approval requests described by § 40.23(c) is approximately equivalent to the number of AT Persons. Please comment on whether the estimate of the number of market participants submitting such approval requests should be higher or lower. For example, should the estimate be raised to account for proprietary algorithmic traders that will not be AT Persons, because they do not use Direct Electronic Access and therefore will not be required to register as floor traders?**
Please see our response to question 151.	
157	**Proposed § 40.23 provides that DCMs may comply with the requirement to apply, or provide and require the use of, self-trade prevention tools by requiring market participants to identify to the DCM which accounts should be prohibited from trading with each other. With respect to this account identification process, the Commission's principal goal is to prevent unintentional self-trading; the Commission does not have a specific interest in regulating the manner by which market participants identify to DCMs the account that should be prohibited from trading from each other, so long as this goal is met. Should any other identification methods be permitted in § 40.23? For example, please comment on whether the opposite approach is preferable: Market participants would identify to DCMs the accounts that should be permitted to trade with each other (as opposed to those accounts that should be prevented from trading with each other). In particular, please comment on whether this approach or other identification methods would reduce costs for market participants or be easier for both market participants and DCMs to administer.**
Please see our response to question 92.	
158	**The Commission requests comment on its discussion of the effects of the proposed rules on the considerations in Section 15(a) of the CEA.**
Please see our response to question 138.	

Market-Maker and Trading Incentive Programs	
159	**The Commission requests comment on the accuracy of its cost estimates.**
The Commission expects that its proposed regulations in the area of market maker and trading incentive programs should not be expected to impose "meaningful" costs on DCMs because they "should not require entirely new programs, systems, or categories of employees for DCMs that are already compliant with parts 38 and 40" of the Commission's regulations.	

CME Group does agree that it will not be required to build new infrastructures to comply with the proposed regulations. In our view, our current rule filings already address the most significant aspects (although not all) of the new requirements. However, there would be significant competitive costs to DCMs if the new transparency requirements were not applied evenly to all markets under the Commission's jurisdiction targeting U.S. persons with market maker and incentive programs.

160	**To what extent are the costs imposed on the DCMs by the proposed rule already incurred pursuant to existing rules?**

CME Group currently makes filings regarding its market maker and incentive programs that we believe would in large part meet the requirements of the proposed regulations in this area. There will likely be incremental costs associated with any necessary adjustments to our current practices in light of the final regulation requirements.

161	**To what extent are the benefits of the proposed rule currently being realized?**

CME Group currently makes filings regarding its market maker and incentive programs that we believe would in large part meet the requirements of the proposed regulations in this area. From that perspective, the public transparency objectives of the Commission are already being addressed.

162	**Do DCM Web sites currently provide adequate information regarding market-maker and trading incentive programs, and is such information easily located?**

All CME Group market maker and incentive program filings are posted publicly on CME Group's public-facing filing website when they are submitted to the Commission, along with all other CME Group rule filings. These filings remain on our website – CME Group MMIP filings since 2011 (when CME Group Exchanges began making these type of submissions) are currently posted.

163	**To what extent do DCMs currently make payments for self-trades pursuant to market-maker and trading incentive programs?**

CME Group Exchanges, as a matter of policy, currently exclude self-match volume when determining whether any prospective program applicant meets initial onboarding criteria as well as when determining a participant's on-going eligibility for programs with volume-based entrance criteria.

Further, as a general matter, each CME Group Exchange has sole discretion under exchange rules to determine all qualifications, eligibility, product scope, start and end date, requirements, restrictions, obligations and incentives for each program. Thus, each exchange has the right to disallow any trades in any program on an ongoing basis. For example, if a CME Group Exchange determined in its discretion that any particular trades by a program participant

appeared to have been executed for the sole purpose of reaching higher eligibility thresholds in order to receive incentives, the exchange would have the authority under its current rules to disallow those particular trades from the applicable incentive calculations.	
164	**The Commission requests comment on its discussion of the effects of the proposed rules on the considerations in Section 15(a) of the CEA.**
Please see our response to question 138.	