Department: Market Operations	**Segment: All**
Circular No: MSE/CTCL/18079/2025	**Date: November 03, 2025**

Subject: Empanelment of Application Service Provider (ASP)

In terms of the provisions of Rules, Bye-Laws and Regulations of Metropolitan Stock Exchange of India Limited ('Exchange'), Members of the Exchange are notified as under:

1 As a part of Exchange's constant efforts to provide value to market participants, the Exchange has decided to modify the member approval process for providing Computer to Computer Link (CTCL), Internet Based Trading (IBT), Security Trading Through Wireless Technology (STWT), Direct Market Access (DMA) & Smart Order Routing (SOR) services through the Application Service Provider (ASP). The revised norms and procedures in this regard are as specified hereinafter. Earlier Circular of the Exchange: MCX-SX/IT/18/2008 dated October 23, 2008 & MCX-SX/CTCL/1803/2014 are hereby superseded.

2 Empanelment of ASP

2.1 The ASPs desirous of being empanelled with the Exchange would be required to meet the criteria prescribed in **Annexure 2 "CRITERIA FOR EMPANELMENT AS AN ASP"** and submit supporting documents as per the checklist given in Part A of **Annexure 1 "Checklist for Documentation"** with the application.

2.2 The Members who wish to be provided with CTCL / IBT / STWT / DMA / SOR through an Exchange empanelled vendor are required to submit supporting documents as per the checklist given in Part B of **Annexure 1**, **"Checklist for Documentation"** along with the application.

2.3 An ASP who is already empanelled in one or more segments of the Exchange and is desirous of seeking empanelment for new segment(s) will not be required to submit the undertaking (**Annexure 4)** again.

2.4 Procedure of ASP Empanelment

2.4.1 On receipt of the above duly completed documents and the applicable fees and on the ASP meeting requirements of the Exchange / SEBI and any other authority, the Exchange will share the Application Programming Interface (API) with ASP.

2.4.2 The ASP will have to test the software on the test environment provided by the Exchange. For connectivity to the Exchange test environment, following are the pre- requisites at ASP end:

2.4.2.1 **Leased Line Connectivity:**

a) P2P Leased Line
b) MPLS Lease Line

2.4.2.2 The CTCL test environment is available free of charge. The Exchange shall review the same and may revise the pricing policy if required, which will be communicated through a separate circular.

2.4.2.3 The Exchange may at its discretion impose any additional conditions as it deems fit for the continuous facility of CTCL Test Environment. In the event the ASP fails to comply with the conditions so imposed, the Exchange reserves the right to withdraw the CTCL Test Environment facility provided to them.

2.4.2.4 Without prejudice to above, the Exchange reserves the right to modify or withdraw Test Environment facility if the need so arises in its sole discretion.

2.4.3 After successful completion of testing in the Exchange's test environment, the ASP shall submit the required documents to the Exchange. Upon being satisfied that the ASP meets the SEBI and Exchange minimum requirements, the Exchange may empanel the ASP. The Exchange shall also specify the software for which such empanelment is granted.

2.4.4 In case of any version change or customization of the specified software, the ASP shall apply to the Exchange for approval prior to its release. The Exchange may grant approval after receiving the applicable documents related to the modification.

2.4.5 **Charges for ASP Empanelment**

2.4.5.1 The charges as mentioned below shall be payable by ASPs

One Time Non-Refundable Fee	Rs.10,00,000 + Applicable Service Tax
Recurring Annual Charge	Rs.2,50,000 + Applicable Service Tax

2.4.5.2 The ASPs shall pay the annual fee for the first year in advance along with the application. The annual fee shall be calculated on a pro-rata basis from the date of API provided to ASP till the ensuing March 31st for the first year. Any excess amount paid for the first year (on pro-rata basis) shall be adjusted towards annual fees for the next financial year. The annual fee shall be payable in by 30th day of April each year. An interest @ 21% p.a. shall be levied on late payment of the annual fees.

2.4.5.3 The Fees/Charges mentioned in para above are common for all the segments of the Exchange, that are presently being offered or that may be offered in future by the Exchange, from time to time. e.g. those ASPs who are already empanelled with the Exchange for any of its segments and have already paid onetime fee and are paying annual charges for that segment of the Exchange, will not be required to pay onetime fee and annual charges separately while applying for ASP empanelment in any other segment of the Exchange.

2.4.5.4 It is further clarified that those Independent Software Vendors (ISVs) who are already empanelled with the Exchange for any of its segments for CTCL/ IBT / STWT / DMA / SOR software and have already paid onetime fee and are paying annual charges, will not be required to pay onetime fee and annual charges separately while applying for ASP empanelment.

2.4.6 The Exchange at its discretion may impose any additional conditions as it deems fit for the continuous empanelment of ASP. In the event the empanelled ASPs fail to comply with the conditions so imposed, the Exchange reserves the right to cancel their empanelment.

2.4.7 Without prejudice to above, the Exchange reserves the right to cancel or modify the ASP empanelment/approval if the need so arises in its sole discretion.

2.4.8 Charges to be paid by empanelled ASP to be empanelled as ISV

2.4.8.1 An empanelled ASP who wishes to be empanelled as an ISV will not be required to pay separate onetime fee and annual charges, while applying for ISV empanelment.

3 Approval to Member for providing CTCL / IBT / STWT / DMA / SOR Services through empanelled ASP

3.1 Members desirous of availing CTCL / IBT / STWT / DMA / SOR services using the services of an empanelled ASP shall submit the documents as per the checklist given in Part B of **Annexure 1** to Exchange for approval.

3.2 On receipt of duly completed documents and undertaking, the Exchange may grant permission to the member for providing the CTCL / IBT / STWT / DMA / SOR services through the ASP and the Exchange may enable the User Id specified by the member for CTCL / IBT / STWT / DMA / SOR.

3.3 All the members who will be availing the services of the qualified ASP shall ensure the compliance as may be required from the Regulatory Authorities / SEBI from time to time.

4 Charges to Members for providing CTCL / IBT / STWT / DMA / SOR Services through empanelled ASP

4.1 No charges are payable to Exchange by members for providing CTCL / IBT / STWT / DMA / SOR services through empanelled ASPs.

5 Periodic submission of System Audit of Application Service Provider (ASP):

Empaneled ASPs of the Exchange are required to carry out Annual system audit of the CTCL facility & also conduct an additional system audit w.r.t. security controls built in their ASP platform.

Report 1: For Annual System Audit of CTCL facility, empanelled ASPs of the Exchange are required to submit the report to the Exchange as per the latest Terms of Reference (TOR) applicable for Type II Members audited by CISA / CISSP / CISM / DISA certified auditor. Details of the latest TOR and auditor selection norms are provided in the circular issued by Inspection team on a yearly basis.

Report 2: For submission of additional system audit w.r.t. security controls built in ASP platform & as a part of Regulatory requirement, ASPs are required to follow auditor selection norms & provide the following information:

- Details regarding the security controls built in the ASP platform for each version/ instance.
- Finding / Observations reported by the auditor to be submitted in the enclosed format.

ASPs shall submit both the audit reports every year for the period April to March within the timelines to avoid any penal/disciplinary action, as prescribed by the Exchange from time to time. This certificate along with the original audit report and/or re-confirmatory audit report shall be submitted to the Exchange in accordance with the below timelines.

System Audit Report as per Type II TOR and Preliminary Audit Report submission w.r.t. security controls built in their ASP platform	**Re-confirmatory Audit Report submission (if applicable) w.r.t. security controls built in their ASP platform**
On or before 30 June.	On or before 30 September.

Submission of system audit report shall be considered complete only after ASP submits report to the Exchange after providing management comments.

Please find attached Annexures.

For any clarifications kindly contact Customer Service on 022 - 61129095 / 9096 or send an email to customerservice@msei.in

For and on behalf of
Metropolitan Stock Exchange of India Limited

Aniruddh Shukla
Market Operation

No Change Letter

(On the letter head of ASP)

Date :

To,
CTCL Department
Metropolitan Stock Exchange of India Ltd.
Building A, Unit 205A, 2nd Floor,
Piramal Agastya Corporate Park,
L.B.S Road, Kurla West,
Mumbai – 400 070.

Dear Sir / Madam,

This product has already been registered by the Exchange <Product name_____> <Version_____> (Existing Product/Previous approved product details to be provided here) under Windows / Linux.

There is no change in the feature / functionalities / strategy logic/ order management system/ risk management checks and algorithm logic/broadcast handler of software.

Product name: _____(New Product Details)
Version: _____(New Product Details)
Windows / Linux: _____
Segment: _____

Yours faithfully,

Signature
Name, Designation and official e-mail id of the person signing

In case of an Individual, the application has to be signed by the said individual
In case of a firm, the application has to be signed by a partner
In case of a corporate, the application has to be signed by the Director

Annexure 1

Checklist for Documentation

Part A: Checklist for Application for ASP Empanelment

A vendor seeking empanelment with Exchange as an ASP shall provide the following to the Exchange

Sr. No.	Particulars	Format
1.	**Application for ASP Empanelment (With Annexures)**	Annexure 3
2.	**Undertaking to be given by ASP - One time only**	Annexure 4
3.	**Certified true copy of Board Resolution** (If the vendor is company)	----
4.	**Declaration**	Annexure 5
5.	**System Audit Report**	Annexure 32
6.	**System Audit Certificate**	Annexure 33
7.	**Product & RMS Write-up**	----
8.	**Change description document (in-case of modification request)**	----
9.	**No Change Letter (in-case of modification request)**	----

Part B: Checklist for Application by Member for providing CTCL/ IBT / STWT / DMA / SOR service through Empanelled ASP

Sr. No.	Particulars	Format
1.	**Application for permission to provide CTCL/ IBT / STWT / DMA / SOR services through ASP**	Annexure 7
2.	**Undertaking to be given by Member to provide CTCL/ IBT / STWT / DMA / SOR services through ASP – One time only**	Annexure 8
3.	**Declaration**	Annexure 9
4.	**Network Diagram**	----
5.	**Copy of Agreement/MoU entered into with ASP** (i.e. copy of Service provider agreement)	----
6.	**Copy of the latest Networth Certificate**	----
7.	**System Audit Report**	Annexure 32
8.	**System Audit Certificate**	Annexure 33

Annexure 2

CRITERIA FOR EMPANELMENT AS AN ASP

Sr. #	Criteria	Response to Criteria
1.	The applicant must be a registered partnership firm or a company having its registered office in India.	
2.	The firm / company should be in existence for at least 3 years	Please provide necessary proof like certificate of Incorporation / Deed of partnership
3.	Whether the Applicant has any affiliation with other entities like brokers / sub-brokers etc. including beneficial interests held by / in such brokers / sub-brokers etc.	If Yes, Please mention name of all such entities with required details
4.	Whether applicant is having previous experience in similar product development / implementation.	If yes, provide name and project / product details with reference
5.	Whether Applicant has requisite skills within the organization in relation to product development, system integration and maintenance	Please provide details with key personnel profile
6.	Whether Applicant is certified for ISO 9001:2008 or CMMi	
7.	Whether the Applicant has adequate infrastructure in terms of: • Hardware & software facilities. • Communication & networking facilities within the organization • General office facilities in terms of office space and infrastructure • Staff	Please provide the existing and planned infrastructure.
8.	System Requirements: • Adequate provisions for system redundancy, fault tolerance and load balancing • Database redundancy and standby databases (hot standby / cold standby) • Provisions to monitor system capacity and scalability of system on capacity utilisation • Contingency planning in case of technical failure and capacity planning (including periodic evaluation of capacity based on historical and anticipated volumes) should be documented and be available for inspection • Frequency of hardware & software upgrade	Please provide details

	• Adequate provisions for back-up systems and data storage • Alternate means of communication in case of link failure – links to Exchange as well as Internet link failure • Facilities for 24 X 7 call centre / Help Desk	
9.	Security Requirements: • Physical security of hardware / systems at hosting location and controls on admission of personnel into location. Audit trail of all entries-exits at location. • Role based access control of ASP staff to system. Audit trail of all access by ASP staff. Reconfirmation by second user for critical functions (second password). • Use of authentication technology – user ID and First Level password (private code). Second Level password are advisable • Automatic expiry of passwords after a reasonable duration and reinitialisation of access on entering fresh passwords • Encryption of passwords to ensure no unauthorised access to user passwords • Security, reliability and confidentiality of data related to members and clients. Provisions to ensure that a member / client can see data only pertaining to himself and not other members / clients. • Records maintained in electronic form should not be susceptible to manipulation • Logs of all activities / transaction to be maintained with proper audit facilities • Secured Socket Layer access through Internet – certified by an approved Certifying Authority • Firewalls between Internet and trading set-up • Other security provisions, if any	Please provide details

Annexure 3

APPLICATION FOR EMPANELMENT AS AN ASP

(To be executed on letterhead of the ASP)

To
CTCL Department
Metropolitan Stock Exchange of India Ltd.
Building A, Unit 205A, 2nd Floor,
Piramal Agastya Corporate Park,
L.B.S Road, Kurla West,
Mumbai – 400 070.

Sr. #	Particulars	Details
1.	API required from Exchange: (NonFIX API / FIX API)	
2.	API Required for Segment • Equity/ Capital Market • Equity Derivatives/ Futures & Options • Currency Derivatives	
3.	Name of the ASP:	
4.	Registered Address:	
5.	Legal form of Organisation:	Certificate of Registration / Partnership deed to be enclosed
6.	Telephone No.:	
7.	Fax No.:	
8.	Name(s) & Designation of Authorised Signatory:	
9.	Contact details (Phone, Fax, Email) of Authorised Signatory:	
10.	Correspondence Address of Authorised Signatory:	
11.	Organisational structure:	To be enclosed
12.	Total Staff:	
13.	Directors:	
14.	Technical Staff - Hardware:	
15.	Technical Staff - Software:	

16.	Technical Staff - Support:	
17.	Technical Staff - Others:	
18.	No. of support offices across the country:	Complete details to be enclosed
19.	Details of promoters and their background:	To be enclosed
20.	No. of years in the IT Business:	
21.	Turnover for last three years:	Details to be provided, including audited balance sheets to be enclosed
22.	Technical Details – Hardware Infra Structure available within Organisation:	To be enclosed
23.	Technical Details – Software Infra Structure available within Organisation:	To be enclosed
24.	Technical Details – Communication / Networking Infra Structure available within Organisation:	To be enclosed
25.	Details of Empanelment as CTCL / IBT / STWT / DMA / SOR / software vendor or empanelment as an ASP with other Stock/Commodity Exchanges:	
26.	Complete details of Proposed Solution along with Platforms used:	Comprehensive write-up explaining features of the solution, programming language, OS platform, Database details and network diagram to be provided.
27.	Name and reference of Exchange (MSE) trading members where solution is implemented, if any:	
28.	Proposed Price (indicative per user & site license fee) for providing the Solution to the Members of the Exchange: Price for Workgroup edition:	(Give details)
29.	Supporting documents in relation to fulfillment of criteria for empanelment	To be enclosed as Annexure

We certify that all the statements are true and correct to the best of our knowledge. We undertake to ensure continuous compliance with the requirements of the Exchange, Department of Technology (Government of India) policy and regulations with regard to levels of encryption, etc, and directives and other statutory requirements including tax and foreign exchange laws of the regulators in this regard, as may be issued from time to time.

Signed sealed and delivered by the Authorized signatory of the ASP

Date: Place:

Annexure 4

UNDERTAKING TO BE GIVEN BY ASP

We _____, a firm registered under the Indian Partnership Act, 1932 / a Company / Body Corporate incorporated under the Companies Act 1956/_____ Act, ____, and having our registered office at _____ give this UNDERTAKING on this _____ day of _____ at _____ IN FAVOUR of Metropolitan Stock Exchange of India Ltd., a company incorporated under the Companies Act of 1956, with its Registered Office at Building A, Unit 205A, 2nd Floor, Piramal Agastya Corporate Park, L.B.S Road, Kurla West, Mumbai - 400 070 (hereinafter called 'Exchange').

WHEREAS

a) The Exchange has provided the trading software to enable its Members to trade on its trading platform.

b) In addition, Exchange provides a computer to computer link facility (hereinafter referred to as the 'CTCL facility') by which it provides a facility for order entry, receipt of order and trade confirmation and also for receipt of data relating to its trade quotations etc.

c) The Members of the Exchange may introduce internet trading through order routing system for trading (hereinafter referred to as 'Internet based trading facility'), after obtaining permission from Exchange.

d) The Exchange has decided that it shall make the CTCL Facility available to Members of the Exchange / grant permission to Members of the Exchange to offer Internet based trading facility on a case to case basis subject to such terms and conditions as Exchange may impose from time to time.

e) The Members of the Exchange may develop the necessary software at their end for the purposes of CTCL / IBT / STWT / DMA / SOR facility or procure the same from such of those software vendors as may be empanelled by Exchange, or avail of the services provided by service providers to facilitate CTCL / IBT / STWT / DMA / SOR, after duly complying with the requirements as may be stipulated by Exchange in this regard.

f) Exchange has decided that the service providers shall be identified for this purpose, based on the application received from them and subject to fulfillment of such criteria as may be stipulated by Exchange from time to time, and subject to such service provider executing an Undertaking in favour of Exchange in the format prescribed by it and agreeing to abide by and be bound by the various terms and conditions which Exchange may prescribe in this regard from time to time.

g) The Exchange has agreed to consider my application for empanelment as a service provider for the above purpose and I / we am / are desirous providing such services (which may inter-alia include software / hardware / other infrastructure) to enable the Trading Members of the Exchange to avail of the CTCL / IBT / STWT / DMA / SOR facility, and shall fulfill all the terms and conditions as may be prescribed by Exchange from time to time at its discretion in this regard.

NOW THEREFORE IN CONSIDERATION OF EXCHANGE having agreed to consider my application for empanelment as an Application Service Provider for the aforesaid purposes, I / we hereby IRREVOCABLY AND UNCONDITIONALLY UNDERTAKE and agree to abide by and be bound by the following terms and conditions:

1. I/We shall ensure that the connectivity of the CTCL facility / Internet based trading facility is as per Exchange and Department of Telecommunications (DOT) approved network diagram of the CTCL facility / Internet based trading facility.

2. I/We undertake to pay any such license fees/charges/royalties as may be levied by DOT/MTNL/Exchange or any other regulatory/statutory authorities from time to time.

3. I/We shall provide the service only at the location of the Members of the Exchange after duly ensuring that all the requirements stipulated by Exchange in this regard have been complied with by the Member and that the Approved User shall not make the CTCL facility / Internet based trading facility available to any other unauthorised person.

4. I/We undertake to ensure that the connectivity between the Member and Exchange shall be used only for application of the CTCL facility / Internet based trading facility.

5. I/We undertake that the API shared by the Exchange will be used in strict conformity with the terms & conditions that may be laid down by the Exchange/SEBI from time to time.

6. I/We agree that the data communication link between Exchange's equipment and the Member's equipment is on a computer to computer basis and that the link shall not be connected to my/our own telecommunication network.

7. I/We undertake to obtain the prior approval of Exchange for any changes to be made to the existing network diagram / software.

8. I/We undertake to ensure that access shall be given only to the authorised individuals and also a method shall be established to maintain audit trail of all access and to ensure that non authorised persons cannot access the system.

9. I/We undertake that the software design shall use only the specified messages given by Exchange and shall consider all the structures defined by Exchange from time to time. The Deliverables shall be:

    i. Basic functionalities as and when required by Exchange.
    ii. Customization for Members needs as approved by Exchange.

10. I/We undertake that the Software developed by me / us, shall not resemble or result in duplication of the trading software of the Exchange. We also undertake that the Software shall provide all the essential functions as may be stipulated by Exchange from time to time.

11. I/We undertake that controls shall be inbuilt by me / us to ensure that the orders are matched by the central computer of Exchange only and there is no scope for orders being matched in my / our / Members of the Exchange own private network.

12. I / we shall not develop or use any software / program facility which shall either directly or indirectly facilitate Algorithmic Trading without prior written approval of the Exchange. For the purpose of this clause the term 'Algorithmic Trading' shall mean any order that is generated using automated execution logic, entered by the software / program facility into the Trading System of Exchange to be matched by the Exchange's System.

13. I/We undertake that the following controls shall be inbuilt in the Software by me/us to detect loss of product integrity:

i. Data validation routines to detect input errors.
ii. Backup and recovery procedures.

14. I / We shall ensure that the Approved Persons shall not make the CTCL facility / Internet based trading facility available to any other person and that there shall be no provision in the Software to enable such persons to do so.

15. I / We shall ensure that position monitoring etc., shall be inbuilt in the CTCL facility / Internet based trading facility and it shall be flexible to change as per the requirements of the Exchange and the regulators.

16. I / We shall ensure that the CTCL facility / Internet based trading facility shall be developed so as to generate the following from the System for the purpose of verification by the Exchange:
    i. Number of Users connected on to the Network.
    ii. Number of Dealers connected on to the Network including privileges to each Dealer.
    iii. All the systems logs and audit trails of the Dealer and the Member.
    iv. Provision for entering complementary dummy orders.

17. I/We undertake that
    i. Exchange shall have the right and privilege of inspecting and testing the Software at my/our site and the Members of the Exchange site without any prior notice. The source code of the Software shall be available at both, my/ our site as well as the Member's site for verification.
    ii. I / We shall make available Prototype and the technical specifications of the Software to Exchange for testing purposes.
    iii. I / We shall be responsible to fix the bugs or defects in the Software if any, found at the time of testing.

18. That I / We shall meet the criteria set to measure the expected level of performance.

19. I / We shall provide the documentation i.e. training manuals required to operate the product and use of system outputs as specified by the Member, with the Software. Further, such documentation shall include the potential error conditions and recommend action in the event of occurrence of error.

20. I / We undertake to provide User training first when the product is installed and thereafter whenever a major upgrade is released to the Member's Personnel for the following:

    i. Use of Product
    ii. Maintenance of the product.

Further, I / We also undertake that the frequency and caliber of the Vendor Personnel providing the training shall be as specified.

21. I / We undertake that:

    i. All material and information which has or will come into my /our possession or knowledge in connection with the development of CTCL / IBT / STWT / DMA / SOR software or the performance hereof, consists of confidential and proprietary data, whose disclosure to or use by third parties will be damaging or cause loss to Exchange. I / We agree to hold such material and information in strict confidence, not to make use thereof other than for the performance as specified herein, employees requiring such information and not to release or disclose it to any other parties. I / We shall take appropriate action with respect to my / our employees to ensure that the obligations of non-use and non-disclosure of confidential information are fully satisfied and shall also ensure that my/our Employees are aware and comply with the above provisions. For the purpose of this clause the term

data shall include amongst other things technical data which may be divulged to or by the vendor during the normal course of development of the software and information relating to the operations of Exchange.

ii. I / We shall not in any way represent that the software developed is a part of the Exchange Trading software.

iii. I / We shall keep full security of Exchange's programs, databases and computer records in accordance with best computing practice.

22. I / We shall develop the software /system after considering the current and expected increase in workload, to ensure that the desired efficiency can be maintained with future workloads.

23. I / We shall develop the software and make it compatible to other Operating Systems, in case of any need to transfer the Software from one piece of hardware to another due to technological changes.

24. I / We shall provide upgrade to the application software as and when the need for the same arises and in accordance with the requirements of Exchange/SEBI/any other regulatory authority.

25. I / We undertake to make the Software compatible with the Exchange Trading system, under intimation / (written consent) of Exchange, in case any modification is made to the Exchange Trading software by Exchange and the same is required to be incorporated in the Software.

26. I / We am / are fully aware that Exchange shall not be responsible for development, maintenance, updates, upgrades, error fixes and other support functions.

27. I / We undertake to provide the training and documentation as and when the Software is technically upgraded.

28. I / We undertake to ensure as follows:

i. That in case of failure or malfunctioning of the Software / System, I/We shall make such first level trouble shooting and rectification of the Software / System problem to restore the Software / System in its proper operating condition at no cost to the Member.

ii. That I / We shall provide services for regular onsite maintenance of the Software / System in such manner and at such time intervals as specified by the Member. The fees for the same will be the amount mutually agreed upon by the Member and me/us and shall not at any point of time be unreasonable so as to put the Member in hardship. We are also aware that Exchange shall in no way be responsible for non-fulfillment of either this or any other condition by the Member.

iii. Shall provide services to any Trading Member of Exchange at any location in the country, which the Member desires to operate from.

29. I / We confirm that the Software / System complies with all the requirements stipulated by Exchange, SEBI and DOT in this regard and undertake that I / we shall modify the Software, if necessary to ensure continued compliance with the requirements of Exchange / DOT / any other authority as may be issued from time to time.

30. I / We are aware and agree that we are only acting as a facilitator. i.e. facilitating trading and other services, as and when provided, on the Internet, through application/ systems / portal, etc., and I / We shall not

involve or associate myself / ourselves directly or indirectly in any manner whatsoever with the act of trading/dealing in securities.

31. I / We hereby undertake to duly inform Exchange in case of any cause, resulting in any change to my/our entity, or any change in any of the eligibility criteria based on which we have been identified as a software vendor for this purposes by Exchange.

32. I / We hereby undertake to duly inform Exchange the list of Members of the Exchange who are using my/our CTCL / Internet trading application software.

33. I / We shall render all possible assistance and co-operation to Exchange by providing access to any kind of information in any form as it may require and I/we hereby undertake to produce such documents, records, accounts, books, data howsoever stored including data stored in magnetic tapes, floppy diskettes, etc. and any other information as may be required by Exchange at its discretion.

34. I / We agree and undertake that Exchange shall not be liable for any direct or indirect loss, damage, costs, claims and expenses whatsoever caused or contributed by any event of force majeure. For the purposes of this Clause, "Force Majeure" means and includes wars, insurrections, revolution, fires, floods, epidemic, quarantine restrictions, declared general strikes in relevant industries, act of God, act of the Government of India and any concerned State Government and such other acts or events beyond Exchange's control and further the above is without prejudice to the rights already accrued to Exchange due to my/our failure to perform either in full or in part, my/our obligations prior to the occurrence of events of Force Majeure.

35. I / We shall indemnify and keep indemnified Exchange harmless against every and all claims, demand, damages, liabilities, losses and expenses suffered by it directly by reason of my / our non-compliance, contravention with any of the provisions of this Undertaking or by reason of bugs or malfunctioning of the software provided by us to the Members of the Exchange.

36. I / We agree that no forbearance, delay or indulgence by Exchange in enforcing the provisions of this Undertaking shall prejudice or restrict the rights of Exchange nor shall any waiver of its rights operate as a waiver of any subsequent breach and no rights, powers, remedies herein conferred upon or reserved for Exchange is exclusive of any other right, power or remedy available to Exchange and each right, power or remedy shall be cumulative.

37. I / We undertake that any declaration or other notice to be given by me/us to Exchange shall be sent by registered letter or telex/cable or facsimile transmission to the address first mentioned above.

38. That I / we shall execute, sign and subscribe to such other documents, papers, agreement, covenants, bonds, and/or undertakings as may be prescribed or required by Exchange from time to time.

39. I/We also agree that in the event of my/our non-compliance with any of the provisions as mentioned above, Exchange shall take such action against us as it may deem fit in this regard.

IN WITNESS WHEREOF this Undertaking is executed by the undersigned on the day, month, year and the place first mentioned above.

SIGNED, SEALED AND DELIVERED BY

_____

For and on behalf of _____

_____

_____

Before me

Annexure 5

(To be executed on letter head of the Application Service Provider)

We _____, having our registered office at _____ and represented by Mr. _____ and hereinafter referred to as APPLICATION SERVICE PROVIDER are providing services (interalia including software / hardware / applications / infrastructure etc.)to facilitate Internet Based Trading services to be provided by the member. We hereby certify that the software / system provided by us complies with all the stipulations and directives of SEBI & the Exchange in this regard.

NOTWITHSTANDING the generality of the above, the software / system complies with the following provisions in particular as directed by SEBI / the Exchange.

Sr#	Particulars	Remarks
1	Access for order routing is permitted only through the use of client specific User ids.	Yes
2	The access is permitted only through the use of client specified password (private code).	Yes
3	The system provides for automatic expiry of passwords at the end of a reasonable duration and reinitialising of access on entering fresh passwords.	Yes
4	The system has provision for security, reliability and confidentiality of data related to members and clients.	Yes
5	Records maintained in electronic form are not susceptible to manipulation.	Yes
6	All transaction logs are maintained with proper audit facilities (a write-up in this regard shall be enclosed).	Yes
7	Secured socket level security for server access through Internet is available.	Yes
8	Suitable firewalls between trading set-up and Internet trading set up are available.	Yes
9	There are adequate provisions in respect of physical security of the hardware / systems at the hosting location and controls on admission of personnel into the location (audit trail of all entries- exits at location etc.).	Yes
10	There is role based access control of the APPLICATION SERVICE PROVIDER's staff to the system and audit trail of all access by the staff.	Yes
11	The optional advanced security products used for e-commerce, including SMART cards, dynamic password and 128 bit encryption or above, second level pass words are available. If so, details of the same.	Yes

12	Between the trading web server and trading client terminals, interfaces standards as per recommendations of IETF and W3C (e.g. HTTP ver 4 or above, HTML ver 4/XML) are adopted.	Yes
13	Logic/priorities similar to those used by the Exchange are used to treat client orders.	Yes
14	Provision for maintenance of all activities / alerts log with audit trail is available.	Yes
15	The web server internally generates unique numbering for all client orders/ trades.	Yes
16	Adequate provisions for backup systems and data storage capacity are available.	Yes
17	There are adequate provisions for system redundancy, fault tolerance and load balancing as well as database redundancy and standby databases (hot standby / cold standby).	Yes
18	Adequate provisions for capacity planning including provisions to monitor system capacity utilisation and scalability of system on capacity utilisation are available.	Yes
19	An alternative means of communication is arranged for in case of Internet link failure / Exchange link failure.	Yes
20	The web site providing the internet based trading facility contains information meant for investor protection such as rules and regulations affecting client broker relationship, arbitration rules, investor protection rules, etc. The web site also provides and displays prominently hyper link to the web site/page on the web site of the Exchange displaying rules/regulations/circulars.	Yes
21	The web site displays the ticker/quote/order book of the Exchange along with the date and time stamp as well as the source of the information.	Yes
22	The software provides for sending of the order/trade confirmation through email at clients' discretion at the time period specified by the client in addition to the other mode of display of such confirmations on real time basis on the web site. The web site allows for specifying the time interval on the web site itself by the client.	Yes
23	The software provides for reconfirmation of orders which are larger than that as specified by the member's risk management system. In this regard the system is capable of assessing the risk of the client as soon as the order comes in and shall inform the client of acceptance/rejection of the order within a reasonable period.	Yes
24	The software provides a system-based control facility on the trading limits of the clients and exposures taken by the clients.	Yes
25	All orders entered into the internet-based trading system are offered to the market for matching and no cross trades are generated.	Yes

26	The software has the facility of providing the reports on margin requirements, payment and delivery obligations etc to the clients through the system.	Yes
27	The system captures the IP address (from where the orders are originating) for all CTCL / IBT / STWT / DMA / SOR orders.	Yes
28	The system has built-in high system availability to address any single point failure.	Yes
29	The system has secure end-to-end encryption for all data transmission between the client and the system through a Secure Standardized Protocol. A procedure of mutual authentication between the client and the server is implemented.	Yes
30	The system has adequate safety features to ensure it is not susceptible to internal / external attacks.	Yes
31	In case of failure of CTCL / IBT / STWT / DMA / SOR, the alternate channel of communication has adequate capabilities for client identification and authentication.	Yes
32	Two-factor authentication for login session has been implemented for all orders emanating using Internet Protocol {Two factor authentication framework should not be the same}.	Yes
33	In case of no activity by the client, the system provides for automatic trading session logout.	Yes
34	The back-up and restore systems implemented is adequate to deliver sustained performance and high availability. The system has on-site as well as remote site back-up capabilities.	Yes

Signed sealed and delivered by the Authorized representative of the APPLICATION SERVICE PROVIDER

Date:
Place:

Annexure 6

Terms of Reference (TOR) for periodic System Audit to be done by empanelled ASP

The system auditor shall at the minimum cover the following areas:

1. **System controls and capabilities**
   - **Order Tracking** – The system auditor should verify system process and controls covering order entry, capturing of IP address of order entry terminals, modification / deletion of orders, status of current order/outstanding orders and trade confirmation.
   - **Order Status/ Capture –** Whether the system has capability to generate / capture order id, time stamping, order type, scrip details, action, quantity, price and validity, etc.
   - **Rejection of orders –** Whether system has capability to reject orders which do not go through order level validation at CTCL servers and at the servers of respective stock exchanges.
   - **Communication of Trade Confirmation / Order Status –** Whether the system has capability to timely communicate to Client regarding the Acceptance/ Rejection of an Order / Trade via various media including e-mail; facility of viewing trade log.
   - **Client ID Verification –** Whether the system has capability to recognize only authorized Client Orders and mapping of Specific user Ids to specific predefined location for proprietary orders.

2. **Software Change Management -** The system auditor should check whether proper procedures have been followed and proper documentation has been maintained for the following:

   - Processing / approval methodology of new feature request or patches
   - Fault reporting / tracking mechanism and process for resolution
   - Testing of new releases / patches / modified software / bug fixes
   - Version control- History, Change Management process , approval etc
   - Development / Test / Production environment segregation.
   - New release in production – promotion, release note approvals
   - Production issues / disruptions reported during last year, reasons for such disruptions and corrective actions taken.
   - User Awareness

3. **Risk Management System (RMS) Online risk management capability** – The system auditor should check whether system of online risk management including upfront real-time risk management, is in place for all orders placed.

   - **Trading Limits** – Whether a system of pre-defined limits /checks such as Order Quantity and Value Limits, Symbol wise User Order / Quantity limit, User / Branch Order Limit, Order Price limit, etc., are in place and only such orders which are within the parameters specified by the RMS are allowed to be pushed into exchange trading engines.
   - **Order Alerts and Reports** – Whether the system has capability to generate alerts when orders that are placed are above the limits and has capability to generate reports relating to margin requirements, payments and delivery obligations.
   - **Order Review** – Whether the system has capability to facilitate review of such orders that were not validated by the system.
   - **Log Management –** Whether the system maintains logs of alerts / changes / deletion / activation / deactivation of client codes and logs of changes to the risk management

parameters mentioned above. Whether the system allows only authorized users to set the risk parameter in the RMS.

4. **Password Security**
   - **Organization Access Policy** – The system auditor should check whether a well documented password policy as well as access control policy is being maintained.
   - **Authentication Capability** – Whether the system authenticates user credentials by means of a password before allowing the user to login, and whether there is a system for authentication of orders originating from Internet Protocol by means of two-factor authentication, including Public Key Infrastructure (PKI) based implementation of digital signatures.
   - **Password Best Practices** – Whether there is a system provision for masking of password, system prompt to change default password on first login, disablement of user id on entering multiple wrong passwords (as defined in the password policy document), periodic password change mandate and appropriate prompt to user, strong parameters for password, deactivation of dormant user id, etc.

5. **Session Management**
   - **Session Authentication** – Whether system has provision for Confidentiality, Integrity and Availability (CIA) of the session and the data transmitted during the session by means of appropriate user and session authentication mechanisms like SSL etc.
   - **Session Security** – Whether there is availability of an end-to-end encryption for all data exchanged between client and systems or other means of ensuring session security.
   - **Inactive Session** – Whether the system allows for automatic trading session logout after a system defined period of inactivity.
   - **Log Management** – Whether the system generates and maintains logs of Number of users, activity logs, system logs, Number of active clients.

6. **Database Security**
   - **Access** – Whether the system allows database access only to authorized users / applications.
   - **Controls** – Whether the database server is hosted on a secure platform, with Username and password stored in an encrypted form.

7. **Network Integrity**
   - **Seamless connectivity** – Whether a backup network link is available in case of primary link failure with the exchange.
   - **Firewall Configuration** – Whether the firewall is appropriately configured to ensure maximum security.

8. **Access Controls**
   - **Access to server rooms** – Whether adequate controls are in place for access to server rooms and proper audit trails are maintained for the same.
   - **Additional Access controls** – Whether the system provides for two factor authentication mechanism to access to applicable components. Whether additional password requirements are set for critical features of the system. Whether the access control is adequate.

9. **Backup and Recovery**
   - **Backup and Recovery Policy** – Whether a well documented policy on periodic backup of data is being maintained.

- **Log generation and data consistency** - Whether backup logs are maintained and backup data is tested for consistency
- **System Redundancy** – Whether there are appropriate backups in case of failures of any critical system components

10. **User Management**
    - **User Management Policy** – The system auditor should check whether a well documented policy is being maintained that provides for user management and the user management policy explicitly defines user, database and application Access Matrix.
    - **Access to Authorized users** – The system auditor should check whether the system allows access only to the authorized users.
    - **User Creation / Deletion** – The system auditor should check whether new users ids were created / deleted as per CTCL guidelines of the Exchange and whether the user ids are unique in nature.
    - **User Disablement** – The system auditor should check whether non-complaint users are disabled and appropriate logs (such as event log and trade logs of the user) are maintained.

11. **IT Infrastructure Management** (including use of various Cloud computing models such as Infrastructure as a service (IaaS), Platform as a service (PaaS), Software as a service (SaaS), Network as a service (NaaS))
    - **IT Governance and Policy** – The system auditor should verify whether the relevant IT Infrastructure-related policies and standards exist and are regularly reviewed and updated. Compliance with these policies is periodically assessed.
    - **IT Infrastructure Planning** – The system auditor should verify whether the plans/policy for the appropriate management and replacement of aging IT infrastructure components have been documented, approved, and implemented. The activities, schedules and resources needed to achieve objectives related to IT infrastructure have been integrated into business plans and budgets.
    - **IT Infrastructure Availability (SLA Parameters)** – The system auditor should verify whether a process is in place to define its required availability of the IT infrastructure, and its tolerance to outages.
    - **IT Performance Monitoring (SLA Monitoring)** – The system auditor should verify that the results of SLA performance monitoring are documented and are reported to the management.

12. **Software Testing Procedures** - The system auditor should check for the compliance with the guidelines and instructions of SEBI / Exchange with regard to testing of software and new patches, including the following:
    - **Test Procedure Review** – The system auditor should evaluate whether the procedures for system and software testing were proper and adequate.
    - **Documentation** – The system auditor should verify whether the documentation related to testing procedures, test data, and resulting output were adequate and follow the organization's standards.
    - **Test Cases** – The system auditor should review the internal test cases and comment upon the adequacy of the same with respect to the requirements of the Exchange and SEBI.

13. **Other Area** – Other area/aspect which is significant and material in relation to the size and the nature of the operations need to be looked into and commented upon by the System Auditor over and above the ToR of the System audit.

Annexure 7

Application for permission to provide CTCL / IBT / STWT / DMA / SOR services through ASP

(To be provided on letterhead of the Member)

I / We, _____having my/our Registered Office/Office at _____am/are trading member/s of the Metropolitan Stock Exchange of India Limited, hereby apply for the permission of the Exchange for providing Internet based trading facility and services through ASP.

A. GENERAL

1. Member Id:

2. Segment: ……

3. SEBI Registration number:

4. Registered Office/ Office address:

5. Telephone:

6. Fax No.:

7. Name of the Authorised Signatory and designation:

7. Contact details of the Authorised Signatory: (Telephone number, Fax number and Email address)

8. Name of the Application Service Provider (ASP) for providing the internet trading facility:

9. Copies of the agreement/MOU entered into with the ASP: (To be enclosed)

10. Networth of the member (Copy of the latest Networth certificate as made applicable by SEBI, from time to time)

11. User ID to be used for CTCL / IBT / STWT / DMA / SOR through ASP facility:

B. NETWORK SECURITY, STANDARDS FOR WEB INTERFACES AND PROTOCOLS

Whether the system has provision for security, reliability and confidentiality of data through use of encryption technology and in line with the SEBI's directives on Standards for web interfaces and protocols (a certificate from the software vendor in this regard as per **Annexure 9** shall be enclosed): YES / NO

The level of encryption used by the system: minimum 128 bit or above

C. SYSTEMS OPERATIONS

Whether the requirements of systems operations as stipulated by SEBI / MSE in this regard are complied with (a certificate in this regard as per **Annexure 9** shall be enclosed) YES / NO

D. PERSONNEL REQUIREMENTS

1. Total number of personnel currently employed with breakup of dealers, back office personnel etc.

2. No. of personnel to be dedicated to handle internet based trading service with break up for communication handling, back office etc.

3. Names of personnel, qualification, etc. of personnel specified in point 2 above

4. Whether above personnel handling Internet trading have obtained certification in the Derivative Market basic module of the Exchange (copies of mark sheet / certificates to be enclosed): YES / NO

E. RISK MANAGEMENT

Whether the requirements of systems operations maintained by ASP as stipulated by SEBI in this regard are complied with (A certificate in this regard as per **Annexure 9** shall be enclosed): YES / NO

We certify that all the statements are true and correct to the best of our knowledge. We are aware that in case any of the statements are found to be incorrect or false, we are liable for disciplinary action. We undertake to ensure continuous compliance with the requirements of the Exchange, DoT policy and regulations with regard to levels of encryption, etc and SEBI directives and other statutory requirements etc. in this regard, as may be issued from time to time.

We confirm and certify that the software / system provided by the Application Service Provider (ASP) for trading has undergone testing and we are satisfied with the product and it complies with the stipulations of the Exchange.

For (Name of the Member)

Authorised Signatory (Name
and designation)

Date:
Place:

Annexure 8

Undertaking to be given by Member to provide CTCL / IBT / STWT / DMA / SOR services through ASP

I / We, _____, an individual /a firm registered under the Indian Partnership Act, 1932 / a Company / body corporate incorporated under the Companies Act of 1956 /_____ Act, 19___, and residing at / having our registered office at

_____ (hereinafter referred to as the 'Undersigned' which expression shall unless repugnant to the context include her/his / its successors, assigns and legal representatives) give this Undertaking IN FAVOUR of METOPOLITAN STOCK EXCHANGE OF INDIA LIMITED, a company incorporated under the Companies Act, 1956 and having its registered office at Building A, Unit 205A, 2nd Floor, Piramal Agastya Corporate Park, L.B.S Road, Kurla West, Mumbai - 400 070 India (hereinafter referred as Exchange, which expression shall unless repugnant to the context include its successors, assigns and legal representatives)

1. WHEREAS, Exchange provides inter-alia a Computer To Computer Link (hereinafter referred to as the "CTCL facility" as well as facility to use internet) through ASP by which Exchange provides a facility to its Trading Members to access the trading system of Exchange.

2. WHEREAS, Exchange makes available the CTCL and/or Internet based trading facility to its Trading Members through ASP on case to case basis, subject to such terms and conditions as specified by Exchange from time to time. and one of the conditions is that each trading member willing to avail of the CTCL and/or internet based trading facility through ASP shall execute an undertaking in favour of Exchange in the format prescribed by Exchange and agree to abide by any modifications / additions carried by Exchange from time to time.

3. WHEREAS, I/We have been admitted to the Trading Membership of Exchange, and am/are desirous of availing of the CTCL / Internet Based trading facility through ASP by fulfilling all the terms and conditions as may be prescribed by Exchange from time to time at its discretion in this regard.

NOW THEREFORE IN CONSIDERATION OF Exchange having agreed to allow the Trading Member at his / its request, to avail of the CTCL and/or Internet based trading facility through ASP, the Trading Member hereby IRREVOCABLY UNDERTAKES and agrees to abide by and be bound by the following terms and conditions:

1. That I/We shall abide by, comply with and be bound by the Rules, Bye-laws, and terms and conditions for CTCL and/or Internet Based Trading facility of Exchange as in existence or as may be modified / amended by the relevant authority from time to time and any circular, order, direction, notice, instructions issued and / or as maybe modified or amended from time to time by the relevant authority;

2. That Exchange shall be entitled to amend its Rules, Bye Laws, Regulations and terms and conditions for CTCL and/or Internet Based Trading facility unilaterally and I/We shall be deemed to have consented to them, and accordingly be bound by the Rules, Bye-laws, Regulations and terms and conditions for CTCL and/or Internet Based Trading facility prevailing from time to time and Exchange shall be entitled to all powers vested in them under the Rules, Bye-laws and Regulations, by which I/We unconditionally agree to be bound;

3. I / We undertake that M/s _____(Name of Trading Member) will take all necessary steps to ensure that every new software and any change thereupon to the trading and/or risk management functionalities of the software will be tested as per the

framework prescribed by SEBI / Exchange before deployment of such new / modified software in securities market.

4. I / We undertake that M/s _____ (Name of Trading Member) will ensure that approval of the Exchange is sought for all new / modified software and will comply with various requirements specified by SEBI or the Exchange from time to time with regard to usage, testing and audit of the software.

5. I / We undertake that the absolute liability arising from failure to comply with the above provisions shall lie entirely with M/s _____(Name of Trading Member).

6. That I/We shall execute, sign, subscribe, to such documents, papers, agreements, covenants, bonds and / or undertakings whether legal or otherwise as maybe required by Exchange from time to time.

7. That without prejudice to the rights, remedies whether legal or otherwise available to Exchange upon my / our non-compliance with this Undertaking, I/We shall indemnify and keep indemnified Exchange against any loss / damage suffered by it whether legal or otherwise arising due to non- compliance by me/us with the provisions of this Undertaking.

8. The above undertaking will be binding on my / our successors and permitted assignees.

IN WITNESS WHEREOF this Undertaking is executed by me / us (*in terms of the resolution passed by the Board of Directors at the duly convened meeting held on _____) on the day, month, year and the place first mentioned above

(*I / We or me/us or my / our delete whatever is inapplicable)

IN WITNESS WHEREOF this Undertaking is executed by the undersigned on the day, month, year and the place first mentioned above.
SIGNED, SEALED AND DELIVERED BY

_____

For and on behalf of _____

_____

Before me Witness

1:

Witness 2:

Annexure 9

(To be executed on letter head of the Application Service Provider)

We _____, having our registered office at _____ and represented by Mr. _____ and hereinafter referred to as APPLICATION SERVICE PROVIDER are providing to M/s.___ having their registered office at _____who are trading members of the Metropolitan Stock Exchange of India Limited, and hereinafter referred to as MEMBER, services (interalia including software / hardware / applications / infrastructure etc.) to facilitate Internet Based Trading services to be provided by the member. We hereby certify that the software / system provided by us complies with all the stipulations and directives of SEBI & the Exchange in this regard.

NOTWITHSTANDING the generality of the above, the software provided by us complies with the following provisions in particular as directed by SEBI / the Exchange.

Sr No	Particulars	Remarks
1	Access for order routing is permitted only through the use of client specific User ids.	Yes
2	The access is permitted only through the use of client specified password (private code).	Yes
3	The system provides for automatic expiry of passwords at the end of a reasonable duration and reinitialising of access on entering fresh passwords.	Yes
4	The system has provision for security, reliability and confidentiality of data related to members and clients.	Yes
5	Records maintained in electronic form are not susceptible to manipulation.	Yes
6	All transaction logs are maintained with proper audit facilities (a write-up in this regard shall be enclosed).	Yes
7	Secured socket level security for server access through Internet is available.	Yes
8	Suitable firewalls between trading set-up and Internet trading set up are available.	Yes
9	There are adequate provisions in respect of physical security of the hardware / systems at the hosting location and controls on admission of personnel into the location (audit trail of all entries- exits at location etc.).	Yes
10	There is role based access control of the APPLICATION SERVICE PROVIDER's staff to the system and audit trail of all access by the staff.	Yes

11	The optional advanced security products used for e-commerce, including SMART cards, dynamic password and 128 bit encryption or above, second level pass words are available. If so, details of the same.	Yes
12	Between the trading web server and trading client terminals, interfaces standards as per recommendations of IETF and W3C (e.g. HTTP ver 4 or above, HTML ver 4/XML) are adopted.	Yes
13	Logic/priorities similar to those used by the Exchange are used to treat client orders.	Yes
14	Provision for maintenance of all activities / alerts log with audit trail is available.	Yes
15	The web server internally generates unique numbering for all client orders/ trades.	Yes
16	Adequate provisions for backup systems and data storage capacity are available.	Yes
17	There are adequate provisions for system redundancy, fault tolerance and load balancing as well as database redundancy and standby databases (hot standby / cold standby).	Yes
18	Adequate provisions for capacity planning including provisions to monitor system capacity utilisation and scalability of system on capacity utilisation are available.	Yes
19	An alternative means of communication is arranged for in case of Internet link failure / Exchange link failure.	Yes
20	The web site providing the internet based trading facility contains information meant for investor protection such as rules and regulations affecting client broker relationship, arbitration rules, investor protection rules, etc. The web site also provides and displays prominently hyper link to the web site/page on the web site of the Exchange displaying rules/regulations/circulars.	Yes
21	The web site displays the ticker/quote/order book of the Exchange along with the date and time stamp as well as the source of the information.	Yes
22	The software provides for sending of the order/trade confirmation through email at clients' discretion at the time period specified by the client in addition to the other mode of display of such confirmations on real time basis on the web site. The web site allows for specifying the time interval on the web site itself by the client.	Yes
23	The software provides for reconfirmation of orders which are larger than that as specified by the member's risk management system. In this regard the system is capable of assessing the risk of the client as soon as the order comes in and shall inform the client of acceptance/rejection of the order within a reasonable period.	Yes
24	The software provides a system-based control facility on the trading limits of the clients and exposures taken by the clients.	Yes

25	All orders entered into the internet-based trading system are offered to the market for matching and no cross trades are generated.	Yes
26	The software has the facility of providing the reports on margin requirements, payment and delivery obligations etc to the clients through the system.	Yes
27	The system captures the IP address (from where the orders are originating) for all CTCL / IBT / STWT / DMA / SOR orders.	Yes
28	The system has built-in high system availability to address any single point failure.	Yes
29	The system has secure end-to-end encryption for all data transmission between the client and the system through a Secure Standardized Protocol. A procedure of mutual authentication between the client and the server is implemented.	Yes
30	The system has adequate safety features to ensure it is not susceptible to internal / external attacks.	Yes
31	In case of failure of CTCL / IBT / STWT / DMA / SOR, the alternate channel of communication has adequate capabilities for client identification and authentication.	Yes
32	Two-factor authentication for login session has been implemented for all orders emanating using Internet Protocol {Two factor authentication framework should not be the same}.	Yes
33	In case of no activity by the client, the system provides for automatic trading session logout.	Yes
34	The back-up and restore systems implemented is adequate to deliver sustained performance and high availability. The system has on-site as well as remote site back-up capabilities.	Yes

Signed sealed and delivered by the Authorized representative of the APPLICATION SERVICE PROVIDER

Date:
Place:

We, _____having our registered office at _____and represented by _____ are trading members of the Exchange. We confirm and certify that the software / system provided by the APPLICATION SERVICE PROVIDER for Internet based trading has undergone tests by us and we are satisfied that it complies with the stipulations of SEBI and the Exchange. We also undertake to get the software / system modified, if necessary to continue compliance with the requirements of the Exchange, DOT policy and regulations with regard to levels of encryption, etc, SEBI directives and other statutory requirements etc. as may be issued in this regard from time to time.

Countersigned, sealed and delivered by the Authorized representative of the MEMBER

Date: Place:

GUIDELINES FOR SUBMITTING UNDERTAKING:

1. The Undertaking is to be executed on a non-judicial stamp paper/s or on paper franked from Stamp Office / authorised banks, for a value of ` 500/-

2. Further the Undertaking (including all annexures / schedules) has to be notarised before a Notary Public.

3. Please use the format of respective undertaking as it is. **PLEASE DO NOT RETYPE THE UNDERTAKING**.

4. All the pages of this Undertaking (including all annexures / schedules) have to be signed in full. The persons signing should also sign in full at all places in the Undertaking where anything has been hand-written / any corrections have been made.

   If the Member or Vendor is an individual, then the Undertaking has to be signed by the individual Member or Vendor himself. If the Member of Vendor is a firm, then ALL the partners are required to sign this Undertaking. If the Member or Vendor is a company, then the Undertaking has to be signed by the Managing Director or any Director of the company named as an authorised signatory of the company.

5. If the Member or Vendor is a company, the Undertaking has to be accompanied with a certified copy of the resolution of the Board of Directors of the company authorising the person(s) executing the undertaking to do so. The Common Seal of the company has to be affixed by the company on this Undertaking in the presence of such persons as authorised by the Articles of Association of the company. The Board Resolution should clearly state that the affixation of common seal shall be made in the presence of such persons as authorised by the Articles of Association of the company and should also clearly state the names of such persons. The above persons should sign the undertaking as a token of their presence when the common seal is affixed.

6. Please type the following on the non-judicial stamp paper as the first page and sign.

   The non-judicial stamp paper of Rs._____ forms part and parcel of this Undertaking executed by me/us Mr. /Mrs. /M/s. _____ having my/our residence/office at _____ on this the _____day of _____20___at _____IN FAVOUR of Metropolitan Stock Exchange of India Limited.

Signature**

(**to be signed by the person(s) signing the Undertaking)

Auditor selection norms for System Audit Report w.r.t. security controls built in ASP platform:

1. ASPs shall appoint an agency who will review the security controls built-in these platforms as per the standards such as ISO 27001, OWASP TOP 10, etc.

2. Additionally, the following criteria should be considered while appointing the agency:
   - The audit agency should be CERT-In empaneled
   - The audit agency must not have any conflict of interest in conducting fair, objective and independent audit of the platform provided by the ASPs
   - The audit agency may not have any cases pending against its previous auditees, which fall under SEBI's jurisdiction, which point to its incompetence and/or unsuitability to perform the audit task.

3. The audit agency will develop a report outlining the status of security controls built-in platforms and highlight observations/findings/gaps, if any.

4. Subsequent to the submission of the report, the ASPs will have to ensure closure of all the observations/findings/gaps.

5. A re-confirmatory testing shall be undertaken by the audit agency and a certificate stating that the "Platform is free from security vulnerabilities" shall be shared by the audit agency.

Annexure 32

System Audit Report

(On the letterhead of system auditor)

Date:

Name of Vendor:

1. CTCL Audit Checklist (Part I)
2. IBT Audit Checklist (Part I + Part II)
3. Wireless Trading Audit Checklist (Part I + Part II + Part III)
4. Algo Audit Checklist (Part I + Part IV)
5. DMA Audit Checklist (Part I + Part V)

PART I

<table>
<tr><th>Sr. No.</th><th>Area of Audit</th><th>Results & Observations</th><th>Auditor's Remark</th></tr>
<tr><td>A.</td><td>System Features & Functionality</td><td>Results</td><td>Opinions</td></tr>
<tr><td>1.</td><td>Software Details

<table>
<tr><th>Particulars</th><th>Name</th><th>Version No</th></tr>
<tr><td>Application software</td><td></td><td></td></tr>
<tr><td>Software developed by</td><td></td><td>----</td></tr>
<tr><td>Gateway/Adapter</td><td></td><td></td></tr>
<tr><td>Risk Administration / Manager</td><td></td><td></td></tr>
<tr><td>Front End / Order Placement / Algo Strategy</td><td></td><td></td></tr>
<tr><td>Database details</td><td></td><td>----</td></tr>
</table></td><td></td><td></td></tr>
<tr><td>2.</td><td>The installed system features are as prescribed by MSEI.

The Member / vendor ensures that software version number is used to identify thesystem being approved by the Exchange.

Price Broadcast
The system has a feature for receipt of price broadcast data

Order Processing :
The system has a feature:
a) Which allows order entry and confirmation of orders
b) Which allows for modification or cancellation of orders placed

Trade Confirmation:
The system has a feature which enables confirmation of trades.</td><td></td><td></td></tr>
<tr><td>3.</td><td>The installed system provides a system based control facility overthe order input process

Order Entry
The system has order placement controls that allow only orders matching the system parameters to be placed.

Order Modification
The system allows for modification of orders placed.</td><td></td><td></td></tr>
</table>

	Order Cancellation The system allows for cancellation of orders placed Order OutstandingCheck The system has a feature for checking the outstanding orders i.e. the orders that have not yet traded or partially traded.		
4.	**The installed system provides a system based control facility overthe trade confirmation process** Trade Confirmation and Reporting Feature Should allow confirmation and reporting of the orders that have resulted in trade		
5.	**The installed system provides a system based control facility overthe order input process** Order Matching Does the System pass all the Orders to the trading platform of the Exchange for execution and not allow any crossing of orders that arerouted through it?		
6.	The System generates appropriate audit logs and trails so as to facilitate tracking of events such as orders and trades with timestamp.		
7.	**The installed system allows for placing of orders only for authorized clients** Client ID Verification Only duly authorized client's orders are allowed to be placed. Proprietary order entry mechanism Order entry for Pro types of orders is executed through specific User Ids. The system should not in any manner suggest to the user by default the name of Exchange, Scrip and Segment etc. It is the user who should havethe option to select the same.		
8.	**The installed system has a User Management system as per the requirements of MSEI.** Approved Users: Only users approved by MSEI are allowed to access the system and documentation regarding the same is maintained in the form of a) User Approval Application b) Copy of User Qualifications <u>User Creation:</u> New User IDs are created as per the CTCL guidelines. <u>User ID:</u> All users are uniquely identified through issue of unique CTCL ids. <u>User Disablement:</u> Users not compliant with the Exchange Requirements are disabled and event logs maintained <u>User Deletion:</u> Users are deleted as per the MSEI guidelines <u>Reissue of User Ids:</u>		

	User Ids are reissued as per the MSEI guidelines. Locked User Accounts: Users whose accounts are locked are unlocked only after documented unlocking requests are made.		
9.	Whether all successful and failed login attempts are logged with detailslike IP address and other data to enable traceability		
B.	**Risk Management System**	Results	Opinions
10.	**The installed system is capable of assessing the risk of the client as soon as the order comes in and informs the client of acceptance/rejection of the order within a reasonable period.** Should allow for risk management of the orders placed and online risk monitoring of the orders being placed. Order Parameters There is online risk assessment of all orders placed through the system.		
11.	Whether the system carries out appropriate validations of the following risk parameters including Credit checks before the orders are released to the Exchange: a) Exposure limit b) Margin limit c) Order Quantity Limits d) Order Value Limits e) Daily Price Range Checks f) Cumulative limit on value of unexecuted orders		
12.	**The installed system provides a system based event logging and system monitoring facility which monitors and logs all activities / events arising from actions taken on the gateway / database server, authorized user terminal and transactions processed for clients or otherwise and the same is not susceptible to manipulation.** The installed systems has a provision for On-line surveillance and risk management as per the requirements of MSEI and includes Number of Users Logged In / hooked on to the network incl. privilegesof each The installed systems has a provision for off line monitoring and risk management as per the requirements of MSEI and includes reports / logs on a) Number of Authorized Users b) Activity logs c) Systems logs d) Number of active clients		
13.	**The installed system provides a system based control facility on the trading limits of the clients and exposures taken by the clients including set pre-defined limits on the exposure and turnover of eachclient.** Only orders that are within the parameters specified by the risk management systems are allowed to be placed.		
14.	System-based control on the pre-defined trading limits set by the Member / Vendor.		
15.	**The installed system provides for reconfirmation of orders which are larger than that as specified by the member's / vendor's risk management system.** Whether system has a manual override facility for allowing orders that do not fit the system based risk control parameters?		

16.	Facility to prompt the user when he puts in orders that are over and abovethe normal limits set by the Member / Vendor.		
C.	**Session Security**	Results	Opinions
17.	Whether system has secure end-to-end encryption for all data transmission between the client and the member / vendor system through a Secure Standardized Protocol. A procedure of mutual authentication between the client and the member / vendor server is implemented?		
18.	**The installed system provides for session security for all sessions established with the server by the front end application.** a) The system uses session identification and authentication measures to restrict sessions to authorized user only. b) The system uses session security measures like encryption to ensure confidentiality of sessions initiated.		
19.	**The installed system has provision for security, reliability and confidentiality of data through use of encryption technology, SSL or similar session confidentiality protection mechanisms** a) The system uses SSL or similar session confidentiality protection mechanisms b) The system uses a secure storage mechanism for storing of usernames and passwords c) The system adequately protects the confidentiality of the user's trade data.		
D.	**Password Security**	Results	Opinions
20.	Does the organization's policy and procedure document have a password policy?		
21.	**The installed system Authentication mechanism is as per the guidelines of the MSEI** a) The installed system's uses passwords for authentication. b) The system requests for identification and new password before login into the system. c) The Password is masked at the time of entry.		
22.	System authenticates user with a User Name and password as first levelof security.		
23.	System mandates changing of password when the user logs in for the first time?		
24.	Automatic disablement of the user on entering erroneous password on five consecutive occasions.		
25.	The system provides for automatic expiry of passwords at the end of a reasonable duration (maximum 6 months) and re-initialisation of access on entering fresh passwords.		
26.	Prior intimation is given to the user before such expiry?		
27.	System controls to ensure that the password is alphanumeric (preferablywith one special character), instead of just being alphabets or just numerical.		
28.	System controls to ensure that the changed password cannot be the sameas of the last 6 passwords.		
29.	System controls to ensure that the Login id of the user and password should not be the same.		
30.	System controls to ensure that the Password should be of minimum six characters and not more than twelve characters.		
31.	User is deactivated if the same is not used for a continuous period of 12 (Twelve) months from date of last use of the account.		
32.	System allows user to change their passwords at their discretion and frequency.		

33.	System controls to ensure that the Password is encrypted at member's / vendor's end so that employees of the member / vendor cannot view the same at any point of time.		
E.	**Infrastructure & Capacity Management**	Results	Opinions
34.	System has built-in high system availability to address any single point failure.		
35.	Service has adequate bandwidth and multiple links to ensure reliabilityand redundancy.		
36.	Are the resources monitored, tuned and calculations made for futurecapacity requirements to ensure the required performance.		
37.	Adequate un-interrupted power supply for smooth operation of the System is available at the Site?		
38.	Whether backup network link is available in case of failure of the primarylink to the MSEI?		
39.	**Firewall** Whether suitable firewalls are implemented?		
40.	**Anti virus** Is a malicious code protection system implemented? If Yes, thenAre the definition files up-to-date? Any instances of infection? Last date of virus check of entire system.		
41.	**Additional Access Control Security** **The installed system provides a dual factor authentication systemfor access to the various components.** Extra Authentication Security a) The systems uses additional authentication measures like smart cards, biometric authentication or tokens etc. b) The system has a second level of password control for critical features.		
F.	**Backup & Recovery Procedures**	Results	Opinions
42.	Does the organization's documented policy include a backup policy and procedures?		
43.	The back-up and restore systems implemented by the member / vendor is adequate to deliver sustained performance and high availability. Whether the member / vendor system has on-site as well as remote site back-upcapabilities?		
44.	**The Installed systems backup capability is adequate as per the requirements of the MSEI for overcoming loss of product integrity.** Are backups of the following system generated files maintained as per the MSEI guidelines? a) At the server/gateway level b) Database c) Audit Trails Reports At the user level a) Market Watch b) Logs c) History d) Reports e) Audit Trails		

	Are backup procedures documented and backup logs maintained? Are the backup logs maintained and are the backups been verified and tested? Are the backup media stored safely in line with the risk involved? Are there any recovery procedures and have the same been tested?		
G.	**Business Continuity & Disaster Recovery Procedures**	Results	Opinions
45.	**Does the Organisation have a suitable documented BusinessContinuity or Disaster Recovery or Incident Response process commensurate with the organization size and risk profile to ensure a high degree of availability of the installed system** Is there any documentation on Business Continuity / Disaster Recovery / Incident Response? Does a BCP / DRP plan exist? If a BCP/DRP plan exists, has it been tested? Are there any documented incident response procedures? Are there any documented risk assessments? Does the installation have a Call List for emergencies maintained?		
46.	**How will the organization assure customers prompt access to their funds and securities in the event the organization determines it is unable to continue its business in the primary location - Network / Communication Link Backup** Is the backup network link adequate in case of failure of the primary link tothe MSEI? Is the backup network link adequate in case of failure of the primary link connecting the users? Is there an alternate communications path between customers and the firm? Is there an alternate communications path between the firm and its employees? Is there an alternate communications path with critical businessconstituents, banks and regulators?		
47.	**How will the organization assure customers prompt access to their funds and securities in the event the organization determines it is unable to continue its business in the primary location - System Failure Backup** Are there suitable backups for failure of any of the critical system components like a) Gateway / Database Server b) Router c) Network Switch Infrastructure breakdown backup		

	Are there suitable arrangements made for the breakdown in any infrastructure components like a) Power Supply b) Water c) Air Conditioning <u>Primary Site Unavailability</u> Have any provision for alternate physical location of employees been made in case of non availability of the primary site <u>Disaster Recovery</u> Are there suitable provisions for Books and records backup and recovery (hard copy and electronic). Have all mission-critical systems been identified and provision for backupfor such systems been made?		
48.	In case of failure of Internet, the alternate channel of communication has adequate capabilities for client identification and authentication.		
H.	**Operational Integrity**	Results	Opinions
49.	Does the organization's policy and procedure document have an access control policy for users of the service?		
50.	**The installed system provides a system based access control over the server as well as the risk management and front end dealing applications while providing for security** Access controls a) The system allows access to only authorized users b) The system has a password mechanism which restricts access to authenticate users.		
51.	**Physical Security** Whether adequate controls have been implemented for admission of personnel into the server rooms / place where servers / hardware / systems are located and whether audit trails of all the entries/exits at the server room / location are maintained?		
52.	**To ensure information security for the Organisation in general and the installed system in particular policy and procedures as per the MSEI requirements must be established, implemented and maintained.** Does the organization's documented policy and procedures include the following policies and if so are they in line with the MSEI requirements? a) Information Security Policy b) Password Policy c) User Management and Access Control Policy d) Network Security Policy e) Application Software Policy f) Change Management Policy g) Backup Policy h) BCP and Response Management Policy i) Audit Trail Policy Does the organization follow any other policy or procedures or documented practices that are relevant?		
53.	The Member / Vendor ensures that the persons supporting the service possessrequisite skills for technical support, System administration and other related functions pertaining to the System.		

54.	**Are documented practices available for various system processes** Day Begin Day End Other system processes a) Audit Trails b) Access Logs c) Transaction Logs d) Backup Logs e) Alert Logs f) Activity Logs g) Retention Period h) Data Maintenance		
55.	**In case of failure, is there an escalation procedure implemented?** Day Begin Day End Other system processes Details of the various response procedures including for a) Access Control failure b) Day Begin failure c) Day End failure d) Other system Processes failure		
56.	**To ensure system integrity and stability all changes to the installed system are planned, evaluated for risk, tested, approved and documented.** Planned Changes a) Are changes to the installed system made in a planned manner? b) Are they made by duly authorized personnel? c) Risk Evaluation Process d) Is the risk involved in the implementation of the changes duly factored in? Change Approval Is the implemented change duly approved and process documented? Pre-implementation process Is the change request process documented? Change implementation process Is the change implementation process supervised to ensure system integrity and continuity Post implementation process Is user acceptance of the change documented? Unplanned Changes In case of unplanned changes, are the same duly authorized and the manner of change documented later? In case of members / vendors self developed system SDLC documentation and procedures if the installed system is developed		

	In-House.		
I.	**Approvals, Undertaking, Policies and Other Area**	Results	Opinions
57.	**Insurance** The insurance policy of the Member / vendor covers the additional riskof usage of system and probable losses in case of software malfunction.		
58.	**Settlement of Trades** **The installed system provides a system based reports on contracts, margin requirements, payment and delivery obligations** Margin Reports feature Should allow for the reporting of client wise / user wise margin requirements as well as payment and delivery obligations.		
59.	**Database Security** a) The installed system has sufficient controls over the access to and integrity of the database b) The access to the database is allowed only to authorized users / applications. c) The database is hosted on a secure platform. d) The database stores the user names / passwords securely.		
60.	Whether system has adequate safety features to ensure it is not susceptible to internal / external attacks?		
61.	Is there any other area/aspect which in the auditor's opinion is not complied with and which is significant and material in relation to the sizeand the nature of the operations?		
62.	Whether the required details of all the ids created in the server of the trading member / vendor, for any purpose (viz. administration, branch administration, mini-administration, surveillance, risk management, trading, view only, testing, etc) and any changes therein, have been uploaded as per the requirement of the Exchange? If no, please give details		
63.	Whether all the user ids created in the server of the trading member / vendor have been mapped to 12 digit codes on a one-to-one basis and a record of the same is maintained? If no, please give details		
J.	**Software Testing Verification**	**Results**	**Opinions**
64.	**Verification of software testing done by Member / Vendor in Exchangeprovided Test environment** Whether member / vendor has tested the Software in Exchange provided test environment Details a) No. of days software has been tested by member / vendor in Exchange provided test environment b) Member ID & User ID used by member / vendor for testing in the Exchange provided test environment Whether any abnormalities observed in the verification of Logs, Reports, Audit Trail and Database of the tests performed by member / vendor in Exchangeprovided Test environment		
65.	**Verification of participation by Member / Vendor in Periodic Mock Trading session conducted by Exchange** Whether member / vendor has participated in Mock Trading sessions conducted byExchange (Minimum 1 before approval)		

	Details <table><tr><th>Sr No</th><th>UAT / Mock / Simulation Date</th><th>Segment</th><th>UserID</th><th>CTCL / IBT / Wireless Trading / DMA / ALGO</th></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></table> Whether any abnormalities observed in the verification of Logs, Reports, Audit Trail and Database of the tests performed by member / vendor while participating in Periodic Mock Trading session conducted by Exchange		

PART II

Sr. No.	Area of Audit	Results & Observations	Auditor's Remark
	System Features & Functionality	Results	Opinions
1.	View Order status i.e. the orders that have not yet traded or partially traded or cancelled Order Confirmation		
2.	Acceptance / rejection of an order / trade is communicated to the IBT client.		
3.	**Order Capture / Status** should capture the following information: Order Id generated by the Exchange IBT Client ID and type of IBT Client Date and Time of order placement Scrip name / code / symbol Action (Buy/Sell) Quantity (ensure market lot) Order type (Regular Lot / Stop Loss or such orders as allowed by Exchange) Order validity (type as permitted by exchange such as Day, EOS,IOC)e Price (Ensure DPR -price band / circuit limit and minimum tick size as allowed by Exchange) Execution status System captures the IP address (from where the orders are originating)for all IBT orders		
4.	Is the trade confirmation sent to the client via e-mail?		
5.	Can the IBT client choose the interval of receiving the e-mail?		
6.	Whether a unique identification number as prescribed by Exchange (i.e. 111111111111 in CTCL Unique number) is sent with each IBT Order?		
7.	Two-factor authentication for login session has been implemented forall IBT orders emanating using Internet Protocol?		

	Risk Management System	Results	Opinions
8.	Whether System-based control is implemented by the Member / Vendor for the Margin, Order Quantity and Value?		
9.	IBT Member / Vendor shall ensure that logic / priorities used by the Exchangeare followed by the System for treating IBT Client Orders.		
	Session Security	Results	Opinions
10.	In case of no activity by the IBT client, the system provides forautomatic trading session logout.		
	Password Security	Results	Opinions
11.	Does the organization's policy and procedure document have anaccess control policy for users of the service?		
12.	Whether all successful and failed login attempts are logged with details like IP address, MAC address and other data to enable traceability		
	Operational Integrity	**Results**	**Opinions**
13.	The IBT member / vendor ensures that a specific email id to receive mails fromIBT Clients is communicated to all clients.		
14.	Member / Vendor has documented and implemented a procedure to escalatethe issue if the email is not responded within one working day.		
	Approvals, Undertaking, Policies and Other Area	**Results**	**Opinions**
15.	Display of Investor protection rule, Arbitration rule and rules effecting member / vendor - client relationship on approved IBT member's / vendor's website.		
16.	The web site of IBT approved member / vendor provides and displays prominently hyper link to the web site/page on the web site of the MSEI displaying rules/Business Rules/circulars.		

Part III

Sr. No.	Area of Audit	Results & Observations	Auditor's Remark
	System Features & Functionality	Results	Opinions
1.	The installed Wireless Trading system provides a system based control facility over the trade confirmation process Trade Confirmation and Reporting Feature Should allow confirmation and reporting of the orders that have resulted in trade As it may not be possible to give detailed information about the order status on a hand held device e.g. mobile phones, it should be ensured that minimum information may be given with addresses of the Internet web site / web page where detailed information would be available.		
2.	The installed Wireless Trading system provides a system based control facility over the order input process Order Identification Methodology A unique identification number for each Wireless Trading System captures the IP address (from where the orders are originating)for all Wireless Trading orders?		
3	Whether a unique identification number as prescribed by Exchange (i.e. 333333333333 in CTCL Unique number) is sent with each Order originating from a wireless device?		
4.	Whether audit trails are provided to the user on the wireless device?		
	Session Security	Results	Opinions

5.	In case of no activity by the Wireless Trading client, the systemprovides for automatic trading session logout.		
6.	In case of Wireless Trading whether provision has been made to lockthe trading application in case of loss of the hand held device?		
7.	It must be ensured that the session login details should not be storedon the devices used for Wireless Trading.		

Part IV

Sr. No.	Area of Audit	Results & Observations	Auditor's Remark
	Operational Specifications	Results	Opinions
1.	Whether all algo orders are necessarily routed through member' / vendor's servers located in India?		
	Risk Management System	Results	Opinions
2.	Whether the Algo software provides for routing of orders through electronic / automated risk management systems of the member / vendor to carry out appropriate validations of all risk parameters before releasedto the Exchange trading system including individual Order level such as: a) Price check – Algo orders shall not be released in breach of the price bands defined by the Exchange for the security / contract. b) Quantity check – Algo orders shall not be released in breach of the quantity limit as defined by the Exchange for the security / contract. c) Order Value check - Algo orders shall not be released in breach of the 'value per order' as defined by the Exchange. d) Cumulative Open Order Value check – The individual client level cumulative open order value check as may be prescribed by the member / vendor for the clients and Algo orders shall not be released in breach of the same. Cumulative Open Order Value for a client isthe total value of its unexecuted orders released from the member's / vendor's system. e) Automated Execution check – An Algo shall account for allexecuted, unexecuted and unconfirmed orders, placed by it before releasing further order(s). Further, the Algo system shall have pre-defined parameters for an automatic stoppage in the event of Algo execution leading to a loop or a runaway situation. f) Market Price Protection – Algo users shall not send MARKET order (i.e. order without any price) to Exchange. Algo usersshould send Market protection order instead of Market Order. The Market Protection order will be a LIMIT order with a price which will be computed automatically based on plus or minus 'x%' of LTP within the maximum range of DPR/dummy circuit filter. g) Cumulative limit on value of unexecuted orders.		
3.	Whether member / vendor has real-time monitoring systems to identify algorithms that may not behave as expected?		

	System Features & Functionality	Results	Opinions
4.	Whether orders generated by Algo are identified as Algorithmic Trading orders while releasing to the Exchange. For identification of Algo orders, members / vendors are required to ensure that the 13th digit of CTCL Terminal Information, which indicates whether the order is generated through Algo software or not, should be '1' if order is generated through Algo software.		
	Operational Integrity	Results	Opinions
5.	Whether Algo software has facility for generating and maintaining complete audit trail Logs of all trading activities is available to facilitate audit trail. Whether record of control parameters, orders, trades and data points emanating from trades executed through Algo are maintained by member / vendor. Whether all logs generated are secured from unauthorised modifications?		
6.	Whether orders generated by Algo software are offered to the marketfor matching and system does not allow any crossing of orders with each other that are routed through it?		
7.	Whether system has sufficient security features including password protection for User Id, automatic expiry of password at the end of a reasonable duration and reinitialisation of Access on entering fresh password? Whether registration and de-registration of users id are carried out as per the approved policy?		
8.	Whether member / vendor has procedures and arrangements to safeguard Algo from misuse or unauthorized access? Whether adequate controls have been implemented for admission of personnel into the server rooms / place where algo servers are located and whether audit trails of all the entries / exits at the server room / location are maintained?		
9.	Any changes / upgrades done to the Algo software and system post approval by the Exchange.		
10.	Whether member / vendor has proper procedures, systems and technicalcapability to carry out trading through the use of Algo?		

Part V

Sr. No.	Area of Audit	Results & Observations	Auditor's Remark
	Operational Specifications	Results	Opinions
1.	Whether the Trading Member's / vendor's server, routing the Direct Market Access (DMA) orders to the Exchange trading system is located in India?		
2.	Whether a unique identification number as prescribed by Exchange (i.e. 222222222222 in CTCL Unique number) is sent with each DMAOrder?		
3.	Whether the DMA server application has the facility to enable & disablea DMA client?		
4.	Whether the DMA server application handles the order on first-cum-firstbasis across all DMA clients?		
5.	Whether the Trading Member's / vendor's server application has an appropriate		

	flag to identify separately DMA orders / trades?		
6.	Does the DMA System have a facility to maintain and retain all orders, trades, alert logs / activity logs with audit trail facility for at least 5 years?		
7.	Whether Position Limits specified for respective segment as specifiedby the Exchange / regulatory authorities: a) Market-wide across all clients b) Client-wise		
8.	Based on the Margin requirements as set out by the Exchange from time to time, the DMA application is able to limit the Net position of a DMA client that can be outstanding.		
9.	Whether appropriate limits for securities subject to FII limits as specified by the Exchange / Regulatory authorities can be set and DMA server application will notify the DMA client and / or control such ordersbefore release to the Exchange		
10.	Whether provision is made in the DMA application for Trading member / vendor to set any other risk parameter? If yes, please provide details		
11	Is there an adequate facility for issuing contract notes to the client within 24 hours of the trade execution?		
	Client Authorizations & Terms and Conditions	**Results**	**Opinions**
12.	Are the clients availing DMA facility authorized after fulfilling Terms and Conditions as per Exchange requirements?		
13.	Whether individual users at the client end are also authorized based on minimum criteria?		
14.	Are the Terms and Conditions as prescribed in Exchange Circular in place? Whether the Exchange prescribed Terms and Conditions and formatsas prescribed in Exchange Circular has been / will be adopted? Or The Terms and Conditions and formats will be modified?		
15.	Whether the DMA application is so designed that it allows execution of designated DMA client's orders only. DMA client should not have the facility to change it to any other persons/entity?		

Summary Sheet

Sr. No.	Area of Audit	Control / Processes	Compliance S / M / W	Report Reference
1	System Features & Functionality	Gateway & System Parameters		
		Application Features		
		Order Management		
2	Risk Management System	Application Features		
		System Parameters		
3	Session Security	Session Security Parameters		

		Encryption Technologies		
4	Password Security	Policies & Procedures		
		Password Implementation		
5	Infrastructure & Capacity Management	Network & Redundant Connectivity		
		Scalability		
		Dependability		
6	Backup & Recovery Procedures	Policies & Procedures		
		Backup & Archival process		
7	Business Continuity & Disaster Recovery	Policies & Procedures		
		System Failure Backup		
		Disaster Recovery		
8	Operational Integrity	Server Room / Network Room / Information Security		
		Qualified Personnel & Problem Escalation		
		Change Management		
9	Vulnerability Assessment	Database		
		Operating System		
10	Software Testing	Testing in Exchange provided Test environment		
		Testing & participation in Exchange conducted Mock Trading		
11	Any Other area/aspect which in the auditors opinion is not complied with and which is significant and material in relation to the size and the nature of the operations			

Overall rating for the Member's / vendor's software and system:_____(S / M / W)

Note: Process Area Controls Evaluation Criteria

Control Evaluation Criteria	Description
Strong	The controls are defined as Strong if the following criteria aremet Implemented controls fully comply with the stated objectives andno material weaknesses are found.

Medium	The controls are defined as Medium if the following criteria aremet Implemented controls substantially comply with the stated objectives and no material weakness result in substantial riskexposure due to the non-compliance with the criteria Compensatory controls exist which reduce the risk exposure tomake it immaterial vis-à-vis the non-compliance with the criteria.
Weak	The controls are defined as Weak if the following criteria are met Implemented controls materially fail to comply with the stated control objectives. Compensating controls fail to reduce the risk so as to make it immaterial vis-à-vis the non-compliance with the compliance criteria.

It is hereby confirmed and certified that system audit of the software and systems used by _____, a member / vendor of Metropolitan Stock Exchange of India Limited ('Exchange') has been conducted by me and have been found to be in compliance with the requirements stipulated by SEBI and Exchange. The software and system have capacity to meet all requirements of the Exchange and SEBI as on date.

We certify that none of the current Directors / Partners / Promoters of the member / vendor are directly or indirectly related with any of the Directors / Promoters / Partners of_____(Name of Auditing Firm) and there is no conflict of interest with respect to the member / vendor being audited.

_____

Signature

(Name of the Auditor & Auditing firm) CISA /
DISA / CISM / CISSP Reg. No. :

Date:
Place:
Stamp/Seal:

Annexure 33

System Auditors' Certificate

(On the letterhead of System Auditor)

To,

CTCL Department

Metropolitan Stock Exchange of India Limited,
Building A, Unit 205(A), "D - Wing", 2nd Floor,
Agastya Corporate Park, Sunder Baug Lane,
L.B.S. Road, Kurla (W), Mumbai - 400070

It is hereby confirmed and certified that, _____, a member / vendor of Metropolitan StockExchange of India Limited ('Exchange') has successfully completed the testing of all areas as laid down by the Exchange for the below mentioned 'CTCL Facility' software(s). The software and system have capacity to meet all requirements of the Exchange and SEBI as on date.

<table>
<tr><th>Sr No</th><th>Particulars</th><th>Details</th></tr>
<tr><td>1</td><td>Category</td><td>(New / Modification)</td></tr>
<tr><td>2</td><td>Verification of software testing done by Member / Vendor in Exchange provided test environment

No. of days software has been tested by member / vendor in Exchange provided test environment

Member ID & User ID used by member / vendor for testing in the Exchange provided test environment

Whether any abnormalities observed in the verification of Logs, Reports, Audit Trail and Database of the tests performed by member / vendor in Exchange provided test environment</td><td></td></tr>
<tr><td>3</td><td>Verification of participation by Member / Vendor in Mock Trading session conducted by Exchange
<table>
<tr><th>UAT / Mock / Simulation Date</th><th>Segment</th><th>UserID</th><th>CTCL/IBT/Wireless Trading/DMA/ALGO</th></tr>
<tr><td></td><td></td><td></td><td></td></tr>
</table>
Whether any abnormalities observed in the verification of Logs, Reports, Audit Trail and Database of the tests performed by member / vendor while participating in Mock Trading session conducted by Exchange</td><td></td></tr>
<tr><td>4</td><td>
<table>
<tr><th>Particulars</th><th>Name</th><th>Version No</th></tr>
<tr><td>Application software</td><td></td><td></td></tr>
<tr><td>Software developed by</td><td></td><td>----</td></tr>
<tr><td>Gateway/Adapter</td><td></td><td></td></tr>
<tr><td>Risk Administration / Manager</td><td></td><td></td></tr>
<tr><td>Front End / Order Placement / Algo Strategy</td><td></td><td></td></tr>
<tr><td>Database details</td><td></td><td>----</td></tr>
</table>
</td><td>----------</td></tr>
</table>

We certify that none of the current Directors / Partners / Promoters of the member / vendor are directly or indirectly related with any of the Directors / Promoters / Partners of_____(Name of Auditing Firm) and there is no conflict of interest with respect to the member / vendor being audited.

_____

Signature

(Name of the Auditor & Auditing firm)
CISA / DISA / CISM / CISSP Reg. No. :

Date:
Place:
Stamp/Seal:

Change Description Document

(To be on the letterhead of Application Service Provider (ASP), all pages to be duly stamped and signed)

	Previous Registered application details	**Modified application details**
Segment		
Vendor		
Product Type		
Product Name		
Version No		
Change Description	NA-	Not more than 250 characters

Signature of Authorised Personal:

Date:

Place: