PRESS RELEASE

September 26, 2025

Consultation Paper for Detailed guidelines on Review of technical glitch framework for Stock Brokers

SEBI has issued consultation paper on ‘Review of Framework to address the ‘technical glitches’ in Stock Brokers’ Electronic Trading Systems’ on September 22, 2025.The said consultation paper is attached as Annexure-1.

In continuation to the said consultation paper and as advised by SEBI in consultation paper dated September 22,2025, Stock Exchanges have jointly framed detailed guidelines on, definition of Technical Glitch, Capacity Planning, Software Testing & Change Management, Business Continuity Planning (BCP) & Disaster Recovery Site (DRS) and Monitoring Mechanism which is attached as **Annexure – 2.**

In this regard, all stakeholders are requested to provide their comments on the guidelines attached at **Annexure-2.** The comments/suggestions are required to be submitted latest by October 15, 2025.The Link to provide the comments/suggestions shall be available on following path of NSE website.

Path :- https://www.nseindia.com/ >>Trade >> Resources for Members >> Member Compliance >> Member Compliance Overview >> Market Comments

Stakeholders for providing comments/suggestions on detailed guidelines as provided in **Annexure-2**, can also refer the existing ‘Framework to address the technical glitches in Trading Member’s Electronic Trading Systems, which was published vide NSE Circular ref.no NSE/COMP/54876 dated December 16, 2022, which is also enclosed as Annexure-3**.**

-End-

About National Stock Exchange of India Limited (NSE):

National Stock Exchange of India (NSE) was the first exchange in India to implement electronic or screen-based trading. It began operations in 1994 and is ranked as the largest stock exchange in India in terms of total and average daily turnover for equity shares every year since 1995, based on SEBI data. NSE has a fully integrated business model comprising exchange listings, trading services, clearing and settlement services, indices, market data feeds, technology solutions and financial education offerings. NSE also oversees compliance by trading, clearing members and listed companies with the rules and regulations of SEBI and the exchange. NSE is a pioneer in technology and ensures the reliability and performance of its systems through a culture of innovation and investment in technology. NSE is the world's largest derivatives exchange by trading volume (contracts) as per the statistics maintained by Futures Industry Association (FIA) for calendar year 2024. NSE is ranked 2nd in the world in equity segment by number of trades (electronic order book) in 2024, as per the statistics maintained by World Federation of Exchanges (WFE).

For more information, please visit: www.nseindia.com

For any media queries please contact: Email ID: cc@nse.co.in

Annexure 1

Consultation Paper

on

Review of Framework to address the 'technical glitches' in Stock Brokers' Electronic Trading Systems'

Contents

1. Objective

The objective of this consultation paper is to seek comments from public on the proposed changes in the framework for technical glitches in the stock brokers' online trading systems.

2. Background

2.1 A comprehensive framework to address the technical glitches in stock brokers' electronic trading systems was issued on November 25, 2022. Subsequently, Stock Exchanges issued detailed guidelines in this regard on December 16, 2022.

2.2 SEBI received several representations from the various stakeholders and Industry forum regarding need to review the present framework on technical glitches. The feedback received from the stakeholders, stock exchanges and data on the technical glitches were discussed in Stock brokers ISF and their recommendations were analysed. Based on the feedback and the analysis of data, it has been decided to review extant framework of technical glitches at stock broke systems.

2.3 The proposed framework placed below is relooked at considering the ease of compliance by streamlining eligibility criteria to exclude smaller size stock brokers, simplifying reporting requirement, bringing specific clarity in the definition of technical glitch and the rationalising financial disincentive structure etc.

3. Proposed Framework

The broad summary of the proposed consultation paper is as under:

3.1 The definition of technical glitch is proposed to be modified to exclude the technical glitches occurring after trading hours and technical glitches which are not under the control of stock brokers.

3.2 The framework would be made applicable to the stock brokers providing IBT/STWT trading platforms and having more than 10,000 registered clients as on 31st March of previous financial year. As a result, around 457 smaller stock brokers would move out of this framework. This will result in ease of compliance for such stock brokers considering their low clientele base and relatively less of technology dominance in their trading services.

3.3 Rationalization of reporting of technical glitch to Stock Exchange is proposed to be eased considering reasonable time require to report and considering trading holidays etc. Further, reporting is proposed to be done at the Common Reporting platform to avoid the multiple reporting by stock brokers.

The detailed proposal is provided in the **Annexure A**.

4. **Applicability of the provisions:**

The framework will be applicable to the stock brokers providing IBT/STWT trading platforms and having more than 10,000 registered clients as on 31st March of previous financial year. As a result, the framework would be made applicable to stock brokers who have sizable clientele base and technology dominance in their trading services.

5. Public Comments

4.1 The comments are invited on the proposals mentioned in the consultation paper. The comments/ suggestions should be submitted latest by October 12, 2025, through the following link:

https://www.sebi.gov.in/sebiweb/publiccommentv2/PublicCommentAction.do?doPublicComments=yes

4.2 In case of any technical issue in submitting your comment through web based public comments form, you may write to consultationMIRSD@sebi.gov.in with the subject: "Public comments on Review of Framework to address the 'technical glitches' in Stock Brokers' Electronic Trading Systems'".

Vishal P
General Manager
Technology, Process Re-engineering, Data Analytics Division (TPD)
Market Intermediaries Regulations and Supervision Department
Securities and Exchange Board of India
SEBI Bhavan II, Plot No. C-7, "G" Block, Bandra Kurla Complex
Bandra (East), Mumbai - 400 051
Issued on: September 22, 2025

Annexure A

DRAFT CIRCULAR

SEBI/HO/MIRSD/TPD-1/P/CIR/2025/XXX **October XX, 2025**

To

All recognized Stock Exchanges

All Registered Stock Brokers through Recognized Stock Exchanges

Dear Sir/ Madam,

<u>Sub: - Review of Framework to address the 'technical glitches' in Stock Brokers' Electronic Trading Systems'</u>

1. SEBI vide Circular No. SEBI/HO/MIRSD/TPD-1/P/CIR/2022/160 dated November 25, 2022 laid down a comprehensive framework to address the technical glitches in stock brokers' electronic trading systems. Subsequently, Stock Exchanges also issued detailed guidelines in this regard on December 16, 2022.

2. SEBI received several representations from the various stakeholders and Industry forum regarding need to review the present framework on Technical glitches. The feedback received from the stakeholders, stock exchanges and data on the technical glitches were analysed. The Technical glitch framework for the stock brokers is thus proposed to be revised considering the ease of compliance by streamlining eligibility criteria to exclude smaller size stock brokers, simplifying reporting requirement, bringing specific clarity in the definition of technical glitch and the rationalising financial disincentive structure etc.

The revised framework for Technical glitch is as under.

3. <u>Definition of Technical Glitch</u>:

3.1 *"Technical glitch shall mean any malfunction in the electronic system of stock broker, including malfunction in its hardware, software, networks/bandwidth, processes or products or services, directly or indirectly related to trading and risk management, occurred during trading session of stock exchange. The* *malfunction in the systems of stock brokers or the one outsourced from any third parties, which may lead to either stoppage, slowing down or variance in the trading and risk management functions such as log-in, order placement (including modification, cancelation, execution, confirmation, status), allocation and viewing of margin/ collateral/ funds etc., for a contiguous period of five minutes or more."*

3.2 *"Provided that following type of technical issues in the system of stock brokers shall not be considered as technical glitches irrespective of time of occurrence and accordingly need not be reported to Exchanges;*

i. Technical glitches occurred due to global issues such as malfunction or technical disruption at the cloud service providers or any other global technology provider.
ii. Technology disruption due to technical issues at MII (glitch reported by MII to SEBI)
iii. Technological glitches observed while processing of new trading account (KYC process)
iv. Technical issues at the Back-office which does not impact the trading and settlement of the clients
v. The failure of payment gateway applications due to technical issues exist at banks or at the service provider or at payment aggregators end.
vi. Technical issues observed in the decision support tools such as technical charts, profit and loss statements, back office reports etc."

3.3 Financial disincentive structure shall not be applicable for the technical glitches which do not affect the stock broker's ability to provide seamless services to their clients. In case of the following types of technical glitches, the financial disincentive structure shall not be applicable:

- A technical glitch that occurred in one of two modes of trading (*i.e. either in the mobile-based trading application or in the web-based trading application*) while other mode of the trading is functioning in a proper manner.
- A technical glitch that is minor in nature or has a minor impact on the seamless operations of the stock brokers.

  Stock exchanges shall issue detailed guidelines in this regard in consultation with SEBI.

4. Applicability of framework:

4.1 The framework shall be applicable to the stock brokers providing IBT/STWT trading platforms and having more than 10,000 registered clients as on 31st March of previous financial year.

5. Reporting Requirements:

5.1 Stock brokers shall inform regarding the technical glitch to the stock exchanges and also to their clients within 2 hours from the time of occurrence of the glitch. Exchanges in turn shall disseminate the technical glitch incidents on their website.

5.2 Stock brokers shall inform their clients regarding the occurrence of technical glitch by disseminating information on their website and any other mode such as SMS/email/pop-up in mobile based/ web based trading application etc.

5.3 Stock brokers shall submit a Preliminary Incident Report (*as per the format prescribed by stock exchanges*) to the stock exchange within T+1 day of the incident (T being the date of the incident). However, if T+1 day falls on a trading holiday; submission may be done on next trading day.

5.4 Stock brokers shall submit a Root Cause Analysis Report (RCA) (*as per the format prescribed by stock exchanges*) of the technical glitch to stock exchange, within 14 calendar days from the date of the incident. If 14th calendar day falls on a trading holiday; submission may be done on next trading day.

5.5 Stock brokers shall submit information/reports mentioned above, on 'Samuhik Prativedan Manch' i.e. common portal for submissions by stock brokers.

5.6 All technical glitches reported by stock brokers as well as independently monitored by stock exchanges, shall be examined by the stock exchanges for suitable actions.

6. <u>Capacity Planning</u>:

6.1 Increasing number of investors create additional burden on the trading system of the stock broker and hence, adequate capacity planning is prerequisite for stock brokers to provide continuity of services to their clients. Stock brokers shall do capacity planning for entire trading infrastructure i.e. server capacities, network availability, and the serving capacity of trading applications.

6.2 Stock brokers shall monitor peak load in their trading applications, servers and network architecture.

6.3 Stock exchanges shall issue detailed guidelines with regard to capacity planning, peak load, and new capacity required to tackle future load on the system of the stock brokers.

7. <u>Software testing and change management</u>

7.1 Software applications are prone to updates/changes and hence, it is imperative for the stock brokers to ensure that all software changes that are taking place in their applications are rigorously tested before they are used in production systems. Software changes could impact the functioning of the software if adequate testing is not carried out resulting technical glitches in such software.

7.2 Stock exchanges shall issue detailed guidelines with regard to testing of software, traceability matrix, change management process and periodic updation of assets etc.

8. <u>Monitoring mechanism:</u>

8.1 Proactively and independently monitoring technical glitches shall be one of the approaches in mitigating the impact of such glitches. In this context, Stock Exchanges have deployed API based Logging and Monitoring Mechanism (LAMA). Stock exchanges shall continue to monitor the trading systems of the stock brokers through this mechanism.

8.2 Stock exchanges shall review the applicable provisions of LAMA and issue detailed guidelines with regard to applicability, key monitoring parameters and preservation of logs etc.

9. <u>Business Continuity Planning (BCP) and Disaster Recovery Site (DRS):</u>

9.1 Stock Exchanges shall review the current guidelines for the applicability of the BCP and DRS ensuring the following

   i BCP and DRS shall not be applicable to small size stock brokers.
   ii Setting up of DR site in different seismic zones
   iii Frequency of DR drill and trading from DR site

iv Defining Recovery Time Objective (RTO) and Recovery Point Objective (RPO) and defining the term "Disaster" for the implementation of the DR.

v Requirement for the coverage of BCP-DR during the System Audit and ISO certification requirements.

10. Stock exchanges shall rationalise and revise the current structure of the financial disincentives.

11. Stock exchanges shall disseminate on their websites the instances of technical glitches occurred in the trading system of stock brokers.

12. Stock exchanges shall build necessary systems for implementation of the provisions of this circular and issue appropriate guidelines to the stock brokers for the compliance with the provisions of this circular.

13. This circular is being issued in exercise of powers conferred under Section 11 (1) of the Securities and Exchange Board of India Act 1992 and Regulation 30 of SEBI (Stock Brokers) Regulations 1992, to protect the interests of investors in securities and to promote the development of, and to regulate the securities market.

14. This circular is available on SEBI website at www.sebi.gov.in under the categories "Legal Framework" and "Circulars".

15. This circular shall come into effect from November 1st , 2025.

Yours faithfully,

Vishal M Padole

General Manager

Market Intermediaries Regulation and Supervision Department

Tel. No: 022 26449247

Email ID: vishalp@sebi.gov.in

****

Annexure – 2

Detailed guidelines on Review of technical glitch framework for Stock Brokers

1. Definition of Technical Glitch:

1.1 (*Refer to definition of Technical glitch mentioned in the SEBI consultation paper dated 22/09/2025.)*

1.2 The Financial disincentive structure is applicable for the technical glitches which continued for more than 15 minutes as per the current framework. However, SEBI in its consultation paper proposed certain exemption from the applicability of disincentive structure.

1.3 The disincentive structure is proposed exempted if the technical glitches fall under the definition of glitches, however such glitches do not affect the stock broker's ability to provide seamless services to their clients. Therefore, in case of the following types of technical glitches, the financial disincentive structure shall not be applicable:

- A technical glitch that occurred either in the mobile-based trading application or in the web-based trading application while either of them is functioning in a proper manner.
- A technical glitch that is minor in nature or has a minor impact on the seamless operations of the stock brokers.

1.4 The exemption from financial disincentive structure mentioned at para 1.3 above is subject to the following:

a. In case of QSBs and 'specified stock brokers', unique clients affected due to technical glitch shall not be more than [average of 0.5% of unique clients traded in previous quarter or 2,000 unique clients whichever is lower].

b. In case of other than QSBs and 'specified stock brokers', unique clients affected due to technical glitch shall not be more than [average of 1% of unique clients traded in previous quarter or 500 unique clients whichever is lower].

1.5 Stock broker is required to demonstrate to the Stock Exchange based on the audit of logs etc. that the above-mentioned threshold criteria is met. Stock broker shall submit system auditor's certificate to stock Exchange in this regard.

2. Applicability of the technical glitch framework:

2.1 The framework shall be applicable to the stock brokers providing IBT/STWT trading platforms and having more than 10,000 registered clients as on 31st March of previous financial year.

3. Capacity planning:

3.1 *Refer to point No 6 on Capacity planning mentioned in the SEBI consultation paper*.) The requirement specified in the Exchange circular ref.no NSE/COMP/54876 dated December 16,2022, will remain applicable. However, following provisions are proposed in order to ease the compliance:

3.1.1 The requirement specified at para 3 (v) of Exchange circular ref.no NSE/COMP/54876 dated December 16,2022 shall be partially modified. The periodicity of capacity planning exercise for different types of stock brokers is as follows:

a. QSBs shall do capacity planning on quarterly basis,
b. 'Specified stock brokers' shall do capacity planning on half yearly basis,
c. Remaining stock brokers shall do capacity planning on yearly basis.

3.1.2 Members shall monitor peak load in their 'critical systems' including servers, and network architecture. The Peak load shall be determined on the basis of highest peak load observed during a calendar quarter in case of QSB, during a calendar half year in case of specified stock brokers and during a calendar year in case of other stock brokers.

3.1.3 The installed capacity shall be at least 2 times (2X) of the observed peak load for QSBs and at least 1.5 times (1.5x) of the observed peak load for specified stock brokers and other stock brokers.

4. Software testing and change management:

4.1 *Refer to point No 7 on Software Testing and Change Management mentioned in the SEBI consultation paper*

4.2 The requirements specified in the Exchange circular ref.no NSE/COMP/54876 dated December 16,2022 shall remain applicable except the requirement specified at para 4 (vi) (i.e. *Specified members shall perform software testing in automated environment*) of the circular. The said requirement (4 (vi)) is proposed to be removed.

5. Monitoring mechanism:

5.1 *Refer to point No 8 on Monitoring Mechanism mentioned in the SEBI consultation paper*. The detailed guidelines/requirements on Logging and Monitoring Mechanism (LAMA) as prescribed in Exchange Circular on 'Framework to address the technical glitches in Trading Member's Electronic Trading Systems' vide ref.no NSE/COMP/54876 dated December 16, 2022, shall remain applicable.

6. Business Continuity Planning (BCP) and Disaster Recovery Site (DRS):

6.1 *Refer to point No 9 on BCP/DRS mentioned in the SEBI consultation paper.*

6.2 The requirement specified in the Exchange circular ref.no NSE/COMP/54876 dated December 16,2022 shall remain applicable to 'Specified Members', Members with a minimum client base of 50,000 clients and to Qualified Stock Brokers (QSBs) as provided in Exchange circular ref. no. NSE/INSP/56927 dated June 1,2023. However, following exemptions are proposed for the smooth transition of the members who fulfil the criteria of QSBs or specified stock brokers or Members with a minimum client base of 50,000 clients during the financial year:

i. In case if any new ‘specified stock broker’ is added in the list, DR drills/ live trading shall include running operations with 50% clients from DRS for at least 1 full trading day during first half year and with 100% clients from DRS for at least 1 full trading day from subsequent half year and onwards.

ii. In case of any new ‘QSB’ is added in the list, DR drills/ live trading shall include running operations with 30% clients from DRS for at least 1 full trading day during first quarter and with 60% clients from DRS for at least 1 full trading day during second quarter and with 100% clients from DRS for at least 1 full trading day from subsequent quarter onwards.

7. Financial Disincentive Structure:

7.1 Financial disincentive structure is proposed to be rationalized considering the nature and frequency of the glitches. Further exemptions from the applicability of financial disincentive are also proposed for certain types of glitches (as stated above at point no 1).

8. Market Consultation

8.1 Public comments are invited on the detailed guidelines attached as Annexure 2. The comments/ suggestions (up to 2000 characters) shall be submitted latest by October 15, 2025, through the link available on below mentioned path.

Path :- https://www.nseindia.com/ **>>Trade >> Resources for Members >> Member Compliance >> Member Compliance Overview >> Market Comments**

8.2 Kindly specify the page number, column and paragraph from the consultation paper while submitting comments.

8.3 If you choose to disagree with any of the proposal, kindly provide your comments and rationale for your disagreement. Please note that the disagreement without any comments/ rationale may not be considered.

Annexure 3

National Stock Exchange of India

Circular

Department: Compliance	
Download Ref No: NSE/COMP/54876	**Date:** December 16, 2022
Circular Ref. No: 93/2022	

To All Members,

Sub: Framework to address the 'technical glitches' in Member's Electronic Trading Systems

Member's attention is drawn to SEBI circular SEBI/HO/MIRSD/TPD-1/P/CIR/2022/160 dated November 25, 2022, on Framework to address the 'Technical Glitches' in Stock Brokers' Electronic Trading System.

Members of the Exchange, through various circulars, and guidelines, issued from time to time, have been required to put in place various measures/controls, to prevent system failures and to ensure the provision of seamless service/facilities to their clients.

In furtherance to the above, in consultation with SEBI and other Exchanges, it has been decided to issue guidelines/ Standard Operating Procedure (SOP) for handling technical glitches at the Members end as well as provide a framework for Capacity Planning, Software Testing, Change management and Business Continuity Planning (BCP)/Disaster Recovery (DR).

The guidelines, as stated in the SEBI circular SEBI/HO/MIRSD/TPD-1/P/CIR/2022/160 dated November 25, 2022, have been enclosed as '**Annexure-A'** and shall be effective from **April 1, 2023**, and are applicable to all members providing **'Internet and Wireless technology-based trading facility' (IBT/STWT)** to their clients.

In specific, points 3.viii, 4.vi, 5.i, 5.ii, 5.iii, 6.v, 6.xiii, 6.xiv are only applicable to **'Specified Members',** over and above the other points as stated in **'Annexure A'**.

The top 20 Members registered with the Exchange, having the most Internet and Wireless technology-based **(IBT/STWT)** clients are classified as **'Specified Members'** for this purpose.

'Specified Members' shall be communicated with the additional details of the circular in due course, by the Exchange.

Members are required to take note of the same.

For and on behalf of
National Stock Exchange of India Limited

Pradnya Pinto
Chief Manager

National Stock Exchange of India

Annexure A

1. Definition:

'Technical glitch' shall mean any malfunction in the Member's systems including malfunction in its hardware, software, networks, processes, or any products or services provided by the Member in the electronic form. The malfunction can be on account of inadequate Infrastructure/systems, cyberattacks/incidents, procedural errors, and omissions, or process failures or otherwise, in their own systems or the one outsourced from any third parties, which may lead to either stoppage, slowing down or variance in the normal functions/operations/services of systems of the Member for a contiguous period of **five minutes (5 minutes) or more**.

'Critical Systems' are defined as all IT systems that are related to Trading applications and trading-related services.

2. Reporting Requirements for Technical Glitch Incidents:

All Members shall be required to report to the Exchange any technical glitches as under:

i. All Members shall inform about the technical glitch to the stock exchanges immediately but **not later than 1 hour** from the time of occurrence of the glitch.

ii. Members shall submit a Preliminary Incident Report to the Exchange within **T+1** day of the incident **('T' being the date of the incident)**. The report shall include the date and time of the incident, details of the incident, effect of the incident, and immediate action taken to rectify the problem.

iii. Members shall submit a **Root Cause Analysis (RCA)** Report of the technical glitch to the stock exchange, within **14 days** from the date of the incident. The **RCA report,** for all technical glitch incidents greater than **45 minutes**, shall also be verified by an independent auditor appointed by the Member.

Submission of all the above three reports shall be as per the format provided in **'Annexure B'** of this circular.

The reporting would be made to a dedicated email address **infotechglitch@nse.co.in**, which is common across the Exchanges.

Financial Disincentives and Penalties with respect to non-compliance with the provisions of the circular have been enclosed as **'Annexure C'**

3. Capacity Planning:

i. Increasing number of investors may create an additional burden on the trading system of Members and hence, adequate capacity planning is a prerequisite for Members to provide continuity of services to their clients.

ii. Members shall do capacity planning for the **'Critical Systems'** infrastructure including server capacities, network availability, bandwidth, and the serving capacity of trading applications.

iii. Capacity planning shall be done based on the rate of growth in the number of transactions observed in the past 2 years. This data should be extrapolated to predict the capacity required for the next 3 years.

iv. The capacity planning by Members should be done every year to review the available capacity, peak capacity, and new capacity required to tackle future load on the system. The purpose shall include all '**Critical Systems'** operated in-house or through a Vendor/Application service provider (ASP).

v. Members shall monitor peak load in their **'Critical Systems'** including the trading applications, servers, and network architecture. The Peak load shall be determined based on the highest peak load observed by the Members during a **calendar quarter**. The installed capacity shall be at **least 1.5 times (1.5x)** of the observed peak load.

vi. Members shall deploy adequate monitoring mechanisms within their networks and systems to get timely alerts on the current utilization of capacity going beyond the permissible limit of 70% of its installed capacity. In case the actual capacity utilization nears 70% of the installed capacity, immediate action shall be taken to avoid a breach of capacity.

vii. Adequate capacity planning and its review should be part of the annual system audit of the Members.

viii. Additionally, to ensure the continuity of services at the primary data center, **'Specified Members'** shall strive to achieve full redundancy in their IT systems that are related to the **'Critical Systems'.**

4. Software testing and change management:

i. Software applications are prone to updates/changes and hence, it is imperative for the Members to ensure that all software changes that are taking place in their applications are rigorously tested before they are used in production systems. Software changes could impact the functioning of the software if adequate testing is not carried out. In view of this, Members shall adopt the following framework for carrying out software-related changes/testing in their systems.

ii. Members shall create test-driven environments for all types of software developed by them or their vendors.

iii. Members, during all relevant phases of software development and operations are required to write exhaustive unit test cases and functional test cases covering all positive & negative scenarios, regression testing, security testing, and non-functional testing including performance testing, stress testing, load testing, etc.

iv. Further, Members shall prepare and maintain a traceability matrix between functionalities and test cases for all **'Critical Systems'.**

v. A Minimum number of unit test cases required for every change made in the software should be defined in advance, based on its functionality, and ensure sufficient test coverage around instructions count, branches, and complexities. This would include base cases for the overall platform, plus specific sets of cases for each module under consideration.

vi. In addition to the above, '**Specified Members'** shall perform software testing in **'automated environments'**. The **'automated environments**' shall be mandatorily set up by '**Specified Members'** before **June 30, 2023.**

vii. To ensure system integrity and stability, all changes to the installed system shall be planned, evaluated for risk, tested, approved, and documented. Members shall implement a change management process to avoid any risk arising due to unplanned and unauthorized changes for all its information security assets (hardware, software, network, etc.).

viii. Change management process shall be well documented and approved by the Governing Board of the Member.

ix. The Exchange has provisioned test environments and conducts periodic mocks for Members to test their systems. Members are required to participate in such environments, each time their systems have gone through changes before such changes are made live.

x. Members shall have a documented process/procedure for the timely deployment of patches for mitigating all identified vulnerabilities. The patch management process shall also be approved by the Governing Board of Members.

xi. Members shall periodically update all their assets including Servers, OS, databases, middleware, network devices, firewalls, IDS /IPS desktops, etc. with the latest applicable versions and patches.

xii. Review of Adequate Change Management and Patch Management processes should be part of the system audit of the Members. As a part of the mandated annual System Audit, the System Auditor shall also provide its comments and observations on the said processes, if any.

5. Monitoring mechanism - Applicable to 'Specified Members'

i. Proactively and independently monitoring technical glitches shall be one of the approaches in mitigating the impact of such glitches. In this context, the **'Specified Members'** shall build API-based **Logging and Monitoring Mechanism (LAMA)** to allow stock exchanges to monitor the '**Key Parameters'** of the **'Critical Systems'**. Under this mechanism, **'Specified Members'** shall monitor key systems & functional parameters to ensure that their trading systems function in a smooth manner. Stock exchanges will, through the API gateway, independently monitor these key parameters in real-time to gauge the health of the **'Critical Systems'** of the **'Specified Members'**.

ii. Through the '**LAMA' Gateway**, values of the '**Key Parameters'** listed below should be served by the **'Specified Members'**.

Key Parameters for 'LAMA'		
Application	**System**	**Network**
1. Log monitoring	1. CPU Utilization	1. Packet Error Counts
2. Requests/Second	2. Memory Utilization	2. Bandwidth Utilization
3. Average response times	3. Disk utilization	3. DNS failures
4. Trading trend analysis-related data	4. Database replication and its Health	
5. Trading API failure counts	5. Uptime	
6. Network Latency		

iii. The **'Specified Members'** and the Exchange will preserve the logs of the key parameters for a period of 30 days in the normal course. However, if a technical glitch takes place, the data related to the glitch shall be maintained for a period of 2 years.

'Specified Members' will be notified by the Stock Exchanges, for onward discussion on the implementation and applicability of '**LAMA' and its key parameters**.

6. Business Continuity Planning (BCP) and Disaster Recovery Site (DRS):

i. **'Specified Members'** and Members with a minimum client base of **50,000 clients** across all Exchanges, are to mandatorily establish a '**Business Continuity'/ 'Disaster Recovery setup'**.

ii. Members shall put in place a comprehensive BCP-DR policy document outlining standard operating procedures to be followed in the event of any **'Disaster'**.

iii. **'Disaster'** may be defined as scenarios where:
   a. A **45-minute** disruption of any of the **'Critical Systems',** or
   b. Any additional criteria specified by the Governing Board of the Member.

iv. The DRS shall preferably be set up in different seismic zones. In case, due to any reasons like operational constraints, such a geographic separation is not possible, then the Primary Data Centre (PDC) and DRS shall be separated from each other by a distance of at least 250 kilometers to ensure that both do not get affected by the same natural disaster. The DR site shall be made accessible from the primary data center to ensure syncing of data across two sites.

v. **'Specified Members'** shall conduct DR drills/live trading from the DR site on **half yearly basis**. DR drills/ live trading shall include running all operations from DRS for at least **1 full trading day**.

vi. Members shall constitute responsible teams for taking decisions about shifting of operations from primary site to DR site, putting adequate resources at DR site, and setting up mechanism to make DR site operational from primary data center etc.

vii. Hardware, system software, application environment, network and security devices, and associated application environments of DRS and PDC shall have a one-to-one correspondence between them. Adequate resources shall be always made available to handle operations at PDC or DRS.

viii. The **Recovery Time Objective (RTO)** i.e., the maximum time taken to restore operations of **'Critical Systems'** from DRS after the declaration of '**Disaster'** shall be **2 Hours** and, **Recovery Point Objective (RPO)** i.e., the maximum tolerable period for which data might be lost due to a major incident shall be **15 Minutes**.

ix. Replication architecture, bandwidth, and load consideration between the DRS and PDC shall be within the stipulated RTO and the whole system shall ensure high availability, right-sizing, and no single point of failure. Any updates made at the PDC shall be reflected at DRS immediately.

x. The BCP-DR policy document shall be reviewed at least **once a year** to minimize incidents affecting business continuity. Additionally, an Adhoc review of the BCP-DR policy shall also be conducted in case of any major changes in **'Critical Systems'** and if any technical glitch is encountered. The BCP-DR policy document of the Members should be approved by Governing Board of the Members.

xi. The Governing Board of the Members shall review the implementation of BCP-DR policy approved by the Governing board of the Members on a Quarterly basis. Further, Members shall conduct periodic training programs to enhance the preparedness and awareness level among its employees and outsourced staff, vendors, etc. to perform as per BCP policy.

xii. The System Auditor, while covering the BCP – DR as a part of mandated annual System Audit, shall check the preparedness of the Member to shift its operations from PDC to DRS and comment on documented results and observations on DR drills conducted by the Members.

xiii. The **'Specified Members'** shall constitute an Incident and Response Team (IRT) / Crisis Management Team (CMT), which shall be chaired by the Managing Director (MD) of the Member or by the Chief Technology Officer (CTO), in case of non-availability of MD. IRT/CMT shall be responsible for the actual declaration of disaster, invoking the BCP and shifting of operations from PDC to DRS whenever required. Details of roles, responsibilities, and actions to be performed by employees, IRT/ CMT and support/outsourced staff in the event of any Disaster shall be defined and documented by the Members as part of BCP-DR Policy Document.

xiv. In addition to the above, **'Specified Members'** shall obtain **ISO27001** (Information Security) certification within the 2 years, from April 1, 2023. Additionally, **ISO20000** (IT Service Management) and **ISO22301** (Business Continuity Management System) are recommended to be adhered to. All Policies procedures and processes must be based on these international Standards.

National Stock Exchange of India

Financial Disincentives and Penalty Structure **ANNEXURE C**

Sr. No.	Instances of technical glitches	Financial disincentives	
		Specified Members	All other Members
1.	**Technical Glitch continuing for more than 15 minutes:**		
	First instance	Observation Letter	Observation Letter
	Second instance	Administrative warning	Administrative warning
	Third instance onwards	For every instance Rs. 50,000/- It will progressively increase by Rs.25,000/- for subsequent instances. Additionally, the relevant authority of the Exchange on a case-to-case basis and based on the gravity of non-compliance shall decide on additional disciplinary actions.	For every instance Rs. 20,000/- It will progressively increase by Rs.5,000/- for subsequent instances. Additionally, the relevant authority of the Exchange on a case-to-case basis and based on the gravity of non-compliance shall decide on additional disciplinary actions.
2.	**More than 5 Technical Glitch Incidents during the financial year.** **(Incidents lasting more than 15 minutes)**	In addition to the penalty already levied as per the above provisions, no on-boarding of new clients till stock exchange analyses RCA and satisfies itself about corrective measures taken or, 15 days from glitch whichever is higher. Additionally, the relevant authority of the Exchange on a case-to-case basis and based on the gravity of non-compliance	The relevant authority of the Exchange on a case-to-case basis and based on the gravity of non-compliance shall decide on the disciplinary actions.

		shall decide on additional disciplinary actions.	
3.	**Failure to restore operations by moving to DR site within Recovery Time Objective.**	Rs.2 lac	Rs. 20,000/-
4.	**Failure to inform Exchange about the incident/glitch within 1 hour**	Rs.50,000/-, plus Rs. 25,000/- per day till failure continues. Additionally, the relevant authority of the Exchange on a case-to-case basis and based on the gravity of non-compliance shall decide on additional disciplinary actions.	Rs. 20,000/-, plus Rs. 5,000/- per day till failure continues. Additionally, the relevant authority of the Exchange on a case-to-case basis and based on the gravity of non-compliance shall decide on additional disciplinary actions.
5.	**Failure to submit the preliminary incident report to the Exchange by T+1 day**		
6.	**Failure to timely submit RCA within 14 days**		
7.	**Failure to conduct DR drill/live trading from DR site as per the provisions**	Rs. 2 lac, plus Rs. 1 lac for every month during which failure continues. Additionally, the relevant authority of the Exchange on a case-to-case basis and based on the gravity of non-compliance shall decide on additional disciplinary actions.	NA