**Annexure II**

**Auditor’s Report**

**Securities Trading using Wireless Technology (STWT)**

**(To be on the letterhead of the system auditor, all pages to be duly stamped and signed)**

**NSE Trading Member Code: 10870**

**NSE Trading Member Name: LSC SECURITIES LIMITED**

**Areas of Audit:**

* Risk Management - Strong
* Security Policy and implementation - Strong
* Capacity Management - Strong
* Disaster Recovery and Backups - Strong
* Vulnerability Test - Strong

The detailed findings are required to be grouped under the above broad categories and classified as ‘Strong’, ‘Medium’ or ‘Weak’ and overall audit rating is required to be given**.**

Overall Rating: (Strong / Medium / Weak): **Strong**

| **Controls / Processes** | **Test Case** | **Results, Observations & Control Risk** | **Auditor’s Risk** |
| --- | --- | --- | --- |
| **Location Confirmation**  **The installed STWT system features are as prescribed by the NSE.**  **The installed CTCL system parameters are as per NSE norms** | Whether order routing server for STWT is located in India  System network and Network Diagram  Risk Management Tools   * Should allow for risk management of the orders placed and online risk monitoring of the orders being placed.   STWT Version   * Order Gateway Version * Risk Administration / Manager Version * Front End / Order Placement Version | Results  Yes  Yes  Yes  2.0.0.1ED  2.0.0.1ED  2.0.0.1  2.0.0.1 | Opinions  **Strong** |
| **Trading Process**  **The installed STWT system allows for placing of trades only for authorized clients**  **Risk Management**  **The installed STWT 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.**  **Order /Trade Limit Controls**  **The installed STWT 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 each client.**  **Order Reconfirmation Facility**  **The installed STWT system provides for reconfirmation of orders which are larger than that as specified by the member’s risk management system.**  **Execution of Orders / Order Logic**  **The installed STWT system provides a system based control facility over the order input process** | Client ID Verification  Only duly authorized client’s orders are allowed to be placed.  Order Parameters based on the respective risk profile of the client  There is online risk assessment of all orders placed through the STWT system with following checks :   * Order Value per order should not exceed as specified in RMS (not exceeding the maximum limit as specified by Exchange) * Order Quantity per order should not exceed as specified in RMS * Spread order value and quantity limit per order should not exceed as specified in RMS. * Cumulative value of all unexecuted / open orders should not exceed as specified in RMS at client level * Order value limit at client level * Order value limit at branch level * Security-wise order limits at client level   Only orders that are within the parameters specified by the risk management systems are allowed to be placed  The system has a manual override facility for allowing orders that do not fit the system based risk control parameters  Order Numbering Methodology  If the system is enabled for securities trading using wireless technology the system has an internal unique order numbering system  Order Matching  The system does not have any order matching function and all orders are passed on to the exchange trading system for matching  Whether Broker is using similar logic/ priorities as used by Exchange to treat STWT client orders.  Whether STWT orders are having unique flag/ tag as specified by the Exchange. | Results  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Yes  The system rejects orders that do not fit into RMS parameters.  Yes  Yes  Yes  Yes | Opinions  **Strong**  **Strong** |
| **Application Access Control**  **The installed STWT system provides a system based access control over the STWT server as well as the risk management and front end dealing applications while providing for security**  **Session Security**  **The installed STWT system provides for session security for all sessions established with the STWT server by the front end application.**  **Database Security**  **The installed STWT system has sufficient controls over the access to and integrity of the database**  **Encryption**  **The installed STWT system uses confidentiality protection measures to ensure session confidentiality.** | Access controls   * The system allows access to only authorized users using means such as user-id, passwords, smart cards, biometric devices or other reliable means * The system has a password mechanism which restricts access to authenticate users.   Session Security   * The system uses session identification and authentication measures to restrict sessions to authorized user only. * The system uses session security measures like encryption to ensure confidentiality of sessions initiated. * Session login details should not be stored on the devices used for STWT.   Database Security   * The access to the STWT database is allowed only to authorized users / applications. * The STWT database is hosted on a secured platform. * The STWT database stores the user names / passwords securely.   Session Encryption   * The system uses SSL or similar session confidentiality protection mechanisms * The system uses a secure storage mechanism for storing of usernames and passwords. * The system adequately protects the confidentiality of the users’ trade data. | Results  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Yes | Opinions  **Strong**  **Strong** |
| **The installed STWT 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 STWT systems has a provision for off line monitoring and risk management as per the requirements of NSE and includes reports / logs on   * Number of Authorized Users * Activity logs * Systems logs * Number of active clients | Results  Yes  Yes  Yes  Yes  Yes | Opinions  **Strong** |
| **The installed STWT system Authentication mechanism is as per the guidelines of the NSE** | The installed STWT system uses passwords for authentication.  The password policy / standard are documented.  The system requests for identification and new password before login into the system.  The installed STWT system’s Password features include :   * The Password is masked at the time of entry. * System mandated changing of password when the user logs in for the first time. * Automatic disablement of the user on entering erroneous password on three consecutive occasions. * Automatic expiry of password on expiry of reasonable period of time as determined by member * System controls to ensure that the password is alphanumeric (preferably with one special character), instead of just being alphabets or just numerical. * System controls to ensure that the changed password cannot be the same as of the last password * System controls to ensure that the Login id of the user and password should not be the same. * System controls to ensure that the Password should be of reasonable minimum length (and no arbitrary maximum length cap or character class). * System controls to ensure that the Password is encrypted at members end so that employees of the member cannot view the same at any point of time. | Results  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Yes | Opinions  **Strong**  **Strong** |
| **The Installed STWT systems backup capability is adequate as per the requirements of the NSE for overcoming loss of product integrity.** | Are backups of the following system generated files maintained as per the NSE guidelines?   * At the STWT server/gateway level * Database * Audit Trails * Reports   At the STWT user level   * Market Watch * Logs * History * Reports * Audit Trails   Are backup procedures documented?  Are backup logs maintained?  Have 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? | Results  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Yes | Opinions  **Strong** |
| **The installed STWT system features are as prescribed by the NSE.**  **The installed STWT system parameters are as per NSE norms** | Main Features  Price Broadcast  The system has a feature for receipt of price broadcast data  Order Processing : The system has a feature :   * Which allows order entry and confirmation of orders * Which allows for modification or cancellation of orders placed   Trade Confirmation   * The system has a feature which enables confirmation of trades * The system has a feature which provides history of trades for the day to the user   Website address for detailed information   * The system provides address of the web site/web page where detailed information of order / trades would be available.   Gateway Parameters   * Trader ID   Market Segment   * IP Address * (NSE Network) * VSAT ID * Leased Line ID | Results  Yes  Yes  Yes  Yes  Yes | Opinions  **Strong**  **Strong** |
| **Execution of Orders / Order Logic**  **The installed STWT system provides a system based control facility over the order input process**                          **Trades Information**  **The installed STWT system provides a system based control facility over the trade confirmation process**    **Settlement of Trades**  **The installed STWT system provides a system based reports on contracts, margin requirements, payment and delivery obligations** | 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.    Order Cancellation  The system allows for cancellation of orders placed    Order Outstanding Check  The system has a feature for checking the outstanding orders i.e. the orders that have not yet traded or partially traded.     Trade Confirmation and Reporting Feature  Should allow confirmation and reporting of the orders that have resulted in trade  The system has a feature which provides history of trades for the day to the user    Margin Reports feature  Should allow for the reporting of client wise / user wise margin requirements as well as payment and delivery obligations. | Results  Yes  Yes  Yes  Yes  Yes  Yes  Yes | Opinions  **Strong** |
| **To ensure information security for the Organization in general and the installed STWT system in particular policy and procedures as per the NSE 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 NSE requirements?   * Information Security Policy * Password Policy * Network Security Policy * Application Software Policy * Backup Policy * Audit Trail Policy     Does the organisation follow any other policy or procedures or documented practices that are relevant? | Results  Yes  Yes  Yes  Yes  Yes  Yes  Yes | Opinions  **Strong** |
| **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   * Gateway / Database Server / web server * CTCL router * Network Switch | Results  Yes  Yes  Yes  Yes | Opinions  **Strong** |
| **Firewall** | Is a firewall implemented?  Are all servers placed in a DMZ and segregated from other zones by using a firewall?  Is there segregation between application and database servers?  Are user and server zones segregated?  Is specific port/service access granted on firewall by following a proper approval process? | Results  Yes  Yes  Yes  Yes | Opinions  **Strong** |
| **Physical Security** | Physical Access Control  Server Room/Network Room Security (Environmental Controls)  Server Room/Network Room Security (UPS)  Server Room/Network Room Security (HVAC) | Results  Yes  Yes | Opinions  **Strong** |

**Declaration:**

There is no conflict of interest with respect to the member being audited and our directors / promoters are not directly or indirectly related to the current directors or promoters of the member being audited.

Signature

(Name of the Auditor & Auditing firm)

CISA / DISA / CISM / CISSP Reg. No :

Date:

Place:

Stamp/Seal:

**Additional Declaration for Securities Trading Wireless Technology (STWT)**

**(To be on the letterhead of the system auditor, all pages to be duly stamped and signed)**

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| --- | --- | --- |
| **Sr. No.** | **Areas of Audit** | **Complied (Yes/No)\*\*** |
| A | **Risk Management** | |
| 1 | **Price check** - Orders shall not be released in breach of the price bands /dummy filters as defined by the Exchange in respective segments. | Yes |
| 2 | **Quantity limit check** - Orders shall not be released in breach of order quantity limit per order as defined by the Exchange in respective segments. Quantity Limit check is also applicable for Spread Order being placed. | Yes |
| 3 | **Order value check -** Order should not exceed the limit specified by the Exchange. The order value check should be within the ranges as prescribed by Exchange circulars. Order value check is also applicable for Spread Order being placed. | Yes |
| 4 | **Exposure limits -** Orders shall not be released in breach of exposure limit as defined by the trading member for the client. | Yes |
| 5 | **Turnover limits** -Orders should not be released in breach of turnover limit as defined by the trading member for the client. | Yes |
| 6 | Trading limits - Orders shall not be released in breach of overall trading limits as defined by the trading member for the client. | Yes |
| 7 | **Cumulative open order value check** - Orders shall not be released in breach of Individual client level cumulative open order value check at the client level. Open order value for a client is the total value of its unexecuted orders released from trading members system. System shall not permit the user to set “Unlimited values”. | Yes |
| 8 | **Security wise limit check -** Orders shall not be released in breach of security-wise value limit as defined by the trading member for individual security. | Yes |
| 9 | System is capable of assessing the risk of the client as soon as order comes in | Yes |
| 10 | Margin requirements, payment & delivery obligations etc. informed to clients through system | Yes |
| 11 | Review and release facility for orders which got rejected because of clients having exceeded limits etc. | Yes |
| **B** | **Order Management** | |
| 1 | Trading Software provides order modification/ cancellation and trade history facility to clients | Yes |
|  | Orders / trades placed through either fixed Internet or wireless system should be accessible from both systems. | Yes |
| 2 | Trading member shall ensure that similar logics/priorities used by the Exchange are followed to treat STWT client orders | Yes |
| 3 | System generates unique internal reference numbers for all client orders and trades | Yes |
| 4 | The system captures the IP (Internet Protocol) address (from where the orders are originating) for all STWT orders. | Yes |
| 5 | Trading software has feature to send order/Trade confirmation to the investor | Yes |
| 6 | Order and trade confirmations shall be sent to the client through email at the client's discretion at the time period specified by the client in addition to display of such confirmations on real time basis on the broker website / application | Yes |
| 7 | The software provides for reconfirmation of orders which are larger than that as specified by the members risk management system on the STWT system | Yes |
| 8 | The system does not have any functionality of matching of cross trades and all orders are passed on to the exchange trading system for matching | Yes |
| 9 | In case of link failure of the IBT or wireless network, alternative means of communication is available for placing of orders | Yes |
| **C** | **Systems, Infrastructure and Network** | |
| 1 | Location of order routing server for STWT is in India | Yes |
| 2 | The system used by the broker has provision for security, reliability and confidentiality of data through use of encryption technology | Yes |
| 3 | Member has implemented adequate safety features / controls to ensure the Records are temper-proof | Yes |
| 4 | The member have maintained adequate backup systems and data storage capacity | Yes |
| 5 | The system has built-in high system availability to address and ensure that there is no single point failure. | Yes |
| 6 | The system has adequate back-up (on-site as well as remote site) and restore systems in place to deliver sustained performance and high availability. | Yes |
| 7 | Ticker/quote/order book displayed on the website provides the time stamp as well as the source of such information against the given information. | Yes |
| 8 | The website providing the Internet based trading facility displays prominently the hyper link to the website/ page on the website of the Exchange displaying rules/ regulations/ circulars and information meant for investor protection affecting client broker relationship, arbitration rules, investor protection rules etc. | Yes |
| 9 | In case of hand held devices it is ensured that minimum information is provided to be given with addresses of the Internet website / webpage where detailed information would be available. | Yes |
| **D** | **Access and Security controls** | |
| 1 | System allow access only to authorised user/client through valid user id/credentials | Yes |
| 2 | STWT System authenticates Clients with a User Name and password (Private code) as first level of security and mandates changing of password when the user logs in for first time. | Yes |
| 3 | System has adequate measures for user identification, authentication and access control using means such as user-id, passwords, smart cards, biometric devices or other reliable means, to prevent misuse of facility by unauthorized persons. | Yes |
| 4 | Automatic expiry of password on expiry of reasonable period of time as determined by member at the end of a reasonable duration. Reinitialize access on entering fresh password. | Yes |
| 5 | Two-factor authentication for login session has been implemented for all orders emanating using Internet Protocol and these 2 factors can’t be the same. | Yes |
| 6 | Session login details are not stored on the devices used for securities trading using wireless technology. | Yes |
| 7 | The system allows for automatic trading session logout after a system defined period of inactivity. | Yes |
| 8 | The system generates and maintain all the transaction/activities/alert logs with proper audit facilities. | Yes |
| 9 | The STWT server is secured by using Secured Socket Level (SSL) Security for server access through Internet. | Yes |
| **E** | **Cyber Security & Cyber Resilience framework** | |
| 1 | The STWT server is secured by using Secured Socket Level (SSL) Security for server access through Internet. | Yes |
| 2 | Suitable Firewalls between member trading set-up directly connected to an Exchange trading system and the Internet trading set-up | Yes |
| 3 | Network security protocols and interface standards should be as per prevalent industry standards | Yes |
| 4 | Transactions are digitally signed to ensure client authentication and to support non-repudiation | Yes |
| 5 | The system has adequate safety features to ensure it is not susceptible to internal/ external attacks | Yes |
|  |  |  |
| **Note:** | \*\* All the above check points are mandatory. |  |

Signature:

(Name of the Auditor & Auditing firm)

CISA / DISA / CISM / CISSP Reg. No:

Date:

Place:

Stamp/Seal: