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SECURITIES & EXCHANGE COMMISSION
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DIVISION OF MARKET REGULATION

February 26, 1988

Mr. Richard G. Ketchum
Director, Division of Market Regulation
Securities and Exchange Commission
450 5th St., N.W., Stop 5-1
Washington, DC 20549

Re: Report on October Market Break

Dear Rick:

I am responding to your letter of February 12, 1988, requesting information and the Exchange's views regarding several matters raised on the Division's study of the October 1987 market break.

With respect to the general issues raised at the outset of your letter, the time constraints that must be met do not permit us to provide a detailed reply. The Exchange certainly concurs with the suggestion that there is a need for better coordination among regulators in all financial markets. I have previously made public my position that regulatory responsibility for all stock-related products should reside in the Securities and Exchange Commission. This would provide an umbrella to facilitate cooperation on sharing financial and surveillance information among self-regulatory organizations (SROs) that trade related products or oversee the same or related firms. The system of cooperation among securities SROs in sharing information regarding broker-dealers experiencing capital deficiencies or other financial problems has functioned adequately. Expanding that system to encompass the futures SROs is certainly an idea worth exploring. Similarly, this Exchange supports in concept the requests made by Chairman Ruder and CFTC Acting Chairman Hineman that the Inter-market Surveillance Group (ISG) consider expanding participation on relevant sub-committees to include futures SROs. Before this can be accomplished, the securities and futures SROs must reach a common understanding on the possible violations that would be the subject of information sharing between them (such as securities/futures frontrunning) as well as the terms on which information sharing would occur.

As important as this routine surveillance cooperation is, there is a need for more integrated substantive regulation

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of the securities and related futures markets. The reasons for continuing a dual securities/commodities regulatory structure in what commentators from virtually all sides of both industries regard as "one market" have become ever more elusive. This not only results in regulatory inconsistencies and duplication, but has served to impede implementation of important systems and regulations. This problem is exemplified by the nearly three year struggle by the Options Clearing Corporation, PHLX and others to implement cross-margining of related options and futures products. The economic validity of recognizing the reduced risk of offsetting options and futures in appropriate cross-margining arrangements has never been challenged. Indeed, where related products have been introduced under either the SEC's or the CFTC's sole oversight (e.g., stocks and securities options, or futures and futures options), reduced margins on offsetting positions in those instruments have been available from the outset. Nevertheless, the bifurcated regulatory structure continues to hamper progress on cross-margining, to the competitive detriment of the PHLX.

The specific questions raised in your letter are discussed below. The enhancements to our order routing and execution systems are discussed in the responses to the first four equity-related questions.

EQUITIES

1. Implement or accelerate systems improvements to enhance ability to accommodate volume surges.

As you know, the Exchange was in the midst of a three-year, $10 million enhancement to its computer systems on October 19, 1987. As a result of the market surge, and as previously reported, the Exchange has accelerated that program. Our current targets are to complete systems enhancements by the end of 1988 that would allow the Exchange to handle its anticipated share of volumes approaching one billion shares a day.

The October volume surge strained the capacity of two PHLX systems, the CENTRAMART system, which processes incoming quotation and transaction information, and on the PACE small order delivery and execution system. On October 19, 1987, the CENTRAMART system had a capacity of 40 messages per second. This normally would afford sufficient capacity to process securities information during a 400-450 million share day. On January 13, 1988, the Exchange introduced "Message Manager" internal systems controls that increased information through-put capacity by 7-10 percent. On January 14, 1988, the Exchange introduced the "TiPS" system, running on an IBM System 88, which is a front-end filter that eliminates systems processing of messages involving those securities not traded, or subject to options trading, on PHLX. This reduced message traffic at the opening and during the day by 33 percent and 25 percent respectively, increasing through-put by another 5-7 percent. On March 1, 1988, another internal processing enhancement is planned that will increase through-put capacity by another 7-10 percent. The combined effect of these short term enhancements have increased our capacity by approximately 20%. In April 1988, the Exchange will separate the computer systems used to support equity and options floor functions. This will double the CENTRAMART System's raw processing power and total disk space. The latter will result in a minimum additional 25 percent increase in capacity, allowing the Exchange comfortably to handle 600 million share days. Finally, by year-end, the Exchange will complete migration of its systems from Honeywell computers to IBM System-88s. This will not only put CENTRAMART capacity at the 800 million to 1 billion share level, but would afford us the modular capability to rapidly increase capacity in the face of future volume surges.

PACE is the Exchange's automated order routing and execution system. Its capabilities, along with those of other regional exchange systems, were the focus of considerable attention by the Commission's staff in the Report on the October Market Break and, unfortunately, a subject of some mischaracterization. On October 19, 1987, Exchange computerized reconstructions of actual system performance indicate that the system's capacity was approximately 30 orders per minute intra-day. Coupled with an average of 800-900 pre-opening orders in the months before October 19, system capacity was approximately 12,500 orders per day.

On October 26, 1987, a modification was implemented to permit automatic reporting of manual executions. This does not enhance PACE system capabilities during normal automatic execution operation, but would permit the Exchange to switch to manual execution of orders, as was done on October 20-22, without the reporting delays that resulted from the change to manual execution on those days, and without otherwise degrading system capacity. In this regard, conversion of PACE from an automatic to manual execution system merely permits the system to function in a manner identical to the New York Stock Exchange's DOT system. Also, on October 26, 1987, the disk capacity of the system was doubled to store approximately 40,000 orders on the recovery file by utilizing additional disk drives normally used for after hours processing.

On December 10, 1987, the Exchange introduced "timeslicing" for its processing of PACE order entry and execution on the Honeywell system. Timeslicing involves internal system modifications that increase the efficiency with which the Honeywell system processes PACE orders. These changes have resulted in an increase in system capacity to approximately 43 orders per minute. Coupled with current pre-opening order traffic of 400-600 orders per day, current system capacity is approximately 17,000 - 17,500 orders per day. Considering that the Exchange received roughly 2500-3000 pre-opening orders on October 19 and 20, 1987, these capacity levels would indicate the Exchange could handle PACE transaction volume of 19,000 - 20,000 orders per day.

Currently under development are two further modifications. These changes would involve not storing on-line either execution records or quote records. Execution records can be deleted because the data needed to reconstruct system executions can be gathered from other records maintained after the close. Quote records would be stored only until tickets were printed or round lot orders were executed, when they would no longer be needed by the system. Each of these changes would free one to two disk writes, thereby increasing system capacity by ten to twenty percent. The Exchange expects these changes, which would increase system capacity to over 20,000 orders per day without queueing, to be in place by June 1988.

As previously reported, the Exchange is targeting conversion of PACE from the current Honeywell System to IBM System 88s by the end of the year. This enhancement will increase PACE system capacity to 40,000 orders per day, which would allow PHLX to handle its anticipated share of sustained 800 million to one billion share volumes. Being the System 88s are modular, the Exchange would also be able, with less than 24 hour turnaround, substantially to increase capacity further if that proved necessary.

2. Develop contingency plans to cope with order routing and reporting difficulties during periods of unusual volume; including back-up systems, personnel training, and improved communication with public customers.

As the Division is aware, the reporting difficulties the Exchange experienced on October 20-22 resulted from the inability of the PACE System to continue to provide automated reporting when converted to manual execution. As noted above, this deficiency was rectified on October 26, 1987. The Exchange currently has adequate back-up personnel at all levels, including data processing, operations and marketing/customer communications. As discussed below, the Exchange has developed procedures to assure that the Exchange marketing and public relations personnel have adequate notice of any changes in system execution parameters to provide notice to the public and PACE user firms.

Finally, as noted above, by year-end the Exchange will have converted the PACE System to IBM System 88s. The System 88s have two important back-up capabilities. First, the System 88s are fault tolerant. That is, all computer functions are performed in duplicate. These duplicate computations are continually cross-checked. Any system breakdowns are thereby detected instantaneously. While the back-up system continues to run, the source of the breakdown is identified by the system and the IBM service center is automatically contacted so that repairs can be commenced immediately. Second, being the System 88s are modular, future capacity shortfalls can be remedied literally within a day and possibly even intra-day.

3. Improve exchange communication with retail firms concerning problems, delays, and changes in order routing and execution systems (e.g., order size guarantees).

During the week of October 19, the Exchange made, and would expect in the future to make, only one change in PACE system parameters, i.e., from automatic to manual execution of market and marketable orders. The Exchange has developed procedures to assure that there is adequate notice to PACE users and PHLX marketing personnel of any anticipated changes in system execution parameters.

4. Improve coordination between exchanges concerning problems with, or shut-downs of, small order systems.

This suggestion has some surface appeal. The Exchange questions, however, whether this suggestion would result in useful information to other market centers; indeed, it may even prove confusing under some circumstances. The Exchange assumes that the rationale behind the suggestion is to prepare other markets for a possible onslaught of orders if an exchange were to shut-off or modify execution parameters on its small order system. The response of user firms to system modifications, however, is difficult to predict. For example, in response to the stress of the week of October 19, the largest PACE user firm employed contingency plans to switch to manual routing of orders to the PHLX floor. Other firms did route orders to one or more small order systems on other exchanges. It would be more sensible for each firm, as it responds to a market emergency, to make sure that it allots ample time to another market center before diverting its order flow there. The PHLX would not want to be responsible for causing another market center to modify its own small order systems in response to anticipated volume diverted from the PACE System which never in fact materializes.

5. Examine individual specialist performance during the market break and, where appropriate, bring disciplinary actions or reallocation proceedings to remedy poor specialist performance during the market break.

The following four questions are addressed to the PHLX equities market. Because Exchange activity during the week of October 19, and subsequent Exchange initiatives, relate to the options floor as well, both areas are covered in the responses below.

Virtually all of PHLX's automated surveillance programs operate on the basis of price and/or volume parameters that identify activity that might warrant closer scrutiny. Needless to say, the unprecedented volume and volatility on the week of October 19 rendered these systems largely useless. As a result, the Exchange's surveillance had to rely largely on manual reviews of trading activity, customer complaints and the staff's on-the-spot surveillance.

Fortunately, PHLX had very few customer complaints arising from the extraordinary markets of the week of October 19. The firm (and to a minor extent, public customer complaints) regarding equity performance went to the performance of PHLX systems, not the performance of individual specialists. Surveillance staff review of equity floor performance also has not turned up any cases of performance warranting disciplinary review or re-allocation action.

Actions have been taken involving two specialists on the options floor. One stock options specialist fell below minimum capital requirements as a result of losses incurred on October 19. That firm was asked to give up its books and, pursuant to pre-established Exchange emergency plans, the designated back-up specialist assumed specialist responsibilities in the firm's five books. The specialist eventually transferred the books permanently to a third specialist firm on the PHLX floor.

The specialist in options on the Gold/Silver Index (XAU) was the subject of a complaint regarding a substantial change in the market in two different options series during a period when there was only a small corresponding change in the underlying index. The PHLX Business Conduct Committee has authorized a formal complaint in the case.

6. Review minimum capital requirements for specialists.

As we have discussed with the Division staff previously, the Exchange currently is in the process of formulating revised capital requirements for specialists and brokers. The matter has been brought before the PHLX Business Conduct Committee, which has established a Capital Subcommittee to review this subject. The subcommittee has met once, and is scheduled to meet on at least one more occasion. A subcommittee of the Exchange Floor Procedure Committee also is scheduled to review this matter. The Exchange is targeting this matter for its March or April Board meeting.

7. Review present systems of specialist capital surveillance to determine if increased monitoring is necessary.

The Exchange currently has the capability to monitor the capital of specialists and market makers on a daily basis, and in fact did so very carefully throughout the weeks of October 19 and 26, and November 2, 1987. Indeed, the Exchange continues to carefully monitor specialist and market maker capitalization. The Exchange currently does not have any automated capability to monitor specialist or market maker capital intra-day. During volatile markets, however, the Exchange can and does mark overnight positions to market intra-day to assess preliminarily whether a potential capital shortfall or deficit position may have arisen, and then contacts the firm and its clearing firm or clearing organization to assess whether intra-day review of the account is necessary. The Exchange is satisfied that its current procedures are adequate to monitor specialist and market maker capital.

8. Explore the possibility of requiring all "self-clearing" specialists to maintain a line of credit with a bank or lending institution or imposing higher capital requirements on specialists who do not maintain such a line.

Questions regarding the capital adequacy of self-clearing firms were not an issue for PHLX during the October market break. With one exception, the self-clearing firms on the PHLX floor (e.g., Dean Witter Reynolds and Donaldson Lufkin Jenrette on the equity floor, Merrill Lynch and O'Connor & Associates on the options floor), all maintained capital before, during and following the market break far in excess of any capital exposure arising from their specialist or other trading activities on PHLX. There is one local self-clearing options firm (Tague Securities). It also has capital substantially in excess of Exchange requirements. The Exchange historically has evaluated the capital adequacy of specialists that are not self-clearing without regard to any kind of guarantees that may or may not be provided by their clearing firm. Hence our preliminary view is that higher requirements for self-clearing firms are not appropriate. Since this was not an issue for PHLX on October 19, however, other exchanges may be in a better position to respond to this question.

9. Consider adopting default procedures to provide that, when a commitment to trade over ITS is not accepted or rejected within the applicable time frame, an execution report will be automatically generated by the system, based on the commitment price or the then current quotation (whichever is better) for the security in the receiving market.

The Exchange believes this suggestion is a sound one that merits careful consideration by the ITS participants and Commission's staff at the next ITS meeting. The Exchange believes, however, that while this specific suggestion is discussed it would be appropriate to consider broader possible enhancements to the ITS System. The suggested modification, for example, would still give the specialist at the receiving market the ability to reject a commitment sent over the system to avoid being subject to an "automatic" execution. This may only result in specialists developing procedures for rejecting automatically any commitments that are either not filled or manually rejected within the applicable time frame. In addition to the substantial percentage of ITS commitments that expired during the week of October 19, PHLX members had a number of <u>market</u> orders sent over the ITS System that were <u>cancelled</u> by the receiving market. The Exchange has yet to receive a satisfactory explanation for any of these cancellations. However, the Division staff's suggestion would not reach these situations. Hence, the Exchange believes a broad-based discussion of the issue of incorporating default or other automatic execution features into the ITS System is in order.

We believe that significant reduction in ITS expirations would occur with an improvement in systems capabilities. For example, if commitments expire in queues (e.g., before a specialist has an opportunity to respond) the focus should be on system enhancements to prevent such an occurrence.

The ITS has been operational since April, 1978 when this Exchange and the New York Stock Exchange became the initial participants. On the first day of its operation, volume on the New York Stock Exchange was approximately 64 million shares. Since that time, many changes in the marketplace have occurred, not the least of which are significantly higher trading volumes and increased volatility. As a consequence, this Exchange believes that the ITS, as well as the plan and rules under which it operates, have outlived their usefulness.

Just as the 1975 amendments to the Securities Exchange Act of 1934 gave recognition to changes in the marketplace by providing that "...The linking of all markets for qualified securities through communication and data processing facilities will foster efficiency, enhance competition, increase the information available to brokers, dealers, and investors, facilitate the offsetting of investors orders, and contribute to best execution of such orders." so too, must we give the same recognitions to the need for change to the ITS.

In this regard, I believe that the most senior representatives of participants in the ITS meet promptly to begin discussions on the changes which must take place.

10. With respect to the ITS Plan, develop pre-opening procedures that would apply after trading imbalance halts, similar to those that apply after "regulatory" halts.

As with the matter discussed above, the Exchange believes that this is an issue appropriate for consideration by the ITS participants and Commission staff at the next ITS meeting.

11. Define procedures for communication among the exchanges, and identify an ITS contact person in each market, who will be available during market emergencies.

The PHLX concurs in this suggestion. On February 23, 1988, the PHLX forwarded its contact list to all its participants.

<u>OPTIONS</u>

1. An examination of whether strike prices should be set at the minimum increments during a period of increasing volatility.

The Exchange concurs with the objectives behind this suggestion, but questions its efficacy. First, for most stocks, even under relatively volatile conditions, the stock's price will not move so precipitously (other than in takeover situations) that it would be possible to skip strike prices without sacrificing the ability to have at-the-money strikes. Hence, it is doubtful that this approach could effectively relieve significant processing pressures. Second, we are concerned that this approach could prove confusing to firms and customers, who would expect a complete array of strikes to be available.

The Exchange did attempt, after the October market break, to cull out those series that were deep-out or deep-in-the-money with no open interest to reduce the operational problems from the proliferation of strikes. This approach yielded minimal results.

Finally, the Exchange notes that, at recent Commission hearings, suggestions were offered to the Commission that it consider deferral of action on a proposed rule that could result in enormous new demands on vendor capacity. Indeed, multiple trading could well have the effect of making October 19 look like a walk in the park. In this regard, we appreciate the concerns that have motivated the staff's inquiry.

2. A review of the way in which public orders participate in the opening. In particular, should all public orders have to be represented by the specialist at the opening?

This question, and question 4. below, both relate to concerns regarding delays and other irregularities at the opening of trading in options on October 19 and the days following. We understand that some exchanges, particularly in active index products, experienced some difficulties in this area. This was not a problem at the PHLX. As discussed below, modest opening rotation delays occurred in some PHLX index options. This, however, was purely a function of the number of series to be opened, not as a result of order imbalances or crowd control. Hence, at PHLX there would be no basis for requiring brokers to deliver all public orders to the specialist for execution at the opening.

3. Discuss with vendors steps that should be taken to coordinate the introduction of new series that may exceed vendor capacity and which series, if any, should be delisted when vendor data base capacity has been outstripped.

The Exchange was in close contact with the major vendors even before October 19 regarding vendor capacity problems relating to the proliferation of options series across-the-board. While some vendors sought to remove from their option chains those series that had no open interest, the more frequent response was to remove the furthest out series. In our view, this was the soundest approach for them to take under the circumstances.

In looking to the future, the first priority should be given to increasing vendor capacity to accommodate future potential sudden proliferations of series. Nevertheless, the exchanges and vendors have to continue to cope with ongoing capacity shortfalls, as well as the possibility of future unanticipated problems. Rather than deal with these issues on an individual exchange basis, PHLX and the other participants in OPRA have worked, and will continue to work, through OPRA with the vendors (i) to continue to address current capacity problems; (ii) to plan for future capacity expansion, (iii) to increase message capacity; and (iv) to make contingency plans for potential future problems.

4. Examine rules regarding opening rotation procedures and methods for speeding up rotations and handling rotations during volatile periods.

PHLX Rule 1047, and Commentary .01 to the rule, set forth PHLX procedures relating to rotations. These rules afford the Exchange substantial flexibility to craft rotations to meet the exigencies of unusual trading situations. These rules permit a specialist, with the approval of two floor officials, to employ a shotgun rotation (where each series can be freely traded after it is opened), to use a reverse rotation (where the furthest out options series are opened first), or to proceed with the rotation "in a different manner and sequence of trading than described above."

As noted above, the PHLX did not encounter serious problems in conducting opening rotations in any options during the week of October 19 other than certain index options. For those options, a reverse rotation was employed. In our view, even the index options opening rotations were manageable and, as set forth above, our current rules afford sufficient flexibility to allow the Exchange to address future opening rotation problems should they arise.

5. Review ways to ensure adequate levels of market maker participation in volatile markets.

The Exchange believes the objectives behind questions 5. and 6. are laudatory. We question, however, whether derivative product markets can take extraordinary measures to further either of these objectives materially in the absence of adequate market making commitments, price continuity and orderliness in the markets for the underlying securities. The Exchange has a number of general provisions designed to promote fair, deep and liquid markets. These include the general specialist and market maker affirmative and negative obligations, minimum quote parameters, a ten-up markets rule, price continuity requirements, minimum volume and in-person requirements for ROTs, and, for specialists, allocation and re-allocation procedures. Moreover, because PHLX has a specialist system on the options floor, it always has at least one market maker in every option able and willing to make a market. As a point of fact, ROTs also provided supplemental market making assistance in every option on the floor during the week of October 19.

None of the provisions noted above, however, specifically addresses periods of unusual market volatility. Indeed, some of these protections were undermined during the week of October 19 by breakdowns in the underlying market. For example, floor officials waived minimum spread parameters for much of the week when it was determined that quotation spreads in virtually all of the underlying securities were in excess of the maximum spreads authorized in the options. Similarly, the ten-up requirement was waived in some instances where it was determined that 1000 share executions at the market in underlying stocks were frequently unavailable. Hence, assurances of adequate market maker (including specialist) participation in the options market (at least for individual options) of necessity must be a part of broader discussions that also involve primary market specialists and market makers in the underlying securities.

The Exchange recommends that the Commission consider hosting a meeting of representatives of all of the options exchanges and the primary stock markets to consider this questions on a more comprehensive basis. The notion of requiring securities market makers to make deep, liquid markets on a continuous basis, and putting teeth into those obligations, has been raised on numerous occasions in the past. It is a worthy but vexing objective. As noted above, however, it is our firm belief that only a coordinated discussion, involving both the underlying and derivative markets, is likely to be fruitful.

6. Develop methods to ensure pricing continuity and fairness during volatile conditions.

See the response to question 5. above.

7. Evaluate adequacy of current margin levels for index options and equity options.

We understand that the Commission staff has engaged in several conversations with certain other exchanges on the adequacy of stock and index options margins. The Commission staff has not included the PHLX in those conversations to date. The Exchange nevertheless is participating with the other options SROs in evaluating the adequacy of stock and index option margins.

Margins have two basic objectives: to assure credit worthiness or performance of obligations, and to avoid excess speculation or curb excess volatility. Preliminarily, the data reviewed by the Exchange's staff lead us to the conclusion that current margin levels are adequate to satisfy the first objective, even in the face of the increased volatility in the market leading up to October 19 and thereafter. We believe serious consideration, however, should be given to the adequacy of existing margins to satisfy the second concern. In this connection, it is our preliminary view that any change in margins to address speculation and volatility concerns should result in equivalent margins for both index and individual stock options. We look forward to working with the staff of the Commission in evaluating these margin concerns.

If you have any questions concerning this reply, please feel free to call me, or to contact Richard Chase at (215)496-5066.

Yours truly,

Nick

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