BEFORE THE SECURITIES APPELLATE TRIBUNAL
MUMBAI

Date of Hearing: 26.11.2021
Date of Decision: 23.01.2023

Misc. Application No.257 of 2019
And
Appeal No.333 of 2019

National Stock Exchange of India Limited
Exchange Plaza Block G, C 1,
Bandra Kurla Complex,
G Block, BKC, Bandra Kurla Complex,
Bandra East, Mumbai,
Maharashtra 40005. ...Appellant

Versus

Securities and Exchange Board of India
SEBI Bhavan,
Bandra-Kurla Complex,
Mumbai – 400021. …Respondent

Mr. Darius Khambata, Senior Advocate with Mr. Somasekhar Sundaresan, Mr. Abishek Venkataraman, Ms. Sonali Mathur, Mr. Prabhav Shroff and Mr. Harshit Jaiswal, Advocates i/b. AZB & Partners for the Appellant.

Mr. Rafique Dada, Senior Advocate with Dr. Poornima Advani, Mr. Manish Chhangani, Mr. Ravishekhar Pandey, Ms. Prerna Sharma and Ms. Samreen Fatima, Advocates i/b. The Law Point for the Respondent.

Mr. Nithyaesh Natrajan, Advocate for the Intervener.

With
Misc. Application No.777 of 2021
And
Appeal No.184 of 2019

1. OPG Securities Pvt. Ltd.
   LGF-27, C Block,
   Sushant Shopping Arcade,
   Sushant Lok, Gurgaon,
   Haryana Pin Code – 122002.

2. Mr. Sanjay Gupta
3. Ms. Sangeeta Gupta
4. Mr. Om Prakash Gupta
   4/10, 1st Floor,
   Asaf Ali Road,
   New Delhi – 110002. ...Appellants

Versus

Securities and Exchange Board of India
SEBI Bhavan, Plot No.C-4A,
G Block, Bandra-Kurla Complex,
Mumbai – 400051. …Respondent

Mr. Gaurav Joshi, Senior Advocate with Mr. Ravichandra Hegde and Ms. Mitravinda Chunduru, Advocate i/b. Parinam Law Associates for the Appellant.

Mr. Rafique Dada, Senior Advocate with Dr. Poornima Advani, Mr. Manish Chhangani, Mr. Ravishekhar Pandey, Ms. Prerna Sharma and Ms. Samreen Fatima, Advocates i/b. The Law Point for the Respondent.

With
Misc. Application No.250 of 2019
And
Appeal No.331 of 2019

Mr. Ravi Narain
B-3, Diwan Shree Apartments,
30-, Firoz Shah Road,
New Delhi – 110001. ...Appellant

Versus

Securities and Exchange Board of India
Plot No.C-4A, G Block,
Near Bank of India,
Bandra-Kurla Complex, Bandra East, …Respondent
Mumbai – 400051.

Mr. Pesi Modi, Senior Advocate with Mr. Neville Lashkari, Mr. Rashid Boatwalla, Mr. Aditya Vyas and Mr. Dhruv Jadhav, Advocates i/b. MKA & Co. for the Appellant.

Mr. Rafique Dada, Senior Advocate with Dr. Poornima Advani, Mr. Manish Chhangani, Mr. Ravishekhar Pandey,

Ms. Prerna Sharma and Ms. Samreen Fatima, Advocates i/b. The Law Point for the Respondent.

Mr. Nithyaesh Natrajan, Advocate for the Intervener.

With
Misc. Application No.298 of 2019
And
Appeal No.336 of 2019

Ms. Chitra Ramkrishna
201, Laxmi Habitat,
7th Cross Raod,
Chembur – 400 071. ...Appellant

Versus

Securities and Exchange Board of India
SEBI Bhawan, Plot No.C-4A,
G Block, Bandra-Kurla Complex,
Mumbai. …Respondent

Mr. Prashant S. Pratap, Senior Advocate with Mr. Piyush Raheja and Ms. S. Priya, Advocates for the Appellant.

Mr. Rafique Dada, Senior Advocate with Dr. Poornima Advani, Mr. Manish Chhangani, Mr. Ravishekhar Pandey, Ms. Prerna Sharma and Ms. Samreen Fatima, Advocates i/b. The Law Point for the Respondent.

Mr. Nithyaesh Natrajan, Advocate for the Intervener.

With

Appeal No.433 of 2019

Mr. A. Kumar
4/131, 7th Main Road,
Valmiki Nagar, Swamnathan Nagar,
Chennai-600 041, Tamil Nadu. ...Appellant

Versus

Securities and Exchange Board of India
Plot No.C-4A, G Block,
BKC, Bandra (East),
Mumbai -400051, India. …Respondent

Mr. Nithyaesh Natrajan, Advocate for the Appellant.

Mr. Rafique Dada, Senior Advocate with Dr. Poornima Advani, Mr. Manish Chhangani, Mr. Ravishekhar Pandey, Ms. Prerna Sharma and Ms. Samreen Fatima, Advocates i/b. The Law Point for the Respondent.

CORAM: Justice Tarun Agarwala, Presiding Officer
Justice M.T. Joshi, Judicial Member

Per: Justice Tarun Agarwala, Presiding Officer

1. The Whole Time Member ('WTM' for short) passed an order dated 30th April, 2019 directing:

a. National Stock Exchange of India Ltd. (hereinafter referred to as 'NSE'), noticee no.1 to disgorge an amount of Rs.624.89 crores alongwith interest at the rate of 12% per annum with effect from 1st April, 2014 onwards to the Investor Protection and Education Fund ('IPEF' for short).
b. NSE is prohibited from accessing the securities market directly or indirectly for a period of 6 months from the date of the impugned order.
c. NSE to carry out System Audit at frequent intervals, after taking into consideration the changes in the technology.
d. NSE to reconstitute its Standing Committee on Technology at regular intervals.
e. NSE to frame a clear policy on administering whistle blower complaints.

f. Mr. Ravi Narain, noticee no.2 to disgorge 25% of the salary drawn for Financial Years 2010-11 to 2012-13 to the IPEF.

g. Mr. Ravi Narain shall not associate with any listed company or a Market Infrastructure Institution or any other market intermediary for a period of five years.

h. Ms. Chitra Ramkrishna, noticee no.3 to disgorge 25% of the salary for Financial Year 2013-14.

i. Ms. Chitra Ramkrishna shall not associate with any listed company or a Market Infrastructure Institution or any other market intermediary for a period of five years.

j. NSE shall initiate an enquiry under its Employees Regulations against Mr. Mahesh Soparkar (Noticee No. 10) and Mr. Deviprasad Singh (Noticee No. 11) with respect to the findings

contained in paragraph 8.4.7.6 of the impugned order and submit a report within 6 months.

k. Mr. Anand Subramanian (noticee no.4), Mr. Ravi Apte (noticee no.8), Mr. Umesh Jain (noticee no.9), Mr. R. Nandakumar (noticee no.5), Mr. Mayur Sindhwad (noticee no.6), Mr. Ravi Varanasi (noticee no.7), Mr. Sankarson Banerjee (noticee no.12), Mr. G. Shenoy (noticee no.13), Mr. Suprabhat Lala (noticee no.14), Mr. Nagendra Kumar SRVS (noticee no.15), Mr. N. Murlidaran (noticee no.16) and Mr. Jagdish Joshi (noticee no.17) are discharged.

2. Out of 17 noticees, 14 of them were discharged and three noticees, NSE, Mr. Ravi Narain and Ms. Chitra Ramkrishna have been indicted.

3. Against the aforesaid order of the WTM dated 30th April, 2019, four appeals have been filed, namely, Appeal nos.333 of 2019 NSE vs. SEBI, Appeal no.331 of 2019

Mr. Ravi Narain vs. SEBI, Appeal no.336 of 2019 Ms. Chitra Ramkrishna vs. SEBI and Appeal no.433 of 2019 Mr. A. Kumar vs. SEBI, has not only filed intervention application in the above appeals but has also filed a separate Appeal No.433 of 2019.

In addition to the above, the WTM has passed another order dated 30th April, 2019 prohibiting OPG Securities Pvt. Ltd. (hereinafter referred to as 'OPG') and other noticees from accessing the securities market for a period of five years and restraining OPG from taking any new clients for a period of one year. The WTM further directed OPG and its Directors to disgorge jointly and severally a sum of Rs.15.57 crores alongwith interest at the rate of 12% p.a. w.e.f. 7th April, 2014 onwards. Against the order of 30th April, 2019, OPG has filed Appeal no.184 of 2019.

4. Since the aforesaid two orders are based on the same show cause notice and the issues are common as well as

interlinked, as such all the appeals are being decided together.

5. We have heard Mr. Darius Khambata, Senior Advocate assisted by Mr. Somasekhar Sundaresan, Mr. Abishek Venkataraman, Ms. Sonali Mathur, Mr. Prabhav Shroff and Mr. Harshit Jaiswal, Advocates for the appellant in appeal no.333 of 2019, Mr. Gaurav Joshi, Senior Advocate assisted by Mr. Ravichandra Hegde and Ms. Mitravinda Chunduru, Advocates for the appellant in appeal no.184 of 2019, Mr. Pesi Modi, Senior Advocate assisted by Mr. Neville Lashkari, Mr. Rashid Boatwalla, Mr. Aditya Vyas and Mr. Dhruv Jadhav, Advocates for the appellant in appeal no.331 of 2019, Mr. Prashant S. Pratap, Senior Advocate assisted by Mr. Piyush Raheja and Ms. S. Priya, Advocates for the appellant in appeal no.336 of 2019 and Mr. Nithyaesh Natrajan, Advocate in appeal no.433 of 2019 and Mr. Rafique Dada, Senior Advocate assisted by Dr. Poornima Advani, Mr. Manish

Chhangani, Mr. Ravishekhar Pandey, Ms. Prerna Sharma and Ms. Samreen Fatima, Advocates the respondent and Mr. Nithyaesh Natrajan, Advocate for the Intervener in appeal nos.333 of 2019, 331 of 2019 and 336 of 2019.

6. Before we deal with the rival submissions of the parties, it is necessary to deal with the intervention application and the appeal filed by Mr. A. Kumar. Mr. A. Kumar is an advocate practicing in the Madras High Court and has filed an appeal praying that the order of the WTM dated 30th April, 2019 be set aside and that the respondents should be directed to undertake a comprehensive investigation into the NSE Colocation scam and initiate appropriate proceedings against the NSE management who intentionally did not cooperate and provided false and misleading information to the Technical Advisory Committee (hereinafter referred to as 'TAC') and Deloitte Touche Tohmatsu LLP (hereinafter referred to as 'Deloitte') and to take appropriate

proceedings against the directors, principal officers, key managerial persons of NSE and further pass appropriate orders for disgorgement under Section 11B. The appellant prayed for other directions which are spelt out in the memo of appeal. In addition to the aforesaid, the appellant has also filed an intervention application in the appeals filed by NSE, Mr. Ravi Narain and Ms. Chitra Ramkrishna praying that he may be allowed to intervene and be impleaded as a party in the appeals.

7. The contention of Mr. A. Kumar is, that being aggrieved by the impugned order he filed a complaint dated 6th July, 2019 before SEBI complaining about the NSE Colocation scandal. According to him, the scandal runs into Rs.50,000 crores which has tarnished the reputation of the major market infrastructure institution and severely dented the integrity of the securities market. As a result of the scam, millions of investors have incurred huge losses due to delayed dissemination of the

'Tick–By–Tick' (hereinafter referred to as TBT)' data. It was contended that in the Colocation scam the NSE had violated the fundamental objective of ensuring equal access to all market participants and that certain TMs with vested interests were given preferential access to the data. It was alleged that certain TMs with prior access to the data indulged in front running and abused the market and committed fraud not only to the detriment of the securities market but also to the whole nation. It was alleged that no action was taken by SEBI on the complaint letter filed by appellant and, therefore, he filed a writ petition before the Madras High Court in which he prayed for a direction to SEBI to decide his representation and reinvestigate the matter. This writ petition is still pending.

8. It was urged that during the time of Mr. Ravi Narain, NSE had launched its Colocation facility in January, 2010 which was unauthorized and did not have approval from

SEBI and, therefore, such unauthorized activity was wholly illegal which SEBI should investigate. It was alleged that selected brokers were allowed to misuse the Colocation facility by giving them advantage over other market participants. It was alleged that the role of Mr. Ravi Narain and Ms. Chitra Ramkrishna should be investigated. It was contended that Omnesys Technologies Pvt. Ltd. (hereinafter referred to as 'Omnesys') provided technology for trading on NSE. It was alleged that Ms. Chitra Ramkrishna was also a Director of Omnesys and was also the MD & CEO of NSE and, therefore, there was a clear conflict of interest and, therefore, investigation should also be made by SEBI with regard to the role of the IT Company which had a business relationship with NSE.

9. It was also alleged that Mr. Sanjay Gupta, owner and promoter of OPG abused the TBT architecture in connivance with the officials of NSE on the basis of

which it allowed OPG to be the first one to log in the exchange server of NSE and, which resulted in unlawful gain to OPG and loss to other brokers. It was also alleged that Mr. Ajay Shah alongwith his wife Ms. Susan Thomas had collected NSE trade data which was subsequently passed on to private unknown persons and was used to develop algo software called 'Chanakya'. It was alleged that this software was sold to brokers including OPG, who in turn benefitted it by exploiting the TBT architecture of NSE.

10. It was also urged that SEBI should also examine the relationship of Ms. Susan Thomas' sister with former Head of Surveillance, NSE and the role played by Ms. Susan Thomas and Mr. Ajay Shah. It was also alleged that OPG had various vested interest and had some connection with Mr. Ajay Shah and all these facts were available with SEBI which forms part of the appellant's representation as well as the writ petition. It was, thus,

urged that directions should be issued to SEBI to conduct a fresh comprehensive investigation into the Colo scam and the impugned order should be set aside. Similar relief was claimed in the intervention application.

11. In addition to the above, it was contended that when NSE was involved in the Colo scam it was inappropriate for SEBI to direct NSE to conduct an investigation. It was contended that SEBI should have conducted its own investigation instead of outsourcing the investigation to NSE. It was also urged that the TAC report as well as the Deloitte report gave a categorical finding regarding non-cooperation by NSE inspite of which no action was taken by SEBI under Section 11C of the SEBI Act and, therefore, suitable directions should be given by this Tribunal. It was also contended that the TAC report and Deloitte report made scathing observations against NSE regarding manipulation of the TBT architecture on account of which select brokers benefitted. Further,

preferential treatment was given to OPG in connivance with certain staff of NSE. It was also contended that the WTM committed an error in giving a finding that violation of PFUTP Regulations have not been proved. It was contended that PFUTP Regulations is applicable in the present case. The circumstantial evidence and inference can be drawn to invoke the PFUTP Regulations and if the said Regulations are applied it would clearly reveal that there was a devious ploy to hide and suppress material facts, which was a ground by itself to invoke the PFUTP Regulations against NSE. It was further urged that SEBI should be directed to exercise its powers under Section 24 of the SEBI Act and launch criminal prosecution against the erring officers.

12. It was also urged that misuse of secondary server by unscrupulous brokers manipulated the market as a result of which the purity and sanctity of the securities market was compromised. It was urged that the economic fraud

of this magnitude and nature deserves no leniency or sympathy and that the wrong doers must be punished by this Tribunal. It was also urged that the WTM has passed two contradictory orders, namely, the order passed in NSE matter and in OPG matter. On account of these contradictions and inconsistency in the two impugned orders, it was urged that the two impugned orders should be set aside and a fresh direction should be issued to SEBI to reinvestigate the matter and pass fresh orders thereafter. It was, thus, contended that the appellant should be permitted to interfere and should be impleaded as a party.

13. The appeal and the intervention application was vehemently opposed by the appellants contending that the interveners are not necessary parties nor are interested parties and are unnecessarily poking their nose in which they have no stake in the matter. The respondent urged that Mr. A. Kumar has no locus standi to file the

intervention application or to file an appeal as he is not a person aggrieved under Section 15T of the SEBI Act. The applicant Mr. A. Kumar is neither a proper or a necessary party for adjudication in the appeal and, consequently, has no locus standi to file the appeal.

14. Insofar as SEBI is concerned, it was urged that they would abide by the decision of this Tribunal and in the event the Tribunal directs reinvestigation in the matter they would comply with the said directions.

15. Considering the submissions made by the parties, we are of the opinion that Mr. A. Kumar is neither a necessary party nor is an interested party.

16. Section 15T of the SEBI Act provides as under:

"15T.Appeal to the Securities Appellate Tribunal.

(1) Save as provided in sub-section (2), any person aggrieved,-

(a) by an order of the Board made, on and after the commencement of the Securities Laws

(Second Amendment) Act, 1999, under this Act, or the rules or regulations made thereunder; or

(b) by an order made by an adjudicating officer under this Act: or

(c) by an order of the Insurance Regulatory and Development Authority or the Pension Fund Regulatory and Development Authority, may prefer an appeal to a Securities Appellate Tribunal having jurisdiction in the matter.

[***]

(3) Every appeal under sub-section (1) shall be filed within a period of forty-five days from the date on which a copy of the order made by the Board or the adjudicating officer or the Insurance Regulatory and Development Authority or the Pension Fund Regulatory and Development Authority, as the case may be, is received by him and it shall be in such form and be accompanied by such fee as may be prescribed:

Provided that the Securities Appellate Tribunal may entertain an appeal after the expiry of the said period of forty-five days if it is satisfied that there was sufficient cause for not filing it within that period.

(4) On receipt of an appeal under sub-section (1), the Securities Appellate Tribunal may, after giving the parties to the appeal, an opportunity of

being heard, pass such orders thereon as it thinks fit, confirming, modifying or setting aside the order appealed against.

(5) The Securities Appellate Tribunal shall send a copy of every order made by it to the Board of the Insurance Regulatory and Development Authority or the Pension Fund Regulatory and Development Authority, as the case may be, the parties to the appeal and to the concerned adjudicating officer.

(6) The appeal filed before the Securities Appellate Tribunal under sub-section (1) shall be dealt with by it as expeditiously as possible and endeavour shall be made by it to dispose of the appeal finally within six months from the date of receipt of the appeal."

17. A perusal of the aforesaid provisions indicates that any person aggrieved by an order of the Board may prefer an appeal to the Tribunal. Admittedly, the appellant is an advocate practicing in the Madras High Court. The impugned order does not affect him in any way nor is he concerned with the securities market. Nothing has been stated as to how the appellant is aggrieved by any finding of the WTM in the impugned order. Shri A. Kumar has

not produced any new material or evidence which would necessitate an intervention by the applicant in the present appeal. Mr. A. Kumar admittedly had not availed any Colocation service and, therefore, he is not an aggrieved person as an investor or user of NSE services. The applicant has no connection with NSE nor is otherwise interested in the functioning of NSE and, therefore, we are of the opinion that the applicant Mr. A. Kumar is not aggrieved by any action of NSE let alone Colocation facilities.

18. A perusal of the memo of appeal and the intervention application indicates that he is espousing a public cause, namely, to ensure that the market is transparent, fair and equal access is given to all participants. In this regard, the applicant has already made a complaint to SEBI which is pending consideration and has also filed a writ petition before the Madras High Court seeking a direction to SEBI to pass appropriate orders on his complaint. The

complaint and the writ petition filed before the Madras High Court by Mr. A. Kumar is in the nature of a public interest litigation. Since the ground raised in the memo of appeal and in the intervention application are pending consideration before the Madras High Court which directions has been sought to SEBI to decide its representation, it is not open to Mr. A. Kumar to make the same prayer before this Tribunal. Once the appellant has chosen a particular forum for redressal of his grievance it is no longer open to the applicant Mr. A. Kumar to choose another forum.

19. In any case, since the impugned order does not affect the interest of the appellant, we are of the opinion that the applicant is not a person aggrieved and is therefore neither a proper or a necessary party.

20. Further, the contention raised in the memo of appeal directing SEBI to conduct certain investigation cannot be taken into consideration for the purpose of deciding the

present appeal. We are of the opinion that the applicant Mr. A. Kumar has no locus standi to file an appeal or to intervene as he is not a necessary or an interested party and even though we had heard the applicant at length the intervention application cannot be entertained. We are of the opinion that the intervener has no locus to intervene as he is not a necessary or interested party. Accordingly, the appeal and the intervention applications filed by Mr. A. Kumar are rejected.

21. On April 3, 2008, Securities and Exchange Board of India (hereinafter referred to as 'SEBI') allowed Direct Market Access ('DMA' for short) facility which allowed clients to access the market directly i.e. without human intervention, using the software of a trading member and routing the orders through the trading member's infrastructure. This paved the way for algorithmic ('algo' for short) trading where the decisions on the trades are executed by computer software. The orders are executed

using automated preprogrammed trading instructions. The absence of human intervention steps up the frequency and the speed of the reactions to market movements, and is called “High Frequency Trading” (‘HFT’ for short), using algorithms in trading.

22. Co-location services i.e. (Colo) is a facility provided by Stock Exchanges across the globe for all trading members for a reasonable fee. Interested member-brokers who are engaged in HFT, can avail Colo facility. Access to Colo is fairly and equitably available to all member-brokers. In HFT, faster access to data and price feed helps in swifter execution of a trade (which results in a high daily turnover and high order-to-trade ratio). When a member-broker avails Colo, trading or data vending systems of the broker are allowed to be “co-located” i.e. physically located within the very premises of the stock exchange.

23. In 2009-10, in line with international best practices, NSE decided to provide its Colo facility. This service was available to any desirous member-broker, for a fee. The member-broker would rent a physical rack space within the Colo facility in the premises of NSE, and place their servers therein.

24. The technology for dissemination of data in the Colo facility is through the 'Tick–By–Tick (TBT)' mechanism. TBT comprises dissemination of 'ticks'. A 'tick' is a fundamental unit of data dissemination in the TBT architecture. In other words, ticks comprise order entries, order modifications, order cancellations, trades arising from the orders, and every other piece of data related to the market, on a real-time basis. The dissemination of such data builds for the trading members, their order book (the list of orders that indicates the interest of buyers and sellers in a particular security at any point of time).

25. The ticks have to be received by the computer system of the member-broker, for the order book to get compiled and is made available to the trading system of the member to enable him to trade.

26. TBT data feed result in members receiving every single tick, and thereby compiles the order book. If one tick is lost, the entire order book would be out of sync with that of the exchange, and members could suffer huge losses with the data integrity not being completely assured.

27. Transmission Control Protocol/Internet Protocol (‘TCP/IP’ for short) has an inbuilt flag system that acknowledges the receipt of each single TBT data packet at the receiving end, and even identifies lost ticks. If even one packet of data is lost, the network itself attempts to recoup the lost data packet, and transmit it again. It therefore ensures the integrity of market data and safe delivery of all ticks to the member.

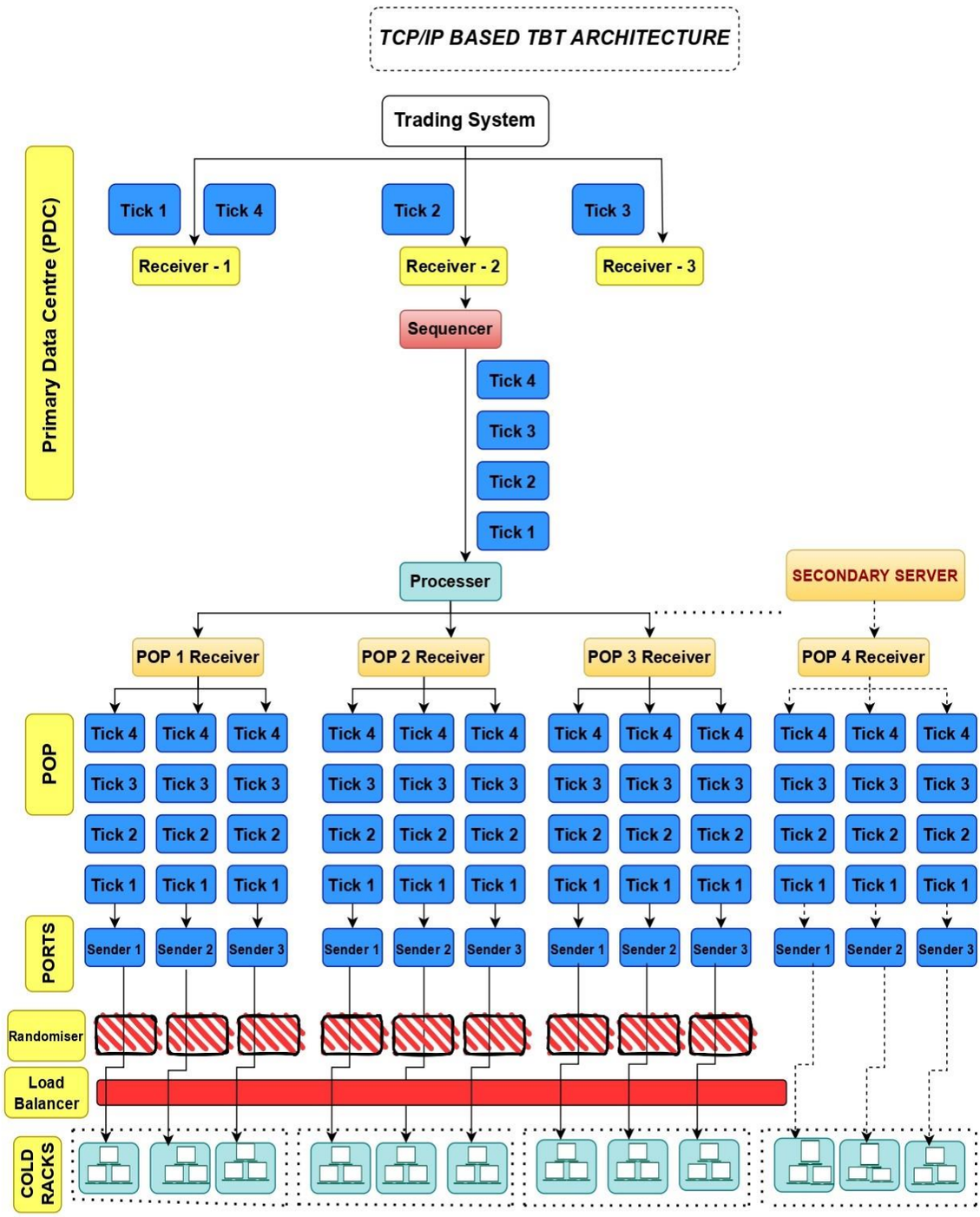
28. On account of the growth of the Colo facility and an increase in its demand, in 2013, NSE reviewed the TBT architecture and planned the introduction of Multi-cast Tick-By-Tick ('MTBT' for short) because MTBT could handle higher volumes and users, more efficiently.

29. Thus, in keeping with the development of technology and the advancement of the market, NSE began upgrading its system architecture to MTBT in April 2014. The architecture was migrated from the TCP/IP-based TBT system architecture to the MTBT system, in a phased transition, and with effect from December 3, 2016 it had completely migrated to the MTBT architecture. In the intervening period, NSE continued to provide TCP/IP TBT feed as well while the market adapted to MTBT. Thereafter, from December 2016, NSE discontinued the TCP/IP feed, which, since then, is been used as a back-up owing to the integrity of dissemination and receipt assured by MTBT.

Brief description of the TCP/IP TBT System Architecture

30. NSE operates independent trading systems which match, buy and sell orders to discover price. From the trading system of the exchange, data is communicated/ disseminated to the members availing the Colo facility using the TCP/IP TBT system architecture in the nature of ticks. As stated above, each tick denotes a change in the order book i.e. order entries, order modifications, order cancellations, trades, and other data related to the market that can change the order book as they happen. The member-brokers' trading systems which are co-located in the exchange premises connect to the Ports (as defined hereinafter) through IPs, for the receipt of disseminated data from NSE's trading systems.

31. A diagrammatic representation of the TCP/IP system architecture in the Cash Market segment, with the Secondary Server shown as 'POP 4 Receiver' in the diagram, is produced herein below for easy reference:



[Note: The above diagram is with reference to the Cash Market Segment. At the relevant time, the Futures and Options segment had two primary servers (POP1 and POP2), together with a Secondary Server at POP3]

The data comes from the trading system of NSE.

Primary Data Source ("PDC")

32. The first part or tier of the TCP/IP architecture is the Primary Data Source ('PDC') which is connected to the trading system and receives the TBT data from the trading system. The 'Epsilon script' (a type of software) automatically starts the TBT application in the PDC as the first step.

33. The three Receivers i.e. Receiver 1, Receiver 2 and Receiver 3 receives the information which comes from the trading system. The information which is received in these three Receivers is received randomly and not in a chronological order that is to say 'Tick 1' which is sent from trading system may be received by 'Receiver 1' whereas 'Tick 2' may be received by 'Receiver 2' and 'Tick 3' may be received by 'Receiver 3' and 'Tick 4' may be received by 'Receiver 4'. The aforesaid information from three Receivers percolates to the "Sequencer" which sequences this information in the

order of the "Ticks". Thereafter, the information goes to the "Processor". The "Receivers", the "Sequencer" and the "Processor" together makes the 'PDC'.

Pop Servers

34. From the Processor, the information goes to the "Point of Presence Servers" (POP Servers) which is the second layer of dissemination of the tick. A POP Server comprises of a POP Receiver and three POP Senders. The POP Receiver receives the data from the PDC and sends it to the POP Server. The order of dissemination from PDC to POP Servers during any given day was sequential in nature, and depended on the order in which the POP Servers got connected to the PDC in the morning for the first time. All the POP Servers starts automatically almost at the same time using the Epsilon script, after the PDC is started. However, the order in which the POP Servers actually connect to the PDC varies due to random variations in the TBT application

start up time within each POP Server. The information that goes to the POP servers from the Processor is in a sequence, namely, that the information is received in POP Receiver 1, then POP Receiver 2 and then POP Receiver 3 and then POP Receiver 4 which is the secondary server. According to SEBI, the sequence in which the POP Receivers receives the information is dependent on which POP Receiver is switched on first manually.

Ports

35. From the POP server, the information is transmitted to the three Ports. Every POP Server also has three POP Senders, also known as 'Ports'. Data which is received by the POP Receiver is in turn, disseminated onwards through the 'Ports' to the servers of member-brokers sitting on the Colo-rack.

36. Each trading member is connected to a particular Port and cannot shift without the express permission of NSE. Member-brokers were allotted specific ports & IP

addresses on the POP Servers, and could only access the POP server through their respectively assigned IP address and port. Member-brokers were also given access to the secondary server.

37. The information is transmitted out of the Port on the basis of 'first connection' and the order of dissemination remains the same throughout the day in the same chronology.

Secondary Server

38. The term "Secondary Server" is a nomenclature used for an additional/alternate/backup POP Server provided by NSE. The secondary server was meant to act as a back-up server in the event of a primary POP Server failure in which case the Secondary Server would allow continuous access without disruption to the TBT market feed. Each trading member was also given an IP address for connecting to the Secondary Server, and it was expected and indeed instructed that members must only

connect to the Secondary Server only when they were unable to connect to the primary POP Servers. The purpose was to ensure that trading members could easily connect to the Secondary Server in case of primary POP Server failure.

39. Much after the 'TBT architecture' was upgraded to MTBT in April, 2014 which system was adopted in a phased transition, and entirely with effect from December 3, 2016 that SEBI received certain complaints dated January 8, 2015, August 10, 2015 and October 3, 2015 from Mr. Ken Fong against NSE with regard to its Co-location facilities alleging:

a. TBT data feed, which provides information regarding every change in the order book, was disseminated over TCP/IP. Under this protocol, the information is delivered one-by-one unlike broadcast, where everyone gets the price information at the same time. TBT data feed was

disseminated sequentially in the sequence trading members ('TM') connected/logged-in to the server.

b. The first one to connect to the lowest load server would get advantage in terms of receiving the data faster than others.

c. Some people had figured out that the way to game the system by being the first one to connect to the server and preferably a server which was the fastest. A server could be the fastest due to lesser load or it could be hardware of the server which was slightly powerful.

d. NSE was the second largest shareholder of Omnesys and Omnesys had the knowledge that connecting faster would put the server ahead in the queue.

e. One TM namely, OPG used the NSE system to its advantage by (a) hiring Mr. Nagbhusan Bhat, who was working with Omnesys to figure out which

server was working better; (b) having certain arrangements with NSE's datacenter staff named Mr. Jagdish Joshi who would inform the TM(s) the time when the servers would start, and therefore could be the first to connect; (c) switching on to the fastest servers or accessing least crowded servers with the help of NSE staff members. It was alleged that OPG indulged in front-running in collusion with NSE employees.

f. In addition to the above, the back-up servers that were installed for the purpose of business continuity, whose access should ideally be permitted in case the primary servers went down, were allowed to be accessed by OPG as load on such server was low.

g. Once NSE started MTBT at its co-location facility, the market share of OPG fell off the chart.

40. Upon receipt of the complaint, SEBI constituted a Cross Functional Team ('CFT' for short) to conduct a preliminary fact finding on the veracity of the complaints. A report dated 30th November, 2015 was submitted by CFT to the Technical Advisory Committee ('TAC' for short). On examination of the preliminary report of the CFT, TAC recommended that a detailed analysis be carried out by an Expert Committee. The recommendation of the TAC was accepted by SEBI and an Expert Committee was constituted which submitted its report on 2nd March, 2016 contending that:

a. NSE TBT architecture was prone to market abuse thereby compromising market fairness and integrity; in that it provided quicker order dissemination to those who managed to login early, i.e, if one entity is ahead of the other while logging in the morning, it gets information ahead of the other throughout the day. Further, it is not important to be absolutely the

first one to login. It simply gives you probabilistic advantage to log-in as early as possible.

b. OPG tried to exploit this architecture by not only logging in first on select servers but it even tried to crowd out others by occupying 2nd, and 3rd positions on those servers.

c. OPG was always consistently logging in first on servers with better hardware in terms of Memory/ Front Side Bus (FSB) speeds.

d. It also appears plausible that OPG and some other brokers were given preferential access to backup servers of NSE TBT system.

e. OPG gained materially from the exploitation of TBT architecture, in that, once MTBT was introduced, OPG's success in getting Unique Multi-Leg Option ('UMLO') trades executed reduced dramatically, while it did not fundamentally change for other brokers. Thus, OPG's earlier success in UMLO

trades can be causally attributed to its exploitation of the weaknesses in the TBT architecture.

41. The findings of the Expert Committee alongwith TAC report was forwarded to NSE who in response refuted the findings of the Expert Committee. The TAC considered the response of NSE and issued directions dated September 9, 2016 directing NSE to initiate an independent enquiry including forensic investigation by an external agency as highlighted in the Expert Committee's report including lack of processes and collusion, if any, and fix accountability for the aforesaid breaches covering NSE and stock brokers, vendors and outsourced entities who were involved allegedly in the issue. Directions were also issued to complete the investigation within three months.

42. Based on the aforesaid, NSE appointed Deloitte Touche Tohmatsu India LLP ('Deloitte') to conduct the

forensic investigation. Deloitte submitted its report on December 23, 2016 making the following observations:

a. *"Review of TBT system architecture indicated data was disseminated to members in a sequential manner whereby the member who connected first to the POP server received the ticks (market feed) before the members who connected later. Hence, the system architecture of the TCP based TBT system was prone to manipulation;*

b. *Due to the sequential dissemination of information, ticks were disseminated faster to members connected on less crowded servers, thereby giving an advantage to such members.*

c. *In order to ensure that the norms of 'fair access' were not breached, it was possible for NSE to negate the advantage of connecting first by implementing a 'randomizer' which would randomly pick a connection to begin dissemination of data, rather than starting with the first connection each time. However, though NSE developed a randomizer in 2011 that was implemented only for Bucket POP servers. This was not replicated on the broader TBT systems."*

43. Subsequently, vide letter dated 28th February, 2017, SEBI advised NSE to undertake a forensic audit in the Cash Market ('CM') segment, Currency Derivatives

('CD') segment and Interest Rate Futures ('IRF') segment for the period 2010-15 and to examine the benefits/profits made by the TMs through the TBT mechanism. Based on the directions, NSE appointed M/s. Ernst & Young LLP (hereinafter referred to as 'EY') to carry out forensic audit of CM, CD and IRF segments. NSE also appointed Indian School of Business ('ISB') to undertake examination to estimate the benefits/ profits to the TMs who logged in first. EY submitted its report on May 18, 2018 and ISB submitted its report on November 14, 2017. TAC after considering the EY report recommended:

a. *"The architecture of NSE with respect to dissemination of TBT through TCP/IP was prone to manipulation/market abuse*.

b. Some trading members were given preferential access to backup servers at NSE.

c. Brokers having an access to backup servers were having a potential access advantage over other trading members.

d. *Trading members having multiple IPs have a potential access advantage over other trading members.*

e. *As the IPs were manually allocated and given the fact that the servers were not equally loaded and configured, selective manual distribution/allocation of IPs could present potential access advantage over other trading members.*

f. *TAC agreed with the conclusion of EY that randomization was not implemented in TCP/IP TBT architecture and in absence of a randomizer, dissemination on each Port of a TBT server was sequential based on login time of a member. Therefore, such sequential dissemination could result in a potential advantage to preferred trading members.*

g. *TAC mentioned that from the email evidences and observations in EY report regarding reprimanding selected members for making connections to Secondary Server and not all, it can be concluded that preferential treatment was given to few brokers in terms of selective information*."

44. In this manner, seven reports were furnished by various agencies over a period of time, namely, the CFT report in November 30, 2015, the TAC Expert Committee report in March 2, 2016, Deloitte report dated December,

2016, ISB report in November, 2017, EY report dated May 18, 2018 in CM segment, EY report dated June, 2018 in CD segment and IRF and Deloitte report dated July, 2018 with regard to first/early connect and connection to secondary server.

45. Based on the findings of the TAC report and Deloitte report, a show cause notice dated May 22, 2017 was issued to 15 noticees. The show cause notice mainly contained allegations regarding:

i. the issue of preferential access given to certain TMs while disseminating the TBT data feed.

ii. the issue of access to Non-ISPs for laying of Dark fiber within the exchange premises.

iii. non-cooperation by NSE and its Officers

iv. not acting on complaints forwarded to the exchange.

v. NSE failed to ensure trading in a transparent, fair and open manner and, consequently, failed to fulfil

the objects envisaged in its MoA and the conditions of recognition.

46. Subsequently, issue relating to access to Non-ISPs for laying of Dark fiber within the exchange premises was split into different show cause notices in 2018. One set of show cause notice was issued on July 3, 2018. Supplementary show cause notice was issued on July 31, 2018 and, in this way, notices initially issued to 15 noticees increased to 17 noticees.

47. Summary of allegations contained in 2017 show cause notice, 2018 show cause notice and supplementary show cause notice are as under:

a. TCP/IP based TBT architecture was allegedly prone to manipulation which compromised market fairness and integrity. NSE did not consider the principles of fair and equitable access while taking a decision regarding the system architecture;

b. NSE allegedly failed to implement a 'randomizer' in its TBT architecture. Although, NSE had developed a randomizer in 2011 and implemented it for the Bucket POP servers, this was not implemented on TBT servers;

c. NSE allegedly failed to implement a load balancer and did not adhere to its policy for allocation of IPs, and more than 30 IPs were allocated on some ports in breach of the NSE's policies. This put members who were on more crowded ports at a disadvantage and provided an unfair advantage to members on less crowded ports;

d. NSE allegedly did not have defined policies and procedures with regard to Secondary Server access, and the guidelines were not issued as a circular. By selectively reprimanding some brokers connecting to the Secondary Servers (and not others), and allowing some brokers to continue connecting

regularly to the Secondary Servers, NSE allegedly showed differential treatment to brokers;

e. NSE allegedly failed to maintain backups or records for:

(i) The configuration file (which captured parameters like IP address, Port number and vendor file, and sequence in which ports would receive TBT data); or

(ii) Requests for change of the configuration file by members.

f. There were allegedly no policies and procedures for allocation/mapping of the IPs of members to the dissemination servers, nor was there a Standard Operating Procedure (‘SOP’) to deal with requests for change in IP mapping to a particular server. Such requests were left to the discretion of the NSE's Project Support and Management (“PSM”) Team,

which has shown differential treatment / responses to members for such requests;

g. The Noticee has allegedly violated the provisions of Section 4 of the Securities Contracts (Regulation), Act 1956 (“SCRA”), by failing to fulfil its main object of ensuring fair dealing;

h. The Noticee has allegedly failed to comply with Regulation 48 of the Securities Contracts (Regulation) (Stock Exchanges and Clearing Corporations) Regulations, 2012 (“SECC Regulations”) in view of its alleged failure to cooperate with SEBI, the SEBI External Committee appointed by SEBI, and the forensic auditor appointed by the Noticee on SEBI's direction, and to provide requisite information as sought by SEBI; and

i. The Noticee has allegedly failed to comply with Regulation 41(2) of the SECC Regulations by

giving preferential access to certain trading members.

48. In addition to the above, 2018 show cause notice alleged

a. NSE failed to comply with Regulation 42(2) of the SECC Regulations and Clause 3 of SEBI circular CIR/MRD/DP/07/2015 dated May 13, 2015 by failing to ensure fair, transparent and equitable access to all trading members in respect of the co-location facility;

b. NSE failed to comply with clause 4(i) of SEBI circular CIR/MRD/DP/09/2012 dated March 30, 2012 by failing to have adequate controls and policies in respect of the Co-location facility, thereby making the system prone to manipulation; and

c. NSE and its employees allegedly violated Section 12A(a), (b) and (c) of the Securities and Exchange

Board of India Act, 1992 (hereinafter referred to as 'SEBI Act'), Regulations 3(a), 3(b), 3(c), 3(d) and 4(1) of the Securities and Exchange Board of India (Prohibition of Fraudulent and Unfair Trade Practices relating to Securities Market) Regulations, 2003 (hereinafter referred to as 'PFUTP Regulations') by colluding with OPG to provide preferential access to OPG, and thereby indulged in fraudulent and unfair trade practices.

d. It was alleged that OPG was constantly logging in across servers and OPG was aware of the weakness of the system architecture and the advantage of having first access in terms of trade. Further, OPG had designed the software in such a way that OPF could connect first and gain advantage.

e. It was also alleged that by assigning multiple IPs to OPG to a single Port by NSE allowed crowding by OPG enabling OPG to establish first, second, third

and even fourth connection to the server and thereby in this regard OPG gained advantage over other stock brokers and, therefore, alleged NSE has acted in a fraudulent manner and had indulged in fraud and unfair trade practices in the securities market.

f. It was further alleged that the manner in which OPG gained preferential access day after day on select servers indicate complete laxity and dereliction of duty on the part of NSE officials and employees and failed to prevent manipulation of the system and failed to ensure equal, fair and transparent access. It was alleged that by not taking preventive as well as curative measures proactively Mr. Ravi Narain and Ms. Chitra Ramkrishna facilitated fraud and manipulation by OPG.

49. The supplementary show cause notice further alleged

a. that NSE gave inconsistent replies to Deloitte with respect to the identification of Primary and

Secondary Servers and the data relating to the same; and

b. that in view of absence of proper documentation and recording, NSE and its officials had given varied response.

50. Based on the above, the WTM framed the following issues:

> **"*Issues on Merit*:**
>
> ***Issue I****: Whether the TCP-IP architecture for TBT data feed provided fair and equitable access to all the TMs;*
>
> ***Issue II****: Whether access to Secondary Server had advantage of receiving information early and what was the mechanism in NSE to monitor the Secondary Server misuse?*
>
> ***Issue III****: Whether NSE can be held liable for PFUTP violation under PFUTP Regulations, in the given circumstances?*
>
> ***Issue IV****: If yes, (i) whether there was any role of employees of NSE in the violation and (ii) whether there was any non-cooperation on the part of NSE and its employees?"*

51. Before we proceed to consider the issues on merit as framed by the WTM, we feel it necessary to look into the choice of the architecture selected by NSE.

52. From the documents/evidence that has come on record, we cull out the following, namely,

53. At the time of launching of the Colo facility there were two kinds of technology available for implementing the TBT system, namely, (i) Transmission Control Protocol/Internet Protocol ('TCP/IP') and (ii) Multi-cast TBT ('MTBT'). NSE made a bona fide choice of using the TCP/IP protocol for its TBT architecture, for sound and valid reasons, as explained in detail below.

54. The Colo facility was being introduced for the first time. It was critical to lay a sound foundation. Choices of technology were primarily driven by the need to have complete and fully assured high integrity of dissemination and receipt of the ticks. TCP/IP was seen as an appropriate choice of technology for a nascent

market. At the relevant time, the F&O segment volume was only 3,000 to 5,000 messages/ second, which TCP/IP could effectively handle, while even guaranteeing absolute market safety and integrity.

55. On the other hand, MTBT is akin to a broadcast, and can simultaneously transmit large volumes of data to a large number of persons, with the potential downside of loss of some data packets. In MTBT, delivery of data is on a 'best effort' basis, i.e., the network does not guarantee or confirm data delivery, and this can result in loss of packets or the sequence in which packets are delivered. In MTBT, the onus of ensuring the receipt of data packets is on the members (and not the system), wherein members' infrastructure would have to be more sophisticated as opposed to in the TCP/IP system.

56. At the relevant time, TCP/IP technology was the standard protocol that the market was familiar with. On

the other hand, MTBT was a more complex technology, and its implementation needed extensive programming.

57. At the relevant time, TCP/IP was used by exchanges across the world (such as Chi-XJapan, BATS, NYSE LIFFE and NSE).

58. Therefore, the MTBT architecture was not chosen simply because it would not provide assurance of every single tick disseminated actually being received. It is pertinent to note that a key element of the MTBT system was that it could handle large volumes of data (several tens of thousands of ticks per second), which at a fledgling/nascent stage was considered less important than assuring integrity of data receipt.

59. Additionally, there was no regulatory guidance issued by SEBI as to what technology should be adopted. We find that SEBI has not raised any issue with regard to the choice of the TBT architecture over MTBT architecture. No fault has been found either by SEBI or in any of the

forensic report with regard to the choice of the architecture.

Issue No.1

60. Whether TCP-IP architecture for TBT data feed provided a fair and equitable access to all TM. This issue has been further sub-divided into:

a. First connect/Early login

b. Absence of randomiser

c. IP allocation and load balancer

a) First connect/Early login

61. The show cause notice is based on the TAC report, Deloitte report and EY report, alleging that the dissemination of the data form a Port to its members is sequential based on their login ranks on a Port. Therefore, it is alleged that a member who connects first to a particular Port will receive TBT data first before all other members connecting to that Port on that server. The expression “first connect/early login” has been

analysed from two levels, i.e., number of first connects across POP server and number of first connects on the POP server which was connected first to the PDC.

62. It was further alleged that data was disseminated to the members in a sequential manner whereby the member who connected first to the POP server received the ticks before the members who connected later. It was, thus, alleged that a member who received the first tick would have an advantage by early login into the system.

63. It was, thus, alleged that the TBT architecture was prone to manipulation in the absence of automation, random function at POP servers and load balancers, as well as allocation to servers with fewer occupants giving them an added advantage.

64. The above charge was denied vehemently. It was contended that the TCP/IP architecture was not prone to manipulation. The sequential dissemination of TBT data did not offer any advantage to the members who logged

in first nor there is anything on record to support as to what advantage was conferred to the members logging in first nor any analysis has been done on this aspect. It was also urged that the architecture had an inbuilt randomizer in the dissemination of the data and that no member could be sure of receiving TBT data earlier than others even if they connect first to the POP server since it could not be ascertained whether their particular POP server was connected first. Further, each POP server had three Ports and, therefore, members could not be sure which data disseminated first on a particular Port.

65. The WTM after weighing the evidence:

a. Accepted the process of dissemination of data with respect to data flow from PDC to POP server level as explained by NSE and forensic auditors.

b. Accepted that there was some randomness in the sequence of the POP servers connecting to the PDC, namely, that the sequence of dissemination of data

from PDC to the POP servers was not predetermined. The flow of data from PDC to the POP server is in a random sequence.

c. However, dissemination of information at the sender Port level of a particular POP server was in a defined sequence, i.e. Port 1, then Port 2, then Port 3. Thus, a trading member who logs in first to Port 1 would be the first to get the disseminated data at the start of the day. The dissemination order would remain static throughout the day and a TM who received the data first would continue to receive the data packet first from the rest of the day.

d. There was no mechanism to shuffle the order of ranking of a TM in front of a Port in which he has logged in first and, thus, that TM gained an advantage as the first connect against other TMs who logged in late.

e. A software script known as Epsilon was used to start the TBT application every morning. The POP servers connect randomly depending upon the time sequence in which the TBT application processes get started in each server. Therefore, POP servers get connected to the PDC in a random manner. There is some randomness in the sequence of the POP servers connecting to the PDC.

f. On IP allocation, the WTM found that there was no laid down policies and procedure for allocation/ mapping of the IPs to the dissemination servers. Further, there was no Standard Operating Procedure (SOPs) to deal with the request for change in IP mapped to a particular server. That the shifting of IP from one server to another was left at the discretion of the PSM team and that different/ preferential treatment was given to different TMs, especially OPG. Since there was no defined policy

there was a significant variation in terms of total number of IPs allotted to each POP server. The limit of 30 connections for each Port of POP server exceeded 30 and, therefore, IPs were not allotted equally on each Port of POP server.

g. Since there was inequitable distribution of IPs on a POP server, the load on the Ports on a particular server and the load across servers varied significantly.

h. NSE should have installed a load balancer which would have taken care of overcrowding on a particular Port.

i. The WTM found that absence of load balancer had created an advantage to certain TMs in receiving ticks first who logged in first before those IPs that are connected later in time.

j. Had there been a load balancer, each Port across each server would get the same/similar number of connections without crowding any out.

k. Had there been a randomiser, the order of TMs connectivity to each Port would be randomized thereby negating the effect of first connect/early login.

l. NSE had implemented a randomiser in Bucker POP but no clear reason was given for not implementing a randomiser in the TBT architecture.

m. Absence of randomiser on the TBT dissemination servers created an inherent advantage in receiving TBT data by members connecting first.

66. Contention of NSE is, that the sequential data dissemination or early login did not confer any benefit or advantage for a variety of reasons. It was urged that:

i. There was variation in the sequence in which POP servers connected to PDC. The EY Reports have

found that every individual POP server (including the secondary server) logged on first at least 25% of the time. Further, the investigation report itself notes similar variations in the F&O segment.

ii. NSE had also tendered sample data for the months of August 2012, October 2013, November 2014, and October 2015 to show that the time gap between the various POP servers connecting to the PDC was in fact minimal, and often far less than 60 seconds. This is relevant because it demonstrates that there is no manual intervention or interference in this process, and that the server process did not afford individuals any opportunity to give preference to particular members or pass on information regarding the order of servers start up to allow particular members to connect ahead of others.

iii. In any event, the sequence of connect of various POP servers to the PDC did not affect the time for

dissemination of ticks to any member. The absolute time for dissemination of ticks (absolute latency) would always be in terms of microseconds to all members. The sequence or order in which the POP servers connect to the PDC would impact the sequence or order of dissemination of ticks. No other dissemination or receipt of ticks is impacted by the sequence or connect of the various POP servers to the PDC.

iv. Moreover, even the order of dissemination of ticks did not determine the sequence/order in which ticks were received by the POP/Port/member from PDC.

v. There was variability in order of receipt of data at the POP level from the PDC – the POP that was disseminated data first did not necessarily receive all the data first.

vi. There was variability in order of receipt of data at the Port level from the POP server/receiver. Even

the Port that disseminated data first did not necessarily receive all the data first.

vii. There was also variability in order of receipt of data at the member level from the port, depending on the order of login. Even if a TM logged in first to all ports, he may still not necessarily receive the ticks first. This variability was due to inter alia network factors and number of network devices

viii. The EY Reports clearly demonstrated that the order of receipt was not the same as the order of dissemination, and confirmed that "a member logging in first on a Port may not receive all batches first on that Port."

ix. Deloitte, on whose reports SEBI places heavy reliance, has confirmed that they did not examine the receipt of ticks.

x. There were multiple queues for dissemination of data (9 in F&O and CM, 6 in CD/IRF). A member

would need to log in first on all queues/Ports (across all 3 POP servers) to be sure of first dissemination of ticks. A TM would have no knowledge of his connection on all queues (including the order of connections of the POP servers to the PDC). No instances of a member logging in first on all queues occurred.

xi. TMs were not aware either of the order in which POP serves would connect to the PDC or whether they were on the first Port of a particular server, or were first on a particular Port. TMs also did not know the order of connection of each Member to a Port.

xii. Therefore no one could gain from first connect. Even NSE did not know the order of connections and could only check this post facto by review of connection logs.

xiii. Findings in EY Reports and ISB Report also demonstrate that no advantage was conferred by first/early login (technologically or financially).

xiv. The Impugned Order has not been able to identify any specific advantage (technologically or financially) that was allegedly conferred by first/early login.

xv. The Impugned Order, has failed to consider the cross examination of the experts in this regard.

xvi. All brokers had fair and equitable chance of connecting first. In any event, first/early connect required overt action by the broker and could not be manipulated by NSE.

xvii. Annexure 20 of the 2018 SCN (at page 708, Volume IV of the Appeal), showed that the top 5 brokers for first/early connect in each segment varied only 1 overlap among 15 names. The EY Reports shows

that a very high proportion of members logged in first on at least 1 day.

xviii. This shows that everyone had a fair and equitable opportunity to connect first/early.

xix. NSE equitably allowed all members to take multiple IPs and there was no prohibition even by SEBI in this regard. Members took multiple IPs for their own business/strategic reasons, and were often distributed across servers.

xx. EY found that more than 50% of members had accessed multiple servers/Ports, indicating that NSE treated all brokers fairly and equitably.

67. The undisputed facts, as held in the impugned order itself, are as follows:

i. The flow of data from the PDC to the POP servers follows a random sequence. The Impugned Order has noted that there is no

dispute on this fact of random login sequence of POP servers to the PDC in any of the expert reports of the SEBI Investigation Report.

ii. Data dissemination from POP Receiver/ Server to Ports did not wait for completion of circulation of data to all the IPs arrayed on one Port but goes from one Port to the other and the third immediately; the time difference between the first Port to the second and then the third Port was very little.

iii. The order of sequence of connection of the Ports to the POP Receiver/Server was sequential as per the order specified in the 'config file' of the system application.

iv. There was variability in the order of receipt of data at the Port level and even the Port

that was disseminated data first did not necessarily receive all the data first.

v. At each Port level, there is an array of members' IPs formed in the sequence of login time.

68. The contention of the respondent SEBI is, that the sequence of the dissemination at the PDC and the POP Server level is not disputed. The charge in the show cause notice is not in respect to the order of dissemination at these levels, i.e. PDC level or the POP Server level. The charge is confined to the dissemination of the tick at the Port level. It was urged that the TBT architecture was prone to market abuse thereby compromising market fairness and integrity. The order of dissemination connected to the same Port in a server, is on a first come first serve basis, meaning thereby a member connecting first to a specific Port in a dissemination server will

receive the tick before all other members connected to that Port on that server. It was urged that the data was disseminated in a sequential manner meaning thereby that a member who connected first to the POP Server received the ticks before the member who connected later. It was urged that a member who was aware of the sequential nature of dissemination of TBT data would derive an advantage by early login into the system. Hence, the TBT architecture was prone to manipulation.

69. On the issue of first connect/early login, what we find is, that the respondent SEBI has no quarrel with the dissemination of tick/data from the trading system to the Receiver to the Sequencer to the Processor to the POP Receiver and to the Port Servers. The contention of SEBI is, that a member who logs in first from his Colo rack to the Port gets the first tick before other members who logs in after the first member. Further, the sequence of receiving the data remains the same throughout the day,

meaning thereby, the member who logs in first receives the data first and continues to receive subsequent ticks/data/feed before other TMs during the course of the day. This is on account of sequential dissemination of data.

70. Before we look into the dissemination of data from the Port Server to the Colo rack server of a TM, it would be necessary and essential to trace the path of the ticks/data that is disseminated from the trading system.

71. On the basis of the statement made by NSE and the analysis made by Deloitte and EY in their reports, it is clear that the data comes from the trading system of NSE and is received by the PDC. The Epsilon script starts the three receivers in the PDC. As per Deloitte report, the TBT application is started manually by a member of the Production Support and Management Team (PSM) at around 7.30 a.m. on trading days followed by the application at POP Servers. There are no logs or records

to show the process or sequence in which the three receivers and the POP Servers were started, namely, whether it started simultaneously or sequentially one after another. EY in its report stated that on 96% of the trading days the three POP Servers started within 60 seconds of each other.

72. It is also not clear whether the Epsilon Script was activated manually or whether it was automated. According to NSE it was automated. Deloitte says manually and EY report states automation. However, one thing is clear, namely, that the Epsilon script when activated starts the three receivers and the three POP Servers within 60 seconds.

73. We also find that the information which is received in the three receivers at the PDC level is received randomly and not in a chronological manner, namely, Tick 1 sent from the trading system may be received by Receiver 1, whereas Tick 2 may be received by Receiver 2 and Tick 3

may be received by Receiver 3. The receiving of the Tick 1, 2 and 3 is also dependent as to which receiver was activated first through the Epsilon script. The Ticks received by the Receivers percolates to the Sequencer which sequences this information in the order of the Ticks. Thereafter, this information goes to the Processor.

74. From the Processor, the information goes to the POP Server. The order in which the POP Server gets connected to the PDC through Epsilon script is random due to the variation in the TBT application start up time within each POP Server. According to EY, the dissemination sequence from PDC Processor to POP Server could be different on each trading day. According to SEBI, the sequence in which the POP Receiver receives the information is dependent on which POP Receiver starts or gets connected first to PDC.

75. We also find that the information sent from the Processor to the POP Server is in a sequence, namely,

that information is received in POP 1 Receiver, then POP 2 Receiver and POP 3 Receiver and then POP 4 Receiver (Secondary Server). On another trading day, the information transmitted by the Processor could be received first by POP 2 Server, and, thereafter POP 3 Server, POP 4 Server and POP 1 Server. This order of receiving information would change on every trading day as per EY's report.

76. Thereafter, POP Server transmits the information to the three Ports. Every POP Server has three POP Sender known as Ports. Information sent by the POP Receiver could reach first on any of the three Ports and it is not necessary that information disseminated from POP 1 Receiver would always reach Port 1. It would be received by Port 2 or Port 3 which are all connected to POP 1 Receiver.

77. From the above, it is clear that the sequence of dissemination of data from PDC to the POP Server is not

predetermined. The flow of data from PDC to the layer of POP Server is in a random sequence. The finding of the WTM that such randomness was not on the basis of a system characteristic or a built in design but was a matter of chance based on unpredictable circumstances is based on surmises and conjectures. In fact, the process of dissemination indicated by NSE and anlaysed by EY in its report clearly indicates that the TBT architecture had an inbuilt randomiser in the dissemination of the Ticks/Data/feed starting from the Trading system and disseminating upto the POP Server. There was no predetermined sequence as to which tick would be received first by Receiver 1, Receiver 2 or Receiver 3 at the PDC level. Further, the information disseminated from the Processor to the POP Receiver was also random. The information packet disseminated from the Processor could be received first by POP 1 Receiver, then POP 2 Receiver, POP 3 Receiver and then POP 4 Receiver on a

particular trading day and this sequence could change on the next trading day. This randomiser was dependent on the starting of the TBT application by the Epsilon script. Any Receiver at the PDC level and any POP Receiver at the POP level could get activated first before the other. The architecture was such that it had an inbuilt randomiser in the dissemination of data at the PDC level as well as at the POP Server level. This random login sequence was also observed in the Experts report and SEBI Investigation Report.

78. The WTM accepted this randomness in the impugned order holding:

> *"In light of the aforesaid and having regard to the Technical Document made available by NSE, I am inclined to accept the process of dissemination of data as explained by the Forensic Auditors and NSE, with respect to data flow from PDC to POP server level. I am also inclined to accept that there was some randomness in the sequence of the POP servers connecting to the PDC as brought out in para 8.1.1.9 (b) earlier."*

79. The WTM has held that the dissemination of information at the Port level was in a predefined sequence, i.e., first to Port 1, then to Port 2 and then to Port 3. The WTM held that since the dissemination of information at the Port level was in a defined sequence, the TM who logs in first to Port 1 of the POP Server would get the data first at the start of the trading day and thereafter the sequence of the IPs in a Port would continue to remain the same throughout the day. The information dissemination order from a Port would remain static throughout the day depending upon the ranks established on the strength of log in timings. It was thus held that equal access of information was not possible to all the TMs logged into the TB data feed system at a given point of time and, therefore, the system conferred an advantage on early loggers in a Port compared to others.

80. The aforesaid conclusion drawn by the WTM was primarily based on the fact that the dissemination of information at the Sender Port level of a particular server was in a predefined sequence, i.e. first to Port A, then Port 2 and then to Port 3. In our opinion, this finding is not based on any evidence for the reasons stated hereunder:

a. EY (CM) Report analysed the dissemination of information from POP Server to Members' IP and analysed as under:

i. "Each POP had three Ports (Port numbers were 10980, 10981 and 10982) since December, 2011. Prior to this, there was one POP with one Port (for most of the period). As per source code, dissemination after a batch was received from PDC to each Port was sequential (i.e. dissemination first to Port 10980, followed by Port 10981

and Port 10982). The source code defined the order of dissemination of batches but not that of their receipt at each Port within the same POP. For example, batch 1 may be received first by Port 10980 while batch 2 may be received first by Port 10981.

ii. There are nine independent dissemination queues and dissemination on each Port is sequential based on login time of a member.

iii. NSE provided members access credentials to a Port of a POP which could then be used to access TBT market data feed. Based on our review of source code of POP, each Port was an independent dissemination queue and dissemination from a Port to members was sequential based on their login ranks on a port (login

rank was determined based on the login time of members on that Port). Such sequential dissemination on the Port was on account of an array that was designed based on login time of member's IP. The reason for designing the array based on a login time of a member's IP could not be ascertained.

iv. Also, a member may not have knowledge of his rank in an array as the login acknowledgment message sent by the exchange did not have this information.

v. The login rank on the different ports and not the absolute time of login defined the order of dissemination. For e.g. if member A and B log in at 8:45 a.m. and 8:50 a.m. respectively on Port 10980 and member C and D at 7:30 a.m. and 7:40 a.m. on Port

10981, each of them will be ranked 1 and 2 on their respective Ports. However, if Port 10980 is disseminated the tick first, then member A and B who have logged in later than member C and D may still be disseminated the batch earlier.

vi. A member ranked first in the array on a particular Port would always be disseminated a batch before others on that Port for that trading day. Similarly a member ranked last on the array on a Port would always be disseminated a batch last on that Port for that trading day.

vii. Further, there were three POP servers (including secondary) with three Ports each and consequently nine independent dissemination queues. A member would need to be first on all the nine Ports (across

three POPs) to be disseminated all the batches first on that trading day.

viii. Each POP had a receiver and three senders (also termed as Ports) since December 2011. The Port numbers assigned in CM were 10980, 10981 and 10982.

ix. The Ports would start in the sequence of Port 10980, 10981 and 10982.

x. POP receiver receives a batch from PDC and disseminates it to the respective queue of each Port sequentially.

xi. Each Port will read the batch from its respective queue. Source code did not define the order of the receipt of batch at each Port.

xii. An array (dissemination sequence) is maintained by each Port which is created based on the time of login by a member on

that Port, i.e. earliest login is ranked first. Dissemination from a Port to members is sequential based on their login ranks on a Port.

xiii. When a member's connects to a TBT server (on a Port), the member application sends a login request and transmits the login credentials. The TBT application processes the login request and sends a login response message to the member application.

xiv. Based on the information in the above login message details, it appears that a member may not have knowledge about their rank in the array."

b. Deloitte in its report has confirmed that they did not examine the receipt of ticks.

c. The analysis of the EY Report clearly indicates that there was variability in order of receipt of data at the Port level from the POP Receiver. Thus the Port that disseminated the data first did not receive all the data first. EY report indicates that dissemination of a batch of information was received from PDC to each Port sequentially, i.e. dissemination first to Port 10980, followed by Port 10981 and Port 10982. The source code defined the order of dissemination of batches but not that of their receipt at each Port within the same POP. For example batch 1 may be received first by Port 10980, while batch 2 may be received first by Port 10981.

d. EY in its report further found that TM Mr. A even if he logs in at 8:45 a.m. and TM Mr. B logs in at 8:50 a.m. respectively on Port 10980 and TM Mr. C and Mr. D logs in at 7:30 a.m.

and 7:40 a.m. on Port 10981, each one of them will be ranked first and second in their respective Ports. If Port 10980 disseminates the first tick then member Mr. A and Mr. B who have logged in later than member Mr. C and Mr. D will receive the tick first. The EY report further analysed that there were three POP Servers. Each POP Server had three Ports. Therefore, there were nine Ports from which ticks were disseminated. The report found that a TM would need to be first to log in all the nine Ports in order to receive the first batch of information on a trading day.

e. From the aforesaid, it is clear that even though information is disseminated from the POP Server sequentially, it is not necessary that the Port Server receives it sequentially. The Port may receive a batch of information first and the

second batch may be received first by another Port. Further, a TM who logs in first on a particular Port may not receive the information first as another TM who logged in at a later point of time on another Port may receive the information/tick first.

f. EY in its report states that the source code defined the order of dissemination of batches but not that of their receipt at each Port within the same POP. For example, batch 1 may be received first by Port 10980, while batch 2 may be received first by Port 10981. There are nine independent dissemination queues and dissemination on each Port is sequential based on login time of a TM.

g. Thus again, we find that there is some randomness in the dissemination of data from POP Server to Port. The dissemination from the

POP Server is sequential but receipt of the information at the Port level may not be sequential. One batch of information may be received first by one Port and another batch of information may be received by another Port first.

h. Each Port was an independent dissemination queue and dissemination from a Port to TM was sequential based on their ranks on a Port. Such sequential dissemination on the Port was on account of an array that was designed based on login time of a TM IP.

i. A TM logging in first on a particular Port may not receive the information first. EY in its report finds that if TM Mr. A and Mr. B logs in at 8:45 a.m. and 8:50 a.m. respectively on Port 10980 and TM Mr. C and Mr. D logs in at 7:30 a.m. and 7:40 a.m. respectively on Port 10981, each

of them will be ranked 1 and 2 on that respective Ports. However, if the information/tick is disseminated first on Port 10980, then TM Mr. A and Mr. B who have logged in later than TM Mr. C and Mr. D will receive the information first.

j. Once a TM Mr. A receives the information first as he was ranked first in that Port will always receive the batch of information first before other TMs on that Port for that trading day. Thus, TM Mr. A would receive the information first and TM Mr. B would receive the information thereafter. The time difference appears to be a fraction of a microsecond to a nano second. Thus, a TM who is ranked last on a particular Port would always be disseminated a batch of information last on that Port for that trading day.

k. EY in its report further found that a member would need to be first on all the nine Ports to receive the first batch of information on that trading day.

l. There were nine Ports on which data/information was disseminated. A TM would get the information first if he logged in first in all the nine Ports on that trading day. No such instances were found in any of the reports.

m. A TM had no knowledge of his rank in the queue on a particular Port. A TM was also not aware of the order in which POP Server would connect to the PDC on a particular trading day nor was he aware whether he was logged in on the first Port of a particular server or was first on a particular Port. A TM also did not know the order of connection of each TM to a Port.

n. Thus, we find that the flow of data from the PDC to the POP Server followed a random sequence. Till this point, there is no dispute. The WTM also accepts this randomness till this stage. We, however, find that dissemination of data from POP Servers is sequential to the Port. But we find that receipt of information at the Sender Port is not sequential, namely that batch 1 of information may be received first by Port 1, but batch 2 may be received by Port 2. Thus, till the stage of Port, there is some randomness in the dissemination of data right from PDC level to the Port level. We further find there was variability in the order of receipt of data at the Port level and even the Port that was disseminated data first did not necessarily receive all the data first. A TM who logged in first would receive the data first on the Port

ahead of the TM who logged in after him. The TM who logged in first would continue to receive the batches of information ahead of the TM who logged later from the rest of that trading day. We also observe that the TM who logs in first may get a probabilistic advantage of receiving the data first ahead of other TM who logged in later on that particular Port.

b) <u>Absence of Randomiser</u>

81. The show cause notice alleged that absence of randomiser on the TBT dissemination server created an inherent advantage in receiving TBT data by members connecting first. It was also alleged that a randomiser was developed by NSE in 2011 and was implemented for the bucket POP Server in 2012 but the same was not implemented in the normal TBT segment server and that NSE was unable to explain the reason for not

implementing the randomiser in the normal TBT segment server. It was also alleged that the development of the randomiser and its implementation in the bucket POP Server was not disclosed to the forensic auditor by the NSE team until it was identified during the forensic analysis by the forensic auditor.

82. The WTM after considering the material evidence on record came to the conclusion that the TCP IP architecture of TBT data feed was inadequate as the inherent early log in advantage was not sought to be addressed by introduction of a randomiser. The WTM concluded that a TM who logged in to the Sender Port of a POP Server which had connected first to the PDC on a trading day would be disseminated data first on that Port throughout the day and that a randomiser after the Ports would have ensured that even when a TM consistently logged in first in a Port of a POP Server which connected first to the PDC it would not guarantee that such TM

would receive the data first. The WTM concluded that the employment of a randomiser in the normal data feed dissemination would have upset the pre-determined sequence of IPs based on early logins and would have brought in much needed element of unpredictability in the sequence of data packet (dissemination).

83. As we have concluded earlier that the flow of data from the PDC to the POP Server is in a random sequence. The dissemination of data from POP Server to the Port is sequential but the receipt of the information at the Sender Port is not sequential, namely, that batch 1 of information may be received first by Port 1 but batch 2 may be received by Port 2. Thus, we find that till the stage of Port there is some randomness in the dissemination of data already from PDC level to Port level. We further found that there was variability in the order of receipt of data on the Port and even the Port that disseminated the data first did not necessarily receive all the data first.

84. In view of the aforesaid finding given by us, the WTM has erred in coming to the conclusion that a TM who logged in first to the Sender Port of a Pop Receiver which was first on a trading day would get the disseminated data first on that Port. This is incorrect as we have held that even if a TM is connected first to a Port it is not necessary that he would receive the data first. A TM who logs in later on another Port may receive the data first before the TM who logged in first on Port 1.

85. A randomiser is a function which is Sender Port specific and which would randomly pick a connection to begin dissemination of data. The purpose of a randomiser is that it would randomly send the data either to Port 1 or to Port 2 or to Port 3 and that there would be unpredictability with regard to dissemination of the data on a particular Port. As we have found that the dissemination of data from the Sender Port to the TM was not sequential but there was a randomness and that the

receipt of information at the Sender Port was not sequential, namely, that batch 1 of the information may be received by Port 1 and that batch 2 may be received first by Port 2 and, therefore, till the stage of Port there was some randomness in the dissemination of the data. Thus, introducing a randomiser after the Port level would have created a randomness of dissemination of data in which randomness was already existing. In our opinion, once there was randomness in dissemination of data from the Sender Port level there was no requirement of having an additional randomiser for further randomness of dissemination of data.

86. The finding that absence of randomiser created an inherited advantage in receiving TBT data who connected first is erroneous as a TM connecting first does not give it a guarantee that it would receive the data first when it is disseminated from the Port.

c) IP Allocation and load balancer

87. The show cause notice alleged that there was no laid down policies and procedure for allocation/mapping of IPs to dissemination servers and that there was no SOPs. It was also alleged that many TMs made a request for change in IP mapped to a particular server and such request for shifting IPs from one server to another was left at the discretion of the PSM Team and, consequently, differential treatment was given by PSM Team to different TMs. As a result, some TMs were given preferential treatment.

88. Deloitte in its report has provided data with regard to allocation of IPs across TBT Servers which has been tabulated in table XI of the impugned order. The show cause notice further contended that the limit of 30 connections for each Port of POP Server exceeded 30 IPs and, consequently, there was significant variation in terms of total number of IPs allocated to each POP

Server. This variation in the allocation of IPs across each POP Server was known to the PSM Team. This fact is on the basis of an analysis of emails of the members of PSM Team.

89. EY in its report made the following observation:

a. *"A Port of a POP server was prescribed a limit of 30 connections.*

b. *For configuring a new member IP for TBT access, the operator used to manually configure an IP to a Port based on availability. Availability was decided based on number of active connections made on that Port on that particular day.*

c. *Member TBT IP was given access on the Port that had less than 30 connections.*

d. *Each TBT IP was then configured on the same Port of Secondary Server as well.*

e. *On multiple trading days, connections on the ports of the primary servers of CM segment had exceeded 30. Based on the login logs, it is observed that on 275 trading days, all the six ports of primary servers had more than 30 connections (maximum of 53 connections were noted on one of the Port of primary server)."*

90. From the aforesaid, the show cause notice alleged:

a. There were significant variations in terms of number of IPs allotted to each Port within a particular POP Server.

b. There were significant variations in terms of total number of IPs allotted to each POP Server.

c. The variations in IP allocation numbers are more pronounced on the days for the year 2012.

d. In terms of number of IPs actually connected, the variation is even more pronounced.

e. Though there was a limit of 30 connections for each Port of POP Server, the actual number of IPs allocated exceeded 30.

f. It is observed that the manual load balancing of members across servers did not seem to have been performed equitably.

91. It was, thus, alleged that in the absence of a load balancer, variation of load on each Port have resulted in an inequitable access to the TMs in as much as variation of load at each Port had/or would have resulted in varied

lagged time for distribution of data under sequential data distribution process.

92. The WTM upon consideration of the evidence and submissions made by the parties found that there was no SOPs for allocation of the IPs but a limitation of 30 connections per Port of POP Server i.e. a total of 90 per POP Server was fixed. The WTM found that there was a significant variation in terms of number of IPs allotted to each Port within a Port Server and the total number of IPs allotted to each POP Server. It was found that though there was a limit of 30 servers on each Port of POP Server, actual number of IPs allocated exceeded more than 30 connections of a Port of a POP Server. The WTM further found that the allocation of the IPs to the POP Server was done manually. Thus, IPs connected ahead would receive data packets before those IPs that were connected later in time in the same array. Such allocation of IPs done manually exceeded 30 connections

per Port on a POP Servers which was not in line with the recommendations of the NSE Development Team. The WTM further found that in view of exceeding 30 connections on each Port of POP Server the variation of load at a particular Port level would significantly impact the data dissemination time in other Ports of the same POP Server and across the other POP Servers. The WTM found that implementation of the load balancer would have resulted in the IPs being mapped to the load balancer which would then equitably distribute the connection across the POP Server thus eliminating the allocation of IPs being done manually and also eliminating the time lag in receipt of data packets experienced by members on account of having connected to a more loaded POP Servers exceeding 30 connections.

93. Before us, the contention of NSE is, that as and when NSE received requests from TMs for allocation or shifting their IPs to a different Port then NSE would take

efforts to accommodate such requests, unless there were feasibility issues regarding non-availability of Ports on a particular server etc. NSE contended that no preferential treatment was shown to any particular broker and, in case any broker complained about any latency issue, such requests was considered and IPs were shifted after considering the evidence. It was alleged that the lack of load balancer did not make the TBT architecture prone to manipulation. According to NSE, the load balancer was initially suggested as an automation measure to address server failures and avoid manual IP movement by the TBT team to another Port. It was contended that at the relevant moment of time there was no regulatory requirement to implement the use of a load balancer. It was contended that the issue of implementing a load balancer was conscientiously considered by NSE and a bona fide decision was taken not to implement the load balancer on the ground that it would have increased the

latency and that it would present one more single point of failure and that an additional hardware device like that of a load balancer was generally not used in the TBT architecture. In support of his submission the learned senior counsel placed reliance on the statements of Ms. Mamatha Rangaprasad, Mr. N. Murlidharan. It was further stated that in any event the variation in load across servers was not significant which would require a load balancer. It was urged that the load on each Port depended on the number of connections by members on that Port on a given day and the load was not dependent on the number of allocations of IPs on that Port. It was, thus, urged that there was no evidence or material to demonstrate that the variation in load resulted in any advantage or disadvantage to any TM.

94. Considering the submissions made by NSE and upon consideration of the material evidence that has come on record, one thing is clear that there were no defined laid

down SOPs for allocation of IPs to a TM. Mr. Ravi Apte in his submission dated 2nd May, 2018 has categorically stated that

> *"there was no system for load balancing/ dynamic load balancing"*

meaning thereby that there was no procedure for allocation of IPs.

95. However, one thing is clear that NSE took a decision to allocate 30 connections per Port on a POP Server i.e. a total of 90 connections per POP Server. This allocation of IPs was done sequentially i.e. one POP Server at a time and distributing the IPs to one POP Server and then moving on to the next POP Server to manage load balancing across various POP Servers. However, the evidence on record and especially table XI in the impugned order shows allocation of IPs exceeded 30 connections per Port of a POP Server. This table has not been denied by NSE and this table has also been given in

the Deloitte report. Thus, the policy adopted by NSE to limit 30 connections per Port of a POP Server was infringed.

96. It has also come on record that the allocations of IPs were done manually to the POP Server. The shifting of the IPs from one Port to another Port was also done manually. Evidence has further come to the effect that load balancing of IPs on a given trading day was also done manually. We find that the absence of load balancer appears to have created an advantage to certain TMs due to manual intervention. The PSM/Colo teams were aware that the shifting of IPs from one Port to another Port was increasing the down time which was inconvenient to most of the TMs. The PSM/Colo teams were also aware that the manual distribution of IPs created an operational risk while balancing the load on the servers continually and the process of shifting the IPs from one Port to another especially when the number of connections started

increasing. Ms. Mamatha Rangaprasad in her statement dated 1st August, 2017 stated that a load balancer is used to balance the actual connects on the servers and the solution of load balancer was suggested to avoid manual reconnection and auto connect these members to other server. Mr. N. Murlidharan in his statement of 20th April, 2018 stated that any additional device would create an additional hop and that the minimisation of device was a critical factor which ensured fewer failure points and, therefore, the load balancer was not considered.

97. As early as on 3rd January, 2012, an email from Ms. Smrati Kaushik indicated that with the increase in the number of TBT connections two major risk opened, namely, that in the event of an issue like hardware failure for which members had to change the IP to come to the Fall-back server would increase the down time and most of the members found it inconvenient and that currently distribution was manual and recommended

implementation of a load balancer. This email was followed by another email on 4th January, 2012 from Hozefa Poonawala suggesting implementation of a load balancer.

98. From the aforesaid, it is clear that NSE was aware of the practical difficulties in manually allocating the IPs and shifting the IPs from one Port to another Port. A load balancer was suggested. The reply of NSE indicates that a decision was taken not to implement the load balancer. We find that there is nothing on record to indicate what bonafide decision was taken by NSE for not implementing the load balancer. As we have already held there was no laid down defined SOPs for allocation of the IPs.

99. This leads us to the question of whether a load balancer was necessary in the facts of the given case.

100. A Load Balancer as described in the impugned order is as under:

a. A Load Balancer is a hardware/software that distributes network / traffic load across a number of POP Servers based on a specific algorithm like least connections, least response time, round robin etc.

b. A Load Balancer is very commonly used in systems across industries, across the world to distribute the network traffic across a number of servers.

101. We find that the load on the Port on a particular Server varies vis–a–vis the load across Ports and across Servers and, in the absence of a 'Load Balancer', such variation of load at each Port would have resulted in a varied time lag for distribution of data under sequential data dissemination process.

102. We also find that the manual load balancing of members across servers was not performed equitably by NSE. There were significant variations in terms of

number of connections across different servers and Ports. The load on Ports on a particular server and the load across servers varied significantly. In the absence of a dynamic load balancer, such variation of load at each Port resulted in varied time lag for distribution of data under sequential data distribution process.

103. Though NSE claimed that load balancing was done manually where members were allocated to servers based on existing load, actual number of IPs allocated varied significantly across the ports. The variation was even more pronounced in terms of number of IPs actually connected. This resulted into significant variation in crowding at different ports.

104. We are of the opinion that in a system where a Load Balancer was employed, the Trading Members would not be mapped to any particular server or port, but rather to the Load Balancer itself. The function of the Load Balancer would be to allocate the TBT IPs of trading

members evenly to the servers and ports at the time of login itself. Once the trading members have logged in, they would have been mapped to the load balancer, which will automatically allocate the trading member a lesser crowded port vis-à-vis other port.

105. Consequently, if a Load Balancer was installed, it would distribute the load at the start of the trading day across the ports. It would also distribute the load at every stage when there is a subsequent connection during the course of the day. This would ensure fairness, equality and transparency in the system, which the NSE was mandated to comply with. It is trite that the process of load balancing is dynamic in terms of continuous allocation of lesser crowded ports to the trading members at the time of login either at the start of the day or during the time of any subsequent connection.

106. In view of the aforesaid, it is apparent that a load balancer was essential for equal distribution of IPs on a

particular Port. If on a given day there is a load factor on a particular Port in contrast to a lesser load on another Port, then the load balancer would automatically shift the excess IPs on one particular Port to another Port which has a lesser number of connections on that day in order to equalize and balance the load across all Ports. The load balancer distributes the traffic across all Ports and eliminates manual intervention which is otherwise susceptible to preferential treatment to a given set of TMs.

107. The alleged decision taken by NSE not to implement the load balancer is not on record and, in any case, does not appear to be a bonafide decision. Their contention that implementation of load balancer would increase the latency is per se erroneous. Latency, if any, would be equal for all TMs and it would not be a case where the latency factor is for one TM against another TM. Implementation of a load balancer if it increases the

latency would be equal across all TMs who have logged in on that particular date.

108. Thus, non-implementation of a load balancer has not ensured the norms of fair access and if the load balancer was implemented, norms of fair access would not have been breached. Failure to implement the load balancer in the TBT architecture, in our opinion, failed to ensure fair, transparent and equal access by NSE to its TMs.

109. To sum up, a TM who connected first to the POP server was not assured to receive the tick first. The TM who logged in first may get a probabilistic advantage of receiving the data first ahead of the TM who logged in later on that server. Since the TBT architecture created a randomness in the dissemination of data also from the Sender Port level, there was no requirement for installing a randomiser. The allocation of IPs and its shifting from one server to another server was not done as per the decision taken by NSE. There were overcrowding of IPs

on one server as compared to other server. There was inequal distribution of IPs on the same server and there was no laid down SOP for allocation of IPs to a TM. NSE should have implemented a load balancer which would have distributed the IPs equally across all servers and norms of fair access would not have been breached. Failure to implement the load balancer has failed to ensure fair, transparent and equal access by NSE to its TMs.

Issue No.2

110. Whether access of secondary server had advantage of receiving information early and what was the mechanism in NSE to monitor the secondary server misuse.

111. The show cause notice is based on TAC report, Deloitte report and the EY report. The show cause notice alleges that NSE did not have any defined policies and procedures with regard to accessing the secondary server and that guidelines were not issued as circulars. It was

also alleged that NSE was selective in reprimanding only some brokers who had connected to the secondary server and allowed other brokers to continue connecting regularly to the secondary server and, thus, showed differential treatment to brokers. It was alleged that in the absence of any mechanism for stopping TMs to access the secondary server it gave advantage to those TMs who were connected to the secondary server and, thus, received information early than other TMs who were logged in to the regular servers.

112. Deloitte in its report submitted that the secondary server was also an active server and that a TM could receive data if it was connected to the secondary server. The report also stated that there was no documented policy or procedure with respect to connection to the secondary server nor was there any mechanism to identify members connected to the secondary servers. Deloitte also reported that 'Ticks' were disseminated faster to

members connected to less crowded server thereby giving advantage to such members.

113. EY in its report submitted that based on stimulation test performed 95% of all the batches were disseminated first to the members connected first to Port of secondary servers.

114. Thus, the two reports primarily observed that in the first few months of 2012 the connection to the secondary servers were being monitored by NSE and that certain TMs were reprimanded and were directed to disconnect it from the secondary servers. The two reports observed that whereas certain members were reprimanded other TMs were allowed to stay connected with the secondary server for no valid reason. EY has given detailed report with regard to which members being reprimanded.

115. NSE responded that the secondary server was only a backup server to be used only in the event of failure of the primary server. NSE submitted that the secondary

server would allow TMs to continuously receive TBT market feed without disruption and each TM was given an IP address for connecting to the secondary server. NSE submitted that it was accepted that the members would connect to the secondary server only when they were unable to connect with the primary servers. NSE further submitted that the secondary server was always kept in active mode to ensure that members could easily and quickly switch to secondary server in the event of failure of the primary servers. These guidelines were issued to all TMs. NSE, however, admitted that they did not have any mechanism of continuously monitoring the connection to the secondary server.

116. NSE further responded that since NSE was experiencing server failures it was decided to move the TBT infrastructure from the PDC to a separate Colocation data centre. This migration of TBT server to the new colocation data centre was undertaken in the first six

months of 2012 and, during this period, in order to ensure that the secondary server was free in the event that the primary server went down, during the migration period with the PSM team performed some limited check with regard to connections to the secondary server. It was further contended that the PSM Team, upon checking, found certain members were connected to the secondary server, and were reprimanded and were further directed to disconnect from the secondary server. It was contended that there was no discrimination and warning was issued uniformly to all the members who were connected to the secondary server during the migration period. It was vehemently contended that at no point of time NSE ever developed a mechanism to continuously or automatically monitor connections to the secondary server and only periodic checks were carried out by the PSM team during the migration period.

117. The WTM found that there was no defined policy with regard to accessing the secondary server and that only a guideline was issued which was not in the form of a circular. The WTM further observed that in the absence of continuous monitoring of the secondary server led certain TMs to be given preferential treatment who continued to access the secondary server and, consequently, misused the secondary server with impunity. The WTM further accepted the EY's stimulation test observing that 95-96% in CM Segment and 80-85% in CD Segment of all batches were disseminated to members connected first to Port of secondary server and thereby certain advantages were made by these TMs. This was only possible in the absence of strict monitoring which allowed members to harvests the benefits of early access to the TBT feed from the secondary server.

118. Having heard the learned counsel for the parties and having perused the record we find that NSE had issued a Colocation guideline on 8th August 2011 which was revised on 16th April, 2012 which states as under:

> *"Members who always check the secondary TBT parameters are working fine with their application in case of non-availability of data from TBT primary source they can move to secondary source".*

119. According to NSE, the Colocation guidelines was sent as a welcome email to all new members in Colocation and that the said guidelines was never used as a circular. NSE also admitted that there was no monitoring mechanism to identify members connected to secondary servers nor was there any documented policy with respect to TMs connected to fallback servers. According to NSE, when a TM took a new TBT connection the activation email sent by the membership team carried information regarding the primary server and port and secondary server and Port and it was

expected from the members that they would only use the secondary server only in the event of failure of primary server.

120. We find it strange that NSE as a regulator did not place any mechanism to check unauthorized access to the secondary server by the TMs. The reason why we are saying this is that there is no difference between the secondary server and the three primary servers. As we have observed earlier, information is disseminated from the PDC Center to the POP 1 Receiver, POP 2 Receiver, POP 3 Receiver and POP 4 Receiver. POP 4 Receiver is the secondary sever. Each POP receiver has three Ports and the secondary server also has three Ports. All TMs were required to login in the three servers and not in the secondary server. Certain mechanism was placed by NSE for balancing the load on the three Ports but no mechanism of balancing the load was placed in the secondary server and the reason is not far to see, namely,

that TMs were not allowed to access the data from the secondary server and that the secondary server was only to be used in the event of an emergency upon failure of the primary server.

121. It was, thus, found that any TMs who logged in through the secondary server had an added advantage as there was no mechanism to monitor the load factor and since there was less load on the secondary server it became advantageous to access the data faster ahead of other TMs.

122. The guidelines issued by NSE were clear that the secondary server could only be used by a TM for accessing data only in the event of failure of the primary server. A TM could only use the secondary server upon a prior intimation and permission given by NSE Colocation team.

123. Thus, it was imperative for NSE to have a defined policy for use of secondary server and a mechanism

ought to have been placed for monitoring connection by TMs on the secondary server and reprimanding or taking penal action against such TMs who violated and used the secondary server to access the data. By not doing so the NSE has failed to carry out its duties as the first regulator.

124. Further, we find that the secondary server was also an active server meaning thereby that data could be accessed at any moment of time if a TM is connected. Thus, in our opinion, a system ought to have been placed whereby the secondary server could only start when the primary server failed or a mechanism should have come into existence to ensure that members could connect to secondary server only when the primary server failed.

125. It was not sufficient for NSE to hold that the TM was made aware of the use of the secondary server through their welcome email which, in our opinion, was insufficient. We find that when the load on the three Ports were being monitored it became essential for NSE

to ensure that no TM had access to the secondary server for accessing the data.

126. A plausible explanation has been given that the monitoring on the secondary server was made only for a limited period during the period of data center migration. We however find that when NSE came to know about the misuse of the secondary server by the TMs, it should have set up a monitoring system immediately and ensured that no TMs accessed the secondary server without permission. We also find that there is no plausible explanation as to why during this period only some of the TMs were reprimanded and others who had also logged in to the secondary server were not reprimanded. Thus, an irresistible conclusion can be drawn that certain TMs were given preferential treatment and no warning letters were issued to them.

127. We also observe that admittedly the secondary server was less loaded in terms of IP connection primarily due to

the fact that TMs were expected to access only the primary server in compliance with the NSE Colocation guidelines. In the absence of any mechanism for monitoring, TMs who connected themselves to the secondary server were able to harvest the benefit of early access to the TBT feed in comparison to the other TMs who were not connected to the secondary server.

128. In this regard, we find that the EY in its report has given details supported by evidence indicating certain TMs who continuously logged in to the secondary server for a considerable period of time and were also connected to the first, second and third Port of secondary server for majority of the trading days thus, getting information prior and faster to other TMs. In this regard, detailed discussion will be made in the latter part of the judgment.

129. In view of the aforesaid, we are of the opinion, that NSE did not have any defined policy and procedure regarding access to the secondary server except those

which were mentioned in the NSE guidelines which were basic and inadequate. Further, there was no documented policy or procedure regarding monitoring of unauthorized access by TMs on the secondary server which resulted in the misuse of the secondary server with impunity by some of the TMs.

Issue no.3

130. Liability of NSE under SEBI PFUTP Regulations, 2003 and SECC Regulations, 2012.

131. The show cause notice alleged that NSE had violated Section 12A(a) of the SCRA Act read with Section 11(1), 11(2)(a), 11(2)(j) and 11B of the SEBI Act read with Regulation 3(a), 3(b), 3(c), 3(d) and Regulation 4(1) of the PFUTP Regulation, 2003 read with Regulation 41(2) and Regulation 42(2) of the SECC Regulations, 2012 read with Clause 4(i) of the SEBI Circular dated 30th March, 2012 and Clause 3 of the SEBI circular dated 13th May, 2015.

132. The WTM after considering the response found that NSE had not violated any provision of the PFUTP Regulations since no fraud was committed by NSE or its employees and, consequently, exonerated NSE of the charge under the PFUTP Regulations. The WTM held:

> *"8.3.3.8 As far the exchange is concerned, the factual build up and the allegations levelled in the SCN, pertain to violations that are arising by flouting the principles underlying the conduct of business of a stock exchange, pertaining to fair and equitable access to information. Alleging "fraud" against the Exchange, in this scenario, tantamounts to attributing "intention" or "knowledge". In the absence of facts pointing towards the collusion of employees with the TMs or proof of specific discrimination towards any specific TM or the accrual of monetary benefits/ unjust enrichment to any employee or TM, etc., I find it difficult to conclude that there is a violation of the provisions of SEBI (PFUTP) regulations, involved in the matter."*

133. The WTM further held that failure to place the randomizer or load balancer in the TCP IP dissemination protocol, cannot be categorised as breach of the principles of "fairness and equity" attracting the provisions of

PFUTP Regulations. The WTM held that the dissemination of information which is in breach of the stipulation contained in SECC Regulations cannot automatically attract the rigors of PFUTP Regulations, without there being any proof to indicate fraud. The WTM held that in the absence of any fraud or collusion or connivance the possibility of fraud was non-existent.

134. The WTM, however, found that the dissemination of information at different stages of the technology process was inequitable and that NSE failed to ensure a level playing field for the TMs subscribing to the TBT data feed of NSE. The WTM found that there was no equitable distribution of allocation of IPs and that absence of load balancer provided an advantage and disadvantage to certain TMs on the basis of their login rank on a particular day and that non-inclusion of randomizer gave a fair advantage for a TM who logged in first coupled with the fact that there was failure on the part of NSE to

monitor frequent connection to the NSE server by certain TMS. The WTM held that all these factors point out to violation pertaining to fair and equitable access to information as provided under Regulation 41(2) of the SECC Regulations, 2012 and, therefore, came to the conclusion that NSE did not comply with the provisions of Regulation 41(2) of the SECC Regulations in "letter and spirit" and, accordingly, violated the said provision as well as Regulation 42(2) of the Regulations.

135. While arriving at the aforesaid conclusion, we find that the WTM has taken into consideration the circular of 13th May, 2015, which in our opinion has nothing to do with the present controversy in as much as the alleged violation is for the period 2010 to April, 2014 as during this period NSE had used the TBT architecture for dissemination of data before introducing MTBT system.

136. Before we proceed further, it would be appropriate to refer to Section 4 of the SCRA Act, 1965 which provides as under:

> *"4.* ***Grant of recognition to stock exchanges.***
>
> *(1) If the Central Government is satisfied, after making such inquiry as may be necessary in this behalf and after obtaining such further information, if any, as it may require,—*
>
> *(a) that the rules and bye-laws of a stock exchange applying for registration are in conformity with such conditions as may be prescribed with a view to ensure fair dealing and to protect investors;"*

137. Section 4 provides that the Central Government may grant recognition to the stock exchange with a view to ensure fair dealing and with a view to protect the investors.

138. In exercise of the powers conferred by Section 4, Section 8A and Section 31 of the SCRA Act read with Section 11 and Section 30 of the SEBI Act, SECC

Regulations were framed on 20th June, 2012 for the purpose of requiring recognition, ownership and governance in stock exchange. Regulation 41(2) of the SECC Regulations, 2012 provides as under:

> ***"Regulation 41(2):***
>
> *The recognised clearing corporation and recognised stock* ***exchange shall ensure equal, unrestricted, transparent and fair access to all persons*** *without any bias towards its associates and related entities."*

139. A perusal of the aforesaid provision indicates that a stock exchange is required to ensure equal, unrestricted, transparent and fair access to all persons. Clause 4(i) of the circular dated 30th March, 2012 issued by SEBI is extracted hereunder:-

> **"*Guidelines to the stock exchanges and the stock brokers***
>
> *4. Stock exchanges shall ensure the following while permitting algorithmic trading:*
>
> *(i) The stock exchange shall have arrangements, procedures and system capability to manage the load on their systems in such a manner so as to*

achieve consistent response time to all stock brokers. The stock exchange shall continuously study the performance of its systems and, if necessary, undertake system upgradation, including periodic upgradation of its surveillance system, in order to keep pace with the speed of trade and volume of data that may arise through algorithmic trading. (Emphasis supplied)"

140. The aforesaid circular provides that the stock exchange will ensure that it shall make all arrangements, procedures and system capability to manage the load on their systems with regard to algorithm trading in such a manner so as to achieve consistent response time to all stock brokers. Clause 3 of the SEBI circular dated 13th May, 2015 provides as under:

"In order to ensure fair and equitable access to the co-location facility, stock exchanges shall:

3.1. provide co-location/ proximity hosting in a fair, transparent and equitable manner.

3.2. ensure that all participants who avail co-location/proximity hosting facility have fair and equal access to facilities and data feeds provided by the stock exchange.

3.3. ensure that all stock brokers and data vendors using co-location/proximity hosting, experience similar latency with respect to exchange provided infrastructure."

141. Under this circular, a stock exchange was required to ensure that all participants which avail Colocation facility have fair and equal access to facilities and data feeds provided by the stock exchange.

142. Based on the aforesaid provisions, regulations and circulars, the WTM came to the conclusion that NSE has violated Regulation 41(2) and 42(2) of the SECC Regulations, 2012.

143. Admittedly, the WTM found that NSE has not violated any provisions of the PFUTP Regulations and has not committed fraud. In this regard, the WTM observed that the charge leveled under Regulations 3 and 4 of the PFUTP Regulations were not only vague but were unsubstantiated. None of the ingredients as

provided under Regulation 2(c)(1) and 2(c)(9) of the PFUTP Regulations applied to NSE. There was no "knowing misrepresentation", "active concealment", "false promise", "representation made in a reckless and careless manner", "fraudulent act or omission", "deceptive behavior", "false statement" etc. which are all ingredients of fraud and, therefore, Regulation 3(a), 3(b), 3(c) and 3(d) were not attracted. The WTM, on the aforesaid basis, rightly came to the conclusion that no case of fraud or inducement was made out against NSE under Regulations 3 and 4 of the PFUTP Regulations.

144. The WTM, however, came to the conclusion that Regulation 41(2) and 42(2) of the SECC Regulations, 2012 were violated by NSE in "letter and spirit". The WTM found that there was inequity at different stages of the technology process i.e. TBT architecture and, accordingly, in paragraph 10.1 of the impugned order held that NSE had not exercised the requisite due

diligence while putting in place the TBT architecture and that the same created a trading environment in which the information dissemination was asymmetric, which cannot be considered fair and equitable and, consequently, the failure of NSE to ensure equitable and fair access violated Regulation 41(2) of the SECC Regulations, 2012. In paragraph 8.3.3.10, the WTM held that the omission/commission on the side of NSE was in violation of Regulation 41(1) and 42(2) of the SECC Regulation read with Clause 4(i) of the circular dated 30th March, 2012.

145. The conclusion drawn in paragraph 10.1 of the impugned order that the dissemination was asymmetric is based on the findings given in paragraph 8.3.3.7 of the impugned order, namely, inequitable distribution in the allocation of IPs, absence of load balancer, non-inclusion of randomizer and failure to monitor frequent connection to the secondary server.

146. In the instant case, the inequitable distribution as held by the WTM in paragraph 8.3.3.7 has nothing to do with the TBT architecture. As held earlier in the preceding paragraphs the dissemination of information/tick/data from the PDC stage to the POP Receiver and thereafter to the Ports were random, namely, there was randomness in the dissemination of data from the PDC stage right up to the Port. No fault has been found in the dissemination of data in the TBT architecture. The data was disseminated from the Ports to the Colo rack of the TMs and every TM had equal, unrestricted, transparent and fair access.

147. The allocation of IP was to be distributed equitably by the NSE team. This was a human intervention and had nothing to do with the TBT architecture. We have already held that there was no requirement of a randomizer to be installed, namely, after the Port and before the Colo rack as there was randomness in the dissemination of the data. Even otherwise, such addition

of a randomizer had nothing to do with the existing architecture or the distribution of its data. Similarly, installing a load balancer was an additional hardware/software to be installed in the architecture for better distribution of the IP allocation but the same had nothing to do with the dissemination of the data by the TBT architecture. Similarly, failure to monitor frequent connection to the secondary server was a human failure and had nothing to do with the functioning of the dissemination of the data by the TBT architecture.

148. Thus, the finding of the WTM that because of inequitable distribution in the allocation of IPs, absence of load balancer and non-inclusion of randomizer and failure to monitor frequent connection to the secondary server did not ensure a level playing field for TMs subscribing to the TBT data feed of NSE and, consequently, NSE failed to provide equal, unrestricted and fair access is wholly erroneous.

149. The choice of architecture chosen by NSE was never doubted. There is no charge against NSE with regard to the choice of the TBT architecture. In fact, it has come on record that many countries were using the TBT architecture. Considering the evidence that has come on record and, upon an analysis of the evidence made by us, we are of the view that there was a randomness in the dissemination of the data/information/tick in the TBT architecture starting from the PDC stage till the Ports and there was clear, unrestricted, transparent and fair access to all the TMs who received the data in their Colo rack from their respective Ports. We, thus, hold that there was no violation of Regulation 41(2) of SECC Regulations.

150. We also find that the conclusion drawn in paragraph 10.1 of the impugned order is based on the finding given in paragraph 8.3.3.7, namely that the dissemination of data was asymmetric which could not be considered as fair and equitable and, consequently, resulted in violation

of Regulation 41(2) of the SECC Regulations. In the first instance, this finding is purely perverse and cannot be accepted in as much as the choice of architecture was never disputed by the respondent. There was some randomness in the dissemination of data even from the Port to the Colo rack. It seems that the WTM has confused itself between randomness in the dissemination of a tick to that of dissemination of the tick being asymmetric. The randomness of the dissemination of the tick ensured clear and fair access and, consequently, the finding that since the dissemination of information was asymmetric therefore there was failure on the part of NSE to ensure equal and fair access is patently erroneous.

151. There is another aspect, the WTM in paragraph 10.1 of the impugned order holds that NSE did not exercise due-diligence while putting in place the TBT architecture and, therefore, violated Regulation 41(1) of the SECC Regulations. The choice of the TBT architecture was

finalized and put into place in the year 2010 when the SECC Regulations, 2012 had not come into existence and, therefore, compliance of Regulation 41(2) at the stage of putting in place the TBT architecture would not and cannot arise. Thus, at the stage when the TBT architecture was installed the SECC Regulations had not come into existence and, therefore, invoking Regulation 41(2) for failure of NSE to exercise due diligence while putting in place the TBT architecture does not arise. We are of the opinion that Regulation 41(2) of the SECC Regulation cannot be invoked for placing the TBT architecture which had already been placed in 2010. The Regulation is prospective in nature and cannot have retrospective application.

152. The charge is violation of Regulation 42(2) of the SECC Regulations. This provision relates to maintenance of books of accounts and records by the recognised clearing corporation and has nothing to do insofar as NSE

is concerned. Thus, finding of the WTM that NSE has violated Regulation 42(2) is patently erroneous. Similarly, the circular of 2015 is not applicable. The period when the TBT architecture was in use was from 2010 to 2014. The circular of 2015 is prospective in nature and cannot apply retrospectively.

153. However, the circular of 30th March, 2012 is applicable which stipulates that the stock exchange while promoting algorithm trading will ensure that all arrangements, procedures and system capability to manage the load on their systems in such a manner so as to achieve consistent response time to all stock brokers and shall continuously study the performance of its systems and, if necessary, undertake system upgradation. In the instant case, we find that there was inequitable distribution of the IP connection which resulted in unequal load on various Ports. We also find that NSE should have provided a load balancer to equalize the load

on each server. We also find that no laid down policy or SOP was made to monitor frequent connection to the secondary server and, thus, there was a violation of circular of 2012.

154. The SCRA Act was framed with the object of preventing undesirable transaction in securities. The Act required all contracts in the securities to be dealt only on a recognized stock exchange. The Act conferred a larger responsibility upon the exchanges to ensure that undesirable transactions do not take place. In ***U.P. Stock Exchange Broker's Association and Ors. v. Securities and Exchange Board of India & Anr., (2014) 3 Comp. LJ 462,*** the Allahabad High Court held:

> *"51. Stock exchanges provide what is described as "the first layer of oversight". In many areas, stock exchanges are self-regulators. As self-regulatory organizations, stock exchanges have a front-line responsibility for regulation of their markets and for controlling compliance by members of rules to which they are subject. They ensure, in that capacity, compliance of the requirements established by the*

statutory regulator. Apart from the regulation of members, market surveillance carried on by stock exchanges in certain jurisdictions regulates issuers. They do so by ensuring that the stocks of issuers are reliably traded and that issuers meet standards of corporate governance. In exercising these powers, stock exchanges may face issues involving a conflict of interest. Such conflicts of interest have to be handled and addressed effectively within the regulatory framework." (emphasis supplied)

155. The Jalan Committee report found that the information must be accessible to everyone and must be governed by a transparent and efficient market economy.

156. Considering the aforesaid, we are of the view that the TBT architecture provided equal, unrestricted, transparent and fair access of data disseminating from its TBT architecture to the TMs. There was no violation of Regulation 41(2) and 42(2) of the SECC Regulations. Further, the circular of 2015 is not applicable but there is a violation of the 2012 circular. However, there was a human failure while allocating IPs to TMs of various Ports and that there was inequitable distribution of IPs.

In this regard, a load balancer should have been placed in the system to ensure equitable distribution of the IPs. We also find that there was a human lapse in putting the system in place to monitor frequent connection to the secondary server by certain TMs whereby these TMs bypassed the load in the primary servers.

Issue no.4

157. Liability of employees of NSE for violation of PFUTP Regulations and SECC Regulations.

158. 16 employees were issued notice and were charged for violating Section 12A(a), (b) and (c) of the SEBI Act read with Regulations 3 and 4 of the PFUTP Regulations, 2003, Part A and Part B of schedule II of SECC Regulations read with Regulation 26(1) and (2) of SECC Regulations and clause 3.8.1 of SEBI master circular dated 31st December, 2010. The WTM after considering the replies and the evidence exonerated all the noticees of the charge of violation of PFUTP Regulations. The

WTM found that no fraud was committed by any of the 16 employees/noticees and exonerated 12 of the employees from all the charges. The WTM, however, found that Mr. Ravi Narain and Ms. Chitra Ramkrishna, noticee nos.2 and 3 being Managing Directors of the Stock Exchange (NSE) during the relevant period were liable for the breaches of the provisions of SECC Regulations. The WTM found that these noticees held the senior most management position in NSE and being in charge of the affairs of the conduct of the stock exchange business, cannot limit their role to the non-technology issues of the exchange and cannot abdicate their responsibilities by citing limited knowledge in certain spheres of business activities. The WTM came to the conclusion that they were vested with the general and overall responsibility of ensuring the implementation of the principle of equal, fair and transparent access, under Regulation 41 of SECC Regulations and were therefore

responsible for the overall efficiency of the stock exchange which they failed to do so.

159. The WTM also found Mr. Mahesh Soparkar and Mr. Deviprasad Singh, noticee nos.9 and 10 responsible for not monitoring the unauthorized connection in the secondary server. The WTM found that these two employees headed the Project Management Team (PMT) and were responsible in enforcing discipline with respect to the connections established by TMs in the secondary server. The WTM came to the conclusion that being Head of the PSM Team it was their responsibility to inform the Colo team with regard to the unauthorized connections being done by certain TMs on the secondary server and should have followed it up with the Colo team for stopping the connection of these TMs to the server. The WTM found that these two noticees failed to discharge their duties as PSM Team Heads and,

consequently, directed NSE to initiate enquiry under its employees Regulations.

160. Insofar as Mr. Ravi Narain and Ms. Chitra Ramkrishna is concerned, the WTM directed them to disgorge 25% of their salary drawn for the financial year 2010-11 to 2012-13 and further prohibited them from associating with any listed Company or market infrastructure institution or any other market intermediary for a period of five years.

161. Insofar as NSE is concerned, the WTM directed NSE to disgorge a sum of Rs.624.89 crores along with interest calculated at the rate of 12% per annum from April 01, 2014 and further prohibited NSE from accessing the securities market for a period of six months from the date of the order. The WTM further directed NSE to carry out system audit at frequent intervals, after through appraisal of the technological changes introduced from time to time, reconstitute its Standing Committee on Technology

at regular intervals to take stock of technological issues, and frame a clear policy on administering whistle blower complaints. The aforesaid direction has been passed under Section 11 and 11B of the SEBI Act.

162. Even though Section 11 had no provision for disgorgement of an amount, the Supreme Court held that the powers given to SEBI under Section 11 included the powers to issue directions for disgorgement. However, Explanation to Section 11B was inserted by Act no.27 of 2014 which provided a direction for disgorgement of an amount equivalent to the wrongful gain or loss averted. For facility, the explanation to Section 11B is extracted hereunder:

> ***"11-B. Power to issue directions and levy penalty.***
>
> ……..
>
> *Explanation.—For the removal of doubts, it is hereby declared that the power to issue directions under this section shall include and always be deemed to have been included the power to direct any person, who*

made profit or averted loss by indulging in any transaction or activity in contravention of the provisions of this Act or regulations made thereunder, to disgorge an amount equivalent to the wrongful gain made or loss averted by such contravention."

163. From the above provision, it follows that any direction to disgorge must:

a. be made in relation to any transaction or activity;

b. such transaction or activity ought to be in contravention of the provisions of SEBI Act or the Regulations made thereunder;

c. the person directed to disgorge must have made profit or averted losses from such activity or transaction; and

d. an amount equivalent to the "wrongful gain" made or "loss" averted by such contravention may be disgorged.

164. The contention of NSE is, that the direction to disgorge was made without providing an opportunity to

show that the quantification is inappropriate. It was urged that the show cause notice failed to indicate the nature of the measures or directions which the authority proposed to take under Section 11 and 11B of the Act. It was contended that the statutory authority was bound to set out the exact nature of the measures which it proposed to take in the show cause notice and by not providing the requisite measure in the show cause notice the order of disgorgement was wholly illegal and in violation of the principles of natural justice. In support of his submission, the learned counsel placed reliance in the case ***Gorkha Security Services v. Govt. of NCT of Delhi & Ors. (2014) 9 SCC 105***, wherein the Supreme court held:

> *"22... However, it is equally important to mention as to what would be the consequence if the noticee does not satisfactorily meet the grounds on which an action is proposed. To put it otherwise, we are of the opinion that in order to fulfil the requirements of principles of natural justice, a show cause notice should meet the following two requirements viz:*

i) The material/ grounds to be stated on which according to the Department necessitates an action;

ii) Particular penalty/action which is proposed to be taken. It is this second requirement which the High Court has failed to omit."

165. It was also contended that NSE had been exonerated of the charges of fraud and unfair trade practices under the PFUTP Regulations. There is no finding of collusion or connivance with any TM. It was contended that the impugned order records that in the absence of any collusion or connivance with the TMs no violation of the provisions of PFUTP Regulations is made out. It was also contended that the charge of discrimination against any specific TM or accrual of any monetary benefit or unjust enrichment was also not proved and, consequently, contended that NSE did not indulge in any specific discrimination towards any specific TM which was in contravention of the SEBI Act, Rules or the Regulations.

It was contended that issues surrounding the functioning of a technology, namely, the TBT architecture cannot be considered either a transaction or an activity inviting directions under Section 11 and 11B of the SEBI Act. It was contended that since the TBT architecture was not under challenge no direction for disgorgement could have been passed.

166. It was also urged that before a direction of disgorgement could be passed it was necessary for the respondent to give a finding of ill-gotten gains or unfair profit or unjust enrichment made by NSE by the ill-gotten or unethical acts. It was contended that only a wrong doer who had made gains from the wrong doing can be asked to disgorge. In support of his submission, NSE relied upon the decision of this Tribunal in ***Karvy Stock Broking Ltd. v SEBI, 2008 SCC Online SAT 74***, wherein this Tribunal held:

"(5) Before we deal with the contentions of the parties, it is necessary to understand what disgorgement is. It is a common term in developed markets across the world though it is new to the securities market in India. Black's Law Dictionary defines disgorgement as "The act of giving up something (such as profits illegally obtained) on demand or by legal compulsion." In commercial terms, disgorgement is the forced giving up of profits obtained by illegal or unethical acts. It is a repayment of ill-gotten gains that is imposed on wrongdoers by the courts. Disgorgement is a monetary equitable remedy that is designed to prevent a wrongdoer from unjustly enriching himself as a result of his illegal conduct. It is not a punishment nor is it concerned with the damages sustained by the victims of the unlawful conduct. Disgorgement of ill-gotten gains may be ordered against one who has violated the securities laws/regulations but it is not every violator who could be asked to disgorge. Only such wrongdoers who have made gains as a result of their illegal act(s) could be asked to do so. Since the chief purpose of ordering disgorgement is to make sure that the wrongdoers do not profit from their wrongdoing, it would follow that the disgorgement amount should not exceed the total profits realized as the result of the unlawful activity. In a disgorgement action, the burden of showing that the amount sought to be disgorged reasonably approximates the amount of unjust enrichment is on the Board."

167. In ***National Securities Depository Ltd. v. Securities and Exchange Board of India, 2007 SCC OnLine SAT 208***, this Tribunal held:

> *"We do not think that the Board could direct the appellants to disgorge the aforesaid amount without first determining their guilt and whether they had made any illegal gains. Again, it is not that every erring entity is held liable to disgorge the amount. Persons who have made illegal or unethical gains alone could be asked to disgorge their ill gotten profits."*

168. It was urged that there has to be a causal link between the amounts directed to be disgorged and the alleged unjust enrichment derived from the violation. In this regard, reliance was made in ***Sec. & Exch. Comm'n v. Wills, 472 F. Supp. 1250, 1276 (D.D.C. 1978)***, which held:

> *"33. Further, the Commission has failed to demonstrate the appropriateness of such a drastic remedy here. It is not necessary to decide the precise nature of the causal link which the SEC must show between defendants' violations and the profits in question; in this case plaintiff has failed to demonstrate any reasonably close link between*

> *defendants' 1974 and 1975 corporate compensation and their illegal conduct...*
>
> *35. When the amounts to be disgorged cannot be related with sufficient certitude to defendants' securities law violations, the SEC's disgorgement request takes on the character of a plea for punitive relief. The cases, however, are unanimous in refusing to accede to such a demand. See, e.g., SEC v. Manor Nursing Centers, Inc., supra, 458 F.2d at 1104-05; SEC v. Texas Gulf Sulphur Co., supra, 446 F.2d at 1308."*

169. In ***S.E.C. v. Wyly, 56 F. Supp. 3d 260***, the US District Court of the Southern District of New York, set aside a SEC disgorgement order for failure to establish a causal nexus between the alleged wrongful conduct and wrongful gains sought to be disgorged. The Court held:

> *"Here, the SEC cannot satisfy its burden to reasonably approximate a disgorgement amount merely by proving the violations and then calculating the total profits on each of the trades during the existence of the unlawful scheme. Unlike each of the cases discussed above, there is no evidence here that the defendants' unlawful conduct—that is, the scheme to hide beneficial ownership by failing to disclose transactions—resulted in any market distortion, price impact, or profit tied to the violation. Nor is there evidence*

that the scheme was motivated by the expectation of such profits. Without proof, a court cannot speculate about the impact of the Wylys' failure to disclose on share price...

To hold otherwise would create a per se rule requiring disgorgement of all profits made by those who fail to properly disclose their beneficial ownership of securities—regardless of whether that failure resulted in unlawful trading, market manipulation, or distortion. Such a rule would eliminate the requirement that the government provide a reasonable approximation of the profits that are causally connected to the violation. There would be no need for any approximation—reasonable or otherwise—if the required disgorgement is always one hundred percent...

As a matter of law, the SEC cannot show that all of the profits on all of the sales by the IOM trusts throughout this extensive time period are reasonably connected to the Wylys' continuous failure to disclose beneficial ownership." [Emphasis supplied]

170. The D. C. Circuit Court in the case of ***S.E.C. v. First City Fin. Corp., 890 F.2d 1215, 1231 (D.C. Cir. 1989)*** held:

"11. Since disgorgement primarily serves to prevent unjust enrichment, the court may exercise its equitable power only over property causally related to the wrongdoing. The remedy may well be a key to

the SEC's efforts to deter others from violating the securities laws, but disgorgement may not be used punitively. See SEC v. Blatt, 583 F.2d 1325, 1335 (5th Cir.1978); SEC v. Manor Nursing Centers, Inc., 458...

Although the SEC bears the ultimate burden of persuasion that its disgorgement figure reasonably approximates the amount of unjust enrichment, we believe the government's showing of appellants' actual profits on the tainted transactions at least presumptively satisfied that burden. Appellants, to whom the burden of going forward shifted, were then obliged clearly to demonstrate that the disgorgement figure was not a reasonable approximation. Defendants in such cases may make such a showing, for instance, by pointing to intervening events from the time of the violation. In SEC v. MacDonald, 699 F.2d 47 (1st Cir.1983) (en banc), the First Circuit reversed a district court order requiring the defendant to disgorge all profits from an illegal insider trade when the defendant had held on to the stock for more than a year. The court restricted the amount to a figure based on the price of the stock "a reasonable time after public dissemination of the inside information." Id. at 55. Similarly, the Second Circuit in SEC v. Manor Nursing Centers, Inc., 458 F.2d 1082 (2d Cir.1972), refused to extend the disgorgement remedy to income subsequently earned on the initial illegal profits. In those cases, the defendant demonstrated a clear break in or considerable attenuation of the causal connection between the illegality and the ultimate profits."

171. It was, thus, urged that the direction of disgorgement has been made in the absence of any finding of any ill-gotten or wrongful gain and that the basis of disgorgement is on the finding of contravention of Regulations 41(1) and 42(2) of SECC Regulations read with SEBI circular of 2012. It was further urged that on the basis of a finding of the WTM that there was lack of due diligence on the part of the appellant in placing the TBT architecture, it still did not warrant a direction of disgorgement under Section 11 and 11B of the SEBI Act without even attempting to establish what gains were made or loss averted as a result of the alleged lack of due diligence.

172. It was also contended that direction of disgorgement, in the instant case was punitive and was not remedial in nature. In support of his submission, the learned counsel placed reliance upon a decision of this Tribunal ***Dushyant***

N. Dalal v. SEBI, Appeal No. 182 of 2009*, *decided on November 12, 2010.

173. It was also urged that the direction for disgorgement was also disproportionate. It was contended that the basis for calculation of disgorgement was based on the percentage of NSE revenue from the operations which included co-location and non-colocation operations which could not be taken into consideration. At best, the disgorged amount could be taken for those transactions which were against the Acts, Rules and Regulations. It was contended that the profits sought to be disgorged were not profits that NSE had earned from the alleged acts of "omissions/ commissions"

174. On the other hand, SEBI has supported the order of the WTM and the directions issued under Section 11 and 11B. The contention of the respondent is, that the impugned order has been passed in terms of the powers conferred under Section 11 and 11B of the Act and

Section 12A of the SCRA Act. It was contended that the powers are wide and designed to account for any and all eventualities which may not have been contemplated at the time of framing the Regulations and that the measures illustrated in Section 11 and 11 B are only indicative and cannot be taken to be fetters on the powers of the respondent to pass directions in the interests of the protection of the participants of the securities market.

175. The respondent placed reliance in ***SEBI v. Alka Synthetics Ltd., AIR 1999 Guj 221,*** wherein the Gujarat High Court held :

> *"As and when new problems arise, they call for new solutions and the whole context in which the SEBI had to take a decision, on the basis of which the impugned orders were passed cannot be said to be without authority of law in face of the provisions contained in section 11 and ……. It is clearly made out by a plain reading of the language of the section itself that the SEBI has to protect the interests of the investors in securities and has to regulate the securities market by such measures as it thinks fit and such measures may be for any or all of the matters provided in sub-section (2) of section 11 and in due discharge of this duty cast upon the SEBI as a*

part of its statutory function, it has been invested with the powers to issue directions under section 11B. ……. Thus, so far as the authority of law in the SEBI to issue such directions is concerned, such authority to take measures as it thinks fit is clearly discernible on the basis of the provisions contained in section 11 read with section 11B of the SEBI Act. ..... We have to, therefore, consider and interpret the power of the SEBI under the provisions so as to see that the objects sought to be achieved by the Act is fully served, rather than being defeated on the basis of any technicality……. The duty and function had been entrusted to take such measures as it thinks fit and in order to discharge this duty, the power is vested under section 11B. ..... The authority has been given under the law to take appropriate measures as it thinks fit and that by itself is sufficient to clothe the SEBI with the authority of law."

176. Similarly, the Delhi High Court in ***MZ Khan v. SEBI (AIR 1999 Del.164)*** held***:***

"Under section 11 of the SEBI Act, the SEBI has the power to protect the interests of the investors in securities and to promote the development of, and to regulate the securities market, by such measures as it thinks fit. The power is of a very wide nature and is not hedged in by any restrictions. This power will embrace the power to issue interim orders. The SEBI in a fit case can pass interim orders in the interests of investors and to promote the development of and to regulate the securities

market. Under the same provision, it can frame regulations as well for the same purpose. The final orders after the inquiry are contemplated under section 11B of the Act and at that stage it can issue such directions to any person referred to in the section as may be appropriate in the interests of investors and securities market. Both under sections 11 and 11B the duty is cast on the Board to protect the interests of the investors in securities and to promote and regulate the securities market. If at the initial stage it becomes necessary to pass an interim order, the SEBI has been endowed with such a power under section 11 of the Act. In case the provisions of section 11 are construed in a restrictive manner, the interests of the investors in securities and development and regulation of securities market will suffer."

177. The Bombay High Court in ***Ramrakh R. Bohra v. SEBI (1999) 33 CLA 243 (Bom.)*** held:

"Section 11B of the SEBI Act is an enabling provision enacted to empower the SEBI to protect the interest of investors and to promote the development of and to regulate the securities market and to prevent malpractices and manipulations, inter alia, by brokers, Such an enabling provision must be construed so as to subserve the purpose for which it is enacted. It would be the duty of the court to further the legislative object of providing a remedy for the mischief. A construction which advances this object should be preferred rather than one which attempts to find a way to circumvent it. In

the case of Reserve Bank of India v. Peerless General Finance and Investment Co. Ltd. , the Supreme Court has observed, as under:

> *"It is a well accepted canon of statutory construction that 'it is the duty of the court to further Parliament's aim of providing a remedy for the mischief against which the enactment is directed and the court should prefer a construction which advances this object rather than one which attempts to find some way of circumventing it... In the matter of construction of enabling statutes the principle applicable is that if the legislature enables something to be done, it gives power at the same time, by necessary implication, to do everything which is indispensable for the purpose of carrying out the purpose in view…. It has been held that the power to make a law with respect to any subject carries with it all the ancillary and incidental powers to make the law effective and workable and to prevent evasion."*

178. This Tribunal in ***R.K. Agarwal vs. SEBI, Appeal no.1 of 2001***, *held*:

> *"One has to view the powers of the Respondent under the provisions of the Act in the context of the objects sought to be achieved by the Act and the duty cast on them in achieving the same. Section 11 and section 11B give enormous authority to the respondent in this regard."*

179. It was further held that:

> *"Therefore, in our view, the express grant of statutory power conferred by section 11B carries the authority to use of reasonable means to make such power effective.*
>
> *If one has regard to the aforesaid principles, it would follow that the power which has been conferred by section 11B to issue direction are of a widest possible amplitude and are exercisable in the interest of investors and in order to prevent, inter alia, a broker from conducting his business in a manner detrimental to the interests of the investors or the securities market. The said power to issue directions under section 11B must carry with it, by necessary implication, all powers and duties incidental and necessary to make the exercise of these powers fully effective including the power to pass interim orders in aid of the final orders...."*

180. In ***Anand Rathi v. SEBI 2002 (2) Bom CR 403*** has held that:

> *"The SEBI is charged with the duty to protect the public. What will protect the public must involve an exercise of discretionary powers. And so the question of the appropriate remedy is necessarily a matter of administrative competence. To judge the validity of any decision or order passed by the SEBI, normally, the Wednesbury test is to be applied to find out if the decision was illegal and suffered from procedural improprieties or was one which no*

sensible decision maker could, on the material before him and within the framework of the law, have arrived at. The Court would consider whether relevant matters had not been taken into account or whether irrelevant matters had been taken into account or whether the action was not bona fide. The Court would also consider whether the decision was absurd or perverse. The Court would not, however, go into correctness of the choice made by the authority amongst the various alternatives open to him. Nor could the Court substitute its decision to that of the authority. The application of the principle of proportionality which is sought to be invoked by Dr. Singhvi is debatable qua its application to the executive actions."

181. In ***Karvy Stock Broking Ltd. vs. SEBI, 2007 SCC OnLine SAT 2,*** this Tribunal held:

"The primary function and duty of the Board is to protect the interests of the investors in securities and to regulate the securities market. The preamble to the Act which declares the dominant purpose also makes it clear that the Board has been established for this purpose. This duty is performed under sections 11 and 11B of the Act which are the very soul and heart of it. ..... On the basis of the past experience of the Board, a need was felt to amend the Act to enable it to issue directions, whenever necessary, for the purpose of protecting the interests of investors and the securities market. Parliament by Act 9 of 1995 introduced Section 11B with effect from 25.1.1995. This section enables the Board to

issue directions to any intermediary of the securities market or any other person associated therewith if it thinks it is necessary in the interests of investors or orderly development of securities market or to prevent the affairs of any intermediary or any other person referred to in Section 12 from being conducted in a manner detrimental to the interests of investors or securities market or to secure the proper management of any such intermediary. For regulating the securities market and with a view to protect the same, the Board started issuing interim orders/directions under this newly added provision to keep the erring intermediaries or other delinquents associated therewith out of the market.... Even under section 11(1) and thereafter with the introduction of section 11B in the year 1995, the power of the Board was very wide and it could take every measure that a situation would demand and issue such directions that it considered necessary including the suspension of an intermediary. Yet, to put everything beyond the shadow of doubt, even the implicit has been made explicit by adding sub section (4) in Section 11 which now expressly authorizes the Board to issue various kinds of orders, "either pending investigation or enquiry or on completion of such investigation or enquiry.

.....

As already observed, section 11 is the very heart and soul of the Act. This provision has been periodically amended and today it is substantially different from what it was at its inception in the year 1992. The scope of the power has been considerably widened. The introduction of sub section (4)

in section 11 and various other provisions like section 11B is indicative of the legislative intent. These provisions are meant to arm the Board with authority so as to be able to effectively exercise power and achieve the declared objectives of the Act. It is clear that a common thread runs through the various provisions of the Act and that is to empower the Board to take preventive as well as punitive measures so as to protect the investor and to promote the securities market.

.....

In view of the above, we hold that the word 'inquiry' used in section 11(4) refers to the inquiries held under sections 11, 11B, also to the enquiry under the inquiry regulations framed under section 12(3) and also to the inquiry held under Chapter VIA and it is during the pendency of any of these inquiries that an interim order could be passed with a view to protect the interests of investors or in the interest of the market. It is in this background of the legal position that we have to examine the validity of the impugned order."

182. In ***IL&FS Securities v. SEBI & Ors., A.No.138 of 2019***, *this Tribunal held:*

"Section 11 and 11B gives wide powers to SEBI to protect the interest of investors in securities and to promote the development and to regulate the securities market. Under Section 12A of the SCRA, 1956 SEBI has powers to issue directions to any Stock Exchange, Clearing Corporation or agencies associated with the securities market."

183. In ***Karvy Stock Broking Ltd. v. SEBI, Appeal No.6 of 2007 decided on 2nd May, 2009***, this Tribunal held:

> *"5. Disgorgement is a monetary equitable remedy that is designed to prevent a wrongdoer from unjustly enriching himself as a result of his illegal conduct. It is not a punishment nor is it concerned with the damages sustained by the victims of the unlawful conduct. Disgorgement of ill-gotten gains may be ordered against one who has violated the securities laws/regulations but it is not every violator who could be asked to disgorge. Only such wrongdoers who have made gains as a result of their illegal act(s) could be asked to do so. Since the chief purpose of ordering disgorgement is to make sure that the wrongdoers do not profit from their wrongdoing, it would follow that the disgorgement amount should not exceed the total profits realized as the result of the unlawful activity."*

184. In ***Dushyant N. Dalal v. SEBI, Appeal No. 182 of 2009, order dated 12th November 2010***, it was argued that without a specific provision, direction to disgorge cannot be issued, but this Hon'ble Tribunal held that no specific provision in the SEBI Act is required and the power to order disgorgement is inherent in the Board. The Supreme Court held:

"9. Since disgorgement is not a punishment but only a monetary equitable remedy meant to prevent a wrong doer from unjustly enriching himself as a result of his illegal conduct, we are of the view that there need be no specific provision in the Act in this regard and this power to order disgorgement inheres in the Board."

185. In ***Mahavirsingh Chauhan v. SEBI, Appeal No. 393 of 2018 dated 18th October 2019,*** *it was held by this Tribunal that*:

"21. From the aforesaid, it is clear that a person can be directed to disgorge amount equivalent to the wrongful gain made by him. [...] The order of the WTM is consequently, modified to the extent that the liability of the appellants in question except Rajesh Ranka to disgorge the amount is to the extent of the profit earned by them as calculated by the WTM under Table 9. In the event of failure by these appellants to pay the amount, it would be open to SEBI to recover the amounts in the order of hierarchy stipulated in paragraph 145€ of the impugned order."

186. In ***Gagan Rastogi v. SEBI, Appeal No. 91 of 2015 dated 12th February 2019,*** *this Tribunal held*:

"18. [...] that equitable remedy demands that disgorgement has to be made from the point of unjust enrichment or where the chickens come to

roost. However, we cannot accept the arguments that no such unjust enrichment has been made by the appellants nor disgorgement has to be made from where the unjust enrichment rests finally. If one entity who has unjustly enriched knowingly transferring those proceeds further to some other entity does not prevent the authorities from disgorging the same from the original beneficiary of unjust enrichment. The choice is clearly that of the authority to pursue and disgorge an illegal gain from any point of a chain, if such a chain exists. Tracing to the last point of the chain is an exercise in futility and is not needed. When the proof of unjust enrichment is right before the eyes of an authority chasing the mirage of further transfers itself cannot be supported."

187. Certain case laws on disgorgement under US Securities Laws were also cited. In this regard, we find that The Securities Exchange Act, 1934 did not include any separate statutory provision for disgorgement. However, in 1971, restitution of unlawful gains was considered and upheld in ***Securities Exchange Commission v. Texas Gulf [446 F.2d 1301 (2d Cir. 1971)].***

188. In the year 1990, the US Congress conferred statutory sanction on the remedy of disgorgement by the enactment of the Security Enforcement Remedies and Penny Stock Reform Act, 1990, which expressly authorised accounting and disgorgement in securities laws.

189. In ***SEC v. Great Lakes Equity [775 F. Supp. 211]***, it was held that unjust enrichment is not merely restricted to what remains in the pockets of the wrongdoer in the aftermath of a fraud, but rather includes the 'value of the other benefits' which accrue to the wrongdoer through a scheme. These benefits may be in the form of interest free loans, improved reputation, cost defrayments, etc. Thus, the definition was given a much wider interpretation by the authority.

190. Further, in an order instituting cease-and-desist in the matter of **credit-rating agency DBRS, Inc., SEC dated October 26, 2015** charged the Respondent for misrepresenting its surveillance methodology for ratings

of certain complex financial instruments during three years and directed the Respondent to disgorge an amount of USD 2.7 million. In this case, disgorgement was directed even though there was no wrongful gain or loss caused. It was thus urged that the concept of disgorgement cannot be restricted to just recalling unlawful gains which would lead to it being given a very narrow interpretation.

191. In another matter of ***TPG Capital Advisors, LLC, dated December 21, 2017 SEC*** charged the Respondent for inadequate disclosures that involved a breach of fiduciary duty. It failed adequately to disclose or obtain the consent of the Funds to its receipt of accelerated monitoring fees. Despite the practice of receiving accelerated monitoring fees, TPG did not adopt or implement any written policies or procedures reasonably designed to prevent violations of the Advisers Act or its rules arising from the conflicts of interest associated with

the undisclosed receipt of fees. The Respondent was, inter alia, directed to disgorge an amount of USD 9.4 million along with interest.

192. Similarly, in the matter of ***Kestra Advisory Services, LLC dated July 9, 2015***, the Respondent breached its fiduciary duty to advisory clients by failing to provide full and fair disclosure regarding two types of compensation paid to its predecessor firm and affiliated broker, and the conflicts of interest. Further, the Respondent did not adopt or implement written policies and procedures reasonably designed to prevent violations of the Advisers Act and the Rules thereunder, and was therefore directed to disgorge an amount of USD 7.2 million along with interest and a civil penalty.

193. It was thus urged that in the US jurisprudence, the term "disgorgement" has been given a much wider meaning and the said power has been used even in cases of violation of statutory obligations and has not just been

restricted to cases wherein an unlawful gain has been made or a loss has been avoided.

194. In ***Janak Chimanlal Dave vs. SEBI, SAT A.No.446 of 2020, decided on 20th September, 2021***, this Tribunal held:

> *"The contention that under Section 11B only unlawful gains could be disgorged and since he has incurred a loss no disgorgement can be made against him is erroneous... disgorgement in our opinion is an equitable remedy under Section 11B of the Act meant to prevent the wrongdoers from enriching himself by his wrong by wresting ill-gotten gains from the hands of the wrongdoer. The provisions relating to disgorgement is thus remedial in nature and is not punitive... In our opinion net profit from wrongdoing is the gain made by any business or investment, where both the receipts and payments are taken into account. We are further of the opinion that the appellant will not be allowed to diminish the show of profits by putting in unconscionable expenses or other inequitable deductions even though entire profits of a business may result from the wrongdoings of the appellants and therefore are not entitled for the deductions as prayed by them."*

195. It was urged that disgorgement from salary can be ordered. In support of this submission reliance was

placed in the matter of ***SEC v Church of God Inc., 429 F. Supp. 2d 1045***, wherein SEC held that:

> *"Disgorgement of illegal profits and unjust enrichment is an equitable remedy available under the federal securities laws. E.g., SEC v. First City Financial Corp., 890 F.2d 1215, 1230 (D.C.Cir.1989). The court concludes that each defendant should be ordered to disgorge one half of his base salary for 2001, plus interest, as proceeds from the securities law violations. That was the last full year of CEG's operations and of these defendants' employment. But for the securities violations, CEG would have collapsed earlier, so the violations enabled the defendants to continue their employment. There is no magic to the fraction of one-half, but it is intended to reflect in an equitable way the fact that both defendants also provided real and valuable services to CEG and the Church of God for many years, as well as other mitigating factors."*

196. From the aforesaid decisions, it is clear that SEBI has wide powers to issue directions for disgorgement under Section 11 and 11B of the Act. However, explanation to Section 11B, as inserted by Act No.27 of 2014 gave specific power to SEBI to issue a direction for disgorgement of an amount equivalent to the wrongful

gain. Further, the direction to disgorge must be in relation to any transaction or activity and that such transaction or activity is in contravention to the provisions of the SEBI Act or the Regulations made thereunder. Further, the person must have made profit or averted loss from such transaction or activity.

197. Disgorgement means that the act of giving up something, namely profit obtained by illegal or unethical acts. It is a repayment of ill-gotten gains by the wrong doer. Disgorgement is also an equitable remedy that is designed to prevent a wrongdoer from unjustly enriching himself as a result of his illegal conduct. It is not necessary that in each and every case there should be a direction to disgorge profits merely because the provisions of the Act or Regulations have been violated. Disgorgement should be ordered only where persons have made gains or averted loss/losses as a result of their illegal/unethical acts.

198. Thus, it becomes essential first to pin point a person and hold him guilty of making illegal gains and only thereafter direct him to disgorge the ill-gotten gains. Further, there must be a finding of ill-gotten gains by ill-gotten or unethical acts.

199. We are also of the view that the disgorgement amount should not exceed the wrongful gain made or loss averted by such contravention. Further, the burden of showing that the amount sought to be disgorged is equivalent to the wrongful gain is upon SEBI. In addition to the above, the direction to disgorge an amount must establish a causal nexus between the wrongful conduct and wrongful gains.

200. The primary function and duty of SEBI is to protect the interest of the investors in securities and to regulate the securities market. This function is performed under Sections 11 and 11B of the Act. Section 11B was introduced by Parliament to enable SEBI to issue

directions if it was necessary in the interests of investors or orderly development of the securities market. The scope of powers under Sections 11 and 11B has been considerably widened through various amendments issued from time to time. The amendments made indicates the legislative intent, namely to arm SEBI with such powers so as to enable SEBI to effectively exercise power and achieve the objects of the Act and to take preventive measure so as to protect the investors and to promote the securities market.

201. Disgorgement is not a punishment but only an equitable remedy to prevent a wrongdoer from unjustly enriching himself as a result of his wrongful acts. As stated earlier, disgorgement should be the amount equivalent to the wrongful gain made or loss averted by such contravention.

202. In the light of the aforesaid, we have already held that the inequitable distribution of IPs had nothing to do

with the TBT architecture. The dissemination of information/data from the PDC center to the POP Receiver and thereafter to the Port were random, namely there was randomness in the dissemination of data from the PDC center right up to the Port and no fault has been found in the dissemination of data in the TBT architecture. We also find that the data that was disseminated from the Port to the Colo rack of the TM was equal, unrestricted and transparent and there was fair access.

203. We have also found that there was no violation of Regulation 41(2) of the SECC Regulations. We also observed that Regulation 41(2) of the SECC Regulations cannot be invoked for placing the TBT architecture which has already been placed in 2010.

204. We found that the TBT architecture provided equal, unrestricted, transparent and fair access to data dissemination from its TBT architecture to the TMs. We

also found that there was lack of due diligence while allocating IPs to various Ports and that there was unequal load on various Ports and a load balancer would have ensured equal distribution of IPs. We also find that there was a human lapse in not putting the system in place to monitor frequent connections of certain TMs to the secondary server.

205. For this lack of human intervention in failing to monitor frequent connection to the secondary server by certain TMs, equitable direction under Sections 11 and 11B could be issued, but in our view there was no occasion to issue a direction for disgorgement. The direction for disgorgement is patently erroneous since we do not find any unethical act/acts on the part of NSE.

206. NSE has not indulged in any unethical act nor has unjustly enriched itself as a result of any wrongful act. The direction to disgorge must be in relation to any transaction or activity which is contravention of the

provisions of the SEBI Act or its Regulations. The direction to disgorge can be issued when it is found that the person has made profit through illegal or unethical acts and is not necessary that in each and every case a direction to disgorge should be passed merely because some provisions of the Act or Regulations have not been adhered to. In the instant case, the lack of due diligence is not on account of any violation of any provisions of the Act or the Regulations or circulars but is on account of human failure to comply with the circulars completely in letter and spirit.

207. We further find that the WTM has exonerated NSE of the charge of violation of the PFTUP Regulations holding that no fraud was committed by NSE or its employees. We, therefore, find that the activity of NSE was not in contravention of any provisions of the SEBI Act or the Regulations or circulars made therein and it is only a case of non-adherence of a circular to some extent. No doubt

that SCRA Act was framed with the object of preventing undesirable transactions in securities. The Act requires all contracts in securities to be dealt only on a recognized stock exchange. A larger responsibility was placed on the stock exchange to ensure that undesirable transactions do not take place. In the instant case, the information disseminated from the TBT architecture was accessible to everyone through a transparent mode which was equal, unrestricted and gave fair access. The lapse on the part of NSE is not ensuring equitable distribution of IPs can only invite a penalty or a direction under Section 11 and 11B but under no circumstances a direction in the nature of disgorgement could be passed in the facts and circumstance of the present case. In our view, the direction to disgorge an amount was totally unwarranted.

208. In view of the aforesaid, it is not necessary for us to go into the question raised by the appellant, namely, that the respondent was duty bound to set out the exact nature

of the measure which it proposed to take in the show cause notice and that it did not provide the requisite measures in the show cause notice and, consequently, the order of disgorgement was in violation of the principles of natural justice.

209. Insofar as Mr. Ravi Narain and Ms. Chitra Ramkrishna are concerned, the show cause notice alleged that Mr. Ravi Narain being the Managing Director and Chief Executive Officer ('MD and CEO') of NSE from 2000 to March, 2013 and Ms. Chitra Ramkrishna, being the Deputy Managing Director from 2008 to 2010; Joint Managing Director ('JMD') from 2010 to 2013 and Chief Executive Officer ('CEO') from April, 2013 to December, 2016 and during the relevant period failed to take any steps to ensure proper systems, checks and balances so as to provide fair and equitable access to all. The show cause notice alleged that adherence to the principle of fair and equitable access was left to the

technology team without any specific guidance and, thus, failed to perform their role in establishing adequate systems which led to the scenario whereby certain brokers were allowed to breach the norms of fair and equitable access. It was also alleged in the show cause notice that it was the duty of Mr. Ravi Narain and Ms. Chitra Ramkrishna to prevent manipulation of the system architecture and ensure fair, transparent and equitable access and by not taking preventive as well as curative measures proactively, they facilitated fraud and manipulation by OPG. It was, thus, alleged that Mr. Ravi Narain and Ms. Chitra Ramkrishna violated Section 12A(a), (b) and (c) of the SEBI Act read with Regulations 3 and 4 of the PFUTP Regulations and SECC Regulations.

210. The appellants Mr. Ravi Narain and Ms. Chitra Ramkrishna sought to make out a case that they were utterly unaware of the TBT Architecture. It was

contended that they had no technical/computer knowledge and, for that purpose, had employed experts and took decision on the basis of the advice given by the experts. It was also contended that Mr. Ravi Apte and Mr. N. Murlidharan who were the Chief Technology Officer ('CTO') were involved in choosing the technology and that Dr. V.A. Sastry who was a technology expert with a Ph.D. in computer applications gave his expert opinion and, consequently, are not responsible for the alleged violations.

211. The WTM found that Mr. Ravi Narain and Ms. Chitra Ramkrishna were holding the position of MD and CEO during the relevant point of time and having held the senior most management position in NSE and, being in charge of the affairs of the conduct of the stock exchange business, could not abdicate their responsibility by citing limited knowledge on technology issues. The WTM held that being vested with general and overall responsibility

of ensuring the implementation of the principle of equal, fair and transparent access, as mandated under Regulation 41 of the SECC Regulations Mr. Ravi Narain and Ms. Chitra Ramkrishna being the MDs during the relevant period are liable for breach of the provisions of the SECC Regulations. The WTM consequently directed Mr. Ravi Narain to disgorge 25% of the salary drawn for the financial years 2010-2011, 2012-13 and prohibited Mr. Ravi Narain from associating with any listed company or a market infrastructure institution or any other market intermediary for a period of five years. The WTM further directed Ms. Chitra Ramkrishna to disgorge 25% of the salary drawn for the financial year 2013-14 prohibited her from associating with any listed company or a market infrastructure institution or any other market intermediary for a period of five years.

212. Mr. Ravi Narain holds a degree in Economics and according to him does not have any computer technology

qualifications. He became the first Deputy Manager of NSE and became it MD and CEO in the year 2000. Mr. Ravi Narain ceased to be the MD and CEO on 31st March, 2017 but continued till June, 2017 as a Non-Executive Director, after which he left NSE.

213. Ms. Chitra Ramkrishna was with NSE since inception and is a qualified Chartered Accountant. According to her, she is not a technical expert nor does she have any IT qualification. Ms. Chitra Ramkrishna was promoted as Deputy Managing Director in 2003 and all department heads were directly reporting to her. After Mr. Ravi Narain, Ms. Chitra Ramkrishna became the MD and CEO from April, 2013 onwards and resigned on 3rd December, 2016.

214. We have already held that the TBT architecture provided equal, unrestricted and fair access to the data dissemination from its TBT architecture to the TMs. We also found that there was no violation of Regulation 41(2)

of the SECC Regulations. The WTM has also found that no fraud was found against the appellants Mr. Ravi Narain and Ms. Chitra Ramkrishna nor were they facilitating any manipulation done by OPG.

215. We also find that being the head of the institution it is not necessary that the person should have intricate knowledge in technical matters and for such purposes even the head of the institution is required to take guidance from experts. In this regard, we find that experts were appointed and decisions were taken based on the expert advice and policies were implemented. In this regard, we find that Dr. V.A. Sastry was a technical expert with Ph.D. in computer applications and had 30 years of experience in the software industry including with Infosys Ltd. The Board of NSE used to rely on his technical expertise. This fact has not been disputed in the impugned order. Further, we find that NSE had Chief Technology Officers, Mr. Ravi Apte and Mr. N.

Murlidharan who as technical experts were involved in the choosing of the technology, namely, the TBT architecture for the Colo facility. These persons were also noticees in those proceedings and their submissions have been recorded in detail which upon a perusal we find that these noticees have given detailed reasons justifying the choice of the TBT architecture. We also find that these two noticees have been expressly exonerated of the charges leveled against them with regard to the choice of the TBT architecture and facilitating fraud and manipulation by OPG, etc.

216. At the same time, we cannot ignore the fact that Mr. Ravi Narain and Ms. Chitra Ramkrishna being the MD and CEO of the stock exchange at the relevant movement of time cannot abdicate their responsibility by citing limited knowledge in certain spheres of the business activities. In the changing scenario in the corporate world the functions are delegated to professionals who become

responsible for their acts and conduct. While functions may be delegated, duty of care, due diligence, verification by the top management cannot be abdicated. The MD and CEO are responsible for the day to day affairs in the running of the exchange and cannot pass on the responsibility of non-implementation of the load balancer or non-monitoring of the secondary server. The responsibility at the end of the day falls squarely upon the MD and CEO. The implementation of the Colocation technology was carried out under the overall supervision of Mr. Ravi Narain and Ms. Chitra Ramkrishna and, therefore, they cannot abdicate their responsibility for the lapse that has been incurred in the monitoring of certain areas.

217. We, however, find that there is no finding to the fact that Mr. Ravi Narain or Ms. Chitra Ramkrishna has made profit or wrongful gain which is a prerequisite for issuance of a direction under Sections 11 and 11B for

disgorgement. In the absence of any finding of wrongful gain being made by Mr. Ravi Narain and Ms. Chitra Ramkrishna, we are of the opinion that no direction for disgorgement can be made especially when there is no finding of fraud, unfair trade practice or collusion with any TM.

218. We also note that the direction to disgorge 25% of the salary is patently erroneous. The power under Sections 11 and 11B for disgorgement cannot be extended to recover money from salary. Salary is a periodical payment for one's labour. As per Black's Law Dictionary Eight Edition salary means compensation for services. Salary is given to a person as a remuneration for the work that he does in an organization. Salary is not a profit nor can it be termed as an unfair gain for the work which the person has done in the organization. If the person is not in service/employed, the question of disgorgement from the salary does not arise. Recovery

from salary can only be done when the person is in service/employed. Disgorgement under Sections 11 and 11B can only be made for illegal or unethical acts through such transactions or activity which is in contravention to the provisions of the SEBI Act or the provisions made thereunder. In the absence of any illegal or any unethical acts and in the absence of any finding of unlawful gain being made by them the direction to disgorge 25% of the salary is wholly illegal and cannot be sustained. Directions under Sections 11 and 11B are equitable in nature. Disgorgement has been held to be an equitable direction. In our opinion, direction for disgorgement from salary amounts to penal recovery. It becomes punitive and not equitable.

219. We do not agree with the decision in the matter of ***United States SEC v Church of God Inc., 429 F. Supp. 2d 1045, (supra).*** No reason or analogy has been given as to why disgorgement from salary was made. In the

context of Sections 11 and 11B of the Act, the decision (supra) is not applicable.

220. Now we take the appeal of OPG. The charge against OPG and its Directors are as under:

i. First Connect/Early Login to POP Servers – OPG was alleged to have consistently logged in first across POP Servers as it was aware of the weakness of the TCP/IP TBT System architecture and the advantage of having first login across various POP Servers in terms of trades. OPG was also alleged to have designed its trading software in such a way that it could manage to connect first on the POP Servers and gain advantage.

ii. Crowding out other market participants – OPG was assigned multiple TBT IPs to single Ports of certain POP Servers which enabled it to consistently be 1st, 2nd, 3rd and even 4th connection to the POP

Servers. Thus, it tried to crowd out other TMs from the TBT platform.

iii. Connection to Secondary/Fall–back Server for TBT data – Since TMs were permitted to Secondary POP Server only in case of disconnections to primary POP Server, the load on Secondary POP Server was generally very low. Therefore, OPG, by connecting to Secondary POP Server almost on a daily basis without valid reasons, gained unfair advantage over other TMs.

iv. Connivance/Collusion with NSE – OPG displayed disregard to the norms of NSE and yet NSE continued to permit OPG to connect to the Secondary POP Server. The reluctance on the part of NSE to prevent OPG from accessing the Secondary POP Server to gain unfair advantage could only have been possible through active connivance/collusion of NSE and OPG.

v. Unlawful gains– OPG gained materially by being the first logger as well as by connecting to the Secondary POP Server.

vi. Conduct of OPG and its Director, Sanjay Gupta, during SEBI Investigation–OPG acting through its Director, Sanjay Gupta, had concealed/ destroyed vital information which could have been helpful in providing better insight and evidence in arriving at more conclusive findings in the instant proceedings.

221. Based on the aforesaid charges, for reasons best known to the WTM only four issues were framed namely:

i. **Issue 1**: Whether OPG consistently logged in first across POP Servers on account of being aware of the weakness of the TCP/IP TBT System architecture and thereby, gained an advantage?

ii. **Issue 2**: Whether OPG tried to crowd out other TMs from the TCP/IP TBT System platform?

iii. **Issue 3**: Whether OPG Securities gained an unfair access and advantage by consistently logging into the Secondary POP Server for large number of days?

iv. **Issue 4**: Unlawful gains made by OPG.

222. The WTM exonerated OPG and its Directors on issue nos.1 and 2 and found OPG and its Directors guilty of unfair access and advantage by consistently logging into the secondary POP servers, and on that basis, made unfair gain of Rs.15.57 crores.

223. The WTM accordingly prohibited OPG from accessing the securities market and from buying, selling or otherwise dealing in securities for a period of five years. The Directors were also restrained from accessing the securities market for a period of five years. Further,

OPG in its capacity as a stock broker was directed not to take any new clients for a period of one year and further directed OPG and its Directors to disgorge an amount of ₹15.57 crores along with interest at the rate of 12% per annum from April 7, 2014 onwards, till the date of payment.

224. On issue no.1, the WTM after considering the material evidence on record found that the total number of first connect by OPG was 137 days out of 528 trading days during the period February, 2012 to 6th April, 2014. The WTM upon analysis of the evidence also came to a conclusion that advantage accruing to the first connect would not continue throughout the day and depending upon the load factor in front of each Port, it may get diffused and diluted in the course of the trading day to a 'probabilistic advantage'. This conclusion was drawn considering that while it was possible to identify the POP server that logs in first to the PDC and the Sender Port of

that POP Server which receives the data first, at the starting point of the trading day, the subsequent changes in dissemination sequence between the Ports or between the POP Servers cannot be ascertained because of the variance in the load factor at various Ports of different POP servers. This is on account of the fact that the data correlating the early login or first connect at each Port level was not available for the relevant period. The WTM therefore concluded that even though OPG consistently logged in to the POP server it did not gain any preferential access to TBT architecture and, consequently, decided issue no.1 in favour of OPG holding that even though OPG logged in first across POP server it did not gain any advantage.

225. On issue no.2, the WTM again came to the conclusion that even though OPG were allotted several IPs and were allocated to a single Port enabling it to establish 1st, 2nd, 3rd and even 4th connection to the POP server it did not

gain any advantage over other TMs. The WTM held that since data dissemination occurs first to Port 1 of the POP server and then to Port 2 and then to Port 3 OPG was allotted Port 1 on only one primary POP server (TBTCOLO26) and the secondary POP server (TBTCOLO27). The WTM came to the conclusion that assigning multiple IPs to OPG on single Port did not crowd out the other TMs as data dissemination occurred first to POP server and thereafter to different Ports and that similar process of allocating multiple IPs on single Port were also given to other TMs. Consequently, issue no.2 was also decided in favour of OPG and its Directors.

226. Even though there was a specific charge that OPG disregarded the norms of NSE and that NSE continued to permit OPG to connect to the secondary POP server further, NSE did not prevent OPG from accessing the securities market and this was possible only through active connivance of NSE and OPG. In this regard, we

observe that there is no finding or discussion relating to any connivance of OPG and its Directors with any employee/officials of NSE. The WTM has also found that the charge of collusion and connivance of NSE and OPG was not substantiated as there was no sufficient evidence. Further, there is a discussion in the impugned order on the issue that OPG through its Directors concealed/destroyed vital information but no consequential penalty/directions has been issued. When an allegation has been made in the show cause notice, it was the duty of the WTM to frame as an issue and decide that matter. We further observe that WTM fell in error in exonerating the appellant on Issue no.2. Admittedly, the OPG had multiple IPs to single Ports and established 1st, 2nd, 3rd and even 4th connect to the POP Servers as a result it gained unfair advantage over other TMs. The tick received by other TM was after it was received by OPG causing loss of those few seconds which was

advantageous to OPG and disadvantageous to other TMs. This aspect has not been considered.

227. On issue no.3, the WTM came to the conclusion that unfair advantage was gained by OPG through its secondary POP servers connections.

228. On the issue as to whether OPG gained an unfair advantage and access by consistently logging into the secondary server for a large number of days, the show cause notice alleged as under:

i. Based on the above events it is alleged that OPG displayed disregard to the norms laid by NSE and yet NSE continued to permit OPG to connect to the secondary server. The reluctance on the part of NSE to prevent OPG from accessing the secondary server ahead of others on continuous basis, allowed OPG to have free access to secondary server in order to gain undue advantage. It is alleged that such regularity of success by OPG would have been

possible only with active connivance/collusion of NSE and OPG.

ii. Since, stock brokers were permitted to access the secondary server only in case of disconnection to primary server, the load on the secondary server was generally very low. Therefore, by connecting to secondary server almost on a daily basis without valid reasons, it is alleged that OPG has gained unfair advantage over other stock brokers. Further, it is alleged that NSE was aware that OPG has been generally connecting to the secondary server, NSE did not take any steps nor took any action. It was therefore alleged that there was connivance between OPG and NSE to give preferential treatment to OPG. It was also alleged that OPG has acted in a fraudulent manner and had indulged in fraudulent and unfair trade practices in securities market.

229. The WTM after considering the submissions of OPG and the material evidence on record as well as the TAC report and Deloitte report came to the conclusion that OPG was connecting to the secondary server on a regular basis and at times had logged in only on the secondary server and did not log on the primary POP server. The WTM further found that the load on the secondary server was very low and inspite of several warnings being issued by NSE to shift to the primary server OPG continued to ignore those warnings and continued to login on the secondary server. The WTM did not accept the contention of OPG that it was facing disconnection issues which resulted in OPG logging on to the secondary server. The WTM found that on account of low load on the secondary server OPG gained advantage over other TMs who were only logged in to the primary server and, therefore, on account of low load factor OPG had faster access to the data dissemination from the TBT

architecture. The WTM further found that OPG displayed complete disregard to the circular and guidelines as well as the norms laid down by NSE for moving to the secondary POP server and, consequently, had indulged in unfair trade practice which was violative of Regulation 4(1) of the PFUTP Regulations.

230. In this regard, the contention of the learned senior counsel for OPG is that the NSE circular dated 31st August, 2009, the Colocation guidelines dated 8th August, 2011 and the updated guidelines dated 16th April, 2012 did not contain restriction on the usage of the secondary server. These circulars/guidelines only informed the TMs with regard to the introduction of the Colocation services at the NSE premises. It only provided the information as to the facilities that would be made available at the Colocation and the process for member applications. It was urged that the guidelines dated 8th August, 2011 which was updated on 16th April, 2012 only provided that

> *"Member's should always check the secondary TBT parameters are working fine with their application in case of non-availability of data from TBT primary source they can move to secondary source".*

231. It was urged that the updated guidelines only advised the TMs to connect to the secondary server as against barring the same and, consequently, the only way to do so was by initiating a secondary server connection and staying connected to it. The learned senior counsel contended that there was no Regulation or norms in relation to usage of the secondary server and for reprimanding or punishing a TMs for accessing the secondary server and, consequently, cannot be charged for connecting to the secondary server. It was urged that NSE itself admitted that there was no restriction, regulation or conditions regarding the usage of connection of the secondary server and that NSE had left the usage of secondary server to the discretion of the TMs. It was contended that since the secondary server

was always in active mode, the TMs were free to connect to the secondary servers at all times. It was urged that there was no violation of any norms for using the secondary server.

232. It was also urged that 67 out of 108 TMs were connected to the secondary server and only directions under Section 11 and 11B has been issued to OPG which is arbitrary and discriminatory. It was contended that during September to October, 2011, OPG faced disconnection issues with the NSE servers which continued in the subsequent years. It was contended that disconnection/disruption of the servers on a trading day even for a few seconds can result in huge financial losses and adversely impact the business of OPG. Frequent disconnection resulted in potential loss of business and this frequent disconnection resulted in connection to the secondary server. It was contended that between December, 2012 to May, 2014 there were a total of

35,817 disconnections from the primary server on 357 days which came to 98 disconnections per day. NSE was aware of such disconnection as OPG made certain complaints in this regard which remained unattended and which has not been considered in the impugned order. It was also urged that in order to avoid trade losses, OPG connected one or two IPs to the secondary server and minimal business was conducted through the secondary server connections.

233. On the other hand, the respondent has supported the order passed by the WTM and contended that OPG by consistently logging on to the secondary server gained advantage over the other TMs as it had less load and, therefore, the data was disseminated faster to OPG before it reached other TMs. OPG gained advantage and by not following the norms laid down by NSE, OPG indulged in unfair trade practice in securities which was in violation

of Regulation 4(1) read with the Code of Conduct as specified in the Stock Brokers Regulations.

234. We find from the evidence that OPG was connected to the secondary server in the Futures and Options Segment on 31% of the number of trading days in the calendar year 2012; 99% of the number of trading days in the calendar year 2013; 95% of the number of trading days in the calendar year 2014 and 38% of the number of trading days in the calendar year 2015. Further, the Deloitte report analysed and submitted that OPG was only connected to the secondary POP server on 63 trading days in 2012, 248 trading days in 2013, 232 trading days in 2014 and 92 trading days in 2015. This data clearly indicates that OPG was trading only through secondary server as on these many days OPG was not even connected to the primary POP server.

235. We find that OPG was connected 99% of the number of trading days in 2013 and 95% of trading days in 2014.

Admittedly, the evidence recorded in the Deloitte and TAC reports shows that the load on the secondary server was low and less crowded amongst all the POP servers. The contention of OPG is that business transacted from the secondary server was minimal is not supported by any evidence and, in any case, we refuse to believe this contention when we find that OPG was connected to secondary server 99% of the trading days in 2013 and 95% of the trading days in 2014 and 248 days in 2013 and 232 days in 2014 when OPG was only connected to the secondary server and was not connected to the primary servers on these days. It is therefore hard to believe that business conducted through secondary server was low. It was urged vehemently that OPG was facing disconnection issues from 2012 and there was a total of 35,817 disconnections from primary server on 357 days between 2012-2014 which led OPG to connect and use the secondary server. Such allegation has not been

proved and some complaints made in this regard cannot be taken to be the gospel truth regarding disconnection on all these days as from the logs furnished by OPG itself one finds that OPG was connecting to the secondary POP server consistently from 7 a.m. to 7.05 a.m. which disproves the theory of OPG being disconnected at odd times of the day during the trading days. The logging on the secondary server from morning itself prior to the start of the trading clearly indicated that OPG was continuously logging in to the secondary POP server irrespective of disconnection issues relating to the primary POP server. The contention raised by the appellant in this regard is clearly an afterthought and against the material evidence.

236. In this regard, the WTM has analysed the complaints referred by OPG and found that complaints were only made in the Futures and Options Segment on five days. Further, OPG itself stated that disconnection in the

primary server was less frequent in 2013. These facts have not been disputed before us and in view of the admission that disconnection to the primary POP server was less frequent in 2013 yet the evidence indicates that OPG was connected to the secondary server on 248 days without being connected to the primary server in 2013 and that OPG was connected to the secondary server on 99% of the number of trading days in 2013. In this regard, the contention that OPG was connected to the secondary server on account of disconnection issues cannot be accepted as it is unimaginable that OPG faced disconnections on 95% to 99% in 2013-2014.

237. We also find that between January, 2012 to June, 2012, NSE had issued several warnings with regard to connecting to the secondary server and advised OPG to shift to the primary server. In spite of issuance of warnings OPG continued to remain connected to the secondary server which has been analysed and observed

in table 20 of the impugned order. This analysis has not been disputed by OPG before us. This shows scant regards to the norms and guidelines laid down by OPG and taking advantage of the laxity by NSE.

238. Since the secondary server was always in active mode and running without any time lag and in view of the finding that there was less load on the secondary server as it was less crowded OPG by consistently logging on the secondary server had advantage over TMs logged in normal POP servers. Because of the low load since it as less crowded on the secondary server OPG gained advantage in accessing the data faster than other TMs. The variance in time in terms of millisecond and microsecond in respect of data was immensely significant which was to the advantage of OPG when it accessed data from the secondary server. Since the delivery of the data can be done only to one recipient at a time OPG

connections has to be looked from this aspect and in this background.

239. Admittedly, the circular dated 31st August, 2009 was not the only circular issued by NSE with regard to Colocation facilities. NSE also issued guidelines on 8th August, 2011 and 16th April, 2012 wherein TMs were advised to move to the secondary server in case of non-availability of data from the TBT primary source. Guidelines was clear that TMs were required to access the data from the primary POP server and the secondary POP server connection was to be utilized only when there was non-availability of data from the primary POP server. Emails were written to OPG inspite of which they continued to stay connected with the secondary server. We are of the opinion that OPG displayed complete disregard for the norms laid down by NSE in its circular/guidelines for moving to the secondary server such disregard for the norms and the manner in which

OPG was connected to the secondary server amounted to an unfair trade practice which, in our opinion, is violative of Regulation 4(1) of the PFUTP Regulations. In this regard, Regulation 4(1) of the PFTUP Regulations is extracted hereunder:

> *"4.* ***Prohibition of manipulative, fraudulent and unfair trade practices***
>
> *(1) Without prejudice to the provisions of regulation 3, no person shall indulge in a manipulative, fraudulent or an unfair trade practice in securities market.*
>
> *Explanation.–For the removal of doubts, it is clarified that any act of diversion, misutilisation or siphoning off of assets or earnings of a company whose securities are listed or any concealment of such act or any device, scheme or artifice to manipulate the books of accounts or financial statement of such a company that would directly or indirectly manipulate the price of securities of that company shall be and shall always be deemed to have been considered as manipulative, fraudulent and an unfair trade practice in the securities market."*

240. Whether an act or practice is unfair is to be determined by the facts and circumstances surrounding the transaction. In the context, the PFUTP Regulations a trade practice may be unfair if the conduct undermines the good faith dealing involved in the transactions and undermine the ethical standards between parties engaged in the business transactions.

241. In ***Rakhi Trading Pvt. Ltd.v. SEBI (2018) 13 SCC 753***, the Supreme Court held that practice which does not conform to the fair and transparent principles of trade in the stock market is unfair trade practice.

242. In ***SEBI v. Kanhaiyalal Baldevbhai Patel & Others, 2017 SCC Online SC 1148,*** the Supreme Court held that the concept of unfairness appears to be broader than and includes the concept of 'deception' or 'fraud'.

243. Thus, OPG repeatedly connecting to the secondary server almost on a daily basis without any valid reason

and ignoring the warning and advice given by NSE for the purposes of gaining unfair advantage over other TMs is, in our opinion, an unfair trade practice which is prohibited under Regulation 4(1) of the PFUTP Regulations.

244. The show cause notice alleged that OPG gained materially by being the first logger as well as by connecting to the secondary server. In this regard, NSE had appointed ISB to calculate the profits earned by TMs including OPG especially on days when they logged in first to the PDC either from the primary server or from the secondary server. The ISB in its report took 30 days on sample basis and analysed the same for the period 2012 and 2013 which were the days when OPG had consistently logged in first. ISB in its report submitted that OPG made higher profits close to Rs.25 crores when they logged in early. Based on this ISB report, the show

cause notice directed OPG to show cause as to why the profit of Rs.25 crores should not be disgorged.

245. The WTM after considering the material evidence held that the computation of profit made by ISB in its report is on the basis of early login by OPG. The WTM in paragraph 8.39 of the impugned order held that the computation based on analysis of first login cannot be adopted. In view of the finding given by the WTM in paragraph 8.13 that the first connect early login did not give any unfair advantage to OPG and that only a probabilistic advantage could be gained by TMs on account of early login on such POP servers, the WTM on the aforesaid basis held that the computation of unfair gains as made out in the show cause notice to the extent of first login made by OPG cannot be accepted or adopted.

246. The WTM, however, took into consideration table A11 and A15 of the ISB report and based on the

calculations made in table XXI of the impugned order came to the conclusion that OPG had made a profit of Rs.15.57 crores on account of unauthorized connection to the secondary server.

247. In our opinion, the calculation of profits made on the basis of ISB report is patently erroneous. Admittedly, the ISB report was made on the allegations that OPG by being the first logger/early connection gained materially for the purpose of analyzing the profits the sample taken of the trading made in the Futures and Options Segment was on the basis of OPG logging in first on those days.

248. When a categorical finding has been given by the WTM and we have also arrived at the same finding that early login or first logger did not create any advantage the basis of calculation of profits or unlawful gain cannot be made under this criterion.

249. The ISB report used First-In-First-Out (FIFO) methodology to calculate both intraday and overnight

profits. Intraday profits are profits generated through positions that are opened and closed on the same day. Overnight profits are profits generated through positions opened on a prior day and closed on that particular day. The definition of various profit terminologies used in the anaysis is as under:

i. First Prop: Profits made by the trading member from proprietary trades on days when he logged first into a Port located on the server which connected first to the PDC.

ii. Non-First Prop: Profits made by the trading member from proprietary trades on days when he was not the first to log into any server Port.

250. A perusal of the terminology ‘First Prop’ indicates that the profits made by the TM is on the basis of its trades made on days when he logged in first into a Port.

251. The WTM has calculated the unlawful gain on the basis of table A11 and A15 of the ISB report. A perusal of the aforesaid tables indicates that the calculation has been made on the basis of 'First Prop' and 'Non-First Prop'. The 'First Prop' analysis is based on when OPG logged in first. When the WTM has given a finding that early logging in does not give any advantage and could only be given a probabilistic advantage the question of calculating profits on the basis of early login becomes wholly erroneous. The WTM could only consider probabilistic advantage, if any, which the OPG may have gained by being the first logger.

252. Thus, on this aforesaid short point, the calculation of unlawful gain made by the WTM cannot be accepted.

253. Admittedly, seven reports of experts were considered while passing the impugned order. OPG submitted a report of another expert which is called the 'Pasumarthy Report' which report was rejected by the WTM. OPG

submitted that there are infirmities in the investigation carried out by SEBI and there are deficiencies in the report submitted by Deloitte, TAC, EY etc. The appellant contended that the Pasumarthy Report should be taken into consideration.

254. Upon a perusal of the Pasumarthy Report, we find that it deals with several allegations which has been dealt in the impugned order and has been dropped as highlighted in paragraph no.8.13 and 8.15 of the impugned order. Further, the Pasumarthy Report does not dwell into the unauthorized connection by OPG to the secondary server. Further, in our view, the Pasumarthy Report does not submit its own finding. It only relies on the findings of earlier expert committee's report. The Pasumarthy Report has not based its findings on independent research and, therefore, in our opinion the WTM rightly rejected the Pasumarthy Report.

255. Before we conclude, we must observe that when serious allegations were made against a first level regulator, namely, NSE, SEBI should have been proactive and should have conducted the investigation seriously. We find that SEBI had adopted a slow approach and, in fact was placing a protective cover over NSE's alleged misdeeds. It is only when questions were placed on the floor of the Parliament that SEBI woke up and instituted an investigation. The scope of investigation was limited and not made under Section 11(4) but was conducted by another agency under Section 11C. In our opinion, considering the gravity of the alleged charges, SEBI should have itself conducted an investigation/enquiry instead of delegating it to NSE to conduct an investigation. It is strange and it does not stand to reason as to how SEBI directed NSE to conduct an investigation against itself. It is clear that a casual approach was adopted.

256. We also find that two separate orders of the same date were passed by the same Officer (WTM), one against NSE, Mr. Ravi Narain and Ms. Chitra Ramkrishna and the other order was passed against OPG. We find that there are contradictions in the findings arrived at on the same issue. For example, on the issue of early login, the WTM, in the order against NSE held that early log in by TM and OPG created an advantage. The WTM held that a TM who logs in first would be disseminated the data first at the start of the trading day and, therefore, has an advantage over other TMs. On the other hand, the WTM, in OPG matter held that the early log in by OPG did not make any unfair advantage. This anomaly is one such instance and there are more. It is not worthwhile to cull out all the contradictions but it is suffice to state that the same Officer who has passed the orders on the same date cannot make different analysis on the same subject/issue.

257. To conclude, we find that all the charges leveled in the show cause notice has not been proved. Many of the charges were dropped by the WTM himself while passing the impugned order. The WTM held that the charge of fraud and unfair trade practice by NSE under PFUTP Regulation is not made out. The charge that NSE and its employees have colluded with TMs, especially OPG has not been made out. The allegation of suppression of material facts and non-cooperation by NSE with the investigating authorities has not been made by the WTM.

258. We also find that early log in by TM did not create any advantage with regard to dissemination of data. May be a probabilistic advantage is obtained by a TM on account of early login, but in the absence of any further evidence on this aspect, no adverse orders can be passed. We also hold that there was randomness in the dissemination of data in the TBT architecture and,

therefore, there was no requirement to add a randomiser to the existing TBT architecture.

259. We, however, found that there was laxity at the hands of the employees of NSE in the distribution of IPs which resulted in unequal distribution of IPs on the servers. We have opined that a load balancer should have been employed which would have allocated IPs of TM evenly to the servers at the time of log in itself. The load balancer would equally distribute the load at every stage and would have ensured fairness, equality and transparency in the system which NSE was mandated to comply. The decision taken by NSE not to implement the load balancer does not appear to be a bonafide decision.

260. We also found that NSE failed to monitor the secondary server which led many TMs especially OPG to misuse it to their advantage. NSE failed to follow its own norms and guidelines framed for such purpose. NSE should have placed a mechanism to check unauthorised

access to the secondary server by the TMs. NSE should have placed a defined policy for use of secondary server and a mechanism ought to have been placed for monitoring connection by TM on the secondary server since it was an active server.

261. We also find that the WTM further held that failure to place the randomizer or load balancer in the TCP IP dissemination protocol, cannot be categorised as breach of the principles of "fairness and equity" attracting the provisions of PFUTP Regulations. The WTM held that the dissemination of information which is in breach of the stipulation contained in SECC Regulations cannot automatically attract the rigors of PFUTP Regulations, without there being any proof to indicate fraud. The WTM held that in the absence of any fraud or collusion or connivance the possibility of fraud was non-existent.

262. We also find that the charge that NSE has violated Regulation 41(2) and 42(2) of SECC Regulations is not

proved. NSE provided a level playing field for TM subscribing to the TBT data feed of NSE and provided equal, unrestricted and fair access from the TBT architecture. We, however, found that the circular of 30th March, 2012 was not followed by NSE.

263. We also found that the WTM exonerated OPG and its Directors on issue of first login and crowding out other TMs. We, however, affirm the findings of the WTM that OPG gained an unfair access and advantage by consistently log in to the secondary server and made unlawful gains.

264. We, however, find that for violation of the circular, there can be no disgorgement by NSE or by Mr. Ravi Narain and Ms. Chitra Ramkrishna. Insofar as Mr. Ravi Narain and Ms. Chitra Ramkrishna are concerned, the order of disgorgement cannot be sustained. We also find that order of disgorgement against NSE also cannot be sustained.

265. We have already held that NSE did not commit any violation of Regulation 41(2) of the SECC Regulations. We have also found that TBT architecture provided unrestricted, transparent and fair access to data dissemination from its TBT architecture to the TMs. We have also found that there was lack of due diligence while allocating IPs on various Ports and that there was inequitable distribution of IPs. We also found that a load balancer should have been placed for equitable distribution of the IPs. We also found that there was failure to monitor frequent connections to the secondary server by certain TMs. Even though NSE has not indulged in any unethical act or has unjustly enriched itself the direction to disgorge, in our opinion, cannot be sustained. However, NSE has not adhered to its own norms and guidelines and has not followed the circular. The SCRA Act confers a large responsibility upon the exchange to ensure that undesirable transactions do not

take place. Being a first level regulator it has a front line responsibility for regulation of the market and has a mandate to ensure compliance by the TMs of its own norms, guidelines and circulars. NSE has a duty to ensure transparency and fair access to all the TMs. For lapses committed by NSE directions under Sections 11 and 11B could be passed and some of the directions of the WTM were rightly passed. However, the direction for disgorgement was unwarranted but the appellant NSE cannot be allowed go scot free and is required to pay a price for the lack of due diligence on account of human failure to comply with the circular in letter and spirit. Though there are no parameters to quantify the lapse committed by NSE but taking into consideration all facts and circumstances of the case and the factors contemplated under Section 15J of the SEBI Act read with 23J of the SCRA Act and in exercise of the powers confirmed upon this Tribunal under Rules 21 of the

Securities Appellate Tribunal (Procedure) Rules, 2000, we are of the opinion that NSE should pay a sum of Rs.100 crores for this lapse which is not expected from a first level regulator and which would act as a deterrent.

266. In view of the reasons given in the preceding paragraph:

a. We set aside the order of the WTM directing disgorgement of an amount of Rs.624.89 cores alongwith interest at the rate of 12% p.a. against NSE.

b. Directions given by the WTM prohibiting NSE from accessing the securities market, directly or indirectly, for a period of six months and, further, directing NSE to carry out system audit at frequent interval after thorough appraisal of the technological changes introduced from time to time is affirmed.

c. We direct NSE to deposit a sum of Rs.100 crores to the Investor Protection and Education Fund created

by SEBI. This amount will be adjusted by SEBI pursuant to the deposit already made by NSE vide our interim orders dated 22nd May, 2019 and 17th May, 2021. The excess amount alongwith interest accrued shall be refunded by SEBI within six weeks. The appeal of NSE is partly allowed.

d. The direction to disgorge 25% of the salary from Mr. Ravi Narain and Ms. Chitra Ramkrishna is set aside.

e. The direction prohibiting Mr. Ravi Narain and Ms. Chitra Ramkrishna from associating with any listed Company or a market infrastructure institution or any other market intermediary for a period of five years is set aside and substituted for the period undergone by them. The appeals for Mr. Ravi Narain and Ms. Chitra Ramkrishna are allowed.

f. The direction of the WTM directing NSE to initiate enquiry against its employees is affirmed.

g. The violations committed by OPG as found by WTM is affirmed. However, the direction of the WTM directing OPG and its Directors to disgorge Rs.15.57 crores alongwith interest at the rate of 12% p.a. from 7th April, 2014 onwards is set aside. The matter is remitted to the WTM to decide the quantum of disgorgement afresh in the light of the observation made above within four months from today.

h. In addition to the above, we direct the WTM to consider the charge of connivance and collusion of OPG and its Directors with any employee/officials of NSE. Further, the WTM will decide the issuance of direction/penalty concealment/destruction of vital information and will further reconsider Issue No.2 relating to crowding out other market participants.

i. All other directions issued against OPG and its Directors are affirmed. The appeal is partly allowed.

j. The intervention applications as well as the appeal of Mr. A. Kumar are rejected.

267. In the circumstances of the case, parties shall bear their own costs.

268. This order will be digitally signed by the Private Secretary on behalf of the bench and all concerned parties are directed to act on the digitally signed copy of this order. Certified copy of this order is also available from the Registry on payment of usual charges.

Justice Tarun Agarwala
Presiding Officer

Justice M.T. Joshi
Judicial Member

23.1.2023
RHN

GLOSSARY

Sr. No.	Abbreviation		Description
1.	Algo	-	Algorithmic
2.	CD	-	Currency Derivatives
3.	CEO	-	Chief Executive Officer
4.	CFT	-	Cross Functional Team
5.	CM	-	Cash Market
6.	Colo	-	Colocation Services
7.	CTO	-	Chief Technology Officer
8.	Deloitte	-	Deloitte Touche Tohmatsu India LLP
9.	DMA	-	Direct Market Access
10.	EY	-	M/s. Ernst & Young LLP
11.	FSB	-	Front Side Bus (FSB) speeds
12.	HFT	-	High Frequency Trading
13.	IPEF	-	Investor Protection and Education Fund created by SEBI.
14.	IRF	-	Interest Rate Futures

15.	ISB	-	Indian School of Business
16.	JMD	-	Joint Managing Director
17.	MD and CEO	-	Managing Director and Chief Executive Officer
18.	MTBT	-	Multi-cast Tick By Tick
19.	NSE	-	National Stock Exchange of India Ltd.
20.	Omnesys	-	Omnesys Technologies Pvt. Ltd.
21.	OPG	-	OPG Securities Pvt. Ltd.
22.	PDC	-	Primary Data Centre
23.	PFUTP Regulations	-	Securities and Exchange Board of India (Prohibition of Fraudulent and Unfair Trade Practices relating to Securities Market) Regulations, 2003
24.	POP Server	-	Point of Presence Servers or dissemination servers
25.	PSM Team	-	Project Support and Management Team
26.	SCRA	-	Securities Contracts (Regulation), Act 1956
27.	SEBI	-	Securities and Exchange Board of India

28.	SEBI Act	-	Securities and Exchange Board of India Act, 1992
29.	SECC Regulations	-	Securities Contracts (Regulation) (Stock Exchanges and Clearing Corporations) Regulations, 2012
30.	SOP	-	Standard Operating Procedure
31.	TAC	-	Technical Advisory Committee
32.	TBT	-	Tick–By–Tick mechanism
33.	TCP/IP	-	Transmission Control Protocol/ Internet Protocol
34.	TM	-	Trading Member
35.	UMLO	-	Unique Multi-Leg Option
36.	WTM	-	Whole Time Member, SEBI.

Justice Tarun Agarwala
Presiding Officer

Justice M.T. Joshi
Judicial Member

23.1.2023
RHN