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February 21, 2003

Annette L. Nazareth, Director, Division of Market Regulation
Lori A. Richards, Director, Office of Compliance, Inspections, and Examinations
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U. S. Securities and Exchange Commission
450 Fifth Street, N.W.
Washington, DC 20549

Re: SEC Record Storage Rule

Dear Annette, Lori, and Steve:

I am writing on behalf of SIA's member firms[1] to ask for your assistance in completing the work of modernizing the SEC's Electronic Storage Rule (Rule 17a-4(f)). SIA member firms believe that the storage solutions that meet the technical requirements of the current rule are woefully inadequate for storing the volume of electronic documents, particularly email, that the SEC requires to be retained today. Moreover, the technology mandated by the SEC is actually hindering firm compliance with other regulations, industry initiatives, and internal risk management practices. We believe that the time has come to resolve these issues expeditiously.

In June of 2001, SIA submitted a letter to each of you with proposed language for a new rule to replace the current rule, which mandates a non-rewritable, non-erasable technology for electronic record storage.[2] That proposal was developed at your urging and was submitted in expedited manner in accordance with your request. SIA again wrote to senior staff from the Division of Market Regulation in September of 2002 following up with the views and recommendations of technology record managers at our member firms.[3] Neither letter received a formal response and, despite the mutual recognition of the inherent difficulty of storing internal email, liability concerns for

[1] The Securities Industry Association brings together the shared interests of more than 600 securities firms to accomplish common goals. SIA member-firms (including investment banks, broker-dealers, and mutual fund companies) are active in all U.S. and foreign markets and in all phases of corporate and public finance. Collectively they employ more than 495,000 individuals, representing 97 percent of total employment in securities brokers and dealers. The U.S. securities industry manages the accounts of nearly 93-million investors directly and indirectly through corporate, thrift, and pension plans. In 2001, the industry generated $280 billion in U.S. revenue and $383 billion in global revenues. (More information about SIA is available on its home page: www.sia.com)

[2] Letter from Stuart J. Kaswell, Senior Vice President and General Counsel, SIA, to Annette Nazareth, Lori Richards, Steven Cutler, SEC (June 29, 2001).

[3] http://www.sia.com/electronic_storage/html/whats_new.html

failure to keep such records has only worsened. As explained further below, this industry's need for a capable record storage solution has become more acute in the past year. SIA believes it is therefore critical that the SEC move swiftly to update its rule. Below we summarize our existing position and suggest new avenues for rule changes for your consideration.

We share the Commission's view that document integrity is of critical importance to the Commission's mission and a firm's ability to serve its customers. It is SIA's contention, however, that the Commission's belief that document integrity can be guaranteed through a particular *method* of storage is unrealistic. Only those firms that actually retain records even need worry about *how* such records must be stored. In other words, the storage rule is a non-issue for bad actors who do not keep records, but it is a huge burden for those firms that are dutifully attempting to retain records and ask only that they be permitted to do so in an efficient manner.

BACKGROUND

With regard to record storage requirements, "a page of history is worth a volume of logic." Before the development of electronic storage media, the Commission had no requirement dictating *how* records must be preserved. The Commission only specified that broker-dealers must keep records for three years and that they must keep them in an easily accessible place for the first two of those three years. Indeed, there is no means of guaranteeing the authenticity of paper records or microfiche since replacement records can be easily generated and placed in files and/or microfilmed. Thus, the SEC has always accepted the document integrity risks inherent in storing paper documents – flood, fire or deliberate destruction are possibilities– but seems unwilling to accept a comparable level of risk for electronic documents.

The SEC's first electronic storage rules allowing the use of micrographic media were developed *not* for the purpose of guaranteeing document integrity, but rather to permit an alternative to physical paper storage.[4] Document integrity was also not the motive when the SEC later adopted the no-action position[5] that led to today's electronic storage rule.[6] To the contrary, the SEC had to change the rule because firms were already generating records using computers and could not very well be expected to print out paper copies of such records for storing or microfilming as the existing regulation required. Yet, despite the fact that existing rules for paper and microfiche did not include

[4] Exchange Act Release No. 8875 (Apr. 30, 1970), 35 FR 7644 (May 16, 1970).
[5] Letter from Michael Macchiaroli, Associate Director, Division of Market Regulation, to Michael D. Udoff, Chairman, Ad Hoc Record Retention Committee, SIA (June 19, 1993).
[6] Exchange Act Release No. 38245, 62 FR 6469 (Feb. 12, 1997).

storage format requirements, the SEC proceeded to apply such requirements to electronically stored documents.[7]

Congress sought to address the unequal treatment of paper and electronic records when it passed the Electronic Signature in Global and National Commerce Act ("Esign" or "Act").[8] Under Section 101 of Esign, any law or regulation requiring retention of records is deemed satisfied by retention of an electronic record that is accurate and accessible. Esign permitted a federal agency, like the SEC, to interpret this requirement with respect to the rules it administers, but with certain limitations. First, the interpretation must be consistent with Section 101 of the Act. Second, the agency interpretation may not add to the requirements of that section. Third, Section 104(b)(2)(C) requires the agency issuing the interpretation to make all of the following four findings: (1) there is substantial justification for the interpretation; (2) the requirements are substantially similar to those imposed on non-electronic records; (3) requirements do not impose unreasonable costs on the acceptance and use of electronic records; and (4) the requirements do not require or accord greater legal status or effect to the use of a specific technology or technical specification.

The SEC issued its Interpretation in May 2001 and concluded that its Rule 17a-4(f) met the guidelines required by Esign.[9] Because the SEC rule requirements are significantly more expansive than those established in Esign, SIA respectfully disagrees with this conclusion. First, SIA believes that, contrary to the SEC's assertion in the release, Rule 17a-4(f) does add requirements to Section 101(d) in contravention of the Act. As the SEC release notes, Section 101 requires only that a record be stored in a manner that ensures it is accurate, accessible and capable of being accurately reproduced for later reference.[10] But Section 101 of Esign does not specify the means by which a regulated entity should ensure accuracy and accessibility. The SEC rule specifically requires the use of a non-rewritable non-erasable format to ensure accuracy and accessibility. The SEC rule thus adds to the requirement of Section 101 in contravention of Esign.

Second, SIA respectfully suggests that the SEC has not satisfied the four-pronged test outlined in Section 104. Each prong is discussed in turn below.

(1) *There is substantial justification for the interpretation* -- SIA does not dispute that investor protection is at the core of the agency's mission and that accurate

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[7] *Id*.
[8] Pub. L. 106-229, 114 Stat. 464 (2000).
[9] Exchange Act Release No. 44238 (May 1, 2001), 66 FR 22916 (May 7, 2001).
[10] *Supra* note 8.

records are essential to carrying out that mission. However, Esign already requires such records to be accurate and accessible. The SEC Interpretation does not offer substantial justification for departing in such a significant way from the Esign standard. Furthermore, it is difficult to see how investor protection could substantially justify expanded rules for electronic, but not paper records. It is also difficult to see how investor protection would substantially justify heightened rules for broker-dealers, but no other regulated entities. The two cases of document tampering cited by the Commission do not provide a substantial justification for imposing storage format restrictions since tampering and destruction can occur before documents are ever archived.[11]

(2) *The requirements are substantially similar to those imposed on non-electronic records* -- The SEC argues in the Interpretation that its electronic storage requirements are substantially equivalent to the requirements for non-electronic records. However, as we have noted above, the SEC has no format storage requirements for non-electronic documents. The SEC even acknowledges its differential treatment of paper and electronic records in the release when it states that its requirements "address the unique characteristics of each storage method (emphasis added)."[12] Thus, the SEC's rules for paper and electronic records are not substantially similar, in contravention of Esign.

(3) *The requirements do not impose unreasonable costs on the acceptance and use of electronic records* -- The SEC asserts in the Interpretation that its Rule 17a-4(f) requirements do not impose unreasonable costs on the acceptance and use of electronic records. Although the SEC offers no estimate of costs of its requirement, Esign's requirements, or comparative electronic storage methods, it nevertheless concludes that the costs are reasonable. Moreover, the SEC fails to test the reasonableness of the costs of its rule relative to the costs of Esign's accurate and accessible requirement. As discussed further below, the cost of complying with the SEC rule is unreasonable given the increased amount of data that must be stored and the comparative cost advantages of non-WORM systems.[13] Since Esign does not specify a WORM storage format as the SEC rule does, firms following the SEC rule are limited

[11] Neither case alleges that the particular storage media used played a role in facilitating the wrongdoing and neither case indicates whether the particular storage media was of any relevance to regulators investigating the wrongdoing. Exchange Act Release No. 44238 (May 1, 2001), 66 FR 22916 (May 7, 2001).
[12] *Supra* note 9.
[13] One SIA member firm estimates that WORM optical is three times more expensive than DASD tape and ten times slower in terms of archival writing speed.

to just a few vendors whose products meet the SEC's strict requirements. Esign's interpretation would provide firms with many more record storage options to consider. Thus, the SEC rule imposes costs that could be considered unreasonable compared with the storage options that are available to non-broker dealers that need only comply with the Esign requirements.[14]

(4) *The requirements do not require or accord greater legal status or effect to the use of a specific technology or technical specification* -- The SEC argues that its requirements do not require or accord greater legal status or effect to the use of a specific technology or technical specification. The Office of Management & Budget memorandum regarding Esign listed WORM as an example of a specific technology or technical specification.[15] Because non-WORM storage solutions are available that would meet Esign's criteria for document integrity, the SEC rule fails this last test of Section 104 because it clearly requires and accords greater status to the use of WORM technology.

The SEC has not imposed a similar requirement on record keeping for investment advisers or mutual funds.[16] Moreover, despite the well-publicized instances of document destruction of Enron-related documents by Arthur Andersen, the SEC chose not to include a storage requirement in the auditor record retention rules it recently approved.[17] In contrast to the SEC's position with respect to broker-dealers, the Federal Reserve Board issued interpretive guidance pursuant to Esign and refused to apply storage rules to the banks that it regulates.[18] The SEC rule thus unfairly singles out broker-dealers for technology-specific storage rules. As a result, firms with banking, mutual fund, and broker dealer subsidiaries face separate record storage rules at a time when firms are looking to find enterprise-wide record management solutions to better contain costs and increase efficiency. The rule, thus, requires such firms to choose between using different data storage systems or using a WORM-compliant system for the entire enterprise.

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[14] In addition to the requirements of Esign, Section 3(f) of the Securities Exchange Act of 1934 provides that "whenever pursuant to this title the Commission is engaged in rulemaking … and is required to consider or determine whether an action is necessary or appropriate in the public interest, the Commission shall also consider, in addition t the protection of investors, whether the action will promote efficiency, competition, and capital formation. SIA does not believe that Commission's record storage requirements could withstand scrutiny under this standard, for the reasons outlined in this letter.

[15] M-00-15, Office of Management & Budget (September 25, 2000).

[16] Exchange Act Release No. 44227, 66 FR 21648 (May 1, 2001); Release Nos. IC-24991 and IA-2945, 66 FR 29224 (May 30, 2001).

[17] Release Nos. 33-8180; 34-47241; IC-25911 (January 24, 2003).

[18] Board of Governors of the Federal Reserve System, Regulation E; Docket No. R-1041 (March 27, 2001).

TECHNOLOGY MANDATED BY THE CURRENT RULE IS INADEQUATE TO MEET TODAY'S RECORDKEEPING BURDEN

Even if we concede for purposes of discussion that the Commission has satisfied its legal obligation under Esign or that there is some justification for treating broker-dealers differently, SIA still believes that the inherent flaws of WORM-compliant systems should compel the SEC to amend its broker-dealer record storage rule. By altering Rule 17a-4(f), the Commission could permit broker-dealers to store electronic documents more effectively at substantially lower costs. We simply see no investor protection benefit for the Commission to insist that broker-dealers continue to operate a parallel record storage system using antiquated technology that is unduly expensive, difficult to search, and whose supposed benefit of non-alterability is illusory. Indeed, we think the opposite is true *i.e.*, that the Commission could enhance investor protection by modernizing its record storage rule.

I am sure you are familiar with the disadvantages previously cited by SIA with the technology mandated by the current rule. To summarize, WORM storage systems are inefficient from the standpoint of archiving speed (transfer rates), searchability, and retrievability. Most of these problems flow from the fact that electronic records are not born on WORM media, but have to be archived to that format from the point of creation (*i.e.*, the email system). The volume of emails generated today[19] has the capacity to overwhelm the rate at which emails can be successfully archived (or written) to the WORM media, which creates enormous backlogs or queues. For example, one SIA member firm estimated the time it takes to archive 2.5 gigabytes of email (the average daily amount of email produced by the firm's 3,200 email accounts) to a WORM optical disk is 25 minutes while the estimated time it takes to archive that same amount of material to DASD tape is one second.

WORM optical disk architecture complicates searchability and retrievability of documents. Most brokerage firms use optical disks that hold 5.2 gigabytes of data. These disks are housed in "jukeboxes," the largest of which can hold 250 or more disks (or 1.3 terabytes of data) but can only "play" 6 disks at any one time. Thus, the number of users who can access the data and the amount of data that can be accessed at any one time is quite limited. While higher capacity optical disks are becoming available (albeit at higher costs), existing jukeboxes may not be able to house or play them. Moreover, regardless of the capacity of an individual disk, limitations still apply to the number of

[19] According to InfoWorld (September 25, 2000), there were an estimated 260 million email boxes in North America at the end of 2000. By the end of 2005, there are expected to be nearly 500 million. Similarly, daily email messages sent in North America at the end of 2000 were estimated at 6 billion. That number is expected to swell to 18 billion by 2005.

disks that can be accessed for search and retrieval at any one time. Thus, firms with data that must be accessible to more than just a few people at a time must also archive the same data to DASD tape or an equally flexible media. The necessity of dual archiving makes the cost of purchasing and maintaining so much hardware expensive and unwieldy from a document management perspective.

NO TECHNOLOGY CAN GUARANTEE DOCUMENT INTEGRITY

There is no such thing as a "bullet proof" storage solution. We appreciate and share the Commission's view that broker-dealers should create documents that are accurate and not subject to alteration. Nonetheless, we do not believe that there is any storage system or feature that reduces the risk of deliberate or accidental alteration to zero. Because of the necessity of a transfer to WORM from the point of creation (*i.e.*, the email server), it is not at all clear what guarantee of document integrity this rule or any storage medium rule can provide. Even if documents are successfully transferred to WORM media, there is no guarantee of safe storage. The evolutionary nature of technology dictates that whatever new solutions are developed today will be found to be vulnerable tomorrow. Moreover, claimed differences in the degree of tamperability among storage devices (*i.e.*, hardware features vs. software features) are meaningless as long as there is at least one engineer alive who knows how to override or deactivate the feature.[20] And once such a flaw is discovered, the technical know-how tends to become common knowledge almost instantly.

[20] "Every storage medium in existence can be altered. Optical storage and other computer-based technologies are no exception ... a WORM disk is much harder to alter than a signature, but in fact both are vulnerable to someone with sufficient access, the right tools, and adequate knowledge." (Safeguarding Data with WORM, Hewlett Packard, 1999).
"Any record can be altered with enough effort and knowledge of technology. In that sense any storage medium is vulnerable to intentional alteration when security and internal controls fail." (Evidentiary Benefits and Business Implications of WORM Optical Disk Storage for Records Management, Cohasset Associates, August 2000).

RECENT DEVELOPMENTS DEMONSTRATE NEED FOR RULE CHANGE

Several events during the past year have made the need for a rule change even more urgent. Most significantly, the expansive view of email retention requirements that the Commission applied in fining five broker-dealers for violations of record keeping rules has prompted all firms to enhance their email retention capabilities.[21] Second, compliance with the new SEC Books and Record Rule (implementation date of May 2, 2003) will require firms to be able to produce more documents in a shorter time frame. Given the accessibility and retrievability handicaps of WORM storage, compliance with the "promptness" requirements of this rule will be daunting. Third, recent court rulings in discovery motions have ruled against record keepers on the basis of less-than-efficient storage media.[22] Firms are thus exposed to greater regulatory and litigation risks as a result of having to maintain discoverable data on systems that are inefficient for purposes of search and retrieval. A leading vendor of storage systems estimates that a large broker-dealer with 10,000 email users produces three terabytes (or three thousand billion bytes) of data per year.[23] If a single regulatory investigation requires this firm to produce three years worth of email, or 9-10 terabytes, this vendor estimates the cost at $300,000 - 500,000 per terabyte to restore, produce, search, and produce again this volume of data.[24] Fourth, data managers face new risk management and regulatory considerations since the attacks of September 11. These considerations require extra emphasis on the speed of data transmission and the capacity of data back-up technology. No firm hoping to achieve a rapid recovery of its data following a disruption would rely on the SEC-mandated WORM storage system, and indeed most firms maintain a separate system (like DASD tape storage described above) for such non-regulatory purposes.

The SEC frequently cites the industry's early support for the current record storage rule in affirming its relevance today.[25] As noted above, the no-action letter the industry sought in 1991, which led to a rule proposal in 1995 and ultimately to the adoption of the current rule in 1997, was considered a mark of progress at the time. Indeed, such a revision was a virtual necessity given that records were already being created via computer and then-existing rules contemplated only physical documents and microfilm pictures of those same documents. Moreover, differences in performance standards between WORM and Non-WORM systems at that time were not nearly as dramatic as they are today. Because of the rapid evolution of technology, any industry support for a rule that was based on technology available in 1991 can hardly be deemed

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[21] Exchange Act Release No. 46937 (December 3, 2002).
[22] "Responding to Electronic Discovery" (New York Law Journal, May 6, 2002).
[23] Securities Industry News, February 20, 2002.
[24] *Id.*
[25] *Supra* note 9.

relevant today. The fact that corporate email systems were practically non-existent at that time and that commercial use of the Internet would not occur until 1995 ought to provide some frame of reference for the continued utility or practicality of this rule. Finally, storage capacity needs at the time of the 2001 Interpretation, and even more so today, are radically different than storage needs of just a few years earlier. EMC estimated that "in 1995, 95 percent of storage was analog (films, tapes, and microfiche) and unsuited for transmission over the Internet. Today, 95 percent of storage is digital…."[26]

RECOMMENDATION

In SIA's view, the Commission will not solve the record storage problem by attempting to stretch existing rule language to permit the use of company-specific storage devices featuring the latest document integrity device. SIA respectfully suggests that the only way for the Commission to harmonize its broker-dealer rules with its other rules and with current legal trends[27] is for the SEC to adopt a document integrity rule, as opposed to a storage technology rule. That is to say that firms ought to be required to adhere to policies that reasonably ensure document integrity throughout the storage process. This approach would have the added benefit of providing some auditable safeguards around the whole transfer process instead of just the ultimate storage destination. The rule could state that a firm's guidelines must consist of reasonable steps that are designed to: (1) safeguard the security and integrity of records; (2) limit access to records to properly authorized personnel; and (3) ensure that electronically stored documents are complete, true, and legible when retrieved. In sum, the goal of regulation should be to require a level of integrity that can reasonably be *achieved*; not an unrealistic one that must be *guaranteed*. The SEC already permits other entities it regulates to apply a policy and procedures approach to ensuring, but not guaranteeing, document integrity. Moreover, the Commission has successfully used this regulatory approach in a host of other contexts (*e.g.* SRO rules relating to communications with the public) that are arguably more central to the Commission's mission of investor protection than record storage.

Possible Basis for Compromise

While SIA believes it is necessary to put broker-dealers on an even footing with banks, investment companies and other similarly situated financial institutions that are not so constrained in terms of record storage options, we are open to other methods of

[26] "Metcalfe's Exaflood" (Gilder Technology Report, June 2001).

[27] "Consider that in a US Court of Law, evidence is considered admissible or inadmissible based on how it is handled, not on the medium or technology that stores the evidence … . The key then is more about process (the way we handle data) and less about technology (the way we record data)." ("Safeguarding data with WORM." Hewlett Packard, 1999.)

accomplishing this goal. Under SIA's proposal, firms would be required to have "procedures that are reasonably intended to safeguard the security and integrity of records by means of manual or automated controls designed to ensure the authenticity and quality of the electronic facsimile; reasonably safeguard the records for alteration, loss or destruction; reasonably detect attempts to alter, remove or destroy records; and reasonably provide the means to recover altered, damaged, or lost records resulting from any cause."[28]

In addition, SIA believes it may be appropriate, in the case of larger firms, to require that the procedures specify whether the electronic storage method in use includes a document integrity feature or features reasonably designed to safeguard security and integrity, and ensure authenticity and quality of records. This would have the benefit of focusing attention on the importance of a system-based document integrity feature as part of a firm's controls and procedures, while preserving a firm's flexibility to choose from more storage options than are available under the current rule. Smaller firms, and firms whose document storage needs do not warrant the significant cost of such systems, would still be able to demonstrate compliance through procedures alone. Moreover, storage vendors would in turn compete to provide new and better document integrity features to customers. Examples of document integrity features that meet this criteria might include a software or hardware control to prevent or detect changes; an archiving process that causes a physical and permanent change in the media; an automatically generated log showing any and all changes to a document from the time it is created; or any other means yet to be devised for this purpose. Such technology-neutral language that recognizes the realistic limits of document integrity measures offers the best hope for achieving the goals of effective and efficient regulation.

Another alternative, which we previously raised with you, is the creation of a separate record storage rule in accordance with the recommendations discussed above exclusively for electronic mail, as distinct from other types of records. A separate rule would be justified by the extreme difference between specific, regulated documents and email in terms of volume of data generated, the physical properties of each as it relates to the difficulty of archiving, search and retrieval, and the degree of specificity in the rules governing retention.

SIA is eager to resume a dialogue on the issues we have raised so that the Commission can conclude its work on this issue and our firms can begin to respond to the enormous record-keeping challenge they face with the benefit of state-of-the-art technology. We believe that it is in the best interests of investors, regulators, and broker-dealers to complete this rulemaking effort promptly. If you have any questions or if SIA

[28] *Supra* note 2.

can of any assistance, please contact me at (202) 296-9410 or skaswell@sia.com or contact Scott Kursman at (212) 618-0508 or skursman@sia.com.

Very truly yours,

Stuart J. Kaswell
Senior Vice President
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cc: The Honorable William Donaldson, Chairman
The Honorable Cynthia A. Glassman, Commissioner
The Honorable Harvey J. Goldschmid, Commissioner
The Honorable Paul S. Atkins, Commissioner
The Honorable Roel C. Campos, Commissioner
Giovanni P. Prezioso, General Counsel

Stuart/Regul/SEC Letter 2-21-03A