BSE TRADING RULES FOR DEBT SECURITIES
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CHAPTER 1

INTRODUCTION

1.1 Trading Boards

1.1.1 The Automated Trading System (ATS) implemented by the BSE is designed to match buy and sell orders for debt securities input by bond dealers (members of the BSE) into the ATS, based on criteria and conditions as specified in these rules.

1.1.2 The BSE has defined 2 Boards in the ATS for the purpose of matching orders for debt securities. These are the Normal Lot Board and the Pre-Negotiated (Crossings) Board.

1.1.3 In the Normal Lot Board, Buy (Bid) and Sell (ask) orders are entered into a central order book in the system where matching of orders and execution of trades take place based on specified rules.

1.1.4 In the Crossings Board trades are reported as negotiated between one or two bond dealers. Given that price discovery does not take place at the Exchange in respect of negotiated trades, price restrictions will apply to such transactions.

1.1.5 Once trades have been executed, price (yield) and volume details of the completed transactions are communicated back to the relevant bond dealers on a real time basis.

1.2 Trading and System Operation Sessions

The trading day at the BSE for debt securities is divided into the following trading and system operation sessions:

	Sessions	**Time**
(a)	Pre-trading Session	09:00hrs to 09:15hrs.
(b)	Open Auction Session	09:15hrs to 09:30hrs.
(c)	Regular Trading Session 1	09:30hrs to 10:30hrs
(d)	Interim Auction Session	10:30hrs to 10:45hrs
(e)	Regular Trading Session 2	10:45hrs to 11:45hrs
(f)	Closing Auction Session	11:45hrs to 12.00hrs.
(g)	Closing Yield Publication Session	12:00hrs to 12:15hrs
(h)	Closing Yield Cross Session	12:15hrs to 12:30hrs
(i)	Post-Close Session	12:30hrs to 13:30hrs
(j)	Market Close	13:30hrs.

As detailed above, the trading sessions consist of auctions and continuous trading sessions. The purpose of having both auctions and continuous trading sessions is to cater to the different trading requirements and strategies of bond dealers and investors in order to improve liquidity.

The BSE may at any time, as it deems fit, change the time for a prescribed session or the sequence of the sessions.

1.2.1 Pre-trading Session

During the pre-trading session bond dealers may cancel orders brought forward from the previous trading day but are not permitted to amend orders or input new orders into the ATS.

1.2.2 Open Auction Session, Interim Auction Session and Closing Auction Session

Bond dealers are permitted to input new orders, amend or cancel orders during the auction sessions.

The order book is temporarily closed at the end of each auction session and orders are matched based on an algorithm that determines the auction yield which maximizes the number of debt securities traded as the primary criteria. The purpose of the auction sessions is for the ATS to determine the opening yields and closing yields of securities and also to enable the execution of trades in respect of less liquid debt securities.

1.2.3 Regular Trading Sessions

1.2.3.1 During these sessions order matching and execution of trades take place continuously on the Normal Lot Board based on the matching criteria defined in the ATS.

1.2.3.2 Debt Securities may be matched either on clean price or yield. All debt securities will be matched on yield unless otherwise specified.

1.2.3.2.1 Matching taking place on clean price

In order to get priority in the order book the basic rule that applies is to place “buy orders at a higher clean price and sell orders at a lower clean price” (price criteria). The time the order was entered dictates the priority in the order book on a first in first executed basis (time criteria).

1.2.3.2.2 Matching taking place on yield

In order to get priority in the order book the basic rule that applies is to place "buy orders at a lower yield and sell orders at a higher yield" (yield criteria). The time the order was entered dictates the priority in the order book on a first in first executed basis (time criteria). For this purpose, yield is defined as the all inclusive yield or dirty yield.

1.2.3.3 Unmatched orders are stored in the order book and carried forward to the next trading day or expired at the end of the day as determined by the order attributes and qualifiers when placing the order.

1.2.4 Closing Price (Yield) Publication Session

This is not a session for entering or matching orders. The ATS computes the closing yields of listed debt securities to be published on a pre determined basis. The BSE has defined the methodology to be used to compute closing yield in the following order. Primarily the ATS will compute closing yield based on the closing auction, failing which the closing yield will be determined using the volume weighted average yield of trades executed during the trading day, failing which closing yield will be defined as the previous closing yield. If there is no history of past trades the reference yield of the security at the point of listing will be defined as the closing yield.

1.2.5 Closing Price (Yield) Cross Session

The ATS has functionality to execute crossings between investors at the closing yield as determined in the closing price (yield) publication session. This session caters exclusively to this functionality and transactions cannot be carried out at other prices (yields).

1.2.6 Post-close and Market Close Sessions

These are system operation sessions in which order entry and trade executions do not take place.

1.3 Order Entry

1.3.1 The ATS is integrated with the Central Securities Depository system (CSD). The pre requisite to enter orders into the ATS on account of investors wishing to buy or sell debt securities is that the relevant investor should have an account in the CSD opened through the relevant participant of the Central Securities Depository Company of Botswana Limited (CSDB), i.e. through a

bond dealer or custodian bank. Orders for and on behalf of investors are entered by bond dealer into the ATS using an ATS terminal and quoting the investors CSD account number. Orders with incorrect CSD account numbers will be rejected. Amendments and cancellation of orders can also be carried out through the ATS terminals provided that such orders have not been executed. Amendments to orders may result in a loss of time priority.

1.3.2 The ATS trading terminals provide functionality to enter orders and receive market data including orders that have been executed.

1.3.3 The ATS provides functionality to input orders with different attributes such as limit orders (orders with limits on yield), market orders (where the yield limit is determined by the ATS based on programmed parameters), orders with time qualifiers (where an unexecuted order will remain valid for a pre determined period), orders active only in certain sessions (orders that are specifically meant for the auction sessions) etc.

1.3.4 Prior to executing orders the ATS has functionality to check if the order is technically valid or not. For example, if a sell order is submitted the ATS will check on the availability of the security in the investors account prior to its execution. Similar checks will be carried out in respect of foreign holding limits. Technically invalid orders are rejected with an appropriate comment.

1.3.5 The BSE operates two markets, i.e. the equity market and the bond market. The ATS has functionality to trade equity, debt securities and Contracts for Difference (CFDs). These rules address the trading of debt securities.

1.4 Trading

a) The trading of securities in the Normal Lot Board takes place using a lot size of one (1) subject to a minimum size of one thousand (1000), i.e. the lot size is defined as one Pula (P1) subject to the minimum order being one thousand Pula (P,1000).

b) The debt market is open from Monday to Friday of each week, except on days declared as holidays by BSE.

c) The operating hours of the ATS are from 09:00hrs to 13:30hrs as detailed in Section 1.2. The operating hours may be changed by the BSE at its discretion if market conditions or a technical problem in the ATS so warrant.

1.5 The Exchange disseminates announcements in respect of entitlements on debt securities and market related information, as follows;

(i) Trade related information is disseminated to the bond dealers on a real time basis via the announcement system of the ATS.

(ii) At the close of each market day, the official closing yield including other final trading results for the given market day is published in the Daily Market Report.

1.6 The ATS Rules as detailed herein provide for the trading of debt securities using the ATS where matching will take place using yield as against price. The ATS Trading Rules for Equity Securities will apply to debt securities which will use price as the matching mechanism subject to restrictions imposed on the AON Board and the Iceberg Orders as described in the ATS Trading Rules for Equity Securities. Debt securities, if any, traded outside the ATS will continue to be subject to the manual trading rules of the BSE.

CHAPTER 2

TYPES OF TRANSACTIONS

2.1 There are three (3) types of orders that can be placed in the ATS:

a) Limit orders.
b) Market orders.
c) Stop and Stop Limit orders

2.2 Limit Orders

A Limit Order is defined as an order in which the minimum buying yield or maximum selling yield is specified.

2.3 Market Orders

2.3.1 A market order is defined as an order to buy or sell a security at the best yield or price as determined by the ATS, prevailing in the market at that point in time.

2.3.2 To prevent market orders being executed at extreme yields due to the presence of existing orders it is necessary to protect market orders by having a "protection yield". A "protection yield" (see Section 2.3.5.2 Protection Yield) is calculated by the ATS each time a market order is placed. The protection yield is calculated on a fixed percentage of the "touchline yield" (see Section 2.3.5.1 Touchline).

2.3.3 For market buy orders, protection will be applied to the touchline ask yield, and for market sell orders protection will be applied to touchline bid yield. After attaching the protection yield to the market order, the order will be executed similar to any other limit order.

2.3.4 If a market order cannot be executed immediately during the regular trading sessions, it will expire. During the auction sessions, market orders will not expire immediately. Any market order not executed during the auction sessions will be expired when the ATS moves into a regular trading session. If a market order is partially executed the balance unexecuted quantity of the order, if any, will be expired immediately. Market orders do not appear in the order book during regular trading sessions but will be included in the order book during the auction sessions.

2.3.5 Market orders will get priority over limit orders in the open auction.

2.3.5.1 Touchline Yield

The touchline bid is the lowest bid yield and the touchline ask is the highest ask yield in the market available at that point in time. If bids or asks are unavailable for the day, the touchline is defined as the previous closing yield. For the first day of trading of an IPO the touchline is defined as the reference or the issue yield of the security at the point of listing.

Example
Table 1 represents the order book for security ABC.

Table 1

Bid Order	Yield (%)	Ask Order
	1.000	100
	1.031	100
	1.053	300
	1.111	200
400	1.136	
100+200	1.143	
300+100	1.149	

As per the above example, the touchline bid yield is 1.136% and the ask yield is 1.111%.

2.3.5.2 Protection Yield

a) The protection yield is the touchline yield plus or minus the allowed percentage variation. The percentage variation allowed on the touchline yield is a configurable percentage applicable to debt securities traded on the ATS. The BSE has set the protection parameter at 10%. The protection yield limits the possible all inclusive price at which market orders can be executed.

b) For a sell market order the protection yield is calculated in the following manner:

Protection Yield (sell market order) = Touchline Bid Yield x (1 + Protection %)

c) For a buy market order the protection yield is calculated in the following manner:

Protection Yield (buy market order) = Touchline Ask Yield x (1- Protection%)

Example:

Broker X places a market order for buying P1000 ABC bonds. The touchline while placing the order is 1.111% (ask) and 1.136% (bid) - see Table 1 in Rule 2.3.5.1

The protection percentage is set at 10%. In this case the protection price will be 1.000% i.e. (1.111% x (1-10%))

The order book at the point Broker X placed the order is as follows:

Table 2

Yield Markers (%)	Yield (%)	Ask	
		Orders (P)	Broker
	1.000	100	Z
	1.031	100	Y
Protection 1.000 (bid)			
	1.053	300	B
Touchline 1.111 (ask)	1.111	200	A
Touchline 1.136 (bid)			
Protection 1.250 (ask)			

Broker X's market buy order would thus get executed with;

1. P200 @ 1.111% sell order from Broker A
2. P300 @ 1.053% sell order from Broker B

Since the orders for sale from Brokers Y and Z have lower yields than the protection yield, Broker X's order will not be matched against Brokers Y and Z orders. The balance unexecuted order quantity of P500 will be cancelled since it cannot be executed immediately.

2.4 Stop and Stop Limit Orders

2.4.1 A stop order is a market order that will remain unelected, i.e. does not enter the order book. A stop order is elected to the order book when the last traded yield is equal to or better than the specified stop yield. Once a stop order is elected to the order book, it will be treated in a similar manner as a new market order. A stop order does not contain a yield. However, a stop order must be submitted with a stop yield.

2.4.2 A stop limit order is a limit order that will remain unelected, i.e. does not enter the order book. A stop limit order is elected to the order book when the

last traded yield is equal to or better than the specified stop yield. Once a stop order is elected to the order book, it will be treated in a similar manner as a new limit order. A stop limit order must contain both a stop yield and a limit yield.

2.4.3 Stop and Stop limit orders will only be elected to the order book during the regular trading session.

2.4.4 If a change in the last traded yield causes multiple stop and stop limit orders to be elected to the order book, the election priority will be based on the stop yield value and time of entry. Stop and stop limit orders at the same stop yield are elected based on time of entry.

Examples: Stop and Stop Limit orders

Assume the following:

The last traded yield of ABC bond is 4.00%. The market is currently in the regular trading session. Broker 1 submits a buy stop order (Order ID X) of P200 ABC bond with a stop yield of 3.33%. The current state of the order book is set out in the following Table:

ABC Order Book					
Bid Orders			**Ask Orders**		
ID	**Qty**	**Yield (%)**	Yield (%)	**Qty**	**ID**
A	200	3.33	3.23	300	E
B	300	3.45	3.13	200	F
C	100	3.57	3.03	200	G
D	200	3.70			

The stop order is not elected to the order book as the last traded yield is higher than the stop yield of Order X.

Another broker (Broker 2) submits a sell limit order (Order ID Y) of P500 ABC bond at a yield of 3.33%. This order will partially execute against order A (P200 bonds) on the buy side.

Buyer ID	**Seller ID**	**Qty**	**Yield (%)**
A	Y	200	3.33

Since the last traded yield is now 3.33%, the buy stop order will be elected to the order book. The order book will then look as follows:

ABC Order Book					
Bid Orders			**Ask Orders**		
ID	**Qty**	**Yield (%)**	Yield (%)	**Qty**	**ID**
X	200	MKT	3.33	300	Y
B	300	3.45	3.23	300	E
C	100	3.57	3.13	200	F
D	200	3.70	3.03	200	G

The market order will be fully executed against the remainder of the sell order submitted earlier.

Buyer ID	Seller ID	Qty	Yield (%)
X	Y	200	3.33

Assume that another Broker (Broker 3) submits a sell stop order (Order ID P) of P300 ABC bond with a stop yield of 3.45%. This will not be elected to the order book as the sell stop yield of 3.45% is more than the last traded yield of 3.33%. The order book will be as follows:

ABC Order Book					
Bid Orders			**Ask Orders**		
ID	**Qty**	**Yield (%)**	**Yield (%)**	**Qty**	**ID**
B	300	3.45	3.33	100	Y
C	100	3.57	3.23	300	E
D	200	3.70	3.13	200	F
			3.03	200	G

A Broker (Broker 4) submits a sell limit order (Order ID Q) of P100 ABC bond with a yield of 3.45%. This will be fully executed against the order B on the buy side.

Buyer ID	Seller ID	Qty	Yield (%)
B	Q	100	3.45

Since the last traded yield of ABC bond if 3.45%, it allows the sell stop order to be elected to the order book. The order book will be as follows:

ABC Order Book					
Bid Orders			**Ask Orders**		
ID	**Qty**	**Yield (%)**	Price	**Qty**	**ID**
B	200	3.45	MKT	300	P
C	100	3.57	3.33	100	Y
D	200	3.70	3.23	300	E
			3.13	200	F
			3.03	200	G

This stop order will execute partially against the contra side order.

Buyer ID	Seller ID	Qty	Yield (%)
B	P	200	3.45

The election of stop limit orders will be the same except for the fact that such orders will contain a yield. Therefore, the position of an elected stop limit order will depend on the yield points in the order book and the time the order was placed.

Example 1:
If a buy stop limit order is elected to the order book with a limit yield of 3.33% and there already exist two limit buy orders in the order book with a yield of 3.33%. The elected stop limit order will be at the bottom of the yield point of 3.33% (time criteria).

Example 2:
There are 2 buy stop orders with stop yields of 2.86% and 2.78% respectively. There is also one buy stop limit order with a stop yield of 2.94% and a limit yield of 2.63%. The last traded yield is 3.33%

A sudden shift in the market causes a trade to occur at a yield of 2.70%. This causes all three orders to be elected to the order book. The stop limit order will be set at a yield point of 2.63%. The 2 stop orders will be elected to the order book as market orders. The stop order which was submitted first would be the first to get elected to the contra side of the order book.

2.5 Order Attributes

Orders can have the following attributes.

a) Volume Qualifiers
b) Time in force
c) Qualifiers for auction sessions
d) Minimum fill quantity
e) Disclosed quantity
f) Quotes

These attributes can be used by the bond dealers to tune the execution strategy of an order.

2.5.1 Volume Qualifiers

Volume qualifiers modify the execution conditions of an order based on volume constraints.

2.5.1.1 No volume qualifiers

Orders with this attribute will be executed at a specified yield or better. If a partial execution occurs the remainder of the order will be added to the order book and will remain in the order book till executed, cancelled, or expired.

2.5.1.2 Fill or Kill (FOK)

FOK orders require the immediate purchase or sale of the specified order quantity, at a given yield or better. If the whole order cannot be filled immediately, it is expired. (These orders do not get entered into the order book).

FOK orders cannot be entered during the auction sessions.

2.5.1.3 Immediate or Cancel (IOC)

IOC orders require immediate purchase or sale of a specified quantity at a specified yield or better, for all or part of the order. If no immediate execution occurs the order is expired. If an immediate partial execution occurs the remainder is immediately expired.

IOC orders cannot be entered during auction sessions.

2.5.2 Time in Force (TIF)

Orders with a TIF attribute limit the lifetime of an order in the book to a period not exceeding the maximum allowable TIF Period. If an order does not indicate a time condition, it is only valid for the market day on which it is input.

The maximum TIF attribute allowed by the BSE is 5 market days. The following are order types with TIF attributes

2.5.2.1 Good till cancel (GTC)

GTC orders remain valid for a maximum of five (5) market days or till cancelled. This parameter is set by the BSE.

2.5.2.2 Good till day (GTD)

GTD orders provide the functionality to determine the validity of the order for a pre determined maximum number of days. The BSE has set the maximum number of days of order validity to five (5) market days.

2.5.2.3 Good till time (GTT)

GTT orders are expired at the end of the specified time during a market day if unexecuted. The TIF attribute for GTT orders is one (1) market day.

2.5.2.4 Day Orders (DAY)

Day orders will remain valid for a maximum of 1 (one) market day. Unexecuted Day orders will be expired at the end of the market day.

2.5.2.5 Crossings at the Closing Price (Yield) Cross Session (CPX)

CPX orders are directed at the Closing (Price) Yield Cross session. They may be entered during other sessions that accept orders but they stay parked in the order queue until the Closing Price (Yield) Cross session starts. Refer to Section 5.11.

2.5.3 Order Qualifiers for Auction Sessions

Orders can be specifically placed to execute only at auction sessions by using an Auction Qualifier i.e. during the open auction, interim auction, re-open auction and closing auction sessions.

Orders with an Auction Qualifier cannot be stop or stop limit orders.

There are three (3) Order qualifiers that can be specifically used for placing orders to be executed during auctions. They are Open Auction (OPG), Closing Auction (ATC) and Good for Auction (GFA).

2.5.3.1 Open Auction (OPG)

(a) OPG orders will only take part in the open auction and should be placed prior to the opening auction. OPG orders will not qualify for any other trading session.

(b) If OPG orders are not executed in full or in part in the opening auction, the remainder will be expired at the conclusion of the open auction.

2.5.3.2 Closing Auction (ATC)

(a) ATC orders will only take part in the closing auction. ATC orders will not qualify for any other trading session.

(b) ATC orders may be entered to the ATS during other sessions but will not be elected to the order book in any session other than the closing auction session.

(c) If ATC orders are not executed in full or in part in the closing auction, the remainder will be expired at the conclusion of the closing auction.

2.5.3.3 Good for Auction (GFA)

(a) GFA orders are directed at any auction session.

(b) GFA orders may be entered to the ATS during the other sessions but will not be elected to the order book in any session other than an auction session.

(c) If a GFA order is not executed in full or in part in an auction session, the remainder will be elected to the order book at the next auction session provided such auction session is not the closing auction for the day.

(d) GFA orders may not be carried forward to the next market day. Unexecuted GFA orders will be expired at the end of the closing auction call subject to the following exceptions;

(i) If the session is moved from the closing auction session to a Halt, Halt and Close or Pause session prior to the end of the closing auction, unexecuted GFA orders will not be expired. If the session is moved from Halt, Halt and Close or Pause session to an auction session, unexecuted GFA orders will qualify to be executed in such auction session. However, all unexecuted GFA orders will be expired at the close of the trading day.

(ii) If the session is moved from the closing auction session to another auction session prior to the end of the closing auction unexecuted GFA orders will not be expired. GFA orders will qualify to be executed in such

auction session. However, all unexecuted GFA orders will be expired at the close of the trading day.

2.5.4 Minimum Fill Quantity

2.5.4.1 The ATS allows a minimum fill quantity to be entered for orders. A minimum fill order seeks to execute a stated minimum quantity of securities on entry, failing which the order will be expired. If the minimum quantity is executed, then the remainder will be treated as a regular order (i.e. minimum quantity will no longer apply).

2.5.4.2 All order types (i.e. Market, Limit, Stop, and Stop Limit orders) can be submitted with a minimum fill quantity specified. If a TIF (Time-In-Force) is submitted for a minimum fill order, the TIF will only apply on the remainder of the order, after the minimum quantity is executed.

Example:
A buy limit order of P500 bonds with a minimum quantity of P100 and a TIF of GTD is submitted to the order book. It executes the minimum quantity against the contra side order and the remaining quantity of P400 will be added to the order book with the GTD qualifier applied.

2.5.4.3 If a minimum fill order is submitted with a FOK order qualifier, it will be treated as a FOK order and not as a minimum fill order.

2.5.5 Quotes

2.5.5.1 The ATS has functionality for bond dealers and market makers to submit orders in the form of quotes.

2.5.5.2 Orders in the form of quotes will include both a buy order and a sell order. A quote for only a buy order or a sell order will not be permitted if this attribute is used.

2.5.5.3 Quotes may be submitted for different quantities at different yields in respect of buy and sell orders.

2.5.5.4 Quotes will be treated as firm orders and have the potential of being executed against any contra order.

2.5.5.5 Quotes will require to be submitted as Limit orders. Quotes cannot be submitted as Market orders, Stop orders or Stop Limit orders.

2.5.5.6 Quotes may be submitted with volume Qualifiers and Time in Force qualifiers. Quotes shall not be submitted with minimum fill quantity qualifiers.

CHAPTER 3

TRADING PROCEDURE

3.1 Order Validation

3.1.1 Input orders are validated for accuracy prior to inclusion in the order book. The following checks will be run on an order to validate the same:

a) If there is a valid security code
b) If trading is permitted on the security (i.e. is the security de-listed, suspended etc.)
c) If the order yield exceeds the baseline yield ± the set parameter. Refer to Chapter 6 on Price Bands and Circuit Breakers.
d) If the yield of the order is compatible with the tick (yield change) of the security. The tick size for a debt security has been set by the BSE at 0.000001%.
e) If the order contains a valid investor ID/bond dealer ID combination as detailed in the investors CSD account.
f) If the order volume is within the specified foreign limit rules.
g) If the seller holds the required number of securities in his account. If not, the rules applicable to short selling as specified in the CSD Rules will apply.

3.1.2 An order that passes the validation checks is accepted by the ATS. Accepted orders will contain an Exchange allocated order ID, which is used for all future references to the order. If the order fails validation then it is rejected. Until an order has been accepted by the ATS it is not valid.

3.2 Trading Unit

The lot size of debt securities traded on the ATS is specified as one (1) subject to a minimum size of one thousand (1000), i.e. the lot size is defined as one Pula (P1) subject to the minimum order being one thousand Pula (P1000).

3.3 Order Execution

3.3.1 All debt trades that occur on the Exchange are executed on the ATS unless otherwise specified by the BSE.

3.3.2 Only listed debt securities deposited in the CSD shall be traded through the ATS.

3.3.3 The ATS is integrated with the CSD system. The ATS will upload information from the CSD at the start of the trading day and as and when changes to the investor account balances occur as a result of deposits, withdrawals and transfers. The trades taking place on the ATS will similarly update the account balances in CSD on a real time basis.

3.3.4 Bond dealers have the facility of querying their client's holding for a specified security from their trading terminals. However, custodian account positions are not visible to bond dealers.

3.3.5 When a bond dealer inputs an order through the ATS trading terminal, the order is forwarded to the ATS. Within the ATS the state of the order is tracked allowing the current status to be determined and the transaction history from the initial submission to be viewed.

3.3.6 Orders will be executed in the Normal Lot board using Yield and Time to determine priority in the regular trading sessions as detailed in Section 4.3.1 of these rules. In addition to the Normal Lot Board the ATS has functionality for a Crossings Board the rules of which are detailed in Chapter 5 of these ATS Rules.

3.3.7 Orders lying in the order book are defined as 'Passive Orders'. Orders input to the order book to execute against a passive order are defined as 'Aggressive Orders'.

For an execution of a trade to take place in the ATS during continuous trading (regular trading session), an aggressive order has to match with a passive order.

3.3.8 No execution of an order can take place through the matching of 2 (two) passive orders during continuous trading (regular trading sessions).

3.3.9 The yield at which a trade takes place in the ATS between an aggressive order and a passive order during continuous trading sessions will be determined to the advantage of the aggressive order, e.g.: if a passive sell order for P1000 bonds of a company at a yield of 10.00% is in the order book and an aggressive buy order is input at 8.33%, the yield at which the trade will be executed will be 10.00%.

3.3.10 In addition to regular trading sessions, the ATS provides for an open auction, interim auction, closing auction, and closing price (yield) cross (CPX) sessions. Trade matching in the auction sessions and CPX session will take place as specified in Sections 4.2 and 5.11 of these rules.

3.3.11 Bond dealers shall indicate the Client Account number in CSD at the time of input of an order.

3.3.12 Bond dealers may combine orders from multiple clients to constitute a bulk order. In this case the bond dealers may enter the securities account number of his house account to input the order. Following the execution of the bulk order, bonds may be allocated to the respective individual clients through post-trade transfers in CSD as provided for in the CSD Rules.

3.3.13 The instrument list in the ATS will indicate the market status of the listed debt securities as active, halted or suspended.

3.4 Price (Yield) discovery of New Issues

3.4.1 Due to the possibility of large yield swings for a new issue, and in order to allow for large premiums on IPO's. Price (yield) discovery for new listings is completely based upon the market rather than issue yield.

3.4.2 The BSE at its discretion may set or reset Price Bands and Circuit Breakers to facilitate yield swings in respect of new listings. Refer to Chapter 6.

3.5 Multiplier

3.5.1 Debt securities transacted on the ATS are recorded in the CSD in terms of quantity.

3.5.2 For the purpose of recording such transactions and converting the value of bonds to quantity a multiplier of one (1) will be used. i.e. a bond with a face value or maturity value of one thousand Pula (P1000) purchased by an investor will be recorded in the CSD as a quantity of one thousand (1000).

CHAPTER 4

TRADING SESSIONS

4.1 Pre-Trading Session

4.1.1 During the pre trading session new orders cannot be entered into the ATS and brought forward orders cannot be amended. However, brought forward orders from the previous trading day may be cancelled.

4.1.2 Orders during this period are held in the order book but not forwarded to the trade execution engine.

4.1.3 The market status in the ATS (venue state) will be displayed as 'pre trading'.

4.2. Auction Sessions

4.2.1 The ATS has functionality for open auction, interim auction, re-opening auction and closing auction sessions.

4.2.2 During the auction sessions, orders can be entered, amended or cancelled.

4.2.3 Orders which are entered with FOK or IOC qualifiers will not be accepted during the auction sessions.

4.2.4 The continuous matching of orders as applicable in the regular trading sessions will not apply to the matching of orders in the auction sessions. These rules will be applicable for the execution of trades in the auction sessions.

4.2.5 Matching of orders and the execution of trades during the auction sessions will take place at the end of each auction session, at one yield as determined by the auction algorithm. The objective of the auction algorithm is to determine the yield that will maximize the number of bonds traded and execute orders at such yield.

4.2.6 The yield at which orders are matched and trades executed in the opening auction will determine the opening yield of the relevant debt securities. If there are no trades executed at the open auction session, in respect of one or more debt securities, the opening yield of such security/securities will be the yield of the first trade to take place in any of the subsequent trading sessions. If no trades take place the opening yield of the debt security will be undetermined.

4.2.7 The interim auction takes place to enable the matching of orders and execution of trades through an auction process and is an alternative to the regular trading session.

4.2.8 The yield at which orders are matched and trades executed in the closing auction will be the primary determinant of the closing yield of the relevant securities. If there are no trades executed at the closing auction session in respect of one or more securities, the closing yield of such debt security/securities will be determined using the following levels of priority.

Priority 1

Closing yield will be the volume weighted average yield (VWAY) of trades executed on the trading day with the exception of trades executed through the Crossings Board.

Priority 2

Failing priority 1, the closing yield will be determined by the closing yield of the debt security/securities of the previous day.

Priority 3

Failing Priority 2, the closing yield will be determined by the reference yield of the security/securities at the point of listing.

4.2.9 Auction Algorithm

4.2.9.1 The primary rule to determine the price of a security at any of the auction sessions is "volume maximization".

(a) The system will compute the volume of the securities that will be traded at each yield point in the order book.

(b) The auction yield will be determined as the yield point at which the volume of bonds traded is maximized. i.e. the yield at which the largest number of securities can be traded. This is subject to there being only 1 volume maximizing yield point.

4.2.9.2 If there are multiple volume maximizing yield points, the secondary rule to determine the yield of a security is minimization of the order imbalance.

In such event the auction yield will be determined as the yield at which the order imbalance is minimized. The order imbalance is defined as the difference between the total cumulative Bids (purchase orders) and the total cumulative Asks (sell orders) which can be executed at the yield points at which the volume of debt securities traded is maximized.

4.2.9.3 In the event there are multiple yield points at which volume is maximized and the order imbalance is equal at all such yield points, the following rules will apply.

a) If the order imbalances are only on the buy side (if the total cumulative bids is greater than the total cumulative asks) at all volume maximizing yield points, the lowest yield at which volume is maximized will be the auction yield.

b) If the order imbalances are only on the sell side (if the total cumulative asks is greater than the total cumulative bids) at all volume maximizing yield points, the highest yield at which volume is maximized will be the auction yield.

c) If there are order imbalances in both buy and sell sides at the volume maximizing yield points, the lowest yield with a buy imbalance or the highest yield with a sell imbalance nearest to the immediate previous auction yield or failing which the previous closing yield of the security will be the auction yield.

d) In the event the difference between the immediate previous auction yield or failing which the previous closing yield and the lowest yield with a buy imbalance and the difference between the immediate previous auction yield or failing which the previous closing yield and highest yield with a sell imbalance as computed in (c) is both the same in absolute terms, the lower of the yield points will be the auction yield.

Example : Auction Sessions

(a) The Volume maximized at a single yield point

The order book at the end of the relevant auction session is set out below:

Order Book - XYZ.N.0000				
Cumulative Bids	**Bids**	**Yield (%)**	**Asks**	**Cumulative Asks**
1000	1000	MKT BUY		
1000		6.76	300	7500
2000	1000	6.90	200	7200
4000	2000	7.04	1000	7000
5000	1000	7.14	2000	6000
7000	2000	7.35	2000	4000
8000	1000	7.52	1000	2000
8100	100	7.69		1000
8500	400	8.33		1000
		MKT SELL	1000	1000

The tradable quantity at each yield point is set out below

Yield (%)	**Executable Quantity**
7.04	**4000**
7.14	**5000**
7.35	**4000**
7.52	**2000**

The yield as determined by the auction will be 7.14% as this is the yield at which volume is maximized.

(b) Multiple volume maximizing yields – The yield as determined by the auction is the yield that minimizes the imbalance.

The order book at the end of the relevant auction session is set out below:

Order Book - XYZ.N.0000				
Cumulative Bids	**Bids**	**Yield (%)**	**Asks**	**Cumulative Asks**
1000	1000	MKT BUY		
1000		6.76	300	7500
1000		6.90	200	7200
3000	2000	7.04	1000	7000
4000	1000	7.14	2000	6000
5000	1000	7.35	2000	4000
6000	1000	7.52	1000	2000
6100	100	7.69		1000
6500	400	8.33		1000
		MKT SELL	1000	1000

The tradable quantities and the imbalances at each yield point are set out below:

Yield (%)	**Executable Quantity**	**Executable Buys**	**Executable Sells**	**Order Imbalance**
7.04	**3000**	**3000**	**7000**	**4000 (SELL)**
7.14	**4000**	**4000**	**6000**	**2000 (SELL)**
7.35	**4000**	**5000**	**4000**	**1000 (BUY)**
7.52	**2000**	**6000**	**2000**	**4000 (BUY)**

Volume is maximized at 7.14% and 7.35%. Therefore the order imbalance is considered in these two yield points. The Auction Yield will be 7.35% as this is the yield at which volume is maximized and the order imbalance is minimized.

(c) Multiple volume maximizing yields with the same order imbalance -

1) All Imbalances at volume maximizing yields are on the Buy side:

The order book at the end of the relevant auction session is set out below:

Order Book - XYZ.N.0000				
Cumulative Bids	**Bids**	**Yield (%)**	**Asks**	**Cumulative Asks**
1000	1000	MKT BUY		
1000		6.76	300	5500
1000		6.90	200	5200
7000	6000	7.04		5000
7000		7.14	1000	5000
11000	4000	7.35	1000	4000
12000	1000	7.52	2000	3000
12100	100	7.69		1000
12400	300	8.00		1000
		MKT SELL	1000	1000

The tradable quantity and imbalance at each yield point is set out below:

Yield (%)	**Executable Quantity**	**Executable Buys**	**Executable Sells**	**Order Imbalance**
7.04	**5000**	**7000**	**5000**	**2000 (BUY)**
7.14	**5000**	**7000**	**5000**	**2000 (BUY)**
7.35	**4000**	**11000**	**4000**	**7000 (BUY)**
7.52	**3000**	**12000**	**3000**	**9000 (BUY)**

Volume is maximized at 7.04% and 7.14% and the order imbalance of both these yield points is the same and is on the Buy side. When all the order imbalances at volume maximizing yield points are on the buy side the yield as determined by the auction is taken as the lowest yield which is 7.04%.

2) <u>All Imbalances at volume maximizing yields are on the Sell side:</u>

Order Book - XYZ.N.0000				
Cumulative Bids	**Bids**	**Yield (%)**	**Asks**	**Cumulative Asks**
1000	1000	MKT BUY		
1000		6.76	300	9500
1000		6.90	200	9200
2000	1000	7.04	2000	9000
3000	1000	7.14		7000
3000		7.35	5000	7000
4000	1000	7.52	1000	2000
4100	100	7.69		1000
4400	300	8.00		1000
		MKT SELL	1000	1000

The tradable quantity and imbalance at each yield point is set out below:

Yield (%)	**Executable Quantity**	**Executable Buys**	**Executable Sells**	**Order Imbalance**
7.04	**2000**	**2000**	**9000**	**7000 (SELL)**
7.14	**3000**	**3000**	**7000**	**4000 (SELL)**
7.35	**3000**	**3000**	**7000**	**4000 (SELL)**
7.52	**2000**	**4000**	**2000**	**2000 (BUY)**

Volume is maximized at 7.14% and 7.35% and the order imbalance at both these yield points is the same and is on the Sell side. When all the order imbalances are on the Sell side the yield as determined by the auction is taken as the highest yield, which is 7.35%.

3) When there are imbalances on both Buy and Sell sides

Order Book - XYZ.N.0000				
Cumulative Bids	**Bids**	**Yield (%)**	**Asks**	**Cumulative Asks**
1000	1000	MKT BUY		
1000		6.76	300	7500
2000	1000	6.90	200	7200
3000	1000	7.04	1000	7000
4000	1000	7.14	2000	6000
6000	2000	7.35	1000	4000
7000	1000	7.52	2000	3000
7100	100	7.69		1000
7400	300	8.00		1000
		MKT SELL	1000	1000

The tradable quantity and imbalance at each yield point is set out below:

Yield (%)	Executable Quantity	Executable Buys	Executable Sells	Order Imbalance
7.04	**3000**	**3000**	**7000**	**4000 (SELL)**
7.14	**4000**	**4000**	**6000**	**2000 (SELL)**
7.35	**4000**	**6000**	**4000**	**2000 (BUY)**
7.52	**3000**	**7000**	**3000**	**4000 (BUY)**

Volume is maximized at 7.14% and 7.35% and the order imbalance at these yield points is the same. In this scenario, the order imbalances are on both sides of the order book, i.e. the Buy side and the Sell side. In order to calculate the yield determined by the auction the following two yields are considered.

- The lowest yield with a buy imbalance – 7.35% in this case
- The highest yield with a sell imbalance – 7.14% in this case

Out of the above two yield points, the yield nearer to the immediate previous auction yield or failing which the previous closing yield is taken as the yield determined by the auction.

Assuming the previous closing yield was 7.41%, the price determined by the auction will be 7.35%.

d) <u>If both yield points are equally near to the closing yield when there are imbalances on both Buy and Sell sides:</u>

Example:
In the order book given in Example (C) 3 above, if the previous auction yield was 7.245%, both the yield points (7.14% and 7.35%) would be equally near to the immediate previous auction yield of 7.245%. Therefore, 7.14% will be the yield determined by the auction since it is the lower out of the two yield points.

4.2.10 Order matching

4.2.10.1 Matching of orders and execution of trades will take place at the auction yield with the priority of order matching determined as follows;

a) Matching will commence from the side of the market with the lower or shorter quantity of securities that qualify to be executed at the auction yield.

For example: If the total cumulate bids (purchase orders) at the auction yield are less than the total cumulative asks (sell orders) at the auction yield, order matching will commence from the bid side. The is so since given the imbalance all bid side orders qualifying to be traded at the auction yield can be matched with orders from the contra side (sell orders).

b) Orders that qualify on the contra side as defined in (a) will be matched at the auction yield based on time priority. This is so since all orders that qualify on the contra side will not be able to be matched if there is an imbalance in the orders that qualify.

c) If there is no imbalance between the cumulative buy orders and cumulative ask orders at the auction yield, all qualifying orders on both sides will be executed.

4.2.10.2 All unmatched orders that qualify to be traded during the regular trading sessions will be migrated to the order book when the market opens for regular trading. These orders will be stored in the order book taking into account yield and time priority.

4.3. REGULAR TRADING

4.3.1 Matching of Orders

The priority for execution in the Normal Lot Board during the regular trading sessions will be determined on yield and time criteria, as follows:

4.3.1.1 Yield Criteria (Priority 1)

Buy orders with a lower yield and sell orders with a higher yield in comparison to other buy and sell orders are assigned a higher priority.

4.3.1.2 Time Criteria (Priority 2)

An order that entered the order book first has a higher priority over an order that was entered later provided that the priority assigned in yield remains the same .i.e. if the yields of the orders are the same. Note that when a parked order (stop, stop limit, GFA, ATC, and CPX orders) is injected into the order book, the time priority is considered based on the order injection time of such order into the order book by the ATS and not based on the original submission time of the order by the bond dealer.

Regular Trading Example;

An example of a multi-stage matching process based on a new incoming order is as follows:

Security ABC		
Yield increment (tick size) 0.000001%		
Purchase Quantity per yield	**Yield (%)**	**Sale Quantity per yield**
500	1.020	
200	1.015	
	1.010	400
	1.005	200+300

A purchase order for P700 debt securities at 1.005% arrives.

Matching starts with the order to sell P400 debt securities at 1.010%. The price is determined by the sell limit order.

First Trade: P400 securities at 1.010%

P300 securities remain from the new order. They are matched against the next order – sell P200 securities at 1.005%. Since there are two orders at 1.005%, they are ranked in order of entry. The order of P200 debt securities is older and hence has priority over the order of 300 debt securities.

Second trade: 200 securities at 1.005%

The remaining P100 securities are now matched to the sell order of P300 securities at 1.005%.

Third trade: P100 securities at 1.005%

The newly arrived purchase order (P700 at 1.005%) is then executed as detailed above. The order book now looks as follows:

Table 5

Purchase Quantity per yield	Yield (%)	Sale Quantity per yield
500	1.020	
200	1.015	
	1.005	200
Reference yield (i.e. Last traded yield): 1.005		

4.3.2 Cancellation and Amendment of Orders and its Impact on the Order Priority

4.3.2.1 Amendments to orders by bond dealers are permitted in respect of the yield and/or the quantity input prior to execution. In the event of the orders being partially executed, bond dealers may amend the balance of such orders. Unexecuted orders may also be cancelled by the bond dealers.

4.3.2.2 In the event of an amendment being made to the yield, the time priority assigned to the original order will change to the time of the amendment.

4.3.2.3 In the event of an amendment being made to quantity, the time priority assigned to the original order will change only if the amended quantity is greater than the original quantity input. If the amended quantity is less than the original quantity input, there will be no change to the assigned time priority.

CHAPTER 5

CROSSINGS BOARD

5.1 A crossing is a negotiated transaction entered into between one or two bond dealers and reported to the BSE via the Crossings Board. A crossing can be done by one bond dealer representing both the seller and the buyer or by two bond dealers, one representing the buyer and the other representing the seller.

5.2 A crossing will be entered by both parties to the transaction specifying the security, client, contra bond dealer ID, Trade ID and yield. The crossing is deemed to be entered when both parties have completed the entry. The crossing will be executed at the input yield. The crossing will be rejected if there is a mismatch in quantity and/or yield of the two entered orders.

5.3 If the seller does not have an adequate balance of bonds in the CSD and has failed to obtain the approval of the CSDB for a short sale the crossing transaction will be rejected.

5.4 Amendments

A crossing order can be amended or cancelled by the bond dealer prior to it being executed with the contra order.

5.5 Order life time

Unmatched crossings will expire at the end of the trading day.

5.6 Yield constraints

A crossing shall not take place at a price which is ± 10% of the reference yield for that debt security.

5.7 Trading unit

To be crossed the parcel must be;

a) Greater than 5% of the issued quantity of the specific debt security OR
b) Greater than one million Pula (P1 Mn).

5.8 Visibility

Orders placed on the crossing board will not be visible in the normal market data displays and hence will not put price pressure on other trading. The trade will be displayed after execution.

5.9 Statistics

Crossings on debt securities will not update the indices, reference yield (last traded yield) and closing yield.

5.10 Clearing the Order Book

Crossings are not required to clear the order book.

5.11 CLOSING PRICE (YIELD) CROSS (CPX) SESSION

5.11.1 Subsequent to the determination of the closing yield of securities for a given trading day at the Closing Price (Yield) Publication Session, the ATS will accommodate trading in the form of crossings to be carried out exclusively at the closing yield during the Closing Price (Yield) Cross session.

5.11.2 Only orders entered with the CPX time qualifier will qualify for trading during this session.

5.11.3 The ATS system will accept CPX orders during other trading sessions but such orders will only qualify to be executed during the CPX session.

5.11.4 CPX orders can be input as limit orders, market to limit orders or market orders.

5.11.5 (i) CPX orders input as limit orders with better yields (yields lower than the closing yield for buy orders and higher than the closing yield for sell orders) will be amended by the system to the closing yield and included in the order book for the CPX session.

(ii) CPX orders input as limit orders with worse yields (yields higher than the closing yield for buy orders and lower than the closing yield for sell orders) will be expired and will not qualify for the CPX session.

(iii) CPX orders input as market orders will qualify for the CPX session and included in the order book for this session.

5.11.6 All unexecuted CPX orders will be expired at the end of the CPX session and such orders cannot be carried forward to the next trading day.

5.11.7 Stop and stop limit orders will not qualify for the CPX session.

5.11.8 CPX orders will not be included in the order book during the auction and regular trading sessions prior to the CPX session and consequently not disseminated in the market data feed.

5.11.9 Given that CPX orders will be accepted into the ATS at the closing yield as determined, time criteria will be applied in the execution of trades.

5.11.10 CPX orders may be cancelled or amended prior to the CPX session.

5.11.11 Amendments to CPX orders where the order quantity is increased will result in a loss in time priority. Other amendments to CPX orders will not result in a loss of time priority.

CHAPTER 6

PRICE BANDS AND CIRCUIT BREAKERS

6.1 Price Bands and Circuit Breakers will be set by the BSE to facilitate surveillance of the market.

6.2 Orders which exceed the price band will be rejected by the ATS

6.3 Price Bands and Circuit Breaker limits will be set as a ± parameter percentage taking into account a baseline price defined for this purpose as;

6.3.1 the Last Traded Yield (LTY) or

6.3.2 in the event there being no last traded yield, the previous closing yield

6.4 Trades will not be allowed at yield levels which exceed the set circuit breaker limit.

6.5 A potential trade that exceed the circuit breaker limits will result in an automatic trading halt or pause of the debt security or securities. Refer to Section 7.3.2.

6.6 The BSE at its discretion may set or reset price bands and circuit breakers to facilitate yield swings and/or in respect of facilitating price (yield) discovery on account of new listings.

CHAPTER 7

TRADING HALTS

7.1 The BSE at its discretion may halt trading of the market or a particular security or securities under circumstances that are detailed in this chapter.

7.1.1 There are three (3) types of trading halts that maybe imposed:

(a) Market halt - trading of all securities in the ATS will be suspended. The ATS has the functionality for the BSE to selectively impose a market halt for either equity or debt securities.
(b) Security halt - the trading of a particular security or securities is halted
(c) Security Pause - the trading of a particular security or securities is paused

7.1.2 Trading halts may be imposed by the Exchange for a time period during a market day or may be extended beyond one market day.

7.1.3 The Exchange will inform the market of trading halts via the announcement system of the ATS.

7.2. Market Halts

7.2.1 A market halt can be imposed in the following circumstances:

a) Upon the request of NBFIRA.
b) Due to a technical failure of the ATS.
c) In the event that a bond dealer is unable to carry out its trading operations at its premises due to a network or technical failure. In such event the market will be halted for a maximum period of thirty (30) minutes to enable the affected bond dealer to use the back-up facilities at the BSE.
d) For any other reasons that are not adequately addressed in these rules which warrants a market halt in the view of the BSE.

7.2.2 When the market halt is lifted, the market will resume from a market session that the BSE will choose. This may be the market session at the point of imposing the market halt or another session as determined by the BSE.

7.2.3 The trading hours of a market session or sessions may be shortened or extended at the discretion of the BSE, in the event of a market halt being imposed.

7.3 Security Halts and Security Pauses

7.3.1 With the objective of maintaining a fair, efficient and orderly securities trading environment, the Exchange may impose a trading halt or trading pause on one or more securities under the following circumstances:

a) Upon the request of NBFIRA.
b) To disseminate any yield sensitive information in respect of the security or securities during trading sessions.
c) To obtain a clarification from the company concerning a rumour or report regarding the company which has been brought to the attention of the Exchange and which may have an effect on the yield of a listed security.
d) When there are unusual market movements in the yield or volume of a security. eg: in case the yield of a security reaches its permissible yield limits during a trading session, without there being adequate reasons in the view of the BSE, to support same.

7.3.2 The BSE has set a circuit breaker for individual securities. When the yield of a potential trade exceeds the circuit breaker limits, trading in the security is automatically halted. Refer to Chapter 6.

7.3.3 Trading in the security will resume subsequent to the announcement or clarification from the company being disseminated to the market. A security halt or security pause may be imposed for a time period during a market day or may be extended beyond one market day for the purpose of disseminating information to the market.

7.3.4 The Exchange may determine if it should purge the orders in the order book at the time of halt and prior to commencing trading. During security halts, bond dealers are permitted to cancel orders but amendments to orders will not be permitted. During security pauses bond dealers are permitted to amend or cancel orders.

7.3.5 When the security halt or pause is lifted, trading in the security or securities will resume from the market session that the BSE will choose. This may be the market session at the point of imposing the market halt or another session as determined by the BSE. If the BSE decides to reopen the trading of

the security through a re-opening auction the rules as detailed in Section 4.2 on auction sessions will apply.

7.3.6 The trading hours of a market session or sessions may be shortened or extended at the discretion of the BSE, in the event of a security halt or pause being imposed.

7.4 SECURITY SUSPENSION

7.4.1 The Exchange may suspend trading in one or more securities. A suspension may be imposed for a time period during a market day or may be extended beyond one market day. More generally a suspension of a security or securities will extend beyond one market day.

7.4.2 The Exchange will inform the market of the suspension and reasons for the same.

7.4.3 A suspension of a listed debt security is likely to occur in the following circumstances:

a) In the interests of maintaining an orderly, fair, efficient and transparent market.
b) To protect investors' interests against disclosure of information about an event which may influence the market price of a security and/or investor's decision to buy or sell the security.
c) As a punitive measure against the listed company for reasons detailed in the Listings Rules of the BSE.
d) At the request of a listed company, which is subject to BSE's approval.

7.4.4 A bond dealer shall be prohibited from effecting transactions in the security or securities which have been suspended.

7.4.5 The Exchange may determine if it should purge the order book at the time of suspension. If the Exchange chooses not to purge the order book, bond dealers may cancel their own orders during the period of suspension. No other changes to the order book are permitted during a suspension.

7.4.6 When the suspension is lifted, trading in the security or securities will resume from the market session that the BSE will choose. This may be the market session at the point of imposing the market halt or another session as determined by the BSE. If the BSE decides to reopen the trading of the security through a re-opening auction the rules as detailed in Section 4.2 on auction sessions will apply.

7.4.7 The trading hours of a market session or sessions may be shortened or extended at the discretion of the BSE, in the event of a security suspension being imposed.

CHAPTER 8

CANCELLATION OF TRADES

8.1 Executed trades may be amended or cancelled based on mutual agreement between the bond dealers who are parties to the trade and with the approval of the Exchange. The cancellation or amendment shall be effected on the market day on which the trade takes place.

8.2 A trade cancellation or amendment may be initiated by either the selling bond dealer or the buying bond dealer who is a party to the trade.

8.3 In case of a trade amendment only the volume of the trade may be amended to a lesser quantity.

8.4 A trade cannot be cancelled or amended if the buyer has subsequently sold the securities purchased during the same trading session.

8.5 Following agreement between bond dealers who are parties to the trade, a written request for trade cancellation or amendment as per the prescribed format in Section 8.7 should be signed and forwarded to the Exchange by both parties to the trade.

8.6 Upon receipt of the signed form and if deemed fit, the Exchange will approve the trade cancellation or amendment and make the necessary adjustment to the trade. Trades can be cancelled or amended only by the BSE. The bond dealers involved in the trade and the market will be informed of the trade cancellation or amendment.

8.7 The prescribed format for the trade cancellation or amendment is as follows:

REQUEST FOR TRADE CANCELLATION/AMENDMENT

Date of Transaction: _____

Bond Dealer Requesting Cancellation/Amendment of Trade: _____

Counter Party Bond Dealer: _____

Request made *(tick as appropriate)*

☐ Trade amendment ☐ Trade Cancellation

Details of Trade to be Cancelled/Amended (tick as appropriate)

☐ Buy Trade ☐ Sell Trade

BSE Security Code: _____

Number of Debt Securities Transacted: _____

Number of Debt Securities after Amendment: _____

Reasons for Cancellation

Bond Dealers' affirmation of Client Consent *(please tick as appropriate)*

To be completed by Buying Broker:

☐ **Buyer's Consent obtained for the above detailed Cancellation/Amendment**

☐ **Buyer was not informed of the Transaction that requires Cancellation/Amendment**

To be completed by Selling Bond Dealer:

☐ **Seller's Consent obtained for the above detailed Cancellation/Amendment**

☐ **Seller's was not informed of the Transaction that requires Cancellation/Amendment**

Contracting Bond Dealers' Consent

_____ _____

Name and Signature (Requesting Bond Dealer) **Name and Signature (Counter Party Bond Dealer)**

Decision of the BSE

_____

Authorised Signatory of BSE

CHAPTER 9

CLOSING YIELD FOR DEBT SECURITIES

9.1 The closing yield of debt securities traded on the ATS will be determined based on the following criteria:

9.1.1 Yield of the security determined at the closing auction will be its closing yield.

9.1.2 If no yield is determined at the closing auction, the Volume Weighted Average Yield (VWAY) of trades executed during the market day for the security will be the closing yield.

9.1.3 If there are no trades executed during the market day, the previous closing yield will be the closing yield for the security

9.1.4 If the security has not been traded since being listed, the reference yield of the security at the point of listing will be the closing yield for the security.

9.1.5 Trades taking place on the Crossings Board shall not be considered when determining the closing yield of a security.

CHAPTER 10

PRICING FORMULAE AND CONVENTIONS

10.1.1 Debt Securities that may be listed by the BSE and traded on the ATS using the ATS Trading Rules for Debt Securities include the following:

a) Coupon Paying Bonds

b) Zero Coupon Bonds

c) Coupon Paying Bills

d) Zero Coupon Bills

10.1.2 In addition to the above debt securities, the BSE may list and trade the following securities using the ATS Trading Rules for Equity Securities:

a) Convertible Bonds

b) Callable and Puttable Bonds

c) Floating Rate Notes (FRNs)

10.1.3 The pricing formulae for debt securities detailed in Section 10.1.1 has been in-built into the ATS and trades on these securities will be matched on yield.

10.1.4 The pricing formulae for securities detailed in Section 10.1.2 involve forecasting interest rates and/or estimating prices of other securities linked to these securities (Convertible Bonds and FRNs). Hence, debt securities listed in Section 10.1.2 will be traded using price as the matching mechanism. The price at which such debt securities will be traded will be the All-In-Price (AIP) or dirty price. The trading rules applicable for these securities will be the same as applicable for equity securities subject to the following exceptions.

a) Iceberg (disclosed quantity) orders will not be permitted

b) Transactions on the AON Board will not be allowed

c) The applicable Crossing Rules will be those applicable to debt securities and not equity securities .i.e for a Crossing to take place a transaction should be

more than 5% of the issued quantity or more than One Million Pula (P1 Million) in value.

10.1.5 The following pricing formulae and conventions will apply to debt securities detailed in Section 10.1.1. These securities will be matched on yield.

Debt Security	Trading Method	Pricing Method Formulae	Day Count Convention
Coupon Paying Bonds	Maturity> Last Coupon Period	Compound Interest based on US Street Method Refer to Annexure 1	Act/Act
	Maturity< Last Coupon Period	Simple Interest based on Simple Discounting Method Refer to Annexure 2	Act/365
Zero Coupon Bonds	Maturity> Last Coupon Period	Compound Interest based on US Street Method Refer to Annexure 1	Act/Act
	Maturity< Last Coupon Period	Simple Interest based on Simple Discounting Method Refer to Annexure 2	Act/365
Coupon Paying Bills	More than 1 Coupon Payment	Compound Interest based on US Street Method Refer to Annexure 1	Act/Act
	Up to 1 Coupon Payment	Simple Interest based on Simple Discounting Method Refer to Annexure 2	Act/365
Zero Coupon Bills		Simple Interest based on Simple Money Market Method Refer to Annexure 3	Act/365

10.1.6 The following conventions will apply for holidays, broken periods and book closed periods for debt securities being traded under these rules.

10.1.6.1 Holiday Convention

10.1.6.1.1 Payment of Principal and interest falling due on holidays will be made on the next business day with no adjustment being made to the payment amount.

10.1.6.2 Payment of interest on account of Irregular Periods (Broken Periods)

10.1.6.2.1 Interest will be adjusted to take into account irregular periods using the day count convention as defined in the pricing formulae. e.g if the day count convention applicable to the adopted formulae is Actual/Actual, the interest for the irregular periods will be computed using the Actual/Actual day count convention.

10.1.6.3 Book Closed Period

10.1.6.3.1 The Book Closed Period refers to the period during which the transfer of securities is not taken into account by the issuer for the payment of interest. The purpose of the Book Closed Period is to facilitate the time required to process and make payment of interest due to the holders of debt securities. The BSE has set the book closed period to 10 market days.

10.1.6.3.2 During the Book Close Period, trading will continue to take place but the entitlements to interest will not pass on to the buyers. i.e. the securities during this period will be trading ex-interest. Accordingly, the entitlement schedules in the CSD for the payment of interest will be generated taking into account the Book Closed Period.

10.1.6.4 Accrued Interest

10.1.6.4.1 The computation methodology for Accrued Interest on a cum-interest and ex-interest basis is detailed in Annexure 4.

10.1.6.4.2 When a debt security is trading on a cum-interest basis, Accrued Interest will be deducted from the All-In-Price to obtain the Clean Price of the security.

10.1.6.4.3 When a debt security is trading on an ex-interest basis, Accrued Interest will be added to the All-In-Price to obtain the Clean Price of the security.

CHAPTER 11

ROUNDING CONVENTIONS

The rounding methodology used in the ATS for all fixed income instruments is conducted depending on whether the conversion is from price (clean price) to yield (inclusive of accrued interest) or from yield to price. The methodology used is as shown below:

11.1. PRICE TO YIELD CONVERSION METHOD

Step 1: Unrounded Accrued Interest (AI) is computed
Step 2: Unrounded All-In-Price (AIP) is derived by adding unrounded AI to the quoted Clean Price
Step 3: The Yield to Maturity (YTM) which corresponds to the unrounded AIP is computed
Step 4: The AIP is rounded to the Present Value (PV) precision of 9 decimal places
Step 5: The rounded YTM is published as Yield
Step 6: The AI is also rounded to the AI precision of 9 decimal places
Step 7: The rounded AI can be identified as the AI per Par
Step 8: Based on the Clean Price, the Gross Trade Amount is computed as Clean Price multiplied by Quantity of Bonds
Step 9: Net Money (Settlement Value) is computed by adding the total rounded AI to the Gross Trade Amount
Step 10: Both Gross Trade Amount and the Net Money computations are then rounded to the Consideration Precision of 2 decimal places before disseminating on Trade Capture Reports (TCRs).

11.2. YIELD TO PRICE CONVERSION METHOD

Step 1: Unrounded Accrued Interest (AI) is computed
Step 2: Yield is then converted to the unrounded All-In-Price (AIP)
Step 3: Then the unrounded Clean Price is derived by deducting unrounded AI from the unrounded AIP
Step 4: Finally, the Clean Price and the AI are rounded based on the Present Value (PV) precision and AI precision of 9 decimal places each
Step 5: Based on the rounded Clean Price, the Gross Trade Amount is computed as Clean Price multiplied by Quantity of Bonds
Step 6: Net Money (Settlement Value) is computed by adding the total rounded AI to the Gross Trade Amount
Step 7: Both Gross Trade Amount and the Net Money computations are then rounded to the Consideration Precision of 2 decimal places before disseminating on Trade Capture Reports (TCRs).

CHAPTER 12

GENERAL PROVISIONS

12.1 The Rules, and any Directives by the BSE, operate as a binding contract between the BSE and each bond dealer of the BSE and between a bond dealer and any other bond dealer.

12.2 A bond dealer or participant's connection to the ATS for the purpose of trading of securities on the Exchange must be through an access terminal approved by the Exchange.

12.3 A bond dealer or participant shall at all times take all reasonable security measures to prevent unauthorized access to the ATS including establishing and maintaining such procedures for the administration and monitoring of access to the ATS.

12.4 The BSE, its Directors, employees and agents are under no obligation nor liable to a bond dealer, or any of its customers for any loss incurred by a person due to, but not limited to the following:

(i) a technical failure of the ATS or due to bona fide oversight in the operation of the ATS by the BSE, its employees and/or agents;

(ii) a bond dealer's use of or inability to use the ATS;

(iii) any decision or ruling of the BSE Investigations and Disciplinary Sub-Committee exercising their powers

12.5 In the event of the occurrence of a contingency in connection with a transaction not provided for in these rules, the BSE shall have the right to determine such matter which determination shall be final and binding on all parties.

12.6 Nothing contained in these rules shall be deemed to limit the powers of the BSE to those contained herein, and the BSE may at any time exercise any further powers granted to it in terms of the BSEA. Where the BSE exercises its discretion in terms of these Trading Rules, it shall be its sole discretion and its rulings shall be final.

12.7 These ATS rules have been drafted as provided for in section 89 of the Botswana Stock Exchange Act Cap. 56:08 (Amended in 1994).

12.8 These Rules are interpreted, administered and enforced by the BSE. The decisions of the Exchange are conclusive and binding bond dealer.

12.9 These Rules may be amended by the Exchange from time to time, subject to approval by NBFIRA.

ANNEXURES

ANNEXURE 1 – THE US STREET METHOD

Under the US Street convention, all future cash flows are discounted up to the settlement date using simple compounding and using the quoted yield as the discounting rate. Hence, throughout the life on the bond, the cash flows are discounted using the simple interest convention.

$$PV = \sum_{i=0}^{n-1} \frac{C}{\left(1+\frac{Y}{f}\right)^{i+\frac{a}{b}}} + \frac{Par}{\left(1+\frac{Y}{f}\right)^{n-1+\frac{a}{b}}}$$

- PV = Present Value of future cash flows and principal (i.e. Dirty Price)
- C = Coupon Payment at i^{th} payment
- n = Total number of cash flows from the next coupon including the next coupon
- Y = Quoted yield
- f = Coupon Frequency
- Par = Par/Principal payment
- i = Number of the cash flow. First immediate payment after the settlement date is set with i=0
- a = Number of days between settlement date and next coupon payment.
- b = Number of days between the coupon payment before the settlement date and the coupon payment after the settlement date.

ANNEXURE 2 – THE SIMPLE DISCOUNTING METHOD

The following equation is used in calculating the price of a bond and a coupon paying bill in the last coupon period

*PV = [Coupon + Principal]/ [1 +(Y/f)*w]*

- Y= Quoted Yield
- f = Coupon frequency
- w = Daycount/Days per Period
- Daycount = NCD – SD

ANNEXURE 3 – THE SIMPLE MONEY-MARKET METHOD

The Money Market-Simple method is used to compute the present value of Bills. The present value of a bill instrument is its dirty price which is equal to the clean since the instrument does not pay a coupon.

$$PV = FaceValue \times \left(1 - \frac{r \times \left(D_{maturity} - D_{settlement}\right)}{T_y}\right)$$

- PV = Present Value (i.e. Dirty Price)
- Face Value = Face value of the Bill. i.e. Redemption amount
- r = Annual Discount Rate
- $D_{maturity}$ = Maturity Date of the Bill
- $D_{settlement}$ = Settlement Date of the Bill
- T_y = Days in the year as defined by the day count convention (i.e. 365 days)

It should be noted that the value $D_{maturity}$ - $D_{settlement}$ should also be computed based on the days' count basis of the Bill.

ANNEXURE 4 – COMPUTATION OF ACCRUED INTEREST

1. Computation of Accrued Interest in the cum-interest period

1.1 When maturity of a debt security is greater than the last coupon period and the Actual/Actual day count convention applies, the computation of Accrued Interest (AI) in the cum-interest period will be based on the formula given below:

$$\text{Accrued Interest}_{cum}=(\text{SD-LCD/Act})*\text{Coupon}_{annual}$$

1.2 When maturity of a debt security is less than the last coupon period and the Actual/365 day count convention applies, the computation of Accrued Interest (AI) in the cum-interest period will be based on the formula given below:

$$\text{Accrued Interest}_{cum}=(\text{SD-LCD/365})*\text{Coupon}_{annual}$$

1.3 During the cum-interest period, All-In-Price is equal to Clean Price plus Accrued Interest.

2. Computation of Accrued Interest in the ex-interest period

2.1 When maturity of a debt security is greater than the last coupon period and the Actual/Act day count convention applies, the computation of Accrued Interest (AI) in the ex-interest period will be based on the formula given below:

Step 1: $\text{Accrued Interest}_{cum}=(\text{SD-LCD/Act})*\text{Coupon}_{annual}$
Step 2: $\text{Accrued Interest}_{ex}=$ Next Coupon Value – $\text{Accrued Interest}_{cum}$

2.2 When maturity of a debt security is less than the last coupon period and the Actual/365 day count convention applies, the computation of Accrued Interest (AI) in the cum-interest period will be based on the formula given below:

Step 1: $\text{Accrued Interest}_{cum}=(\text{SD-LCD/365})*\text{Coupon}_{annual}$
Step 2: $\text{Accrued Interest}_{ex}=$ Next Coupon Value – $\text{Accrued Interest}_{cum}$

2.3 During the ex-interest period, All-In-Price is equal to Clean Price minus Accrued Interest.