

THE NIGERIAN STOCK EXCHANGE

Market Model and Trading Manual - Equities

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1. Overview

The Nigerian Stock Exchange ("The Exchange" or "NSE") operates fully electronic marketplaces for Equities, Bonds, Exchange Traded Products, with plans to include Derivatives trading shortly. The NSE operates an Automated Trading System (ATS) platform with a central order book which allows Dealing Members to participate on equal terms, competing on the hierarchical basis of Price, Cross and Time priority. The Exchange runs a hybrid market, allowing Dealing Members to submit orders and Market Makers to submit two-sided quotes into the order book.

This manual contains provisions for Equity trading on The Exchange and is based on The <u>Rulebook of The Nigerian Stock Exchange ("The Rulebook")</u>, and the additions and amendments made to the Rules, from time to time.

2. Board Classifications of Equity Securities

Every listed equity security belongs to a Board. Each Board may have a particular trade parameter associated with it, the Trade parameters indicate the type of orders that will be accepted as well as general rules and functions such as the trading schedule, trading hours, or tick and lot sizes, etc. Trade parameters for a board are configured by the NSE. Below is the categorization of the boards in the Equities Market:

2.1. Premium Board

The Premium Board is the market for trading securities of an elite group of Issuers that meet The Exchange's most stringent corporate governance and listing standards. The Premium Board lists companies that adhere to international best practices on corporate governance and meet The Exchange's highest standards of capitalization and liquidity.

2.2. Main Board

The Main Board is the primary market for trading in securities and the most recognized source of liquidity in the Nigerian Market.

2.3. Alternative Securities Market (ASeM)

The ASeM is the specialized market for trading emerging businesses – small and mid-sized companies with high growth potential. It gives such companies the opportunity to raise long-term capital from the capital market at relatively low cost, allowing them to grow and institutionalize.

2.4. REITs and Closed End Funds

This serves as the market for trading in alternatives such as REITs and Closed End Funds which give them increased visibility and investor attention.

3. Trading Platform Interface

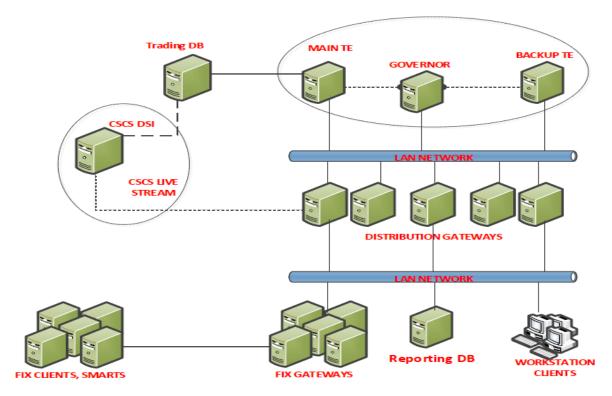
Trading on the NSE is done via the X-Stream Trader Workstation which offers different features, functionality, and pricing to offer choice and flexibility of execution to various trading participants.

The X Stream Trader Workstation: this is a Windows based application that is installed on a Personal Computer (PC) with connectivity to the NSE trading distribution gateways, via the virtual private network, X-Net. The X-Stream Trading Workstation gives full trading access to the X-Stream trading platform and is fully equipped to support Dealing Members.



FIX Gateway: The Genium FIX Gateways for NSE X-Stream trading platform supports the FIX protocol version 5.1 SP1. The FIX Gateways support the Dealing Members' order routing and dissemination of market data to Market Data Vendors (MDVs).

Fig 1: Market Architecture



DB: Database TE: Trading Engine

4. Trading Model

The NSE trading model comprises of two order books; the Central Order Book (COB) and the Off Market/Negotiated Deals Book. The COB is the main order book into which orders are entered during the trading day. Dealing Members that act as principal or agents, as well as Market Makers are participants in the COB.

The Off Market Book is a service for executing and reporting pre-negotiated deals and block trades between Dealing Members. All trades entered into the COB and trades within the daily price limits entered into Off Order Book are considered as On-Exchange Transactions since they affect the market statistics on the trading day that they are entered.

5. Trading Sessions

NSE market will be open for trading from Monday to Friday. A list of business holidays will be available on the NSE website. The trading sessions' hours of operation are as follows:

TIME (ET)	SESSION
	Pre-Open – Orders (Limit) may be entered and/or modified, but will not be executed. The TOP/TOV
9:30 AM – 9:55 AM	is calculated, continuously updated but not published.



9:55 AM – 10.00 AM	Pre-Open Imbalance – Imbalance orders are entered, but will not be executed. The TOP/TOV is published and continuously updated. At the end of the session, All matching orders are executed at a single opening trade price (equilibrium price) with any remaining day orders carrying through to the continuous limit order book. Open imbalance orders expire.
10:00 AM – 2:20 PM	Continuous Trading – All regular order types are accepted.
2:20 PM – 2:25 PM	Pre-Close – Orders may be entered, but will not be executed. The TOP/TOV is calculated, continuously updated but not published.
2:25 PM – 2:30 PM	Pre-Close Imbalance – Imbalance orders are entered, but will not be executed. The TCP/TCV is published and continuously updated. At the end of the session, All matching orders are executed at a single closing trade price (equilibrium price). Open day orders and Imbalance orders expire.

Any change in market timings or trading sessions will be notified to Dealing Members by way of a notice circulated to the market.

5.1. Pre-Open

- The Equities markets supports a pre-open auction session.
- The pre-open session is an order accumulation session during which all orders entered by Dealing Members are automatically recorded in the Central Order Book (COB) without being executed.
- Limit priced orders including Market Maker quotes can be entered, modified or cancelled by Dealing Members but will not be executed until the -allocation just at market open.
- Orders can be entered with time in force conditions.
- Limit orders that were previously booked as Good till Cancelled (GTC) or Good till Date (GTD) are available to be modified or cancelled during this session.
- The Theoretical Opening Price (TOP) is calculated each time a new order is entered or modified into the COB but is not displayed.
- Individual orders and depth of the order book are not visible during auction periods but the top of the order book is visible to the market.

5.2. Pre-Open Imbalance

- At the end of the Pre-Open session, an imbalance may occur where there is substantially more buy order volume in a particular security than there is sell order volume, or the reverse.
- Order book imbalances values- Buy or Sell Imbalances are displayed and updated continuously.
- Activation of private orders will be rejected.
- Dealing Members can only modify but cannot withdraw existing orders.
- Order modification is only allowed for orders on the side of the book which will address the order imbalance.
- Market Makers (MM) can enter one-sided orders that will address any imbalance.
- Pre-Open Imbalance Orders (Pre-Open IO) are limit liquidity providing orders to address imbalances in the order book at the Pre-open. Features of these order types are as follows:
 - o Can only be entered during the Pre-Open IO session and are only valid for those sessions.
 - o They are only accepted on the side of order book that has an imbalance.
 - o If there is a Sell Imbalance, only buy orders will be accepted provided the price is greater than or equal to the TOP.
 - o If there is a Buy Imbalance, only sell orders will be accepted provided the price is less than or equal to the TOP.
 - Will contribute to the determination of Theoretical Opening Price (TOP).



- The Theoretical Opening Price (TOP) is calculated and displayed each time a new IO entered and/or modified meets the *Minimum Market Trade Quantity* threshold
- o Price must be equal to or better than the TOP (Equilibrium Price).
- Price must be within the daily price limits.
- May have a quantity greater than the imbalance thus causing the imbalance to "flip" to the other side of the order book, i.e. there is no restriction on an order's quantity.
- Have the least priority at the opening match (uncrossing)

5.3. Market Open

- Price determination and opening match (uncross) takes place at the open
- The time of the opening match is randomized with a short period at the end of the pre-open IO session.
- At least one trade must meet the *Minimum Market Trade Quantity* threshold as set out under the Section 11 of this document in order to set the NSE Official Open Price.
- The NSE Official Open Price (NOOP) is set to the Open Price if the Open Price is established from the opening match, i.e. the Open Price is not set to the Previous Close Price.
- If there is no trade to satisfy the minimum trade quantity condition, the Open Price will be set to the Previous Close Price.
- Allocation is performed sequentially at the Equilibrium Price in the following order:
 - i. Limit orders priced better than equilibrium price
 - ii. Limit orders at the equilibrium price eligible for matching are filled by using time priority
 - iii. Imbalance orders priced better than equilibrium price.
 - iv. Imbalance orders at the equilibrium price eligible for matching are filled by using time priority
- Unfilled orders that are not session orders will flow through to continuous session.

5.4. Continuous Trading

- If there are matching orders in the COB at the end of the Pre-open Imbalance Session, trades will take place at the theoretical opening price based on order type/price/time priority.
- Once the opening auction is completed continuous trading in that security begins and orders can be entered, maintained, modified and cancelled.
- All unexecuted orders at the pre-open auction are forwarded into the main trading session.
- The Off Order Book will be available to enter large volume negotiated deals and block trades from the start of the continuous trading session via the Negotiated Deal option.
- In continuous trading, each new incoming Order is immediately checked for execution against Orders on the opposite side of the Order Book.
- Orders can be executed in full or partially in one or more steps.
- Orders are individually displayed in the COB.
- Displayed portions of COB orders are given trading priority based on price/cross/time priority
- At a given price, orders will be processed in the following sequence:
 - i. Broker Preference (Cross) amongst displayed portions (in time priority if multiple matches exist).
 - ii. Displayed portions of all other orders (in time priority if multiple matches exist).
 - iii. Un-displayed portions of icebergs (in time priority if multiple matches). There is no broker referencing amongst un-displayed portions of icebergs.

5.5. Pre-Close

- The Equities markets supports a pre-close auction session.
- The pre-close session is an order accumulation session during which all orders entered by Dealing Members are automatically recorded in the COB without being executed.



- Unfilled orders from continuous session are eligible to participate in the Pre-close auction
- Pre-close Orders entered during the continuous session will be automatically activated to participate in the Pre-close auction
- Market and Limit priced orders including market maker quotes can be entered, modified or cancelled by Dealing Members but will not be executed until the closing match (uncrossing) just at market close.
- Orders can be entered with time in force conditions.
- Limit orders that were previously booked as GTC or GTD are available to be modified or cancelled during this session.
- Pre-close orders can be entered during the continuous trading sessions. They are placed as private orders on the system and automatically activated once pre-close session begins.
- The Theoretical Closing Price (TCP) is calculated but not displayed each time a new order is entered or modified into the COB.
- Individual orders and depth of the order book are not visible during auction periods but the top of the order book is visible to the market.

5.6. Pre-Close Imbalance

- At the end of the Pre-close session, an imbalance may occur where there is substantially more buy order volume in a particular security than there is sell order volume, or the reverse.
- Order book imbalances values- Buy or Sell Imbalance are displayed and updated continuously.
- Dealing Members can only modify but cannot withdraw existing orders.
- Order modification is only allowed for orders on the side of the book which will address the order imbalance.
- Market Makers (MM) can enter one-sided orders that will address any imbalance
- Pre-Close Imbalance Orders (Pre-Close IO) are limit liquidity providing orders to address imbalances in the order book at the Pre-open. Features of these order types are as follows:
 - o Can only be entered during the Pre-Close IO session and are only valid for those sessions.
 - They are only accepted on the side of order book that has an imbalance.
 - o If there is a Sell Imbalance, only buy orders will be accepted provided the price is greater than or equal to the TCP.
 - o If there is a Buy Imbalance, only sell orders will be accepted provided the price is less than or equal to the TCP.
 - The Theoretical Closing Price (TCP) is calculated and displayed each time a new IO is entered and/or modified.
 - Will contribute to the determination of Theoretical Closing Price (TCP)
 - Price must be equal to or better than TCP (Equilibrium Price)
 - Price must be within the daily price limits
 - May have a quantity greater than the imbalance thus causing the imbalance to "flip" to the other side of the order book, i.e. there is no restriction on order quantity
 - Have the least priority at the closing match (uncrossing).

5.7. Market Close

- Price determination and closing match (uncross) takes place.
- The time of the closing match is randomized with a short period at the end of the pre-close IO session.
- At least one trade must meet the *Minimum Market Trade Quantity* threshold as set out under the Section 11 of this document in order for the Open Price to be set.
- The NSE Official Closing Price (NOCP) is set to the Close Price if the Open Price is established from the opening match, i.e. the Open Price is not set to the Previous Close Price.



- If there is no trade to satisfy the minimum market trade quantity condition, the Close Price will be set to the last price from the continuous session.
- Allocation is performed sequentially at the TOP in the following order:
 - i. Market orders
 - ii. Limit orders priced better than equilibrium price
 - iii. Limit orders at the equilibrium price eligible for matching are filled by using time priority
 - iv. Imbalance orders priced better than equilibrium price
 - v. Imbalance orders at the equilibrium price eligible for matching are filled by using time priority
- Unfilled orders that are not day orders will be queued up for the next trading day.
- End of day reports will be sent out.

6. Order types

6.1. Market Orders

Market orders can only be entered into the NSE X-Stream trading platform during the continuous trading session and do not stipulate a price. A market order will try to execute as much quantity as possible up to the daily limits until it is completely filled. If a market order is only partially filled then it is converted into a limit order at the best bid price (for sell orders) or best ask price (for buy orders). Consequently, the existence of a matching order is essential. If no matching order is available the order is rejected by the NSE X-Stream trading platform.

6.2. Limit Orders

Limit orders stipulate a maximum purchase price or minimum selling price. Limit orders entered during the continuous trading session are executed either fully or partially, as market conditions permit. If the execution of a limit order is not immediately possible it is logged in the order book in descending buy-price order or ascending sell-price order (the price priority principle) and joins the queue of orders from the same house (the cross priority principle) and then joins the queue of orders having the same price (the time priority principle).

6.3. Imbalance Orders

The Imbalance Order is an order type that can be used in the auctions. They are liquidity providing orders that address imbalances in the order book.

7. Order Attributes

7.1. Imbalance Orders

Imbalance order types are received at imbalance sessions to add liquidity during auction. They are limit type orders and have the least priority during opening/closing match (uncrossing).

7.2. Private Orders

A private order is an order which is in the user's private order book and NOT in the market. The Private Order Book is a facility for managing orders outside of the visible portion of the central order book, and readying them for submission at an appropriate time. Until submitted they are not visible to the rest of the market. Orders in the private order book are considered "inactive".

7.3. Icebergs

An Iceberg order is a hidden order that only displays a portion per time during the continuous trading session. To use iceberg order attribute, "Visible" is selected as the fill term and the user is prompted to enter the quantity that is visible to the market. The displayed order size is replenished once executed. Only the disclosed portion of the order has priority at the given price level. The displayed volume acts as a limit order in terms of price/cross/time priority execution. Once the displayed volume has been executed, the Iceberg Order will drop to



the bottom of the time queue at its specified price, and the displayed volume will be replenished from the hidden portion of the order. The order cycles through until the total volume is executed.

The displayed portion of the Iceberg order can be specified (configurable) but should be no less than twenty percent (20%) of the total order quantity.

8. Execution Conditions

8.1. Fill-and-Kill Orders

Fill-and-Kill (FAK) orders can only be placed during the continuous trading session. A FAK order may be filled in full or in part depending on market conditions at the time it is entered, and at the specified price or better (which could be a limit price or at market). The remaining part of any FAK order that is not executed is immediately withdrawn.

8.2. Fill or Kill Orders

Fill-or-Kill (FOK) orders, can only be placed during the continuous trading session. A FOK order can only be executed in full depending on market conditions at the time it is entered and at the specified price or better (which could be a limit price or at market). If a FOK order cannot be immediately executed, the order will immediately expire. This order type is also known as IOC (Immediate or Cancel).

8.3. All or None

All-or-None (AON) orders, can only be placed during the continuous trading session. An AON order can only be executed in full depending on market conditions at the time it is entered and at the specified price or better (which could be a limit price or at market). If an AON order cannot be immediately executed, the order will not be cancelled but can be added to Day Order or Good Till Cancel (GTC) order.

9. Order Validity (Time in Force)

There are 3 types of validity constraints for orders entered on the NSE trading platform:

9.1. Day

A day order is the default validity and is only good for the current trading day. All outstanding orders with Day validity that have not been fully executed at the end of the trading day will automatically expire.

9.2. Session

These orders are only valid in Pre-Open/Close & Pre-Open/Close Imbalance sessions. The order is valid until the Continuous Trading session commences, and will participate in the opening/closing match.

9.3. Immediate

Immediate orders are orders for immediate execution and then any unexecuted quantities are immediately withdrawn from the Order Book. When a FAK or FOK execution condition is specified, the order validity is automatically set to immediate.

9.4. Good till Date (GTD)

GTD orders are orders that are good until a specified expiry date. The expiry date can be up to a maximum of 365 days in the future.

9.5. Pre-Close

Pre-close orders are orders entered during the continuous session but are meant to be executed during pre-close auction sessions. The orders marked as pre-close will be accepted during continuous session but will remain



private until the pre-close session commence. Once pre-close session commences, the order is auto-activated as an open order eligible to participate in the closing auction.

10. Price Determination

10.1. Reference Price

The Reference Price of a security set as the previous close price of the security (unless explicitly set by the NSE) is used for 'order reasonability' checks. This implies that the daily price limits are based on the reference price.

10.2. Theoretical Opening/Closing Price (TOP/TCP)

The TOP/TCP is the indicative auction price that helps to better gauge the price at which traders will execute in an auction. It is the price at which the share would trade if the auction was run immediately and market opens/close. With TOP/TCP, traders can get a better understanding of market demand and supply conditions to better plan their investment strategies for the Pre-Open/Pre-Close Session. There must be at least one potential trade that meets the Minimum Market Trade Quantity threshold in order for the Theoretical Opening/Closing Price and Theoretical Opening/Closing Volume to be set. If there is no potential trade to satisfy this condition then these fields remain blank.

The following orders participate in the TOP/TCP calculation:

- Previously booked duration orders (GTD)
- Market Orders (during the pre-close session)
- Limit orders;
- Imbalance orders.

10.3. Auction Price Algorithm:

The auction price algorithm works on four (4) basic criteria used to narrow down the best possible set of auction:

- 1. Maximum Executable Volume: The auction price should first be the price at which the largest volume of orders can be matched.
- 2. Minimum Surplus: If there is more than one price that satisfies the first criterion, then the equilibrium price should be where the minimum surplus (minimum unfilled quantity) is achieved.
- 3. Market Pressure: Based on 2 above, all potential auction prices must have identical order surplus but these may be on different sides of the order book. If they are on the buy side, then unexecuted buy orders will be left after matching and this will likely push price up; so the highest price is selected. Similarly, if all order surplus are on the sell side, the lowest price is selected. This implies that the auction price is the price with the highest market pressure i.e. Better price for the market side in high demand.
- 4. If there is more than one price that satisfies the third criterion, narrow the options of potential auction prices to two (2) within the entire range of possible auction prices. Then consider the relationship between the reference price and the potential auction price.

If the reference price:

- Is equal to or greater than the higher of the two possible prices established in the first section of this principle, then the higher price becomes the auction price.
- Is equal to or less than the lower of the two possible prices established in the first section of this principle, then the lower price becomes the auction price.
- Lies between the two (2) possible prices established in the first section of this principle, then the reference price itself becomes the auction price.
- Does not exist, for example, in the cases of an Initial Public Offering, new listing or the first day of trading a security on a reconstructed basis, the auction price becomes the lower of the two potential auction prices established in the first section of this principle.



10.4. NSE Official Opening/Closing Price (NOOP/NOCP)

The NOOP/NOCP is established from the opening/closing auction. This occurs when at least one (1) trade at the TOP/TCP satisfies the Minimum Market Trade Quantity threshold during the opening/closing match. This implies that the NOOP/NOCP is not set when the opening/closing price is set by Previous Close Price/Last Sale Trade.

10.5. Price During Continuous Trading

Each new incoming order is immediately checked for execution against orders on the other side of the order book. Orders can be executed in full, partially, or not at all. Thus each new incoming order may generate none, one, or several executions. Orders in the order book will be executed according to the price/time priority principle. Orders, or parts thereof which have not been executed, are sorted in the order book according to price/cross/time priority. In addition to the price/cross/time priority, execution price during continuous trading in scenarios stated below is as follows:

o Scenario 1:

If an incoming market order or limit order enters an order book in which there are limit orders on the other side, the highest bid limit or lowest ask limit in the order book determines the price for the executable volume of the incoming order. The next limit order determines the price of any remaining volume, and so on until no volume remains.

o Scenario 2:

If an incoming market order or limit order enters an order book in which there are not enough limit orders on the other side to fully execute the Market Order, the highest bid limit or lowest ask limit in the order book determines the price for the executable volume of the incoming order. After the Market Order is partially executed and no more volume remains on the other side of the COB, the Market Order will be converted into a limit order at the price of the first execution.

11. Price Movements

The minimum quantity traded that will change the published price of an equity security is as follows:

Group	Price Band Minimum Quantity	
A	≥ ₦ 100	100,000
В	₩ 5.00 < ₩ 100	100,000
С	< ₩ 5.00	100,000

Note:

Security must have traded at/within price range for four (4) of the last six (6) months, or new securities at the time of listing on The Exchange.

12. Tick Size

The tick size for the Equities Market Segment will follow the schedule below:

Group	Price Band	Tick
Α	≥ ₦ 100	Ten (10)
В	₩ 5.00 < ₩ 100	Five (5) Kobo
С	< ₦ 5.00	One (1) Kobo

Example:

- The next price step for a security trading at 1.50 will be 1.51
- The next price step for a security trading at 45.50 will be 45.55



The next price step for a security trading at 100.60 will be 100.70

13. Small Trades

A trade of fewer than One Hundred Thousand (100,000) shares shall be regarded by the ATS as a small trade. Small trades in a security shall not result in a change in the publicly reported price of such security.

Small trades in a security shall not affect the following statistics calculated by The Exchange for that security:

- (A) Last trade price
- (B) Daily high and low prices
- (C) Fifty two (52) week high and low prices
- (D) Average price
- (E) Indices of which the security's symbol is a member.

14. Safeguards

14.1. Limit Up Limit Down (LULD)

The LULD is based on the reference price of individual securities on any given Trading day. This serves as a safeguard to validate the price of orders entered into the central order book. Incoming orders are checked to be within the configured limit from the Reference Price.

The Exchange reserves the right to redefine and modify the LULD depending on market situations. The Exchange will notify the market when any change to the LULD is made.

Group	Price Band	Price Limit
Α	≥ ₦ 100	+/- 10%
В	₩ 5.00 < ₩ 100	+/- 10%
С	< ₦ 5.00	+/- 10%

14.2. Index Circuit Breakers

There are Index Circuit Breakers (ICB) that can be triggered during periods of extraordinary volatility in the equities market in order to maintain an orderly market, and to allow liquidity to re-aggregate.

- The threshold has been set at five percent (5%) move for the first trigger and a further 5% move for the second trigger in the same direction.
- Trading halts will only occur in the event that the ASI breaches the threshold in either direction between 10:15 am and 13:45 pm during a trading day.
- Trading will not be halted if an Extraordinary Market move occurs after 13:45 pm.
- The Exchange will halt and reopen trading based on an extraordinary market move only once per trading day.
- At the first trigger, the trading halt will last for Thirty (30) minutes and markets will re-open with a Ten (10) minutes intraday auction.
- After the market re-opens following an intraday auction, a second trigger of the ICB will bring a halt to trading for the rest of the day.
- Further, during a trading halt:
 - Existing orders will remain in the order book;
 - Existing orders may be cancelled or de-activated by brokers;
 - Existing orders cannot be amended; and
 - New orders cannot be entered until the market re-opens.



 The Exchange may redefine and modify the ICB parameters depending on market situations, and will notify the market when any change to the ICB is made.

14.3. Order Size

The minimum allowed order volume in the COB is 1 share per order.

There is no maximum allowed order volume in the COB, however The Exchange's Rulebook contains specific thresholds, parameters, and requirements on Block Divestments, and Large Volume Trades in Equities, which may revised by The Exchange from time to time.

15. Block Divestment Trades

Block divestment trades shall be as set out in the <u>Block Divestment Rule</u> of the Rulebook (Dealing Members' Rules), and as amended from time to time."

A trade shall be treated as a block divestment where it involves:

- 1) a transfer of shares amounting to thirty percent (30%) or more of the company's total listed shares and the transferee shareholder intends to take control of the listed company; or
- 2) the acquisition of additional shares by a shareholder of a listed company, that would result in an increase in the shareholder's total holdings to thirty percent (30%) or more of the company's total listed shares; and the shareholder intends to take control of the listed company; or
- 3) Less than thirty percent (30%) of a company's total listed shares but will lead to a material change in the Board and/or Management of a listed company.

These trade types are often privately negotiated outside of the COB and are reported as off market transactions. They are subject to obtaining prior approval from The Exchange, and details of block trades are published by The Exchange immediately they are executed. The thresholds for block divestments shall be as prescribed by The Exchange from time to time.

16. Large Volume Trades

Large Volume trades shall be as set out in the <u>Large Volume Trade Rule</u> of the Rulebook (Dealing Members' Rules), and as amended from time to time."

Large volume trades (LVT) are trades amounting to:

- 1) 5% or more, but less than thirty per cent (30%) of an Issuer's total listed equities;
- 2) Eighty (80) million units or more, but less than thirty per cent (30%) of an Issuer's total listed equities or more; or
- 3) trade value equal to, or in excess of Eight Hundred Million Naira (N800,000,000) but less than thirty per cent (30%) of an Issuer's total listed equity.

Such trades can be executed on market within the daily price limit as on market trades or as off market negotiated deals outside the daily price limit (subject to prior approval by The Exchange). The Exchange publishes the details of the trades immediately they are executed. The thresholds for large volume trades shall be as prescribed by The Exchange from time to time.

Please see the table below for a summary of the requirements for large volume trades:

Thresholds	Requirements	Timelines
From 5% but less than	Obtain prior approval of The Exchange via	Before execution of trades. The
<30% of total listed	LVT Authorization Form (NSE/MOP/001)	Exchange's approval to be issued
equities		within twenty-four (24) hours of
		receipt of complete application



Dealing Members cannot cancel or modify/amend any trades matched on NSE. However, in the case of an obvious error by a Dealing Member (which was notified to Exchange), The Exchange may, but shall not be obliged to, adjust or cancel transactions affected as a consequence of such error. The Dealing Clerk shall obtain the written consent of the counterparty prior to initiating the cancellation or adjustment request. The Exchange may also cancel any and all securities transactions which in its reasonable judgment do not comply with its Rules.

80 million units and	No enforcement of Rule 15.32 (a) provided	Not later than twenty-four (24)
N800 million	you give notification to The Exchange via	hours after execution of trades
amounting to less than	LVT Notification Form (NSE/MOP/002)	
<5% of total listed	after execution.	
equities		

17. Cross Trades

An automatic execution through the COB of a buy and sell order from a Dealing Member for its underlying clients is permitted by the trading platform during continuous trading. Cross Orders have to be executed at the Best Bid-Offer (BBO) and must be within the daily price limit.

If there are no quotes in the COB at the time of entry, the trade can be crossed at a price within the daily price limit.

18. Trade Cancellation

Trade Cancellation shall be treated as set out in the Rule 12.4 (Cancellation of trade) and 12.5 (Obvious Error) of the Rulebook, and as amended from time to time."

19. Short Sales

A short sale is an order to sell shares that are not owned. Covered Short sell orders are allowable on NSE Equities Market. A Short Sell order is treated identically to a Sell order from a matching allocation perspective and can be executed across all sessions.

20. Security Status

Normally, the status of all securities will be active and trading will occur as set out in the timetable of the Board to which they belong. In certain circumstances, however, securities may be subject to other status. When changes occur in the status of a security an information message is disseminated via the NSE Trading Platform. Securities listed on NSE can be in the following states:

- i. **Active:** Securities in this state are available for trading. Dealing Members can enter new orders, amend existing orders, and cancel orders. Securities in an Active state will be represented by the letter "A" in the Security Status Indicator of that Security.
- ii. **Suspended:** Securities in a Suspended state are not available for trading. Dealing Members cannot enter new orders, amend or cancel any pending orders on these securities. Securities in a suspended state will be represented by the letter "S" in the security status indicator of that security.

In the event of an intra-day suspension, open orders will be automatically made private. If the suspension is lifted thereafter, the private orders have to be manually re-activated.

If a security is changed from Suspended status to Active status intra-Day, it will it automatically go into continuous trading session.



21. Clearing Arrangements

All transactions executed are reported to The Central Securities Clearing System (CSCS) Plc for clearing and settlement. The Equities Market operates a T+3 settlement cycle and below is the process flow:

At Day T (i.e. Transaction Day)

- Execution of trades on the floor of The Exchange by Brokers/Dealers.
- Matched and confirmed trades are transmitted to the CSCS clearing system.
- CSCS sends net financial obligation (interim settlement report) at end of day to stockbroking firms, custodian and settlement banks by 4pm (GMT+1).

Day T+1

- Settlement bank escalate any unfunded cash settlement account to CSCS on or before 12:00pm.
- CSCS sends final net settlement advice to all Settlement Banks before end of day; reporting final and irrevocable settlement obligation.

Day T+2

- CSCS sends the NIBSS settlement report by end of day reporting final and irrevocable settlement obligation for all settlement banks.
- Stockbroking firms/custodians must have funded their settlement accounts with the bank on or before 4:00pm.
- Settlement banks to escalate final unfunded cash settlement account to CSCS before close of business (4.30pm).

Day T+3

- Securities settlement takes place at CSCS at 8:00am.
- NIBSS cash settlement takes place at 8.00am. NIBSS sends settlement confirmation to CSCS.

22. Trading Fees

Equities market fee schedule is as set out on the <u>NSE Website</u> or as amended from time to time.



Appendix

Auction Book Examples

The table below shows an order book as at the end of the PRECLOSE session.

Table 1 – Order Book By Order Imbalance Order

ORDER NO	QUANTITY	PRICE	PRICE	QUANTITY	ORDER NO	
7	20,000		1.00	10,000	3	
2	25,000	1.03	1.03	60,000	5	
4	10,000	1.02				
6	20,000	1.02				
1	50,000	1.01				

This results in a TCP of 1.03 and a TCV of 45,000.

The imbalance is on the sell side hence there is a Sell Imbalance. The Sell Imbalance is 25,000.

Table 2 - Calculating the imbalance

PRICE	CUMULATIVE BUY	CUMULATIVE SELL	TRADEABLE	IMBALANCE
1.03	45,000	70,000	45,000	25,000 (S)
1.02	75,000	10,000	10,000	65,000 (B)
1.01	125,000	10,000	10,000	115,000 (B)
1.00	125,000	10,000	10,000	115,000 (B)

Only imbalance buy orders with a price greater than or equal to 1.03 will be accepted.

Existing limit orders can only be amended to a price greater than or equal 1.03, i.e. the TCP.

Example 1 – Showing allocation sequence at end of auction

The order book is as illustrated in Table 1 – Order Book By Order Imbalance Order.

The imbalance is as illustrated in Table 2 – Calculating the imbalance.

Enter following IO orders during the IO session:

(#8) with a price of 1.03 and a quantity of 10,000.

(#9) with a price of 1.04 and a quantity of 15,000

Table 3 - Example 1 - Order Book By Order

ORDER NO	QUANTITY	PRICE	PRICE	QUANTITY	ORDER NO
7	20,000		1.00	10,000	3
9	15,000	1.04	1.03	60,000	5
2	25,000	1.03			
8	10,000	1.03			
4	10,000	1.02			
6	20,000	1.02			
1	50,000	1.01			

The TCP is 1.03.

Allocation is done in the sequence detailed in section 1.2.14 Matching Priority at end of auction:

- Order #7 trades with order #3 with a price of 1.03 and a quantity of 10,000
- Order #7 trades with order #5 with a price of 1.03 and a quantity of 10,000
- Order #2 trades with order #5 with a price of 1.03 and a quantity of 25,000
- Order #9 trades with order #5 with a price of 1.03 and a quantity of 15,000
- Order #8 trades with order #5 with a price of 1.03 and a quantity of 10,000



Table 4 - Example 1 - Order Book By Order post match

ORDER NO	QUANTITY	PRICE	PRICE	QUANTITY	ORDER NO
4	10,000	1.02			
6	20,000	1.02			
1	50,000	1.01			

Example 2 – IO order with better price does not change TCP

The order book is as illustrated in Table 1 – Order Book By Order Imbalance Order.

The imbalance is as illustrated in Table 2 – Calculating the imbalance.

Enter a buy order (#8) during the IO session with a price of 1.04 and a quantity of 35,000.

Table 5 - Example 2 - Order Book By Order

ORDER NO	QUANTITY	PRICE	PRICE	QUANTITY	ORDER NO
7	20,000		1.00	10,000	3
8	35,000	1.04	1.03	60,000	5
2	25,000	1.03			
4	10,000	1.02			
6	20,000	1.02			
1	50,000	1.01			

The new imbalance is calculated as illustrated in the table below.

Table 6 – Example 2 – Calculating the imbalance

PRICE	CUMULATIVE BUY	CUMULATIVE SELL	TRADEABLE	IMBALANCE
1.04	35,000	70,000	35,000	45,000 (S)
1.03	80,000	70,000	70,000	10,000 (S)
1.02	110,000	10,000	10,000	100,000 (B)
1.01	160,000	10,000	10,000	150,000 (B)
1.00	160,000	10,000	10,000	150,000 (B)

The TCP is 1.03.

Allocation is done in the sequence detailed in section 1.2.14 *Matching Priority at end of auction:*

- Order #7 trades with order #3 with a price of 1.03 and a quantity of 10,000
- Order #7 trades with order #5 with a price of 1.03 and a quantity of 10,000
- Order #2 trades with order #5 with a price of 1.03 and a quantity of 25,000
- Order #8 partially trades with order #5 with a price of 1.03 and a quantity of 25,000
- Order #8 with balance of 10,000 units is expired.

Table 7 - Example 2 - Order Book By Order post match

ORDER NO	QUANTITY	PRICE	PRICE	QUANTITY	ORDER NO
4	10,000	1.02			
6	20,000	1.02			
1	50,000	1.01			

Example 3 - IO order with better price changes TCP

The order book is as illustrated in Table 1 – Order Book By Order Imbalance Order.

The imbalance is as illustrated in Table 2 – Calculating the imbalance.

The TCP is 1.03.

Enter a buy order (#8) during the IO session with a price of 1.04 and a quantity of 55,000.



Table 8 - Example 3 - Order Book By Order

ORDER NO	QUANTITY	PRICE	PRICE	QUANTITY	ORDER NO
7	20,000		1.00	10,000	3
8	55,000	1.04	1.03	60,000	5
2	25,000	1.03			
4	10,000	1.02			
6	20,000	1.02			
1	50,000	1.01			

The new imbalance is calculated as illustrated in the table below.

Table 9 - Example 3 - Calculating the imbalance

PRICE	CUMULATIVE BUY	CUMULATIVE SELL	TRADEABLE	IMBALANCE
1.04	75,000	70,000	70,000	5,000 (S)
1.03	100,000	70,000	70,000	30,000 (B)
1.02	130,000	10,000	10,000	120,000 (B)
1.01	180,000	10,000	10,000	170,000 (B)
1.00	180,000	10,000	10,000	170,000 (B)

The TCP becomes 1.04.

Allocation is done in the sequence detailed in section 1.2.14 Matching Priority at end of auction:

- Order #7 trades with order #3 with a price of 1.04 and a quantity of 10,000
- Order #7 trades with order #5 with a price of 1.04 and a quantity of 10,000
- Order #8 partially trades with order #5 with a price of 1.04 and a quantity of 50,000
- Order #8 with balance of 5,000 units is expired.

Table 10 – Example 3 - Order Book By Order post match

ORDER NO	QUANTITY	PRICE	PRICE	QUANTITY	ORDER NO
2	25,000	1.03			
4	10,000	1.02			
6	20,000	1.02			
1	50,000	1.01			

Example 4 – Order amendment during IO Session

The order book is as illustrated in Table 1 – Order Book By Order Imbalance Order.

The imbalance is as illustrated in Table 2 – Calculating the imbalance.

The TCP is 1.03.

Enter a buy order (#8) during the IO session with a price of 1.04 and a quantity of 55,000.

Table 21 – Example 4 – Order Book By Order

ORDER NO	QUANTITY	PRICE	PRICE	QUANTITY	ORDER NO
7	20,000		1.00	10,000	3
8	55,000	1.04	1.03	60,000	5
2	25,000	1.03			
4	10,000	1.02			
6	20,000	1.02			
1	50,000	1.01			

The new imbalance is calculated as illustrated in the table below.



Table 32 - Example 4 - Calculating the imbalance

PRICE	CUMULATIVE BUY	CUMULATIVE SELL	TRADEABLE	IMBALANCE
1.04	75,000	70,000	70,000	5,000 (S)
1.03	100,000	70,000	70,000	30,000 (B)
1.02	130,000	10,000	10,000	120,000 (B)
1.01	180,000	10,000	10,000	170,000 (B)

The TCP becomes 1.04.

Order 6 price is amended to 1.04

Table 13 – Example 4 – Order Book By Order; order amendment

Turic 20 Zituripic i	Order Book by Order, order amenament					
ORDER NO	QUANTITY	PRICE	PRICE	QUANTITY	ORDER NO	
7	20,000		1.00	10,000	3	
6	20,000	1.04	1.03	60,000	5	
8	55,000	1.04				
2	25,000	1.03				
4	10,000	1.02				
1	50,000	1.01				

The new imbalance is calculated as illustrated in the table below.

Table 14 - Example 4 - Calculating the imbalance; order amendment

PRICE	CUMULATIVE BUY	CUMULATIVE SELL	TRADEABLE	IMBALANCE
1.04	95,000	70,000	70,000	25,000 (B)
1.03	120,000	70,000	70,000	30,000 (B)
1.02	130,000	10,000	10,000	120,000 (B)
1.01	180,000	10,000	10,000	170,000 (B)
1.00	180,000	10,000	10,000	170,000 (B)

The TCP is 1.04

Allocation is done in sequence detailed in section 1.2.14 Matching Priority at end of auction:

- Order #7 trades with order #3 with a price of 1.04 and a quantity of 10,000
- Order #7 trades with order #5 with a price of 1.04 and a quantity of 10,000
- Order #6 trades with order #5 with a price of 1.04 and a quantity of 20,000
- Order #8 partially trades with order #5 with a price of 1.04 and a quantity of 30,000
- Order #8 with balance of 25,000 units is expired.

Order Book post match

Table 15 – Example 4 – Order Book By Order post match

ORDER NO	QUANTITY	PRICE	PRICE	QUANTITY	ORDER NO	
2	25,000	1.03				
4	10,000	1.02				
1	50,000	1.01				

Example 5 – TCP changes during IO sessions

The order book is as illustrated in Table 1 – Order Book By Order Imbalance Order.

The imbalance is as illustrated in Table 2 – Calculating the imbalance.

The TCP is 1.03.

Enter following IO orders during the IO session:



(#8) with a price of 1.03 and a quantity of 1,000,000.

Table 16 - Example 5 - Order Book By Order

ORDER NO	QUANTITY	PRICE	PRICE	QUANTITY	ORDER NO
7	20,000		1.00	10,000	3
2	25,000	1.03	1.03	60,000	5
8	1,000,000	1.03			
4	10,000	1.02			
6	20,000	1.02			
1	50,000	1.01			

The TCP is 1.03.

Order #8 causes the imbalance to flip.

Enter sell order #9 with a price of 1.00 and a quantity of 2,000,000.

Table 17 – Example 5 - Order Book By Order

ORDER NO	QUANTITY	PRICE	PRICE	QUANTITY	ORDER NO		
7	20,000		1.00	10,000	3		
2	25,000	1.03	1.00	2,000,000	9		
8	1,000,000	1.03	1.03	60,000	5		
4	10,000	1.02					
6	20,000	1.02					
1	50,000	1.01					

The TCP is now 1.00.

Example 6 - IO Order Price Validation (Buy side)

The order book is as illustrated in Table 1 – Order Book By Order Imbalance Order.

The imbalance is as illustrated in Table 2 – Calculating the imbalance.

The TCP is 1.03.

Enter a buy order during the IO session with a price of 1.02 and a quantity of 25,000.

The order is rejected as the order price is not greater than or equal to the TCP.

Example 7 - IO Order Price Validation (Sell side)

The order book is as illustrated in Table 18 – Example 7 - Order Book By Order.

The imbalance is as illustrated in Table 19 – Example 7 – Calculating the imbalance.

Table 18 - Example 7 - Order Book By Order

ORDER NO	QUANTITY	PRICE	PRICE	QUANTITY	ORDER NO	
1	50,000	1.00	1.00	20,000	2	

The TCP is 1.00.

The imbalance is calculated as illustrated in the table below.

Table 19 – Example 7 – Calculating the imbalance

PRICE	CUMULATIVE BUY	CUMULATIVE SELL	TRADEABLE	IMBALANCE	
1.00	50,000	20,000	20,000	30,000 (B)	

Enter a sell order during the IO session with a price of 1.01 and a quantity of 25,000.

The order is rejected as the order price is not less than or equal to the TCP.



Trading Session

SESSION	TIME	BOARDS	PARTICIPANT	ORDER TYPE	ORDER VALIDITY	PRICE LIMIT
		EQTY		Limit	Good Till Open	
Pre-Open	9:30	ASeM		Quotes	Good Till Date	
		Premium			Day	
Pre-Open IO	9:55	EQTY ASEM Premium		Imbalance	Session	
		EQTY	1	Limit	Immediate	
		ASeM		Market	Day	
		Premium		Crossing	Good Till Date Pre-Close	
				Negotiated		
Continuous Trading	10:00			Private		
			MM, Traders	FAK		+/-10%
				FOK		
				AON		
				Quotes		
		EQTY		Market	Good Till Close	
Pre-Close	14:20	ASeM		Limit	Good Till Date	
		Premium		Quotes	Day	
		EQTY				
Pre-Close IO	14:25	ASEM Premium		Imbalance	Session	
		EQTY				
Close	14:30	ASeM		-	-	
		Premium				