UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

DIVISION OF
MARKET REGULATION

MEMORANDUM

March 4, 1988

TO: Chairman Ruder

FROM: Richard G. Ketchum, Director
Division of Market Regulation

RE: Implementation of the Division's and the Commission's Recommendations regarding the October Market Break

This memorandum summarizes self-regulatory organization ("SRO") actions to date in response to recommendations in the Division of Market Regulation report, The October 1987 Market Break ("Report") and the Commission's recommendations as contained in your February testimony before the Senate Committee on Banking, Housing and Urban Affairs. These recommendations concerned, among other things, contingency planning, operational capacity, specialist or market making performance, and capital adequacy.

In light of our monitoring and oversight responsibilities, the Division recently requested that the various markets inform us of their efforts to implement these recommendations. The following summaries describe the areas in which the markets have made substantial progress or reached a common understanding. As the following summaries indicate, significant action has been taken among the markets in some areas, particularly regarding contingency planning and coordination and operational capacity and enhancements. Although we are supportive of the SROs efforts to date to respond to our recommendations, we believe that the SROs must continue to devote their time to analyzing the recommendations and taking appropriate action. In addition, the SROs are continuing to discuss the broader market issues raised in the Division's Report and the Commission's testimony.

The following discussion first sets forth the recommendation and then each market's response.

I. Contingency Planning and Information Sharing Among the SROs

All the markets support the need to develop better intermarket cooperation in some form. The following list sets forth the recent initiatives that have taken place to develop contingency plans for a market emergency.

- On January 11, heads of the SROs met at the New York Stock Exchange ("NYSE") to discuss methods of improving communications.

- On February 10, heads of the Chicago Mercantile Exchange ("CME") and NYSE met with Chairman Ruder of the SEC, and Acting Chairman Hineman of the CFTC.

- On February 24, all exchanges, including equity, options, and futures markets, met in New York to consider various issues in cooperation and sharing of information.

- On March 16, all exchanges, including equity, options, and futures markets, the Commission, and the CFTC, will meet to discuss issues relating to inter-exchange coordination and information sharing.

In addition to these joint efforts several independent initiatives have been made by some exchanges. For example, the NYSE has established an Operations Advisory Committee that meets several times each week. The immediate objective of the Committee is to ensure that the NYSE and the industry can function effectively on the next 600 million share day. The NYSE has indicated that the Committee's intermediate goal is to be prepared for the first billion share day by 1989. The Pacific Stock Exchange ("PSE") has also established a Contingency Planning Task Force. The Task Force's primary objective is to improve both internal and external communications when a market disruption occurs. This includes formalizing internal procedures to communicate effectively within the staff and with other markets, the SEC, members and public customers, the news media and the general public. The PSE also is sponsoring a meeting with the other regional markets on March 28 to discuss, among other things, specialist capital requirements, intermarket trading systems performance, communication linkages and contingency planning for market emergencies.

II. Stock Exchanges

A. Specialist Performance

1. The NYSE should develop relative, objective standards for evaluating specialist performance.

The NYSE has proposed to add specific objective standards to measure specialist performance in a variety of areas. This will supplement their current specialist evaluation system, which bases performance on specialist evaluation questionnaires ("SPEQ") filled out quarterly by floor brokers. The Commission staff is currently reviewing this proposal. As detailed in Chapter 4 of the Report, the NYSE has been particularly reluctant to adopt relative performance measures so that specialists who were regularly among the lowest ranked specialists would be subject to performance reviews. 1/ While the NYSE continues to believe relative standards raise difficult issues, it has agreed to review the feasibility and desirability of developing relative measures of performance.

2. The SROs should 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.

To date NYSE investigations into specialist performance during the market break have resulted in the reallocation of five stocks from four specialist units (the stocks are J.P. Morgan & Co., Gould, Inc., Neiman Marcus Group, E.F. Hutton Group, Inc., A.G. Edwards, Inc.), with an additional stock, Carter-Wallace, up for reallocation on March 10. (We note that A.G. Edwards was reallocated because the reallocation of E.F. Hutton Group would have less significance due to its imminent termination). The NYSE has indicated that it is continuing to review specialist activity during the October market break period, and is focusing particularly on those areas of concern outlined in the Division's Report such as proprietary activity during gap openings (opening at a price significantly away from the previous last sale), delayed openings, and trading halts.

The American Stock Exchange ("Amex") has examined trading in every security traded on the exchange during the market break period. The Amex has identified 70 securities involving 16 specialist units with potentially inadequate performance that have been referred to a Subcommittee of the Exchange's Performance Committee for review. Four additional units are also in the process of being referred to the Subcommittee for review. The Amex expects that either disciplinary action or reallocation proceedings will be instituted in a number of the questionable situations identified. Amex has promised to keep the Division staff informed of developments in this area.

The Division Report recommendations requested Amex to focus on gap openings, delayed openings and trading halts when reviewing specialist performance and explore why a large number of Amex stocks remained closed for extended time periods. Amex has indicated it is currently reviewing all trading halts and

---

1/ Currently, the NYSE uses absolute standards to evaluate performance. This means that a specialist has to be graded below a certain unacceptable level on the SPEQ or other performance criteria to be subject to performance improvement initiatives.

delayed gap openings that occurred during the market break. The Exchange has identified some instances of questionable delays or halts and these are being pursued by the Exchange's Performance Committee.

Amex has indicated that it is considering some changes to improve the administration of trading halts such as requiring all trading halts and gap openings to be approved by an Exchange official or Floor Governor, rather than just a Floor Official as currently required. Further, the Amex is considering requiring all specialists to prepare a form, which currently is optional, indicating the pre-halt condition of the specialist's book and any orders represented in the trading crowd prior to and subsequent to any halt in trading.

Four regional stock exchanges, the Cincinnati Stock Exchange ("CSE"), Midwest Stock Exchange ("MSE"), Philadelphia Stock Exchange ("Phlx"), and PSE, have examined individual specialist performance during the market break and have not identified any questionable actions that would require disciplinary actions or reallocation proceedings. These exchanges note that they have not received any formal complaints regarding specialist performance during the market break. The Boston Stock Exchange ("BSE") is currently investigating one matter that relates indirectly to the market break. Individually, the MSE supports the development of objective, relative standards to evaluate specialists and will be filing with the Commission, in the near future, a new set of criteria for specialist evaluation based on a relative standard of performance. The PSE is currently examining the market making obligations of regional specialists as opposed to primary market specialists, and has agreed to explore this issue with each of the other regional markets.

B. Small Order Routing and Execution Systems

1. NYSE should increase efforts to improve the processing of orders by continuing to upgrade order-handling equipment through implementing new and more efficient, higher-speed printers, and adding new disk drives, minicomputers, and improved software. The Division also encourages the NYSE to increase the number of stocks on electronic display books and to complete the connection between the electronic display book system and limit order system, so that fewer orders will have to be printed and then handled manually.

The NYSE responded that it has made improvements to virtually every exchange order processing system since the market break. As noted above, the NYSE has created an Operations Advisory Committee with the objective of synchronizing planning and operational efforts to provide the capacity to handle routinely a 600 million share day by the end of 1988. The NYSE has doubled the number of stocks on electronic display books and is taking steps to route both market and limit order traffic to the display books via a new communication switch, thus averting backlogs at the universal floor device controller switch ("UFDC") and reducing the number of orders that must physically be printed out. In addition, the NYSE has substantially increased the number of printers on the floor and implemented enhancements to those printers. In February 1988 the NYSE completely replaced its odd-lot system, and by April 1988, the NYSE plans to upgrade the limit order system, resulting in a 50% increase in capacity.

2. Amex should review conditions that led specialists to shut off AUTO-PER.

Amex is taking several steps to address the conditions that led some specialists to shut-off their AUTO-PER screens. First, Amex is working to relocate terminals that are behind specialists so the terminals will be at their front and thus easier to use. Amex is also redesigning the AUTO-PER screen to eliminate the need, in some situations, to use an additional page to complete execution of an order. Amex believes this redesigned screen will permit specialists to execute orders more quickly and can thereby reduce the possibility of having orders printed and executed out of sequence, a concern that caused some specialists to shut-off their screens. Finally, Amex is conducting a pilot program with respect to the implementation of an electronic book that it believes will provide smoother integration of AUTO-PER and booked limit orders.

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

The BSE currently does not have an automated routing and execution system. BSE, however, is in the process of developing the BEACON system--Boston Exchange Automated Communications and Order-Routing Network. BSE expects that when BEACON is in place it will be able to process at least 10 million shares per day, which is approximately three times its current average daily volume. BSE expects BEACON to be fully operational by year end.

The CSE has been in the process of implementing major hardware and software improvements to its trading system to accommodate volume surges and higher volume levels. CSE states that the implementation of these enhancements is progressing expeditiously at this time and should increase capacity by approximately 50%. CSE believes these enhancements will enable it to process volume such as occurred during the week of October 19 without any problem or delay.

MSE has increased the capacity of its MAX system from 36,000 trades per day to 54,000 trades, a 50% increase, since the market break. According to MSE, this increase means that, assuming a normal mix of orders, its system could process, with no delays or problems, the volume of orders experienced during the market break. Additional changes are being implemented through June 30, 1988 that will increase capacity further to 60,000 trades. MSE also has developed a "performance management measurement methodology" to improve MSE capacity forecasting and obtain increased capacity with their current systems on an as needed basis. Both staff and software tools have been added to implement this program throughout 1988.

Phlx estimates that PACE system capacity has been increased from approximately 12,500 orders per day to 17,000-17,500 orders per day since the market break. 2/ Phlx states that further enhancements that are expected to be in place by June 1988 should increase system capacity to over 20,000 orders per day without queuing. The Phlx also has accelerated its plans to replace its current computer system for PACE by year end. Phlx estimates this change will increase capacity to 40,000 orders per day and will allow Phlx to handle its anticipated share of volume on an 800 million to 1 billion share day. Further, when its new computer system is in place Phlx believes it will be able to increase capacity to accommodate volume surges with less than 24 hour turnaround time.

As noted in the Division's Report, Phlx has also made modifications that permit automatic reporting to continue when the automatic execution feature of the system is disengaged. This will allow Phlx to switch to manual execution of orders, which was done on October 20-22, without encountering the reporting delays that occurred at that time.

Phlx also has increased the capacity of its CENTRAMART System, which processes incoming quotation and transaction information, by approximately 20% since the market break. Further enhancements are expected to be implemented on April 1 that would allow this system to handle Phlx's share of 600 million share days. By year-end, computer enhancements should increase CENTRAMART capacity to the 800 million to 1 billion share level and allow additional capacity to be added quickly when needed.

PSE states that it has doubled SCOREX's capacity since the market break to 50,000 messages per day. 3/ "Messages" would

---

2/ The PACE system processed 14,927 trades on October 19.

3/ PSE is planning to conduct a test of the systems capacity on March 5 and 6.

include incoming orders, order status report requests, and order cancellations. On October 19 and 20 SCOREX received 47,000 messages per day. PSE achieved this increased capacity primarily by adding two additional data communication lines between San Francisco and Los Angeles, which expanded capacity of this component of the system by 50%. The PSE believes that with this increased capacity it would now be able to handle the volume levels experienced during the October market break without problems. 4/ PSE notes that further enhancements still underway, such as the elimination of unnecessary trade and quote data received from Securities Industry Automation Corporation ("SIAC") and the possible addition of two communication processors, should provide reserve capacity to accommodate even higher volume levels. Finally, PSE expects that its on-going computer replacement project, to be completed within the next 2 years, will increase capacity to 100,000 messages per day.

4. 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.

BSE has stated that once it has implemented its BEACON system, it also will create a back-up system. As to training, floor operations personnel currently trained to supplement floor brokerage functions will also be trained in the BEACON system. BSE non-floor personnel also are trained in a variety of clerical floor functions.

CSE has upgraded its staff with more qualified employees to improve overall competence. CSE also notes it is continually reviewing and upgrading the quality of its back-up systems.

In 1988, MSE intends to improve back-up capabilities including a communications link between MSE and large member firms and service vendors. Further back-up capabilities are being planned for future years. The MSE is also developing a contingency capacity fall back plan for 1988 that will identify any non-essential MAX activity that could be eliminated during unusual volume surges to accommodate more volume.

MSE also has developed a program to train upstairs personnel to supplement floor staff in "volume breakout situations." The staff will be trained in Trade Input and MAX customer interface functions. Training classes will begin in March, with refresher courses scheduled on a quarterly basis. MSE procedures provide

---

4/ PSE states it ran the internal tape for October 19 against their upgraded system and that there was no problem in processing the volume for that date.

for the additional staff to be on the trading floor within 15 minutes when needed.

Phlx believes that it currently has adequate back-up personnel at all levels including data processing, operations and marketing/customer communications. In addition, Phlx notes that the PACE system will have two important back-up systems when the computer changes noted above are implemented by year end. First, all computer functions will be performed in duplicate and cross-checked so that any system breakdown will be detected immediately. Second, because the new computers are modular, additional temporary capacity can be added within a day.

The PSE is refining its contingency plans to re-route orders manually to floor booths if its other enhancements prove insufficient at a particular time. PSE also has formed a working group to plan the training of staff to meet the requirements of a market disaster, such as providing relief for regular staff. A list of former options staff who have assumed other responsibilities at the exchange, is regularly updated and these employees will be receiving refresher courses. Other staff will be trained in equities floor operations, and receive regular training updates, to supplement the equity floors when needed.

5. <u>Improve exchange communication with retail firms concerning problems, delays, and changes</u>.

BSE intends to notify BEACON users of delays and other system problems through administrative messages, supplemented by direct contact with member firms. In addition, BSE has recently appointed a new officer who, among other things, will be responsible for improving communications with member firms.

The CSE has made certain improvements, including a direct line to retail firms, to expedite communication concerning system problems and delays.

MSE recently has implemented procedures to shorten the amount of time it takes to notify retail firms of problems or changes to MAX by both administrative message and telephone. Under the procedures, MSE will first notify firms of problems, delays or changes to MAX through administrative message and will follow-up with phone calls to the firms.

Phlx has developed procedures to ensure there is adequate notice to PACE users and Phlx marketing personnel of any changes to system execution parameters.

PSE currently is upgrading and formulating its current procedures for contacting retail firms when system operational problems or delays occur. PSE also will be notifying SCOREX users that during periods of extremely heavy volume the automatic execution feature may be disengaged to enable additional "throughput." Both firms and the SEC would be notified prior to any actual disengagement of the automatic execution features.

6. <u>Improve coordination between exchanges concerning problems with, or shut-down of, small order systems</u>.

Both the Amex and NYSE believe more effective intermarket communication is necessary. NYSE's Operations Advisory Committee will be working to ensure better communication concerning system delays among the markets.

CSE states it is committed to timely communication, by both telephone and administrative message, with other markets on problems with CSE systems.

MSE has implemented the procedures necessary to use the ITS broadcast administrative message capability at SIAC to notify other Exchanges of problems or shut-down of small order systems, as agreed upon with the other exchanges.

The Phlx questions whether improved coordination among the markets on small order system problems would be useful. Phlx notes that it is difficult to predict the response of member firms to system problems and that it would not want to be responsible for having another market modify its own systems in anticipation of increased diverted volume that never materializes.

PSE is contacting other exchanges to explore the development of better communications among the markets during a market break. PSE believes better SRO communications and coordination of activities for the benefit of the market as a whole would be particularly beneficial concerning the exchanges' automatic execution systems.

C. <u>ITS</u>

1. <u>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.</u>

The exchanges were divided on the issue of the default procedures. While the PSE, MSE and CSE thought that such procedures were attractive in concept, Phlx, NYSE, Amex and BSE found such procedures to be unnecessary.

The PSE, MSE and CSE, however, recognized certain difficulties in the actual development of the procedures. MSE was mainly concerned that if the accuracy of the quotes is not improved default execution could consistently result in inferior executions. MSE recommended that a task force be formed to examine the feasibility of developing a mechanism to deal with such concerns. The PSE also noted the difficulty in providing default executions while the size of the ITS commitment is greater than the size of the quote in the market to which the commitment is sent and stated that the default procedure should incorporate some measure of size of commitment. Furthermore, PSE was concerned that default procedures would not in fact operate efficiently in periods of high volume and that specialists' capital positions would be "swamped" without the specialists' knowledge. PSE also argued that because the "then current quotations" could possibly not be the "best," the default could create a trade-through of another market. Finally, PSE believes that significant systems efforts will be required to implement the on-line linkage between the current ITS system and the quotation system that would be necessary for the default procedures.

The CSE noted that the proposal "does not go far enough" in today's trading environment and suggested that the proposal be extended so that locked bids and offers between different market centers instantaneously generate an ITS execution.

NYSE, Phlx, BSE and Amex also rejected the suggestion for default procedures on the grounds that system enhancements would be less costly and would correct the problem of expirations. The exchanges reasoned that if the systems no longer experienced delays, expiration of commitments would no longer be a serious problem. As they stated in their responses, the exchanges have undertaken various systems developments, which they believe will address the delays experienced in October.

2. <u>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.</u>

The exchanges unanimously agreed that developing pre-opening procedures that would apply after order imbalance halts was of great importance to the efficient operation of ITS. Several exchanges noted that they would initiate the proposal at the next meeting of ITS representatives.

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

At the last ITS Operating Committee meeting in early February, the communication issue was discussed and all exchanges agreed to designate the operating committee member as the contact person for each exchange. The contact person in turn was to designate a back-up person and communicate the information to the other participants. Furthermore, each participant is to provide current names and phone numbers for key members familiar with ITS operation and policy. Some exchanges already circulated their list to the other participants.

The CSE further recommended that the ITS Operating Committee identify certain situations that adversely impact the effective operation of ITS and develop procedures for decision-making in such situations.

4. NYSE should consider separating ITS terminals from the printing functions of other systems, such as DOT, in order to facilitate the printing of ITS commitments before the two-minute expiration period.

The NYSE does not believe that separating the ITS terminals from the printing functions of its other systems, will reduce the number of ITS expirations. The NYSE considers, however, that improving its other systems will improve the overall performance of ITS. Systems enhancements on the NYSE that would improve ITS performance include steps to route DOT and limit order traffic to the Electronic Books via a new communication switch, which would free up capacity in the UFDC. (As explained in the Report, ITS orders are routed through a UFDC switch where they are printed out by a card printer and routed to the specialist.) The exchange has also added (and is still adding) display books to further eliminate printer functions for Superdot, thereby leaving the post printers for ITS functions.

5. NYSE should, with respect to ITS complaints, investigate and try to resolve all complaints.

The NYSE believes that anticipated changes in system configuration should address many of the causes of customer complaints experienced during the October market break. In addition, the NYSE plans to further train its staff to respond to specific problems associated with system overload.

D. Market Information Systems

1. NYSE should review whether it has adequate personnel and facilities to maintain accurate trade and quote reporting capabilities during periods of sustained high volume.

The NYSE believes that it has adequate personnel and facilities to ensure accurate trade and quote reporting and has assured us that it is committed to maintaining this capability no matter what level of activity occurs.

E. Order Handling

1. The NYSE should include a review of operational capacity of firm order handling systems in broker-dealer examinations.

The NYSE intends to establish operational standards to apply to all market participants.

F. Compared Trades

1. The Division believes that the NYSE, Amex and National Association of Securities Dealers, Inc. ("NASD") should consider accelerating their efforts to generate same-day compared trades, thereby enabling members to know their positions and market exposure before trading commences the next day.

The NASD agrees that this is a good suggestion and plans an Automatic Confirmation Transaction System that, together with the Small Order Execution System ("SOES"), Order Confirmation Transaction ("OCT") service, and the Trade Acceptance and Reconciliation Service ("TARS"), would provide an almost total same-day comparison capability for the NASDAQ market.

NYSE states that its Operations Advisory Committee is working on (1) a shortened comparison cycle and (2) an automated Questioned Trade process and, further, that the exchange is developing an electronic Floor Derived Comparison ("FDC") system to accomplish these objectives. NYSE plans to implement FDC in three phases during 1988. Amex states that it has begun development of electronic systems that would allow same day floor-derived point of sale comparison for both equities and options and that it plans to begin implementation during the last quarter of 1988. NYSE and Amex report that they have been working closely with National Securities Clearing Corporation ("NSCC"), SIAC, and others on these projects.

G. Specialist Capital

1. Review minimum capital requirements for specialists.

The NYSE, Amex, Phlx, MSE and PSE, currently are reviewing the adequacy of their respective specialists' capital. The BSE, effective December 31, 1987, increased specialists' equity capital requirements from $80,000 to $100,000 and effective June 30, 1988, will increase the requirements to $125,000.

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

The NYSE has increased its monitoring of both specialists' capital and positions by requiring that such information be filed with the NYSE by 9:00 a.m. daily.

Based on a review of its system of specialist capital surveillance, the Amex concluded that several changes should be made in both its routine surveillance procedures and its monitoring during periods of market turbulence.

The Amex is intensifying surveillance by (i) requiring firms having specialist accounts to provide on a daily basis standardized account information for specialists (including activity on other exchanges for dual members); (ii) requiring daily information from self-clearing specialists; and (iii) closely monitoring the effects of increased capital requirements following their implementation. For times when even closer monitoring is necessary, the Amex is considering requiring specialists identified as most susceptible to damage to provide daily positions and profit and loss estimates shortly after the close of business. The Amex is prepared to have examiners review specialists' books and records, on a daily basis if needed, to obtain information not otherwise available.

The MSE is studying requiring specialists to file financial reports on a more timely basis (from quarterly to monthly for self-clearing specialists and from annually to quarterly for introducing specialists). The MSE is developing a mechanism to review specialists' inventory positions on an intra-day basis, rather than on an overnight basis only.

While PSE believes that its existing procedures worked effectively during the market break, the PSE is reviewing specialist capital surveillance systems to determine if they capture in a timely manner all the desired information for adequate monitoring. Based on the current status of the review, it appears that some modifications to the current daily reports and monitoring process will be implemented.

3. 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.

The NYSE is exploring the need for specialists to maintain additional lines of credit and other lending arrangements.

The MSE and Midwest Clearing Corporation (MCC) are reviewing the possibility of imposing higher capital requirements on self-clearing specialist firms.

PSE will consider whether to require higher capital for specialists that do not have bank credit lines.

CSE states that requiring lines of credit or higher capital requirements for dealers without such accommodations is an issue that needs further review. The CSE will soon file a proposed rule change that will establish an optional minimum net liquidating equity requirement for those dealers who do no customer business and maintain letters of guarantee with CSE clearing members.

4. The NYSE should review with its members the desirability of establishing diverse lending relationships with a number of banks, as well as the feasibility of obtaining more committed lines of credit than currently exist.

Over the next several weeks, the NYSE staff will meet with a number of its largest member firms to discuss their credit and banking arrangements, including the number and types of banking relationships and efforts to obtain other financing.

III. The Options Markets

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

The CBOE is considering policies to limit the addition of new strike prices for both stock and index options during periods of extreme volatility. In particular, the CBOE would limit new series to those necessary to bracket the prevailing index value or underlying stock price and to a limited number of new series farther in- or out-of-the-money. The CBOE believes that further study is required to define the scale of market volatility that would trigger implementation of this policy and to determine appropriate emergency strike price increments.

The Amex noted that it has decided to retain its policy of keeping new series at five point intervals for stock and index options. The Amex emphasized that it currently is examining the possibility of introducing new strike prices only at levels immediately surrounding the market price of the index or stock during a dramatic market break. Then, as the market in the underlying instrument turns around, new strikes could be added to fill in gaps between those added earlier and current levels. The Amex will discuss this matter further with appropriate exchange committees in the near future.

The PSE noted that this issue should be studied further and emphasized that coordination among all options exchanges on this matter would be necessary. PSE added that existing minimum increments had become institutionalized and that the theoretical advantages of fewer options series could be outweighed by the operational disadvantages associated with extensive educational and notification processes new procedures would involve. Moreover, exchanges would have to agree on standardized parameters that would trigger a modification to existing procedures for adding series at different increments.

While it agrees with the objectives behind limiting introduction of new option strike prices during periods of increasing volatility, the Phlx questions the efficacy of such a measure. In particular, the Phlx argues that because most stock prices do not move drastically even during relatively volatile market periods, skipping strike prices to relieve processing pressures would mean sacrificing the ability to list at-the-money strikes. In addition, the Phlx is concerned that such an approach could confuse investors and firms accustomed to the availability of a complete array of strike prices. The Phlx also notes that after the October market break it attempted to cull out certain deep in- or out-of-the-money options series with no open interest in order to relieve operational problems but that such efforts yielded minimal results.

2. <u>Review the performance of Small Order Execution systems (RAES and AutoEx) and exchange rules that apply to market maker participation in these systems, focusing on ways to ensure high levels of participation in volatile conditions.</u>

The CBOE is evaluating methods to ensure high levels of market maker participation in RAES during volatile periods. Efforts are focused on reducing disincentives to continued participation in RAES and establishing sanctions for leaving the system. To that end, the CBOE has submitted a proposed rule change that will give the CBOE authority to require market maker participation in RAES in designated equity options classes through the next following expiration.

The Amex indicated that it seeks to broaden registered options trader ("ROT") participation in the following ways: (1) allow ROTs to sign on at any time during the day; (2) choose whether to participate in calls, puts or both; and (3) participate on the system for more than one options class.

3. <u>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.</u>

The CBOE has communicated with vendors that experienced capacity problems during the market break and has advised them to delete less active option series as necessary. In addition, the CBOE notes that the options exchanges, through the Options Price Reporting Authority ("OPRA"), recently have implemented automated and more efficient methods for introducing new series. The CBOE believes that vendor capacity strains could be alleviated in part by limiting the introduction of new series during extreme market volatility, but that it also may be necessary to allocate OPRA and vendor capacity among participant exchanges. The CBOE recommends further study.

The Amex stated that representatives of the OPRA Technical Committee began design system modifications that would permit the announcement of new options series through computer formatted messages, which then would eliminate a time-consuming and error-prone process of manually transcribing administrative messages. The Amex also emphasized, however, that series omission policies when vendors have capacity questions is a practice that should never become systematic within the vendor community and that all series should be retained at all times. Amex believes that OPRA must regularly update vendors on volume and capacity projections so that vendors have facilities in place to handle growth and spike volume peaks. Finally, the Amex noted that it has adopted a policy permitting the exchange to delist series when there is no open interest.

PSE also noted that option vendors' series file capacity issues can be dealt with best by OPRA, and the exchange has asked OPRA to focus on vendor capacity questions. Finally, the PSE stated its belief that delisting series with no open interest will not solve capacity problems in periods of high volatility and noted that, although many series have little open interest, exchange rules currently do not permit delisting of these series no matter how inactively traded they are.

The Phlx believes vendors' first priority should be to increase capacity. In the meantime, the Phlx and other OPRA participants have worked and will continue to work with vendors to address current capacity problems, plan for future capacity expansion, increase message capacity, and devise contingency plans for potential future problems. Finally, the Phlx notes that it believes vendors should respond to extreme volatility by delisting the furthest out series rather than those series with no open interest.

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

The CBOE has been reviewing its opening rotation procedures since last October. Since December, the OEX opening has been informally modified by dividing OEX series into three groups that are opened separately and simultaneously. According to the CBOE, these procedures, combined with recent low volume and volatility levels, have resulted in opening rotations of no longer than 10 to 15 minutes. In February, the CBOE Board of Directors approved in principle a plan to divide OEX into seven zones, six of which would be opened simultaneously with one or more lead market makers charged with establishing opening prices and facilitating imbalances. The CBOE is working with Commission staff to develop an exchange rule filing that would implement this measure.

The Amex stated that it currently is examining the feasibility of introducing an opening rotation in its Major Market index option ("XMI") that would allow for the quick opening and free trading of more actively traded series by first opening the series that qualify for AutoEx. Upon completion of rotation in these five or six calls and puts that generally are nearest the current index value, AutoEx will be turned on to execute market and marketable limit orders up to ten contracts instantaneously. Opening rotation in other series then will proceed in a normal manner.

The PSE also noted that the minimization of rotation time is important and has been the subject of considerable concern, study and action. The PSE then described its existing rules, procedures, staffing, and training for staff, but did not discuss any modifications to its existing procedures.

The Phlx notes that during the October market break it did not encounter serious problems conducting opening rotations in any options other than certain index options. The Phlx used a reverse rotation (where the farthest out option series are opened first) for these index options and feels that the modified opening rotations were manageable. The Phlx argues that its current rules, which grant specialists substantial flexibility to design rotations to respond to unusual market conditions, will allow the exchange to adequately address any future opening rotation problems.

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

According to the CBOE, in light of the October market break its Market Performance Committee is examining the adequacy of CBOE's rules relating to market maker obligations. In particular, the CBOE is examining its policies respecting modification of these rules during unusual market conditions. The CBOE is focusing on determining which rules should be waived during unusual market conditions and whether back-up rules should be imposed to ensure that orders are handled fairly and efficiently during market stress periods.

The Amex specifically noted that efforts must be undertaken to ensure adequate levels of specialist and ROT participation in the future. While noting the difficulties in using traditional performance standards for derivative products, the Amex indicated that it was examining more formalized standards, focusing in particular on quote spread differentials. In addition, the Amex noted that it is considering implementing a modified firm quote policy for options. Both of these proposals, however, would have to be reviewed and approved by appropriate committees and the Amex Board.

The PSE also noted that market maker participation in options markets is complicated by the nature of derivative instruments generally and the differences between equity and index options, and that it would be difficult to establish equitable and uniform rules to ensure adequate levels of participation in volatile markets. The PSE emphasized that this was an industry-wide issue and that it would be willing to participate in an industry-wide review process.

The Phlx supports measures to ensure adequate levels of market maker participation in volatile markets and recommends that the Commission consider hosting a meeting of representatives of all the options exchanges and primary stock markets to consider these issues on a more comprehensive basis.

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

Since the October market break, the CBOE has been reviewing the adequacy of index and equity option margin levels and suitability standards in consultation with major retail firms, other options markets, and the Commission. At its February meeting, the CBOE Board of Directors decided to retain the current "premium plus" margin methodology and to increase the "add-on" component of such margin calculations from 10 to 15 percent for index options and from 15 to 20 percent for equity options. The minimum margin for out-of-the-money options (both index and equity) would be increased to 10 percent. The CBOE proposes to conduct more frequent monitoring of the adequacy of these margin levels. The CBOE also is considering imposing a minimum equity requirement for accounts approved to write naked short options, straddles, and combinations. These minimums could be established as part of additional suitability guidelines, which currently are under review by the CBOE and other options exchanges.

These proposals were discussed at a meeting of representatives from the Commission and most options exchanges on February 29. At that meeting the Commission staff urged prompt consideration by the options exchanges of these proposals.

The Amex indicated that options margin should be based on current market volatility and that the exchanges should have the authority to adjust stock and index margin levels above an SEC approved floor without having to submit a proposed rule change. A committee representing all option exchanges should be established to monitor current price volatility and raise or lower stock and index option margin when appropriate. Pending progress in this matter, the Amex noted that the following initiatives should be taken: (1) increase minimum account equity to $25,000 from $2,000; (2) modify short straddle and combination margin to require the margin to be the amount of margin required on the side with the largest requirement plus the amount of the premium on the other side; and (3) increase the minimum amount of margin to be added to the premium for out-of-the-money options.

The PSE indicated that present margin levels, for index and equity options, may not be adequate as permanent standards and expressed its willingness to join other exchanges and the SEC in further reviewing margin levels.

The Phlx notes that it currently is working with the other options exchanges to evaluate the adequacy of stock and index option margin levels. The Phlx concludes from a preliminary review of trading data that current margin levels are adequate to ensure credit worthiness and performance of obligations even during periods of increased market volatility on the scale of last October. According to the Phlx, serious consideration should be given, however, to whether current margin levels are adequate to avoid excess speculation or curb excess market volatility. The Phlx's preliminary view is that any change in margin requirements designed to address speculation and volatility concerns should result in adoption of equivalent margin levels for both index and individual equity options.

7. <u>Examine the performance of index option market makers during the market break, especially on October 20.</u>

A special panel of CBOE members and persons associated with CBOE member firms has reviewed October 20, 1987 OEX pricing. The panel report characterized options pricing on the morning of the 20th as "extreme but understandable in light of the chaos and extreme volatility then prevailing in all markets." The CBOE notes that as a "goodwill gesture" it will make refunds to member firms based on the difference between the premiums actually paid by public customers for certain November OEX options during the market break and the prices they would have paid if premiums had been based on an implied volatility of 300. The total amount to be paid (approximately $1.2 million) will be recovered by assessing a voluntary fee of $.01 per contract on market makers' future OEX transactions. As a result of a number of customer and member firm complaints, the CBOE regulatory staff also is reviewing market maker performance during the market break, with special emphasis on October 20. The CBOE expects to complete this review in the near future.

The Amex noted that upon review of XMI trading on October 20, 1987, it was unable to conclude that overall specialist and ROT performance constituted a course of dealings that the Amex believed was fair and orderly. More specifically, the Amex found that various XMI put transactions in which the specialist unit participated were not priced fairly. Notwithstanding this finding, the Exchange only admonished the specialist for substandard performance, noting that any recurrence would result in a reallocation. The Amex also specifically instructed the specialist to develop a plan that would ensure adequate performance in the future and prevent recurrence. Similar to the CBOE, the XMI specialist and member firms representing customer executions will make certain refund payments for XMI options priced excessively during the market break. The Amex determined that XMI options with a volatility factor exceeding 325 were priced excessively.

IV. <u>OTC Market</u>

The NASD has responded to problems encountered during the market break by proposing a number of initiatives. These initiatives include raising the penalty for unexcused withdrawals by market makers from NASDAQ; requiring all NASDAQ market makers to participate in SOES; providing that SOES executions will continue in an OTC/National Market System security when quotes are locked or crossed; eliminating preferencing of market makers when a locked or crossed market exists; and establishing the Order Confirmation Transaction ("OCT") service that will permit firms to access market makers over the computer without voice contact.

1. The NASD should inquire into the performance of its market makers during October to assess those firms' compliance with NASD rules (for example, a number of market makers withdrew from SOES and continued routing orders through SOES, potentially in violation of SOES Rules).

The NASD'S Market Surveillance Department has examined several areas of performance and is still in the process of gathering information on some. Specifically, the NASD expects to conclude a review of SOES market makers in April.

2. The NASD should review whether the OCT service should provide for automatic executions against market makers who fail to respond to messages from other market makers within a set amount of time.

The NASD believes that more experience with the system is required before automatic execution can be considered. An interim step would be to provide for negotiations as to price and size.

3. The NASD should continue to use its hotline to apprise market makers whose quotes are locked and crossed that they must take remedial action.

The NASD states that the hotline, which at present can be used to contact 50 of the largest market makers, remains in place and will be part of its routine operational procedures.

4. The NASD should inquire into the large number of transactions reported out-of-sequence to determine whether particular firms are unable to comply with the transaction reporting rules.

The NASD expects to complete by April an extensive review of the trade reporting practices of some major firms, especially those reporting many apparently out-of-sequence transactions or transactions executed after hours.

5. The NASD should review with broker-dealers the desirability of establishing diverse lending relationships with a number of banks, as well as the feasibility of obtaining more committed lines of credit than currently exist.

The NASD agrees with the suggestions and will discuss them with its members.

V. Clearing Agencies

1. Monitoring Coordination Group ("MCG") members should meet in the near future to discuss:

   (a) how well MCG procedures worked during the week of October 19 and what improvements should be made,

   (b) the participation of commodity futures clearing corporations and other appropriate futures entities with the MCG to ensure complete coordination and dissemination of information on common matters, and

   (c) procedures to update regularly contact persons and telephone numbers for each MCG member.

The NSCC, Depository Trust Company ("DTC") and Options Clearing Corporation ("OCC") support the reconvening of MCG for these purposes. NSCC further has suggested, among other things, that: (1) each participant provide to the Commission in advance of the first meeting a list of areas where the events of October 1987 might have shown improvement as a result of better inter-clearing agency and Designated Examining Authority ("DEA") cooperation; (2) each participant provide the Commission with an emergency call list that it will update; and (3) MCG be chartered, provided an administration, required to meet at least quarterly, and provide annual reports to the Commission.

2. With regard to NSCC's earlier trade guarantee, the Division will continue discussion with NSCC regarding steps to reduce remaining exposures resulting from an earlier guarantee. In addition, NSCC's current risk monitoring system should be enhanced. While NSCC's current system does not provide real-time estimates of liquidation costs, the Division understands that NSCC expects to upgrade its system within the next few months to provide estimated liquidation costs based on current and projected future prices. Please provide specific information on the planned enhancement and when it will be implemented.

NSCC has analyzed daily marks-to-the-market of guaranteed trades prior to settlement in connection with its earlier trade guarantee. NSCC believes that daily marks would pose financial difficulties for NSCC members, because NSCC members would be required to fund those marks themselves for customers that customarily are not required to pay for securities until delivery under "delivery versus payment" arrangements. NSCC is enhancing its ability to monitor and collect marks by establishing daily computerized reporting of parameter breaks that will be available within two to three months. If a parameter is crossed NSCC will collect an immediate mark from the member through an increased clearing fund deposit.

3. <u>Clearing agencies should consider cross-liens with all other registered clearing agencies on joint member assets, thereby allowing a clearing agency to pay over to another clearing agency the balance of a joint defaulting member's clearing fund deposit, if any, after satisfaction of losses at the first clearing agency</u>.

NSCC and DTC indicate that the idea of cross-liens on joint assets of clearing agencies is worth exploring further. NSCC suggested bringing the matter before the MCG, and DTC advised consulting bankruptcy experts on possible legal ramifications. OCC intends to study the concept of cross-liens as part of its Special Study of OCC's systems, discussed below.

4. <u>Although the Division believes that OCC's non-equity option ("NEO") margin system is a reliable method or risk measurement, further analysis of the margin intervals would be appropriate. In particular, the 95% coverage level may not be appropriate if the range of historical price movements is sufficiently large to pose substantial exposure to OCC</u>.

As a general matter, OCC has undertaken a special study of its systems, which will include eight broad areas for review, including those identified in the Division's Report. The objective of OCC's study is to identify any structural weaknesses or areas that can be improved. OCC's margin committee has commissioned a sub-committee, including margin committee members and industry representatives, which will complete the study over the next three months.

5. <u>In light of OCC's financial loss from the insolvency of its former member H. B. Shaine, Inc., OCC should analyze the feasibility of special margin requirements for increased concentrations in customer, or proprietary, accounts. Another alternative might be concentration limits keyed to positions such as uncovered short options that are excessive in light of the OCC member's financial strength</u>.

As part of the special study noted above, OCC will address, among other things, the failure of H.B. Shaine & Co. While OCC believes its margin and concentration monitoring systems worked well during the October market break, it also believes further examination is warranted, particularly where concentrations exist in the form of uncovered short positions and directly affect the financial strength of a member.

6. <u>OCC should consider strengthening member net capital standards or instituting additional financial requirements (such as those required for participants in The Depository Trust Company's Same Day Funds Settlement Service) to serve as a further layer of protection against member defaults as a result of volatile markets. The possible negative affects of such requirements also should be considered</u>.

OCC responds that is has been considering increasing its net capital requirements and will analyze the costs and benefits of such increases as part of its study. Although OCC believes that strengthening its capital requirements could provide significant risk reduction benefits, OCC notes that currently its monitoring system recognizes an OCC member's net capital as a limiting factor in the amount of risk a member can pose to OCC.

7. <u>A number of improvements should be considered regarding OCC's variation margin process. First, OCC should deliver debit instructions for variation margin calls to clearing banks at the earliest possible time. Second, OCC should consider whether automated means, as opposed to messengers, could be used to transmit call instructions to clearing banks. Third, OCC should consider whether, in highly volatile markets that require a margin call early in the day, a special call should be made before markets close to protect against late-in-the-day volatility and to reflect OCC's potential inability to calculate and collect variation margin after the market closes</u>.

OCC states that since the market break it has improved the process by which intra-day variation margin calls are issued. System enhancements have shortened the time needed to issue a call from an original 30-45 minutes to a maximum of 15 minutes. OCC also has shortened the time for delivery of debit instructions to clearing banks. OCC also is investigating the possibility of automating the transmittal of call instructions to clearing banks, which if effected, would further reduce the time needed to issue calls.

8. <u>OCC should examine the general adequacy of its ability to monitor members and should act affirmatively to improve that ability in several areas. Improvements to OCC's Concentration Monitoring System may be possible to detect naked short option concentrations in relation to capital, and position concentrations in relation to options open interest. Additionally, OCC should examine whether improvements are necessary in its ability to identify concentrated individual broker-dealer or customer activity that is cleared through omnibus accounts. Finally, OCC and commodities clearing organizations should improve their information-sharing channels</u>.

OCC believes that its monitoring system worked extremely well during the market break. OCC, however, intends to review its monitoring system as part of its study. OCC also believes that improvements should be made in the sharing of information among OCC and commodities clearing organizations. Currently, OCC is negotiating an agreement whereby OCC would join commodities clearing organizations in a centralized system that would collect and disseminate pay and collect information concerning firms that belong to multiple clearing organizations.

9. <u>OCC and its clearing banks should discuss whether improvements can be made in the options money settlement process. Specifically, OCC should consider exploring banking relationships that would enable OCC to pay collecting Clearing Members on time regardless of delays by paying Clearing Members. Additionally, OCC and the clearing banks should clarify their agreements regarding when and how payments or partial payments are to be made and confirmed</u>.

OCC agrees that improvements should be made in the options money settlement process and recently has discussed this subject with several OCC clearing banks. OCC, among other things, has: (1) begun investigating whether banks can be given earlier notice of settlement instructions, (2) completed startup of providing facsimile notification of settlement instructions with one clearing bank, (3) undertaken an examination of banking and legal issues concerning OCC's ability to make timely payment to members in the event of default or delay by other members, including examination of OCC's use of its clearing funds and bank lines of credit.