SUNGARD® CONSULTING SERVICES

8 July 2013

Via email to: rule-comments@sec.gov

Elizabeth M. Murphy, Secretary,
Securities and Exchange Commission,
100 F Street NE, Washington, DC 20549–1090

Re: Regulation Systems Compliance and Integrity
Proposed rule and form; proposed rule amendment.
Release No. 34–69077; File No. S7–01–13
RIN 3235–AL43

Dear Ms. Murphy:

SunGard Consulting Services appreciates this opportunity to provide our comments regarding the Commission's proposed rule, Regulation Systems Compliance and Integrity. We offer our comments on the proposed rule because, if adopted, its operational and regulatory changes have the potential to significantly affect both SunGard and its clients.

SunGard Consulting Services, is the consulting arm of SunGard Data Systems, one of the world's leading software and technology services companies, with more than 17,000 employees, serving approximately 25,000 customers in more than 70 countries. With revenues annually totalling more than $4 billion, SunGard is the largest privately held software and services company worldwide, and was ranked 480 in Fortune's 500 in 2012.

SunGard Consulting Services acts as a trusted advisor to many financial services firms on topics such as technology risk and execution strategy, and is a leader in the development of bespoke software and systems for the securities industry.

We would welcome the opportunity to discuss our summary comments in detail with the Staff of the Commission.

Respectfully submitted,

Jeffrey Wallis,

Managing Partner, SunGard Consulting Services

Executive Summary

SunGard supports the SEC's efforts in taking steps to mitigate potentially hazardous consequences resulting from increased reliance on rapid-fire technology. With the large role that the U.S. financial markets play in the global economy, it is crucial that market participants follow sensible practices for yielding reliability and stability from the systems and technology underpinning our markets. SunGard principal comments may be summarized as follows:

- Market participants have, in general, demonstrated control over the continuity and resiliency of the market's operational infrastructure. The exceptional events, such as the events of May 6, 2010, in which the equity markets saw extraordinarily rapid price fluctuations, or the significant technology issues experienced by Knight Capital Group, Inc. on August 1, 2012, are evidence that the rapidly-executing technology upon which the markets now rely, are capable of causing or contributing to instances of transient but nevertheless significant market destabilization and the loss of investor confidence that flows from such events. But these events have not been shown to have been caused by Material Systems Changes, as that term is defined in the proposed rule. While proposed Regulation SCI is a sweeping undertaking covering many areas of proposed change, one such area is the proposed requirement that SCI entities file certain information with the Commission 30 calendar days before effecting a "Material Systems Change." SunGard questions, however, whether sufficient data has been adduced to demonstrate that Material Systems Changes by SCI entities have been responsible for the kinds of market disruptions the Commission seeks to prevent, and whether the requirement of an advance filing creates a reasonable likelihood that an impending Material Systems Change that would otherwise precipitate a market disruption would be identified and forestalled by the requirement of a filing.

- Through initiatives such as proposed Regulation SCI, the proposed Consolidated Audit Trail (CAT) and MIDAS, the demands on the limited resources of the Commission that result from the receipt and required assessment of dense, continual streams of data are escalating. SunGard questions whether sufficient information has been adduced regarding the capacity of the Commission's able but hard-pressed Staff to absorb and assess these huge volumes of data in such a manner as to take timely and appropriate action. Moreover, an increasing burden is placed on the Commission and its Staff by reason of the proposed rule—a burden to expand on its existing expertise in fields such as data science and the forensic analysis of software and other technology failures. SunGard believes that insufficient evidence has been adduced regarding the resources and capacity of the Staff to assess and analyze the data set forth in the various required Form SCI reports that would be required under the proposed rule.

- Based on SunGard's familiarity with the concerns of its customers, we see a need to provide additional clear and concrete guidance to SCI entities as to what their compliance obligations would be, including in the form of publications and workshops.

SEC faces a difficult challenge. It must continually evaluate and reap insights from a dynamic industry in order to draft policy in the best interests of investors. In the pursuit of markets that operate in a fair and transparent manner, the SEC must adopt the tools and methodologies that meet or surpass the level of sophistication of the entities it regulates.

Advance Notice of Major Systems Changes Is Unlikely To Forestall Disruptions

The tempo, velocity, and distribution of technology adoption within the financial markets show no sign of slowing down or contraction. Rapid change has been one of the hallmarks of innovation across all economic sectors. However, the benefits offered by technological innovation arrive with risks that must be managed if markets are to operate with the consistency and stability required to maintain investor confidence. The volume of data with which "connected" entities can interact continues to escalate. Buried within this stream of data lie insights that can unlock opportunities. There is a fundamental gap in how humans and computers process and retain information, and Information Technology's role is to continually bridge this gap. Every modern enterprise is affected by these phenomena, and we appreciate with the technical and social challenges the SEC seeks to address in Regulation SCI and other technology-oriented regulations.

Against this backdrop, however, the Commission's focus in Regulation SCI on Major Systems Changes is misplaced. The larger market participants are generally experienced and circumspect with regards to significant infrastructure changes, such as data center migrations and major platform upgrades, which SCI would regulate. We expect that for these larger entities, integrating SCI compliance into their existing programs can occur without crippling disruption or exorbitant cost, and expect that insights harvested via the SCI program would contribute to overall stability and resiliency of the markets over time. Nevertheless, compliance will result in incremental costs that may in some cases delay or discourage innovation. Moreover, seemingly innocuous changes, or changes that no reasonable person would classify as "major" or "material," are in the normal course of business typically subjected to lower levels of internal oversight. It is those changes, by market participants that may or may not be SCI entities, that have the potential to be the root cause of market disruptions. In proposing Regulation SCI, the Commission has not presented any empirical evidence that major or material technology changes by SCI entities—changes these market participants would have all the right economic incentives to execute correctly—are in fact the leading cause of market disruption. SunGard believes that there is evidence that other changes or factors may be as significant, or more significant, in precipitating these events.

- **Regulation SCI does not address the widely-believed origins of recent destabilization trends**

  While there is supporting evidence that particular deployments of rapid-fire technology used in order routing, trade execution, and data dissemination has contributed to recent high-profile incidents, Regulation SCI would not interdict similar events in the future. Many firms that employ this technology would not be subject to the rule as they would not meet the requirements of an SCI entity. Moreover, it is unlikely that market participants would or should interpret the language of SCI as imposing an obligation to provide the SEC advance notice of regular updates or revisions to electronic trading, order routing, or market data technology. Changes of this sort are not viewed in the market as "major systems architecture changes, or reconfigurations of systems that would cause a "variance of greater than five per cent in throughput," or the sorts of changes that require approval by the board of directors of the trading entity—to give three examples from the SEC release. As technology evolves, the rate of change applied to this sort of software increases. Many organizations update critical software components several times daily, with little advance notice of the change outside the units of the organization directly involved or affected. This is widely regarded as a beneficial practice that promotes competitiveness and agility. And if these market participants were obligated to electronically submit each trading software change in the form of thirty-day advance notice to the SEC, not only would the firms be hamstrung, the Commission might find itself inundated by an enormous volume of filings from market participants.

- **Further quantifying materiality around SCI events**

  While the broad definitions for materiality with regards to obligations for providing SCI event notices may be a necessity given the variations of technology usage across market participants, we feel that additional clarification defining materiality within SCI's language would reduce potential ambiguity of interpretation.

  In highly automated, dynamic systems such as those behind the financial markets, change occurs constantly. The severities of these changes span a broad spectrum. It is our opinion that "material

systems changes," as detailed in the language of the SCI proposal, will likely be interpreted by market participants as changes related to major support infrastructure, such as physical data center migrations or upgrades to distributed messaging platforms. Large firms generally have these initiatives planned months, if not years, in advance. The activities that compose these initiatives are tracked closely by executives, tested extensively and have well-defined contingency plans. System changes of this nature are likely to have ample time to provide the commission the obligatory notice, and best practices around the execution of major infrastructure changes have mitigated much of the risks inherent to these changes.

Other types of changes, particularly those related to the software logic that automates business processes, are more challenging to regulate, as participants may conceive of these changes only days or even hours in advance. To be sure, the technology industry has made incredible progress in the reliability of software products by adopting many best practices around their development, testing and ultimate release. However, many implications of software changes are not evident until the software is deployed and interacting with other market participants. It often happens that when software operates outside of the simulated environments in which it was developed, behavior unexpected by developers of the software does emerge.

- **Engage communities already fostering the spirit of SCI**

  SIFMA's Quantum Dawn project engages a wide array of market participants in coordinated, detailed market simulations amid various adverse circumstances, for the common purposes of increasing the market's preparedness and resiliency to dynamic global events, such as a widespread cyber-attack. While many market participants coordinate their own individual scheduled testing, exercises with wider participation are excellent tools for individual participant firms to assess and improve their own operational capabilities. The knowledge gained from the analysis of simulation results can yield insight about potential larger implications to global markets, which can then be studied further. The Office of Research and Analytics may find it useful to integrate metrics generated from these simulations into its existing or planned analytics platform.

Resourcing in Response to Evolving Marketplace Challenges

The establishment of the Office of Research and Analytics, as well as programs like MIDAS are steps by the SEC in the interest of further evolving policy and providing oversight amid dynamic market climates. As the volume of data from which policy decisions are made escalates, maintaining expertise around data-intensive disciplines will be critical for effective regulation. Below are example resource characteristics to consider as the Commission accommodates new initiatives:

- Deep knowledge of modern system architecture and implementation, both from a software perspective (as pertaining to algorithmic and high-frequency trading strategies) as well as from a computing infrastructure perspective (as pertaining to business continuity and system resiliency.)
- Technical systems analysis acumen to ingest and categorize large volumes of data, as well as to synthesize insights from collected information. The participant data arising from SCI will be more varied and unstructured than data that would be yielded from CAT, and the tools employed by the SEC to administer SCI must acknowledge and accommodate this. As the amount of data collected by the Commission escalates, staffing experienced data scientists will allow that data to be managed efficiently and optimize its analysis.
- Project management and coordination with other activities such as risk management audits and SIFMA's Quantum Dawn program.

The SEC staff must be able interact with industry participants as peers sharing common backgrounds, experience and talents. This is necessary to establish proactivity in the administration of SCI items, and to avoid the proposed regulation becoming merely an *ex post facto* reporting obligation, with limited returns and high maintenance costs.

We believe the SEC can approach these challenges in three ways:

- **Staff recruitment**

  Hire and retain staff with direct experience in architecting, developing, supporting, and implementing algorithmic trading systems at broker/dealers or exchanges.

- **System upgrades**

  Build a platform with analytics capability to organize, structure, and harvest insights from the data that will come in. This is critical to allow Staff to focus on the analysis of the information itself in a timely manner, rather than the logistics around the management of the data. The practice of using technology to manage technology is key, as no human resource expansion can effectively respond to the dynamics in all circumstances.

- **Process changes**

  To shape policy in this area, SEC staff will wish to maintain close communication with SCI entities. Combining these experiences with the actual reports that SCI firm file will allow the agency to refine and improve the regulatory framework in the face of rapidly evolving technology.

The commission should allow for for a significant learning curve in accommodating and interpreting the additional influx of data, and steer its resourcing strategies accordingly.

Easing Compliance Friction in SCI Entities

In the interest of maximizing SCI compliance and reducing ambiguity, additional specific, concrete guidance should be authored to establish a clear compliance yardstick for SCI firms. It is our opinion that the following steps would be helpful to firms on-boarding SCI into their compliance programs:

- **Publish examples of SCI filings that the Staff would regard as in compliance with the rule**

  Publications illustrating various SCI scenarios and their appropriate response can be useful tools for SCI entities as they develop a SCI compliance program. An example of an existing program offering such guidance is FinCEN's advice around the filing of Suspicious Activity Reports (SAR). In the FinCEN publication entitled "Guidance on Preparing a Complete & Sufficient Suspicious Activity Report," fictional examples of suspicious activity scenarios are clearly outlined, with specific examples of acceptable and unacceptable SARs. Were SCI to have a similar guide available, SCI entities can compare authored SCI notices to those within the guide and evaluate whether their own draft submissions are suitable or require adjustment. This will contribute to a lower percentage of resubmissions, and will go far to align expectations between the Staff and SCI entities.

- **Establish reference implementations for SCI-compliant systems**

  Although SEC is responsible for securities regulation and is not fundamentally a technology organization, the degree to which its constituency uses technology for strategic leverage suggests that the SEC should be widely familiar with the systems engineering that underpins such a large percentage of the marketplace. SEC publication of reference blueprints for vendor and technology-neutral SCI models would provide organizations a foundation from which to construct their own implementations, and provide a standard for which to evaluate the architectures of their own SCI systems. Furthermore, the process of developing SCI reference models may yield insights from which to refine SCI regulatory obligations. It will also provide SEC a useful blueprint from which to assess individual entity compliance.

Published guidance, with illustrated SCI scenarios, will provide those tasked with the engineering of compliant systems a solid first step from which to devise their programs. SEC has acknowledged that there is some expected compliance burden for SCI entities, and establishing a reference library of optimal engineering practices would allow entity staff to plan compliance activities without having specific fluency in SCI's regulatory language.

Conclusion

SCI's efforts to establish compliance standards and guidelines for the crucial infrastructure operating today's securities markets are welcome in a climate exhibiting a continually increasing reliance on technology. The processes of entity on-boarding and compliance monitoring can yield many insights that help us further understand and mitigate the extraordinary volume of complex interactions among myriad entity systems and subsystems. However, given known resource and budget constraints faced by the SEC, much consideration needs to be given in the administration of SCI's human and technical capital. By investing in expert resources that mirror profiles found among regulated entities, and taking advantage of modern tools and trends around data analysis and visualization, the SEC can mimic the success of many successful firms within the securities markets today, by doing more with less.

As extensive as SCI's coverage of systems disruptions, changes and security events is, the current proposal would not necessarily prevent future occurrences similar to destabilizing market incidents in recent years. A major challenge facing regulators is how to respond effectively to a market that embraces highly automated and constantly evolving strategies. While technology is indeed a cornerstone dictating market capabilities, the associated management of risk resulting from its use must be given commensurate priority and oversight.

With support from the large community of stakeholders championing the responsible administration of technology solutions, as well as via strategic investments in its own portfolio of human and technical capital, the SEC can improve compliance rates and decrease the minimum compliance burdens of its regulated entities for SCI and future technology-oriented policy.