WTM/PS/38/MRD/DSA/OCT/2014

BEFORE THE SECURITIES AND EXCHANGE BOARD OF INDIA
CORAM: PRASHANT SARAN, WHOLE TIME MEMBER

ORDER

Under section 12A of the Securities Contracts (Regulations) Act, 1956 read with section 11 of the Securities and Exchange Board of India Act, 1992

In respect of the National Stock Exchange of India Limited

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1. Securities and Exchange Board of India (hereinafter referred to as "the SEBI") had, conducted a special purpose inspection of the National Stock Exchange of India Limited (hereinafter referred to as "the NSE") to ascertain whether the said stock exchange is in compliance with the provisions of SEBI Circular dated June 28, 2001 (ref. no. SMDRPD/Policy/Cir-37/2001) and its mechanism of monitoring the risk management practices of its trading members as required under the SEBI Circular dated January 31, 2000. Pursuant to the said inspection and based on the findings of the inspection and submissions of NSE, SEBI issued a Show Cause Notice dated April 18, 2013 (hereinafter referred to as "the SCN") to the NSE and called upon it to show cause as to why appropriate directions under section 12A of the Securities Contracts (Regulation) Act, 1956 ("the SCRA") read with section 11 of the Securities and Exchange Board of India Act, 1992 ("the SEBI Act") should not be issued against it.

2. The facts of the case and the allegations against NSE, as stated in the SCN, are summarised below :

A. <u>Failure to implement market wide circuit breakers at 10%.</u>

(a) On October 05, 2012, the NSE's Index i.e., the NIFTY, opened normally at 5,815 points and the applicable 10% limit for index circuit breaker for the applicable quarter was 570 points (*the closing value of Nifty for the quarter ending on September 28, 2012 was 5703.30 index points*). The 15% level for the circuit breaker was 860 points.

(b) At 09:50:58 a.m., the index breached 10% lower limit which triggered the Index Circuit Breaker. NSE trading system broadcasted the message "*Members are requested to note that there would be a market halt if the index value crosses 5217.60 (570 points)*". Another message was subsequently broadcasted which read "*S&P CNX Nifty has hit 5170.60. The Markets will close.*" NSE in its press release, made on the same day, *inter alia* informed that the market-wide index circuit breaker system was triggered due to execution of 59 erroneous orders placed by one of its members, namely, Emkay Global Finance Services Limited ("Emkay Global"), on behalf of an institutional client, for an amount of ₹ 650 crores.

(c) By the time the market halted at 09:51:04 a.m. (*it should have halted at 09:50:58 a.m.*), the market had already fallen by 920 points after breaching the 15% level circuit breaker also.

(d) It is therefore alleged that NSE has failed to put in place a proper and an effective circuit breaker system whereby matching or trading engines are automatically shut-down or switched-off as and when the corresponding thresholds are breached.

(e) NSE has *prima facie* failed to implement the requirements of the SEBI Circular dated June 28, 2001, when it failed to halt the trading when the market fell by 10% and allowed the index to fall further by 920 points (16%) which resulted in the breach of market integrity and financial loss to investors.

B. <u>Failure to implement coordinated trading halt in all equity and equity derivative market nation-wide.</u>

(a) The SEBI Circular dated June 28, 2001 requires stock exchanges to implement an index based market-wide circuit breakers which should bring about a coordinated halt in all equity and equity derivatives market nation-wide upon 10%, 15% and 20% movement of the index either way. The said circular also requires that "*in case of a 15% movement of either index, there will be a 2 hour halt if the movement takes place before 1 pm. If the 15% trigger is reached on or after 1 pm but before 2 pm, there will be a 1 hour halt. If the 15% trigger is reached on or after 2 pm the trading will halt for the remainder of the day.*" On October 05, 2012 at 09:51:04 a.m., Nifty had fallen by 920 points (i.e., 16%) and breached the 15% circuit level breaker. Therefore, the trading should have been halted in all equity and equity derivatives market nation-wide for a period of two hours as the same happened before 01:00 pm. However, NSE re-opened its Cash Market at 10:00:22 a.m. with a pre-open session of five minutes and trading resumed at 10:05:00 a.m. as against the mandated halt of two hours. Further, no trading halt was observed in the equity derivatives market of NSE during the period trading was halted in the Cash Market of NSE. NSE was also alleged of not having coordinated with other stock exchanges to effect a nationwide trading halt in all equity and equity derivatives segments for two hours as required in terms of the aforementioned SEBI Circular.

(b) It was therefore alleged that NSE had failed to comply with the requirement of nationwide trading halt in all equity and equity derivatives segments for two hours, as per the SEBI circular dated June 28, 2001.

C. <u>Failure to ensure adequate Order/Trade Limit Controls and risk management at the end of stock exchange and the stock broker (Emkay Global).</u>

(a) One of the dealers of Emkay Global, upon receiving instructions from an institutional client, placed a sell basket order of Nifty Index constituent scrips through a CTCL terminal (*which is a non-NEAT terminal*). Instead of placing a basket sell order for value of ₹17 lakh, it had entered 17 lakh quantity of NIFTY Index scrips which amounted to a total value of ₹ 980 crores. As the order was a market order, basket order program had allocated 17 lakh quantity among 50 Nifty constituent scrips which got executed into trades and resulted in the fall of Nifty.

(b) SEBI vide circular dated January 31, 2000 allowed Internet Based Trading and Services and prescribed minimum requirements including risk management before permitting Internet Based Trading and Services. Though NSE had issued a consolidated circular dated April 24, 2012 relating to Capital Markets, it has not put in place Order/Trade Limit Controls and risk management at their end and had placed such onus wholly on the stock brokers.

(c) Further, NSE had failed to ensure that system-based control on the trading limits of clients and exposures taken by clients, are in place at the time of granting CTCL permission to stock brokers and ensure the effectiveness of system based controls on a continuous basis, thereby violating the provisions of SEBI circular dated January 31, 2000. It is also alleged that no checks were put in place by NSE in the cash market segment to validate orders in terms of permissible quantity/values at its end. Even in case of a failure of risk-management at the end of stock broker, such order-level checks at the stock exchange level would have prevented such error.

D. <u>Failure to ensure adequate Order/Trade Limit Controls and risk management at counterparties of Emkay Global</u>.

(a) The SCN had provided the details of counterparty members to the trades of Emkay Global, where available collateral with them was less than 5% of the total buy value. Such details are given below:

Trading Member (TM) code	Counterparty TM name	Total Buy Value	Margin Requirement in ₹ (in crores)	Available Margin Collateral in ₹ (crores)	Available Margin Collateral as % of the Margin Requirement
9017	Inventure Growth and Securities Ltd.	2,14,82,68,560	29.68	3.82	12.87%
9973	Prakash K Shah shares and securities Pvt. Ltd.	1,58,87,95,174	20.69	2.76	13.34%
9228	Labdhi Finance Corporation	14,95,29,133	2.95	1.6	54.24%
12963	Focus Shares and Securities Pvt. Ltd.	10,93,81,414	1.69	1.15	68.05%
	Total	**399,59,74,281**	**55.01**	**9.33**	

(b) NSE had also stated in its letter (ref. no. NSE/INVG/2013/191002-8) that in case of Prakash K Shah Shares and Securities Pvt. Ltd. (Prakash Shares), the member had placed orders in its proprietary account, the value of which far exceeded its own net-worth as well as available margin with the stock exchange.

(c) It was observed that trades of aforesaid counterparty brokers (whose margins were lesser than the required levels) had constituted 59.81% of total value of the trades of Emkay Global.

(d) In view of the above, it was alleged that NSE had failed to ensure that aforesaid brokers had system based control facility on the trading limits of the clients and exposures taken by the clients, and failed to monitor risk management, as mandated by SEBI vide the Circular dated January 31, 2000.

(e) The SCN had alleged that NSE, as the '*first-level*' regulator and also entrusted with the responsibility to ensure market integrity and to protect the interest of investors, failed to implement adequate risk management at the end of stock exchange, the stock broker (*Emkay Global*) and its counterparty brokers, which resulted in financial losses to the investors and adversely affected the confidence and integrity of the market.

3. In response to the SCN, the NSE, vide letter dated May 06, 2013, submitted its reply and *inter alia* made the following submissions :

(a) On October 05, 2012, the market opened normally and Nifty opened at 5,815 points. At 09:50:58, the circuit filter was triggered upon breach of the applicable 10% limit of 570 points. At 09:50:58 the trading system broadcast the message "*M/C : 1 Members are requested to note that there would be a market halt if the index value crosses 5217.60 (-570 points)*". The trading system again broadcast the message *"09:50:58 M/C :1 S&P CNX Nifty has hit 5170.60. The markets will close."*. The circuit filter was triggered upon breach of the applicable 10% limit of 570 points. The system stopped accepting new orders. By the time the market closed at 09:51:04 (i.e. within 6 seconds), the index also breached 15% 'circuit breaker level' and reached 4888.20 due to the execution of orders that were already in the system. However, the market quickly recovered back to 5625.60 points at the time of market halt which is just 2.46% below the index level of 5767. 50 at 09:50:53 existing prior to the order which caused the fall entering the order book.

(b) The fall was triggered by a sell basket order for Nifty Index scrips for an order value of more than ₹ 900 crores executable at market prices which emanated from Emkay Global. The sell orders placed by Emkay Global resulted into trades leading to substantial depletion of buy order book and this led to the fall of Nifty.

(c) NSE contacted Emkay Global who reported that there was an error at its end. The member had explained that one of its dealers instead of placing a basket sell order for Nifty for a value of ₹17 lakh had placed a basket sell order for 17 lakh quantity of Nifty Index scrips amounting to total value of ₹980 crore. Before the entry of the erroneous sell orders into the trading system at 09:50:53, the Nifty was at 5767.50 points. On execution of a major part of the erroneous basket order, the Nifty went down by 570 points, upon which the market halt was triggered. The system stopped accepting new orders. As a result of matchable orders already existing in the system, Nifty reached a low of 4888.20 points.

(d) It is important to note that the Equity Derivatives Market and BSE Sensex did not reflect any substantial fall. Nifty Futures Near Month Contract, which is the most liquid of Nifty Futures Contract, fell from 5855.60 to 5753.40 by around 100 points only and the fall in Sensex was around 62 points only. Other indices of NSE which did not have any Nifty scrips fell only marginally. The same would prove that even in the Capital Market Segment of NSE, only the

Nifty scrips were affected by significant price fall that too for a few seconds. If the fall had happened due to extraneous events, then the whole or significantly whole of the market would have witnessed the fall.

(e) As the 'market wide circuit filter' was triggered by an erroneous order from a single member and there was no substantial event or news, and also in view of the trading behaviour in the Equity Derivatives market on NSE and the Sensex on BSE, halting the other segments/markets would have caused panic and confusion in the minds of the investors. The market integrity and price discovery would have been affected severely if prolonged halt had been undertaken for the following reasons :

(i) Market participants would have been deprived of the opportunities to transfer risk and it would have interrupted the Price Discovery Process ;

(ii) It would have been unfair to the market participants with positions that may benefit from the volatility ; and

(iii) It would have deprived the market participants of the opportunity to raise liquidity to meet other obligations and the same leading to a chain of defaults.

(f) Considering the above mentioned factors and after informing BSE, the NSE reopened the Cash Segment with a pre-open phase at 10:00:22 and trading resumed at 10:05:00. At 10:05:01, the Nifty was 5672.45 and at 10:10:00, the Nifty Index value was 5720.80. On an overall basis, the market closed at 5746.95 by the end of the day involving overall change of mere (-)40.65 points compared to the previous day's close.

(g) <u>With respect to the allegation that NSE failed to implement Market Wide Circuit Breaker at 10% and let the Nifty fall by 920 points (16%) in contravention of the SEBI Circular dated June 28, 2001, NSE *inter alia* submitted the following :</u>

(i) SEBI Circular dated June 28, 2001 stipulates that the 'Market Wide Circuit Breakers' would be triggered by the movement of either BSE Sensex or NSE CNX Nifty, whichever is breached earlier. The Circular also sets out the limits at which the 'Market Wide Circuit Breaker' have to be triggered i.e. at 10%, 15% and 20%. The stipulation of the said circular was complied with as the Circuit Breakers were in fact triggered when the market fell by 10% on October 5, 2005 at 9:50:58.

(ii) Immediately upon the circuit breaker getting triggered, the market halt process was initiated within its system. The market halt process involves stopping of entry of fresh orders into the system, communication between the multiple trading engines and also the allied systems which include risk management system, index systems and surveillance systems and hence after triggering of market circuit breakers, minimum process time would be involved in bringing the entire market to halt. In the present case, the circuit breaker triggered at 09:50:58 and market halted at 09:51:04 and the same was accomplished in just 6 seconds from triggering of circuit breaker. In the meantime, orders existing within the system at that point in time got executed.

(iii) It is pertinent to note that the 6 seconds gap in market halt was not caused by execution of match-able orders existing in the system as mentioned in the SCN but due to the process time involved.

(iv) NSE referred to a report of an international exchange technology expert, Mr. David Tsoi, and stated that in-flight orders are bound to exist which will be matched during the time gap between Index trigger being reached and the market being paused. The new circuit breaker approved by the US Securities Exchange Commission (SEC) will be based on S & P 500 which will be broadcast to all exchanges in every 15 seconds. The 15 second S & P 500 broadcast interval is a huge component of the time gap. Based on the processing speed of the modern trading systems, thousands and thousands of trades could have occurred during the time gap. A lack of intention to reduce the S & P 500 Index Broadcast time interval supported the opinion that the matching of the large number of in-flight orders during the time gap was not considered a concern by the SEC and Self Regulatory Organisations ("SROs").

(v) As explained above by Mr. David Tsoi, internationally the matching of in-flight orders is not a matter of concern to the regulators and the exchanges accept the same as the inevitable consequence of modern technological development in the speed with which trades takes place on the exchanges. The same is also being discussed at Technology Advisory Committee (TAC) constituted by SEBI.

(vi) Envisaging such a time frame involved in the halting of market, SEBI has mandated the levels at which Circuit Breaker would get triggered. To illustrate this, NSE provided the following details pertaining to a previous market halt scenario that took place on May 18, 2009.

On May 18, 2009	NIFTY			SENSEX		
	Time	**Applicable points for triggering circuit filter**	**Points at which market actually halted**	**Time**	**Applicable points for triggering circuit filter**	**Points at which market actually halted**
Circuit Triggered for the first time	09:55:08	300 (10%)	531.65	09:55:11	975 (10%)	1789.88
Circuit Triggered for the Second time	11:55:17	600 (20%)	651.5	11:55:17	1950 (20%)	2110.79

NSE also provided the following exchange-wise details as to when the circuit triggered on both the instances on May 18, 2009, the last order acceptance time and last trade time.

	NSE	BSE
Market Start	09:55:00	09:55:00
Circuit Triggered for the first time	09:55:08	09:55:11
Last order acceptance time	09:55:18	09:55:53
Last Trade Time	09:55:21	09:55:54
Market reopened after 2 hour halt	11:55:00	11:55:00
Circuit Triggered for second time	11:05:17	11:55:17
Last order acceptance time	11:55:19	11:55:32
Last Trade Time	11:55:25	11:55:33

(vii) From the above table, it may be observed that, it took 13 seconds for the system at NSE to bring market to a halt and it took 43 seconds for BSE to bring the market to halt. It took 8 seconds for the NSE system to bring the market halt for the second time and for BSE, its systems took 13 seconds. The time that the system takes for bringing down the market would also depend on the level of activity in the market place when the circuit breaker system gets triggered. The entire process of halting the market is automated and there is no human intervention in the process. SEBI also took cognizance of the same and recorded in its Note on Market Halt of May 18, 2009 (*Annexure 3 to the reply*) on Market halt that "*the difference between the circuit trigger time and the last order acceptance time on the exchanges is due to system taking finite time to complete their internal process of stoppage of acceptance of fresh orders from broker terminals and shutting down the order matching*.". In the present case, the time taken to completely halt the market was greatly reduced.

(viii) Considering the inherent finite process time that would be involved in bringing the market to a halt, SEBI had stipulated trigger of Circuit Breaker on breach of pre-defined levels. The NSE system triggered the circuit breaker on Index reaching 10% level on October 5, 2012 and has complied with SEBI Circular dated June 28, 2011.

(ix) Post October 05, 2012, SEBI convened a meeting of the Technology Advisory Committee ("TAC") to review the process of Market Halt on the trigger of 'market wide index circuit breaker'. NSE has provided its suggestions to the TAC.

(h) <u>With respect to the allegation that NSE failed to implement co-ordinated trading halt in all equity and derivatives market nationwide and reopening of the cash market by NSE with the pre-open phase at 10:00:22 and the start of trading at 10:05:00 with only 15 minutes halt as against the mandated halt of two hours, NSE *inter alia* submitted the following</u> :

(i) In view of the factors such as (1) the fall was only due to the erroneous order from a single member; (2) there were no other substantial events or news that triggered the market wide circuit filter; (3) Equity Derivatives Market did not reflect similar fall and were trading normally; (4) the BSE SENSEX was also not affected; and (5) trading activities took place in the normal course of business unaffected by the market wide circuit filter triggered on its exchange, NSE decided that a halt of two hours would lead to unnecessary panic amongst the market participants and decided to restart the market. This in turn would have been unfair to market participants and distort price discovery on reopening after two hours and would have deprived market participants (*including two lakh investors*) of opportunities to raise liquidity to meet other obligations.

(ii) NSE referred to a **Note** *(note placed for information of the SEBI Board in the meeting held on November 09, 2009)* of SEBI on Policy of Circuit Breaker (*annexure 5 to its reply*) and made submissions to show that its case was different :

Points mentioned in the SEBI Note	**NSE's submissions**
Circuit Breakers help to mitigate systemic stress by providing investors with the cooling off period to calm the fear and panic that may occur when there are steep market movements on the downside as well as on the upside.	The downside in this case was caused by erroneous orders and the downside did not cause any fear or panic as exhibited in the F&O segment of other NSE indices which did not include any Nifty scrip and the BSE Sensex.
The circuit breaker reduces market volatility and protects investors from excessive market volatility.	In this case there was least market volatility seen in the F&O segment, the other NSE indices which did not include any Nifty scrip and BSE. Even the volatility in the Nifty Index was caused only by erroneous orders and not by any extraneous events. Before the halt of the market, the Nifty Index bounced back close to its earlier level.
It provides time to the market to evaluate the causes of imbalance and to promote orderly price discovery.	The imbalance caused by erroneous orders was disseminated by NSE to the market and was widely publicised. It was observed by the market very well which realised that there are no extraneous factors as seen in the behaviour of F&O segment, BSE and other NSE indices which did not include any Nifty scrip. Nifty bounced back even before the halt.
It provides opportunities to re-establish equilibrium between buying and selling interest in an orderly fashion.	The fact that the index bounced back to a much closer level even before the halt and that there was not much fall in futures and on BSE, shows that the equilibrium was not lost except for a few seconds that too mostly in Nifty scrips.

SEBI in the same note had also provided the detrimental effects on the investors as well as the market, caused by the circuit filters as follows:

(i) Circuit Breakers deprive market participants of the opportunity to transfer risk and interrupts the price discovery process, to key functions of markets.

(ii) It accelerates price movements towards the preannounced limits as market participants alter their strategies and trade in anticipation of the market halt.

(iii) It is unfair to market participants with positions that benefit from the volatility.

(iv) It deprives market participants of opportunities to raise liquidity to meet other obligations and this leads to a chain of defaults.

(iii) A continued halt of the market would have only confirmed the above arguments. During the one hour period between 09:50 a.m. and 10:50 a.m. on the previous trading day i.e. October 04, 2012, NSE had seen trading volumes of around ₹ 2,400 crores from

11 lakh trades with around 1.7 lakh investors participation. During the two hours period between 9:50 a.m. and 11:50 a.m., trading volume was around ₹4000 crore from around 21 lakh trades with a participation of 2.4 lakh investors. Such investors would have been deprived of the opportunity to buy and sell, and the price discovery would have been severely affected had any extraneous events happened during a prolonged halt. Therefore, considering the objects for introduction of market wide index circuit breaker and also taking into cognizance the erroneous orders of Emkay Global which was the reason for the fall, NSE in consultation with SEBI and after informing BSE reopened the cash segment with a pre-open phase at 10:00:22 and resumed trading at 10:05:00. Thereafter all the segments and markets exhibited normal behaviour till the end of the day.

(iv) The decision to re-open the market was taken after considering the overall objective of protecting investors' interest and in compliance with the circulars issued by SEBI from time to time in this regard. This decision was also taken after consultation with SEBI and informing BSE. Market Participants were also informed of the decision to re-open the market after pre-open session through a message in the trading system. There was no extraneous event which caused the fall as proven by the stability of prices in the F&O segment and BSE. By keeping the F & O segment open, it was ensured that price discovery was not affected and market integrity protected. Therefore, the scenario of erroneous order causing a circuit breaker must be dealt with distinctly from that of a genuine market based circuit breaker event. NSE requested SEBI to consider the issue from a broader perspective of Investor Protection.

(i) <u>With respect to the allegation that no trading halt was observed in the equity derivatives market of NSE during the period as trading was halted only in Cash Market Segment of NSE, the noticee *inter alia* submitted that</u> :

(i) On Market Wide Circuit filter getting triggered on October 5, 2012, an immediate analysis of the data was made which revealed that the fall /halt was triggered by a sell basket order for Nifty Index scrips for an order value of ₹ 980 crores erroneously placed at market prices by Emkay Global. The sell orders resulted into trades leading to substantial depletion of buy order book which led to the fall in Nifty. A call was made to the member who confirmed that there was an error at its end. The member explained that one of its dealers instead of placing sell order for a value of ₹17 lakhs had placed a basket sell order for 17 lakhs quantity of Nifty Index scrips amounting to more than ₹900 crores.

(ii) Before the entry of erroneous sell orders into the system at 9:50:53, the Nifty was at 5767.50 level. On entry of the said erroneous orders, the Nifty reached 570 points upon which market halt was triggered. Before the market could halt, Nifty reached a low of 4888.20.

(iii) In the past when the Market Wide Circuit Filter was triggered, the movement of Nifty Index and movement of Nifty Futures were in tandem. Therefore, the equity derivative market also had to be halted. In the market trigger which happened on October 5, 2012, the movement of Nifty Index was significant wherein the index moved from 5815 to a low of 4888.20. However, the Nifty Near Month Futures Contract moved by around 100 points only. The movement in Sensex was around 62 points only.

(iv) Considering the fact that the movement of Nifty Index was due to erroneous orders placed by a single member on a single occasion, the Equity Derivatives Market not showing similar behaviour, the Cash Market at BSE was functioning normally and Market Wide Circuit Breaker was triggered only on the Nifty, halting of Derivatives Market would have adversely impacted the interest of investors and market participants at large apart from increasing uncertainty in the markets and causing confusion in the minds of the investors. After consulting SEBI and informing BSE, NSE decided to reopen the Cash Market and not to halt the Derivatives Market.

(j) <u>With respect to the allegations that NSE has not coordinated with other nation-wide stock exchange (BSE) for nation-wide trading halt in all Equity Derivative Market for two hours as per the requirement of the Circular, made the following submissions:</u>

(i) During the period of market halt, NSE informed SEBI about the incident and explained the impact of the incident, the pros and cons of the market halt, and in consultation with SEBI, keeping the prime objective of investors interest in mind, a call was taken to keep the Equity Derivatives Market open and to reopen the cash market at the exchange immediately with a pre-open phase of 5 minutes.

(ii) NSE simultaneously informed BSE about the erroneous order leading to market halt and informed about its decision to keep the Equity Derivatives Market open and also the decision to re-open the cash market at the exchange with a pre-open phase of five minutes. A communication to the market was also issued on website.

(iii) NSE has fully and completely adhered with the SEBI circular on Index Filters and in respect of co-ordination with other nation-wide stock exchange and also acted to ensure protection of investors at large in the given circumstances.

(iv) SEBI had subsequently scheduled the meeting of the Technology Advisory Committee ("TAC") where policy changes to prevent recurrence of such events are discussed and NSE had made detailed submissions on the subject.

(v) NSE's decision has resulted in protection of market integrity and investor interest.

(k) <u>With respect to the allegation that NSE failed to ensure adequate order /trade limit controls and risk management at the end of the stock exchange and Emkay Global and further failed to ensure that system based control on the trading limit of clients and exposure taken by clients are in place at the time of granting CTCL permission to brokers and ensures effectiveness of the system based controls on continuous basis, thus violating provisions of SEBI Circular dated January 31, 2000, the following submissions were made</u>:

(i) NSE provides two distinct services namely Facility for Internet Based Trading (IBT) and Facility for Computer to Computer Link (CTCL). SEBI issued the circular dated January 31, 2000 regarding risk management for IBT which relates to use of internet for execution of trade by clients. Pursuant to that, the NSE issued Circular dated May 12, 2000 which allowed the members of NSE to offer internet trading to their clients, provided the members fulfilled various requirements stipulated by SEBI and NSE. NSE has duly complied with all the requirements laid down therein. It is pertinent to note that the erroneous orders on October 5, 2012 were not placed by the Internet Based Clients and hence there has been no violation of the provisions of SEBI Circular dated January 31, 2000 on Internet Based Trading Facility.

(ii) Without prejudice to the aforesaid, SEBI Circular dated January 31, 2000 requires only brokers to have a system based control on the trading limits of the clients and exposure taken by the clients. NSE has laid down the security controls that each broker must adhere to. The said circular does not require NSE to maintain order/trade limit controls and risk management at their end.

(iii) CTCL facility offered by NSE is a facility offered to members wherein they could use their own software running on a suitable hardware/software which would replace NEAT front end software that was used by the members. NSE issued a separate circular dated May 12, 2000 regarding CTCL facility offered by NSE. CTCL facility was made available only to approved persons after obtaining prior consent of NSE. The terms and conditions of using CTCL were also stipulated in the said circular. As part of the CTCL requirements, NSE had mandated its members that CTCL shall have in built facility for online surveillance and risk management features like trade by trade position monitoring. Thus, NSE has complied with its obligations. It may be noted that NSE on its own has put in place a framework for its members in respect of CTCL. A market wide uniform framework would be more appropriate. Even in this case, the problem was caused by non-compliance by one member and there was no systemic issue.

(iv) In the case of Emkay Global, an erroneous order was placed through the CTCL system for an institutional client, namely, Templeton Mutual Fund. As per the applicable SEBI norms, all institutional trades in the cash market would be margined on a T+1 basis with the margin being collected from the custodian upon confirmation of the trade. Hence, the check for margin on institutional trade was not applicable.

(v) During the year 2000, when NSE allowed CTCL facility, it expressly cast the responsibility on its members of ensuring controls in the front end application software used by a member through stipulations in the CTCL undertaking. Further, to ensure due and strict compliance, NSE vide its circular dated May 9, 2008, has mandated that :

"*2.10 A member shall ensure to put in place a system based control on the trading limits /position limit and / or exposure taken in respect of all his/ its clients and adequate system control for setting pre* *defined limits on the exposure and turnover for each of the clients. The system should also be capable of assessing risk of a client as soon as any order is received by the system of processing it for execution. Acceptance / rejection of any order shall be intimated to the respective clients within a reasonable period. Reports relating to margin requirements, payment and delivery obligations etc shall be informed or made available to the clients through the system.*"

2.15 A member shall ensure to undertake periodic audit for their CTCL /Internet based trading /DMA facility at such time intervals and from such qualified persons as may be directed by the Exchange from time to time and submit a certificate duly issued by such qualified person to the Exchange within the time as may be stipulated by the Exchange."

Thus, as per the stipulation, members are required to obtain approvals from NSE for CTCL/ Internet based Trading /DMA facility. Before granting approval for CTCL, NSE requires members to test the software on the NSE trading test environment during a pre-specified time. The availability of the required functionalities are verified through a product demonstration and on satisfactory completion of the same, necessary approvals are accorded.

NSE prescribes various checks for the CTCL system amongst which a few are as follows:

Order level limits	**Brief description**
Price limits	For securities included in indices or securities on which derivative products are available : - Range of 20% on last closing price - If the price reaches 15% limit, it is relaxed from 20% to 30% and so on - Range of 20% on last closing price. No change for the day. - Applicable for orders emanated from both NEAT and CTCL
Single order quantity and value limit	Quantity and value limit per order specified for each user ID by the member. This limit is to be specified by the member for its users. Applicable for orders emanated from both NEAT and CTCL.

For ensuring compliance on a continuous basis for use of CTCL, NSE had prescribed Annual System Audit from CISA/CISSP/ISA/DISA certified auditor, independent of the empanelled vendors of NSE and /or Partners/Directors of the trading members.

Members who have been overall rated "Medium/Weak" by the auditor are required to submit action taken report duly certified by the auditor along with the next system audit report.

Non-compliances at members' end can be identified only through system audit report or through the event specific special inspections undertaken by NSE. It is pertinent to note that the system audit report of the member Emkay Global did not reveal any lapses.

A specific special inspection of the member Emkay Global was undertaken by a team of officers of NSE pursuant to a sudden price fall in Nifty on October 05, 2012. The following were the major observations of the inspection :

<u>Inadequate Internal Control System for order execution:</u>

(a) At the time of placing orders there were no limits set at scrip level, value level and quantity level leading to a lack of risk management controls at the time of placement of orders.

(b) With respect to order validation process, the order (quantity/value) level, price level and terminal level checks were not in place.

(c) During the order placement process, after input of all the fields, the value that appeared on the screen was not noticed by the dealer before confirming the order.

(d) The member does not have adequate internal control systems in place before the dealer terminal is enabled/put to use.

(e) At the point of re-starting of the machine after the crash, appropriate controls to ensure that all required validation processes are complete were not in place.

(f) The member has not exercised due skill, care and diligence in executing the order as per the instructions of the clients [*not in accordance with the code of the conduct for stock brokers given in schedule II read with Regulation 7 of the SEBI (Stock Broker and Sub Broker) Regulations, 1992*].

Taking cognizance of the aforesaid observation, NSE had issued a show cause notice to Emkay Global. The Disciplinary Action Committee (DAC) after taking into account the observations contained in the inspection report, show cause notice issued by NSE, the oral and written submissions made by Emkay Global, seriousness of the violations involved, the adverse impact it created on the market and the investors at large and also keeping in mind that the member has already suffered loss of around ₹ 51 crores due to the error, withdrew the trading facility of the member for three days, levied a penalty of ₹ 25 lakh and an additional amount of 100% penalty amount was levied and retained by NSE for a period of three months as a suspended sentence penalty in order to ensure that the trading member puts in place an adequate control mechanism to avoid recurrence of such errors in future. After expiry of the said period, the member would be required to provide a declaration to NSE regarding the improvement in compliance, due diligence and systems as regards receipt and placement of client orders and appropriate limit setting for all terminals is being monitored on a continuous basis. The declaration is to be supported by an internal audit report certifying due compliance.

NSE has laid out norms for ensuring controls at the member's end and also has a mechanism to ensure that stock brokers have internal control systems in place on a continuous basis in terms of SEBI Circular dated January 31, 2000.

Post the incident that happened on October 05, 2012, in order to further strengthen controls at the members' end, NSE has issued circular dated October 23, 2012 which was in continuation of the NSE circular dated April 24, 2012, mandating, defining and reviewing of quantity limit for each order, value limit for each order, user value limit for each user, branch value limit for each branch and security wise limit for each user.

Further, NSE has also stipulated that the Compliance Officer shall submit a certificate on these compliances on a quarterly basis to the stock exchange confirming that the limits are set up after assessing risks of corresponding user and branch, the limits are set up after taking into account member's capital adequacy requirements, all the limits are reviewed regularly and limits in the system are upto date, no user or branch in the system is having unlimited limits, daily records of limits are stored and would be produced before NSE as and when called for. The scope of annual system audit would also include monitoring compliance with the stipulations in the circular. *A copy of the circular dated October 23, 2012 was annexed.*

(l) <u>With respect to the allegations, there was no check put in place by the NSE in the cash market segment to validate orders in terms of permissible quantity /values at its end which should have ensured that in case of failure of risk management at the end of stock broker, order level checks at the stock exchange would have prevented such error, the NSE made the following submissions</u> :

(i) Upto July 15, 2005, NSE on its own had system of quantity freeze in cash market which provided for any order entered by a member which is one percent of the issue size of the security or value of the order is around 5 crores whichever is less resulted in a quantity freeze. Based on the representations received from members that only NSE had such restrictions and that there was time lag in unfreezing the frozen quantity which was causing problems in execution of bulk orders, NSE modified quantity freeze to alert by building necessary alerts through the system rather than manual intervention. The requirement had not been mandated across stock exchanges and in the absence of such a requirement, it was modified for NSE members as well. Automatic alerts are being generated by NSE for the front end software provided by NSE for each security with stricter lower limits as under :

(a) 0.5% of the issue size of the security; or

(b) Value of the order is around ₹ 2.5 crores; or

(c) A global alert quantity limit of more than 25000 irrespective of the issue size of the security whichever is less.

(ii) As members using CTCL were using their own /vendor developed software, they were advised by NSE Circular dated July 15, 2005 that they would not receive any alert from NSE and that they needed to incorporate suitable validation mechanism as part of risk management if not already provided for to avoid erroneous orders with large quantities being transmitted through CTCL into the NSE's trading system.

(iii) During the inspection, it was observed that the front end software used by Emkay Global had system based risks controls of centralised limit settings and the member in fact was using these features for dealing with retail clients. Member had also set up dealer level limits. As per the representation dated October 05, 2012 of Emkay Global, the terminal of a dealer had crashed that morning and at the time of reinstalling a new terminal, certain alert limits were not set for that dealer and this resulted in the placement of erroneous orders. Therefore, it was sheer negligence on the part of Emkay Global that led to the incident and NSE was not responsible or liable in any manner in that respect.

(m) With respect to the allegations that NSE has failed to ensure adequate order/trade limit controls and risk management of counter parties of Emkay Global and that the exchange had failed to ensure that aforesaid brokers had system based control facility on the trading limits of clients and exposure taken by the clients and failed to monitor risk management as mandated in the SEBI Circular dated January 31, 2000, NSE made the following submissions:

(a) The SEBI Circular (dated January 31, 2000) relates to Internet Trading Facility. The orders placed by all the entities named in the paragraph relate either to use of CTCL Front end software or to NSE provided front end software. Hence, the above stated circular does not apply in this context.

(b) NSE has implemented the comprehensive risk management framework as stipulated by SEBI vide Circular dated February 23, 2005 and as per the same the liquid assets of the member are adequate to cover 'mark to mark loss' Value at Risk Margins (VaR) and extreme loss margins and the liquid assets of the member available with NSE are adequate to cover the same. VaR and extreme margins are levied on upfront basis and MTM is calculated at T day (trade day) and this margin is collected before trading begins on T+1 basis. For institutional trades, margins are levied on T+1 basis as stipulated by SEBI. It is important to note that NSE generates and broadcasts alert messages in case of member reaching margin utilization as percentage of its effective deposits from 70% onwards, that is at utilization levels of 70%, 85%, 95% and 100%. However, on several occasions, the members over shoot collateral levels above 100% utilisation on execution of big orders because margins are calculated and levied after execution of these orders as a result of which the member is disabled soon after execution of this order. NSE already had a facility of voluntary close out to facilitate members who have been disabled owing to margin violation to automatically close out their outstanding position.

(c) On October 05, 2012, consequent to placement of basket order by Emkay Global, all the four members named in the SEBI letter were disabled. Immediately they squared off their positions or brought in the required collateral before getting enabled for trading. It is submitted that there has been no margin default or settlement default arising out of the incident. Thus, NSE has monitored the members for risk management.

(d) Post October 05, 2012 incident, NSE has also implemented pre-risk control measures stipulated by SEBI vide its Circular dated December 13, 2012 wherein a member is automatically put on risk reduction mode on reaching 90% of its collateral utilisation level.

(e) In order to validate risk management practices, NSE undertook a special inspection of three members viz., Inventure Growth and Securities Limited (Inventure Growth), Prakash K Shah Shares and Securities Pvt. Ltd. (Prakash Shares) and Labdhi Finance Corporation Ltd. (Labdhi Finance) {*the counter-party stock brokers of Emkay Global*}. There were no major observations in the inspection of Labdhi Finance.

(f) The inspection *inter alia* found that the trading members viz., Inventure Growth and Prakash Shares had not collected adequate margin in case of their respective clients who were the major counter parties to the sell trades of Emkay Global. They, therefore, did not have prudent risk management system to protect themselves from client default. In view of the findings of inspection with respect to Inventure Growth and Prakash Shares, NSE had issued show cause notices to them. The matters were placed then before the DAC. In respect of Prakash Shares, the DAC considered the inspection findings and the submissions made by the member, the violations leading to excess exposure taken by the member as against collateral available, exposure granted to clients which were hugely disproportionate with the known sources of income, placing of orders at a price significantly away from the market price, concluded that a penalty of 20 lakh be levied on it for these violations and a suspended sentence penalty of ₹ 20 lakh be additionally levied. This suspended sentence penalty was to be reviewed after 6 months based on duly audited compliance certificate to be submitted by the trading member. Likewise, for the violations of Inventure Growth, the DAC imposed a penalty of ₹ 25 lakh along with a suspended sentence penalty of ₹ 25 lakh which was to be reviewed after 6 months based on the duly audited compliance certificate.

(g) NSE has taken measures to ensure adequate order/trade limit controls and risk management of counter parties of Emkay Global. As stated earlier, post the October 05, 2012 incident the exchange has issued a circular dated October 23, 2012 in order to further strengthen controls at the member's end.

(h) In view of the aforesaid, NSE submitted that there have been no failures and it has acted in the best interest of the investors at large, whilst maintaining market integrity and adhered to various circulars and norms issued by SEBI from time to time including circulars dated January 31, 2000 and June 28, 2001 and therefore requested that no directions under section 12 A of the SCRA read with Section 11 of SEBI Act be issued.

4. NSE, vide its letter dated August 16, 2013 also filed an additional reply, summarising the proactive measures and steps taken by it consequent to the market halt arising out of the negligent orders placed by Emkay Global on October 05, 2012. Such measures *inter alia* are as follows:

(a) With a view to identify both short-term and long-term action required to prevent such incidents, a cross functional internal team comprising of representatives from various departments such as Technology, Risk, Trade and Regulation was formed. NSE also engaged the services of an International Exchange Technology Expert, Mr. David Tsoi to study the Index Based Market-wide Circuit Breaker Mechanisms implemented by major stock exchanges across the world.

(b) All regulatory measures having market wide impact are discussed with SEBI in co-ordination with other Exchanges and implemented uniformly across *markets a*s per SEBI stipulation. Due to interdependencies of the markets and requirement of unified approach to ensure consistency across markets, some measures could not have been implemented on a standalone basis and as these measures needed market-wide implementation, NSE has given its suggestions/recommendations to SEBI and the same are under discussion with SEBI.

(c) **Dummy Circuit Filter**:

The existing SEBI norms on market wide circuit filter stipulates that the 'market wide circuit filter' would be triggered by movement of either BSE SENSEX or NSE S&P CNX Nifty whichever is breached earlier at pre-defined levels of 10%, 15% and at 20% levels and Exchanges would bring about co-ordinated trading halt in all equity and equity markets nationwide. Securities which are either part of the index or securities on which derivative contracts are available had dummy circuit filter of 20%.

In order to prevent market halt getting triggered on account of trading abnormalities rather than market conditions, it was found necessary that the individual scrip level dummy circuit filter could be at a lower level than 10% limit applicable for market wide circuit breaker. Any change on standalone basis at its end, could have impacted investors adversely as there could be a situation where the scrip at one exchange is under freeze and is actively trading at other exchange and vice-versa. Further, all surveillance actions like price band, Trade for trade, circuit filter are all uniformly implemented across exchanges in consultation with SEBI. Considering the need for implementing scrip level dummy circuit filter across markets, vide its email dated October 06, 2012, it recommended to SEBI that a lower dummy circuit filter be made applicable for securities that are part of index or that are part of derivative contracts.

Subsequently, SEBI vide its Circular dated December 13, 2012 stipulated pre-trade risk control measures wherein the dummy circuit filter for securities was stipulated at 10%. The Circular also required stock exchanges to formulate 'flexing norms' at levels lower than 10%. As required by SEBI, it has in consultation with the BSE finalized the 'flexing norms' for securities at lower level i.e. at 7% level and has successfully implemented the new dummy circuit filter for scrips with effect from December 24, 2012.

(d) **Risk Reduction Mode** :

During its review, NSE also observed that as per the SEBI stipulated collateral norms, members were getting disabled because of breach of collateral limits. Though it had already provided a mechanism for voluntary close-out at the choice of the member, not all members were utilizing this facility as the same was not mandatory. NSE identified that whenever member reaches 85% or 90% of collateral usage, member needs to be automatically put on risk reduction mode wherein the member would be in a position to bring down the position but would not be able to increase the position. As this requirement required change to existing regulatory framework, it placed forth its recommendations to the SEBI Risk Management and Review Committee ("RMRC") meeting held on October 12, 2012 *inter alia* stating that when a member reaches 90% of the collateral utilisation level, the member needs to be put on a risk reduction mode wherein all the pending orders of such member would get cancelled and the member would be in a situation to bring down the open position by placing orders which would bring down the position only and the member would not be able to increase his positions. Further, NSE had also recommended that all fresh orders of the member would be subject to margin checks and only Immediate or Cancel (IOC) orders could be placed by such member.

SEBI mandated risk reduction mode vide its Circular dated December 13, 2012 and NSE has implemented the norms specified therein with immediate effect from December 24, 2012.

(e) **Single Order Limit**:

During the review of processes for improvement, it was observed that while the retail investor orders go through risk management validation at the member end, Institutional orders do not go through any validation mechanism as margins are applicable for Institutions only on T+1 basis. With a view to avoid recurrence of similar type of problem, as stipulated by SEBI, NSE has already implemented single order limit not exceeding ₹10 crore per order based on previous day's closing price w.e.f. January 15, 2013.

(f) **Index Computation and broadcast** :

NSE, while examining its systems, had also observed that the market wide circuit breaker trigger depends on the manner of computing and broadcasting the index. As per the existing method, though NSE computes the index on a trade to trade basis, the index is broadcast/disseminated to the market and also to trading system every single second. Post the receiving of the broadcast, its trading system validates for breach of predefined levels i.e., 10%, 15% and 20% and thereafter the message for halting the market is given to various systems. This process involves finite timelines. In order to further improve circuit breaker trigger process, NSE identified that computation of index on trade to trade basis gives us capability to communicate the message pertaining to breach of circuit filter level immediately on breach to trading engine. But the broadcast of index to market at an interval of a second could create a scenario where the market halt could get triggered at index level which is not disseminated to market. Considering the dichotomy, NSE vide letter dated January 16, 2013 requested SEBI to permit it to take action of stopping the market after the index filter is breached although that index point may not be disseminated to market.

NSE has also observed that as per SEBI stipulation, the index movement either way at 10%, 15% and 20% are converted into absolute points of index variation on a quarterly basis and at the end of each quarter, these absolute points of index variations are revised and made applicable for next quarter. As the absolute points that are used for halting the market related to the previous quarter and do not reflect the current market scenario, it felt that frequency needs to be revised and hence requested a change from quarterly basis to daily basis. As the proposed change required market wide implementation across markets and needed SEBI approval, it had vide letter dated January 16, 2013 placed forth recommendations to SEBI *inter alia* requesting that the frequency may be revised from quarterly to daily basis.

In order to improve the speed of the market halt, NSE has, with effect from January 07, 2013, changed its sequence of closing the markets by closing the normal market first. NSE has also separated index computation for Nifty market close on a separate fault tolerant hardware with effect from February 04, 2013.

A copy of the Report of the Technology Expert, Mr. David Tsoi on the study of index based market wide circuit breaker mechanism by major stock exchanges across the world, was placed in the SEBI constituted TAC meeting held on February 18, 2013. As explained earlier, the matching of in-flight orders is not a matter of concern to the regulators and the exchanges who accept the same as the inevitable consequence of the modern technological development and the speed with which trades takes place on the exchanges. Most jurisdictions in the world have switched to security based limits rather than index based circuit filter to avoid such incidents. Even the U.S. is reviewing the current system in order to move towards the uptick and downtick limit at scrip level. In order to reduce the process time involved in bringing about market halt, NSE is currently in discussion with the SEBI TAC on checking of the breach of index at every trade level, trade level check and sending across message on market halt immediately on breach even though the same has not been broadcast to the market. Computation of index at every trade level includes computation of index at trade tick, commencing trade level check on threshold reaching 9% wherein only trades within the stipulated level of 10% would be allowed and any trades beyond the stipulation level of 10% would be rejected.

(g) **<u>Enhanced Compliance Norms on Limit Settings at Broker Level</u>** :

NSE has vide its Circular dated October 23, 2013 enhanced/strengthened the compliance norms on its trading members by stipulating that every trading member shall define quantity limit for each order, value limit for each order, user value limit, branch value limit, security-wise limit and the Compliance Officer of every trading member would certify, on a quarterly basis, that these limits have been reviewed by them and these limits have been set up after assessing risks. In addition to the aforesaid, NSE has also mandated that the System Auditor would also confirm the aforesaid in the Annual System Audit Report.

Additionally, with a view to strengthen technological and business controls at members' end, NSE has also vide e-mail dated May 15, 2013 put forth its recommendations to SEBI on widening the scope of Annual System Audit required for various CTCL/IBT/SOR/STWT/DMA/ALGO users and recommended stipulating such a system audit requirement for empanelled vendors. NSE awaits SEBI's communication/response and directions in this regard.

Significant numbers of members are using software provided by third party vendors. The Exchange does not have any regulatory oversight on these vendors due to which it is very difficult to ensure quality of the software and services provided by those vendors to the members. In the past while dealing with certain technical problems impacting the market, NSE has faced difficulty in getting the software audited by independent third party auditor also. Hence, in order to strengthen the quality of software including various control measures and change management processes followed by the vendors, NSE has also recommended to SEBI that there should be regulatory framework laid out specifying criteria to ensure quality such as Quality Standards for vendor including certification such as CMM or equivalent, adherence to minimum security standards, product quality certification procedures and exception handling and back-up plan in case of software failure at individual locations or at multiple locations. NSE is awaiting necessary guidance from SEBI on this aspect.

The incident that occurred on October 05, 2012 is one of a kind incident. The previous System Audit Report and Inspection Report based on the inspection carried out by NSE's inspection team did not reveal any weakness at the end of Emkay Global. The inspection carried out by NSE after the incident also revealed that the system used by the dealer of Emkay Global had capabilities of limit setting at central level and at dealer lever which in fact used by the broker for setting limits for retail investors and for institutional trades respectively. As explained by Emkay Global, the terminal of the dealer who had placed negligent order had crashed on October 05, 2012 in the morning before trading commenced and the replaced terminal provided to him by the technical team of Emkay Global was not set with the appropriate limits by the dealer.

NSE has also reviewed the Annual System Audit Report submitted by other members and found that there were no adverse comments relating to setting of limits which is further supported by the fact that an incident of such nature had never happened before in the history of the NSE. In its view, the problem is unique and is not systemic or market wide.

As regards risk management, as per the regulatory stipulations, all non-institutional orders are subject to upfront margining and hence validations are in built. However, for Institutional orders, margins in Cash Market Segment are on T+1 basis as per SEBI requirement whereas margining for Institutions in Equity Derivatives and Currency Derivatives is on par with other categories of investors. Margining Institutions in line with Equity Derivatives and Currency Derivatives also would prevent occurrence of problems of this nature. Similarly, in Equity Derivatives and Currency Derivatives Segment, collection of margins from a client by his broker is mandatory and this practice has ensured good risk management at broker level and similar requirements need to be mandated in the Cash Market also. As the margin requirements are SEBI stipulated across markets and changes in these areas require SEBI approval, NSE has regularly been recommending the same to SEBI in order to enhance better risk management at broker level and await their guidelines and directions in regard thereto.

As regards setting of limits, NSE sets limits for members based on the liquid assets that are placed by the member with it/National Securities Clearing Corporation Limited and trading members in turn set limits at order level, scrip level, user level etc. Subsequent to the incident on October 05, 2012, it had vide its Circular dated October 23, 2012 mandated that these limits have to be necessarily reviewed by the Compliance Officer of the trading member for which a quarterly certificate must be submitted to it. Further, in addition to the aforesaid, NSE has also implemented pre-trade risk control of setting the per order limit at ₹10 crore based on previous day's closing prices which is applicable to all the members and clients including Institutions.

(h) **Technology** :

There is finite process time involved in halting of the market and on October 05, 2012 while the market wide circuit breaker triggered on the index breaching 10% level, it took 6 seconds for the matching to halt though no new order was accepted. In the meantime, 'in-flight' orders that had already been received by matching engine, but were in queue got executed. As compared to the previous market halt in May 2009, the market halt process time has significantly improved and based on the available information, the finite time of 6 seconds taken for halting of market has been the best time clocked in so far.

As per the existing architecture of the trading system, validation processes do all the business rules verification. Once the verification has been completed, an acknowledgement is sent to the user indicating that the order has been received and same has been forwarded to the Matching Engine. The Matching Engine then considers such an order to have passed all the necessary checks and takes it up for matching. Validation normally involves look up of multiple reference data and hence it is a computer intensive and time consuming process.

When a market stop message is received, it also gets in the same queue as other messages and hence is processed only after these in-flight orders are executed. In order to achieve even better market halt time, <u>NSE has now modified the process for these market stop messages on a higher priority over other waiting messages</u>. NSE expects this to further improve the finite time involved in market halt. However, there would still be certain minimum inherent latency issues due to the fact that the last message that is picked up by the engine and is being processed when shutdown message arrives will be completed for matching and not aborted.

NSE while emphasising that the incident that occurred on October 05, 2012 was a "*one-off incident* ", it has stated that it has taken serious note of the same and have introduced a slew of mechanisms and systems to ensure that such incidents do not take place in the future. NSE further requested SEBI that no directions under section 12A of the SCRA read with section 11of the SEBI Act be passed against it.

5. An opportunity of personal hearing was granted to NSE on July 15, 2013, when Mr. E. P. Bharucha, Senior Advocate, Mr. Cyrus Bharucha, Advocate, Mr. Rashid Boatwalla, Advocate, Mr. Amit Chouhan, Advocate, Mr. Vikram Trivedi, Advocate, Mr. J Ravichandran, Director (Finance & Legal) & Company Secretary, and Ms. Kamala K, Head-Compliance, appeared on behalf of NSE and made oral submissions on the lines of the reply filed by NSE. The noticee was granted liberty to file additional submissions on the proactive measures it has claimed to have taken post the October 05, 2012 incident. In its additional submissions made vide letter dated August 16, 2013, NSE summarised (*which have been mentioned in the previous paragraph*) the proactive measures /steps taken by it. Thereafter, vide letter dated September 02, 2013, NSE *inter alia* referred to the appeal (*challenging the order passed by NSE*) filed by Emkay Global before the Hon'ble SAT and the application filed by Emkay Global praying the Hon'ble SAT to direct NSE to disclose the SCN (issued by SEBI to NSE) and the replies filed by NSE and informed that NSE has disclosed the said documents to Emkay Global. NSE also requested SEBI to consider its replies and submitted that it is always ready and willing to provide any additional assistance/information, if any, that may be required by SEBI.

6. I have considered the SCN, the written and oral submissions made by NSE and other material available on record. Before proceeding further, I note that NSE has submitted that it has in consultation with SEBI and after informing BSE re-opened the market, without waiting for the two hour market halt (if the index breaches the 15% limit) as mandated vide SEBI Circular dated June 28, 2001. However, in this regard, it may not be proper on the part of NSE to submit that it has consulted SEBI in this regard. Further, it has also failed to produce any supporting proof with respect to the claimed 'consultation with SEBI' or 'informing BSE'. Even assuming the same, a statutory or regulatory condition imposed vide the SEBI Circualr cannot be overlooked.

I now proceed to deal with matter allegation-wise as sequenced in the SCN issued to NSE.

7. **The <u>first allegation</u> against NSE is that it failed to implement the market wide circuit breaker at 10% and allowed the Nifty to fall by 16% (920 points) and thereby contravened the SEBI Circular dated June 28, 2001.** NSE is alleged to have not complied with the SEBI Circular by not putting in place a proper and effective circuit breaker system whereby matching/trading engines are automatically shut down/switched off as and when the corresponding thresholds are breached.

7.1 In terms of the said SEBI Circular dated June 28, 2001, effective from July 02, 2001, an index based market wide circuit breaker system, would apply at three stages of the index movement either way at 10%, 15% and 20%. In this case, on October 05, 2012, the NSE Index (i.e., the NIFTY) opened normally at 5,815 points. The applicable 10% limit for index circuit breaker for the applicable quarter was 570 points (*the closing price of last quarter was 5703.30 index points*) and the 15% limit was at 860 points. At 09:50:58 a.m., the index breached the 10% lower limit which triggered the Index Circuit Breaker. NSE trading system had broadcast the message "*Members are requested to note that there would be a market halt if the index value crosses 5217.60 (570 points)*". Another message was broadcast which read "*S&P CNX Nifty has hit 5170.60. The Markets will close.*" The market wide filter got triggered when the index fell by 570 points. However, it was noticed that by the time the market halted at 09:51:04 a.m., the Nifty fell by 920 points (16%), which therefore breached 15% level circuit breaker also.

7.2 The SCN has alleged that there was 6 seconds (09:50:58 a.m. to 09:51:04 a.m.) delay in halting the market and that NSE had not complied with the requirement by failing to put in place a proper and effective circuit breaker system whereby matching/trading engines are automatically shut-down/switched off as and when the thresholds limits are breached. The SCN further alleged that the delay in halting the market was due to the execution of matchable orders lying in the Order Books.

7.3 In this respect, NSE has contended that it has complied with the stipulation as the circuit breakers were triggered as soon as the market fell by 10% and that the 6 seconds taken for halting the market was not because of execution of matchable orders but due to the finite process time. However, even as per NSE's earlier submissions, it is a fact that market was not halted immediately on breach of the 10% or 15% levels. On trigger of the 10% level, it took six seconds for NSE to bring a complete halt to its cash market. By the time the market halted, the index had already breached the 16% level.

7.4 NSE has also submitted that immediately upon the circuit breaker getting triggered, the market halt process was initiated within its system involving stopping of entry of fresh orders into the system, communication between the multiple trading engines and allied systems like risk management system, index systems and surveillance systems and therefore, after triggering of circuit breaker, minimum process time would be involved in bringing the entire market to a halt. NSE has also referred to a report of an expert and stated that time taken to halt the system is finite depending on the level of activity in the market place. I also note that NSE *inter alia* informed that the index circuit breaker system was triggered due to the execution of 59 erroneous orders placed by one its members, namely, Emkay Global, on behalf of an institutional client, for an amount of ₹650 crores.

7.5 In its letter dated January 04, 2013 to SEBI, NSE had submitted that *"As informed earlier, on the triggering the circuit filter, acceptance of fresh orders from the trading members were stopped immediately and the process of order matching continued till the valid executable orders in the system already under process was executed."* According to the submissions of NSE, the finite process time involved in halting the market includes the time taken for execution of matchable orders that were already present in the system.

7.6 NSE has also referred to the market halt that happened on May 18, 2009 and submitted that the time taken for NSE to bring about a halt was less compared to the BSE. I note that NSE, in its reply submitted that *"on May 18, 2009, at 9:55:08 upon NIFTY Index reaching 300 points over the previous close, the process of market halt got initiated within its trading systems. The system completed the process of stoppage of acceptance of fresh order at 9:55:18 and completed matching of pending order at 9:55:21. -------"* From the above, I note that in the year 2009, NSE took 10 second time for stopping acceptance of fresh order at 9:55:18 and has taken additional 3 seconds for completing matching of pending order at 9:55:21. In the incident which is the subject matter of this case, it is noted that the circuit filter was breached at 09:50:58 and the market halt was effected only at 09:51:04. NSE further submitted that the time taken in the October 05, 2012 incident was greatly reduced for halting the market. NSE has also referred to the note dated May 18, 2009 of SEBI that to submit that *the difference between the circuit trigger time and the last order acceptance time on the exchanges is due to system taking finite time to complete their internal process of stoppage of acceptance of fresh orders from broker terminals and shutting down the order matching.*

7.7 NSE has stated in its replies/submissions (dated May 06, 2013 and January 04, 2013) that the 10% circuit breaker got triggered on reaching 5170.60 (i.e., -617 points) instead of 5217.60 (-570 points). It appears that the same happened because, while NIFTY index was calculated after every trade in index constituent stocks (i.e., real-time index computation), the index value was disseminated to the matching engines at an interval of 1 second. As a result, the circuit breaker did not trigger at fall of 570 points and had occurred only after additional downward movement of 47 points. The SEBI Report on 'specific purpose inspection' of NSE post the October 05, 2012 incident mentions that *"NSE explained that all matchable orders lying in the Order books are executed before trading engine is shutdown. Match-able orders are orders which include primarily market orders partially executed or being executed and or other passive orders which may get triggered (e.g. stop loss etc.) ... There is a lag between trigger of circuit breaker and halt of* *market on account of match-able orders getting executed*". Further, the time of six seconds taken by NSE included a delay on the part of NSE to initiate the market halt process. The trigger did not occur at fall of NIFTY by 570 points, instead happened at fall of 617 points. As observed above, the state of index (*and therefore the trigger for market halt*) was not disseminated on a real-time basis to the matching engines, the circuit breaker did not trigger at fall of 570 points and occurred at downward movement of NIFTY by 617 points.

7.8 I have considered such submissions. I note that SEBI Circular dated June 28, 2001 *inter alia* reads as below:"… *effect from July 02, 2001 an index based market wide circuit breaker system, which will apply at three stages of the index movement either way at 10%, 15% and 20%. These circuit breakers will bring about a coordinated trading halt in all equity and equity derivative markets nationwide.*" I find that it is very clear from the wordings of the SEBI Circular dated June 28, 2001 that circuit breakers will bring trading halt. I note that the said circular does not mandate or permit that on trigger of circuit breaker, only accepting fresh orders will be stopped and which will lead to trading halt after execution of all the executable orders already in the system. The legislative intent behind the Circular is to stop the securities market from getting carried away by the panicky market sentiment (bearish or bullish). Immediate halt in the trading for specified time after breach of specified percentage change in the index, gives the market much needed time to get over the impulsive/panicky sentiment and decide rationally. In the light of aforesaid, I am the view that if the contention of NSE is accepted it will negate the very purpose of the Circular. It is also to be noted that the orders which matched in the system after 10% breach had dragged the market further down by another 5%. NSE has not claimed that it either sought any clarification from SEBI on the circular or brought out difficulties in executing immediate halt. What is expected of a system is that the same should not be processing further orders matching them for trades after market trigger. This, as said above, has further sent the market down by over 5% after 10% trigger.

Accordingly, I find that trading on NSE has failed to stop immediately after the NIFTY breached the 10% mark.

7.9 I also do not accept the argument of NSE that during previous incidents as well, there was a time lag. There is no detail as to whether NSE made any attempts to improve the systems or approached SEBI with a request to redefine the parameters in the light of actual experience.

7.10 In view of the above findings, NSE, by not halting the trading on the trigger of Circuit Breaker System on October 05, 2012 at 10% and 15% circuit filter levels, has contravened the provisions of the SEBI Circular no. SMDRPD/Policy/Cir-37 /2001 dated June 28, 2001. I also note that presently, NSE had informed that it has modified the system as 'market stop' messages get higher priority over other messages. However, inspite of such improvement, NSE still feels that there would be a minimum inherent latency before a complete market halt is effected. In this regard, I note that it would be worthwhile if an independent consultant having expertise in the domain be engaged by NSE to review its systems to identify what best could be done to plug loopholes if any in the system to ensure that the market is not exposed to damage in a similar situation. This review may include the manner in which the systems and processes should ideally behave after a market trigger occurs and the risk containment measures that need to be strengthened including having filters at the exchange-level to weed out such erroneous orders.

8. The <u>second allegation</u> is that NSE failed to implement the co-ordinated trading halt in all equity and derivatives markets nationwide and re-opened the cash market with a pre-open phase at 10:00:22 and start of trading at 10:05:00 with only 15 minutes halt as against the halt of two hours, as mandated vide SEBI Circular dated June 28, 2001.

8.1 The SEBI Circular dated June 28, 2001 *inter alia* mandates that *"in case of a 15% movement of either index, there will be a 2 hour halt if the movement takes place before 1 pm."* However, in the present matter admittedly, when NIFTY had fallen by 16% before 01:00 pm on October 05, 2012, NSE had halted the trading only for 15 minutes. NSE has contended that it has, after consulting SEBI and informing BSE, re-opened the cash market with a pre-open phase. This submission has already been clarified in a previous paragraph.

8.2 Furthermore, I note that though trading in the cash market segment came to a halt at 09:51:04 a.m., the equity derivates market of NSE continued during the period of trading halt. It is important to bear in mind that the SEBI Circular dated June 28, 2001 has mandated that the circuit breakers would bring about a coordinated trading halt in all equity and equity derivative markets nationwide. This would mean that trading in the equity and equity derivatives markets nation-wide including NSE and BSE should have been halted for a period of 2 hours as the trigger was before 01:00 pm on October 05, 2012. The SEBI Circular does not provide for any exceptions.

8.3 In this regard, NSE has contended that as the circuit filter was triggered for the reason of erroneous sell orders of one entity, there was no need of bringing coordinated halt in trading in equity and derivative markets. According to NSE, its equity derivative market did not reflect any substantial fall and even the cash market at BSE was functioning normally during the time when circuit filter at NSE was triggered. The requirements of the SEBI Circular dated June 28, 2001 has been laid down with a purpose. As regards the contention that NSE decided not to halt the derivatives market after consulting SEBI and informing BSE, I note that SEBI circular dated June 28, 2001 prescribes the requirement without giving any liberty to stock exchanges to assess the situation and act according to their assessment. Further, the reading of the relevant contents of the SEBI Circular clearly indicates that there is no discretion given to the stock exchanges to decide as to how long the halt can be. It is already observed above that there is no material to indicate that NSE consulted SEBI to cut short the market halt duration and re-open the cash market at 10:00:22. Similarly, there are also no records to show that NSE informed BSE in this regard. I find that by not bringing coordinated trading halt in all equity and equity derivative markets nationwide, NSE had violated the SEBI Circular no. SMDRPD/Policy/Cir-37 /2001 dated June 28, 2001 and thereby put the securities market at a serious systemic risk.

8.4 Therefore, considering the above observations, I find that in terms of the SEBI Circular dated June 28, 2001, NSE failed to halt the trading for two hours (*as the 15% was breached before 01:00 pm on October 05, 2012*) in all its equity and equity derivatives markets, thereby contravening the provisions of the above referred Circular. Trading halt for the two hour duration was also not co-ordinated in all equity and equity derivatives markets nation-wide as required in terms of the Circular.

9. The <u>third allegation</u> against NSE is that it failed to ensure adequate Order/Trade Limit Controls and Risk management at its end and placed the onus entirely on the stock broker, Emkay Global. The SCN also alleged that NSE failed to ensure that system based control on the trading limits of clients and exposures taken by the clients are in place at the time of granting of CTCL permission to the brokers and ensure effectiveness of the system based controls on continuous basis violating the SEBI Circular dated January 31, 2000. The SCN further alleged that no check was put in place by NSE in the cash market segment to validate orders in terms of permissible quantity/values at its end as the same would have ensured that even in case of a failure of risk management at the end of stock broker, order level checks at the stock exchange would have prevented such error.

9.1 SEBI Circular dated January 31, 2000 allowed internet based trading and services, and prescribed minimum requirements including risk management before permitting internet based trading and services. Relevant extracts under the head 'risk management' is reproduced as under:

"***Exchanges must ensure that brokers have system-based control on the trading limits of clients, and exposures taken by clients.*** *Brokers must set pre-defined limits on the exposure and turnover of each client. The broker systems should be capable of assessing the risk of the client as soon as the order comes in. The client should be informed of acceptance/rejection of the order within a reasonable period. In case system based control rejects an order because of client having exceeded limits etc., the broker system may have a review and release facility to allow the order to pass through.*"

9.2 NSE has contended that the aforesaid SEBI Circular was with respect to the risk management of internet based trading. According to NSE, as the erroneous orders were not placed by internet based trading clients, the said Circular has no applicability. NSE also contended that the Circular only requires the stock brokers to have a system based control on the trading limits of the clients and exposure taken by clients and does not require NSE, as a stock exchange, to maintain order/trade limit controls and risk management. The noticee submitted that it has laid down security controls that each stock broker must adhere to.

9.3 I have considered the submissions made by NSE in this regard. It may be noted that before issuance of the SEBI Circular dated January 31, 2000, the trading members were allowed to route client orders only through stock exchange terminal for execution of trades. By issuance of said circular, SEBI allowed a trading member to use non-exchange terminal to route their orders to exchange trading system for execution. Orders can be placed by the stock brokers/traders either through Stock Exchange provided trading terminal (NEAT, in case of NSE) or through non-exchange provided trading terminals (CTCL, in case of NSE) that are either developed in-house by the stock broker or purchased from an stock exchange empanelled vendor. CTCL {including Internet-Based-Trading (IBT) and Direct-Market-Access (DMA)} software is an Application Programming Interface (API) based trading software that facilitates stock brokers and its clients to connect and transact with the stock exchange. In case of CTCL, orders can either be placed by dealers/approved users on the CTCL terminals or can be placed by investors/traders through CTCL based facilities such as Direct-Market-Access (DMA). In short, CTCL is a generic name used for the API-based trading facility and include DMA and IBT. As IBT orders are routed to CTCL servers of the stock brokers and are subject to risk management systems applicable to other orders that are entered through other

CTCL terminals, IBT is considered as an extension of CTCL. I note that the erroneous orders were placed by Emkay Global through a CTCL platform, which is a non-exchange terminal. Therefore, NSE's argument that the SEBI Circular dated January 31, 2000 related to use of internet for execution of trades by clients and the erroneous orders placed by Emkay Global were not placed from internet based clients and therefore, there has been no violation of the provisions of the SEBI Circular dated January 31, 2000, is not acceptable.

9.4 I note that NSE in its reply dated January 04, 2013 has submitted that the Trading Terminal (NEAT) used by the Members for placing of orders through 'Exchange provided front end' has built-in adequate system based controls on setting of various limits. During the year 2000, when it allowed CTCL facility, NSE cast the responsibility of ensuring such control in the front end application software used by the members through stipulations in the CTCL undertaking. NSE has further submitted that for ensuring compliance on a continuous basis for use of CTCL, it has prescribed Annual System Audit from certified auditor. On consideration of the above submissions of NSE, I find that apart from annual system audit from independent auditor, NSE does not have any system in place to ensure that stock brokers have system-based control on the trading limits of clients, and exposures taken by clients. SEBI Circulars dated March 11, 2003 and February 23, 2005 require stock exchanges to have suitable risk monitoring and surveillance systems. It appears from NSE's submission that the stock exchange has taken a conscious decision to delegate the risk management responsibility of validating orders for errors related to large quantity/value to the stock broker. The ultimate responsibility of a failure of stock broker's risk management system lies with the stock exchange and the incident indicates that the stock exchange did not have suitable systems to manage risk in case of failure of stock broker's risk management system. This observation gets strengthened by the fact that erroneous trades happened because necessary system checks were not placed in the trading terminal set-up at Emkay Global's dealer. The same has been observed by Hon'ble SAT also in its Order dated August 26, 2014 in the matter of *Emkay Global vs. NSE* and others that " …….. *Since erroneous trades took place not only due to mistake in punching erroneous sell order but also due to breach of duty in not installing suitable validation mechanism as part of risk management system on the standby computer as also at various other levels,* ….".

9.5 In a vibrant trading environment, annual system audit is grossly inadequate to ensure that stock brokers have control on the trading limits of clients, and exposures taken by clients. Further, annual system audit can be useful to find out the inadequacy on an annual basis and by then the damage would have already been done. Such annual audit cannot be a tool to ensure that brokers have system-based control on the trading limits of clients. NSE while allowing CTCL should have ensured that there was adequate system control similar to that of NEAT in CTCL as well. I note that NSE has submitted that it is relying on system audit report to ensure the compliance at member's end.

9.6 In this regard, it is necessary to re-state the fact that one of the dealers of Emkay Global, upon receiving instructions from an institutional client, placed a sell basket order of Nifty-50 index through a CTCL terminal. The dealer instead of entering basket value of ₹ 17 lakh had entered 17 lakh quantity of Nifty Index scrips which amounted to a total value ₹ 980 crores. As the order was a market order, basket order program had allocated 17 lakh quantity among 50 Nifty constituent scrips which result in trades for ₹ 650 crores and resulted in the fall of the Nifty. If such controls were in place, the erroneous order would not have been accepted in the system for execution of trades.

9.7 NSE has submitted that the erroneous order was placed by Emkay Global through the CTCL System for an institutional client and that as per applicable SEBI norms, all institutional trades in cash market would be margined on a T+1 basis with margin being collected from the custodian upon confirmation of trade. It is therefore the contention that no check on margin was applicable on institutional trades. NSE has also stated that upto July 15, 2005, it had its own system of quantity freeze in cash market and was done away as the requirement was not mandated across exchanges. I have considered such submissions. Assuming that there was no system for collection of upfront margin for institutional trades, NSE cannot say that its responsibility was fully met when it had advised its stock brokers to have system-based control on the trading limit of clients. If only 'quantity-freeze checks' were made at the exchange-level, the so called erroneous trades of Emkay Global for its clients would not have passed through and upset the market equilibrium on October 05, 2012. Pursuant to the incident of October 05, 2012, SEBI vide Circular dated December 13, 2012 had required stock exchanges to perform order-level checks on all categories of orders placed on stocks, Exchange Traded Funds (ETFs), Index Futures and Stock Futures.

10. The <u>fourth allegation against NSE</u> is that it failed to ensure adequate order/trade limit controls and risk management of counterparties of Emkay Global, in contravention of the SEBI Circular dated January 31, 2000.

10.1 The SCN has given the details of the counter-parties to the trades of Emkay Global wherein available collateral was less than 5% of the total buy value. The same is as follows:

Trading (TM) code	Counterparty Trading Member name	Total Buy Value in Rs.	Margin Requirement in Rs. (crores)	Available Margin Collateral in Rs. (crores)	Available Margin Collateral as % of the Margin Requirement
9017	Inventure Growth and Securities Ltd	214,82,68,560	29.68	3.82	12.87%
9973	Prakash K Shah shares and securities Pvt. Ltd	158,87,95,174	20.69	2.76	13.34%
9228	Labdhi Finance Corporation	14,95,29,133	2.95	1.6	54.24%
12963	Focus Shares and Securities Pvt. Ltd	10,93,81,414	1.69	1.15	68.05%
	Total	**3,99,59,74,281**	**55.01**	**9.33**	

It is obvious from the above table that after conclusion of trades, the available margins were grossly inadequate. This is clearly a failure on the part of NSE to ensure proper risk management by its stock brokers.

11. NSE has submitted that the incidents that occurred on October 05, 2012 were "one-off" incident. However, I do not agree with this submission. The technological systems in a stock exchange should be robust enough to anticipate and prevent such events from happening. Saying that the system be 'robust', means that no single human and other fault will result in shutting down the systems. Whatever the limitations NSE might have faced, the bottom line is that a situation involving a delay of 6 seconds in closing down the market when the index goes so much down as to even cross the next trigger is not at all acceptable. It is not sufficient that the systems be prepared for only those types of failures which have already occurred but also for events that took place in other stock exchanges across the world or the possible events with low probabilities. A system can be said to be robust only when it has factored in all the above kinds of eventualities.

12. NSE in its submissions has stated that it undertook a special purpose inspection of Emkay Global and noticed that at the time of placing orders there were no limits set at scrip level, value level and quantity level leading to a lack of risk management. NSE had also observed that the Emkay Global did not have the order (quantity/value) level, price level and terminal level checks with respect to order validation process. NSE has also found that the stock brokers, Inventure Growth and Prakash Shares did not collect adequate margins and did not have prudent risk management system to protect themselves from client default. However, having made such findings by itself, it would be contradictory for NSE to submit that '*it has laid down norms for ensuring controls at the member's end and also has a mechanism to ensure that stock brokers have internal control systems in place on a continuous basis in terms of SEBI Circular dated January 31, 2000'*. A stock exchange, being a first level regulator, is expected to visualize possible problems and take pro-active steps. NSE should not have rested with contentment by telling its stock brokers that they should ensure compliance with the stipulations in this regard. If only NSE had in place a proper system/process to ensure the same, the incident that happened on October 05, 2012 would not have happened. NSE has also submitted that the problem was caused by non-compliance by one member and there was no systemic issue. However, I find that such erroneous orders of huge value emanating from a few stock brokers, if let unchecked, as happened in this case, does pose systemic risks. NSE has also contended that non-compliances at members' end can be identified only through system audit report or through the event specific special inspections undertaken by NSE. Relying exclusively on this manner of supervision and checks may not serve the purpose for such obligations cast on a stock exchange.

13. During the hearing, NSE was asked to inform and submit corrective measures/steps taken by it consequent to the market halt arising out of negligent orders placed by Emkay Global on October 05, 2012. NSE *inter alia* submitted, vide its written submissions dated August 16, 2013, that with a view to identify both short-term and long-term action required to prevent such incidents, a cross functional internal team comprising of representatives from various segment such as Technology, Risk, Trade and Regulation was formed. NSE stated that it engaged the services of an International Exchange Technology Expert Mr. David Tsoi to study the Index Based Market-wide Circuit Breaker Mechanisms implemented by major stock exchanges across the world.

14. NSE further submitted that all regulatory measures having market wide impact are discussed with SEBI in coordination with other stock exchanges and implemented uniformly across markets as per SEBI stipulation. NSE *inter alia* submitted that prior to and post the occurrence of the said incident, various proactive measures were taken / suggested by NSE which *inter alia* includes

(a) Dummy Circuit Filter for securities,
(b) Risk Reduction Mode on member reaching 90% of collateral utilization level,
(c) Single order limit of ₹10 crores,
(d) Index computation and broadcast
(e) Enhanced compliance Norms on limit setting at broker level

NSE had also submitted that it has implemented certain measures even before the occurrence of the referred incident and also implemented certain measures immediately after the incident in consultation with SEBI. Due to interdependencies of the markets and requirement of unified approach to ensure consistency across markets, some measures could not have been implemented on a standalone basis and as these measures needed market wide implementation, NSE has given its suggestions/recommendations to SEBI and I note that the same are under discussion with SEBI.

I note that NSE is taking certain steps to prevent such occurrences. However, the need is to take a holistic, comprehensive review and create robust systems.

15. <u>Conclusion</u> :

(a) As brought out above, by not sending 'halt' trigger to its matching engines at the instance of breach of 10% circuit breaker on October 05, 2012 and by not halting trading exactly at 10% and 15% Circuit Breaker limits, by cutting short the market halt duration and by re-opening the cash market earlier than the duration mentioned in the circular, by not halting trading in its equity derivatives segment when the circuit breaker was triggered in the cash market and by not co-ordinating with other stock exchanges regarding the market halt, NSE had not adhered with the provisions of the SEBI Circular No. SMDRPD/Policy/Cir-37/2001 dated June 28, 2001.

(b) Further, NSE has not effectively ensured that its stock brokers have necessary risk control systems and did not have a system at its end (as orders pass through its platform to be executed as trades) to manage risk in the event of failure of stock broker's risk management system. This had impacted market integrity and orderly trading on October 05, 2012. In view of the above, NSE has not in spirit adhered to the requirements of the SEBI Circular dated January 31, 2000.

The Stock Exchanges have a major role as it is through their systems the trades are executed. Stock Exchanges are entrusted with a responsibility that the stock markets run efficiently with least possible risk and interruptions. Therefore, it is necessary that Stock Exchanges have systems which are robust enough to withstand individual failures. I observe that the system followed by NSE is not robust. Wrong action on the part of one individual could result in bringing the entire system to a halt. Therefore, it needs an in-depth analysis as how the systems could be made more robust so that mistakes on the part of one or two persons does not bring the entire system to a halt. Towards this end, it becomes necessary that NSE undertakes a comprehensive review of its systems and processes generally and more particularly in the light of this subject matter. Accordingly, taking these into consideration, the following directions are issued.

16. **<u>Directions</u>** :

Considering the above observations and findings, I, in exercise of the powers conferred under section 19 of the Securities and Exchange Board of India Act, 1992 read with sections 11 and 11B thereof and section 12A of the Securities Contracts (Regulation) Act, 1956 hereby issue the following directions :

(a) NSE is censured for its conduct, as observed in this Order, and is directed to be careful and cautious in its dealings in the securities market and comply with all the legal requirements that govern its functions as a stock exchange.

(b) NSE is directed to carry out a comprehensive review, by an Independent Expert ("the Consultant"), of the processes followed, checks in place, systems employed by NSE, not only in respect of the situation specific to this case but also for maintaining stability of markets in general. The Consultant shall suggest a more robust securities trading system and submit its Report within a period of three months from the date of this Order. On receipt of the Report of the Consultant, NSE shall, within a period of three months thereafter, submit a Report to SEBI along with its 'Plan of Action'.

17. With the above directions, the Show Cause Notice dated April 18, 2013 issued to the National Stock Exchange of India Limited is accordingly disposed off.

PRASHANT SARAN
WHOLE TIME MEMBER
SECURITIES AND EXCHANGE BOARD OF INDIA

Date : October 10, 2014
Place : Mumbai