



Sequential Penultimate Bid Logic

Introduction on the improved buyer error logic with sequentially highest penultimate bid.

Confidentiality Statement

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This document is meant for authorized buyers of The Colombo Tea Traders Association (CTTA) to gain instructions on the improved logic of buyer error flow and capturing of the sequential highest penultimate bidder.

Let's get started!

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1. Glossary

Sequential bids	Placing bids consecutively. E.g. <table border="1" data-bbox="589 443 898 659"> <tr><td>ABC</td><td>690</td></tr> <tr><td>PLK</td><td>680</td></tr> <tr><td>MNB</td><td>670</td></tr> <tr><td>ABC</td><td>660</td></tr> <tr><td>MNB</td><td>650</td></tr> </table> NOTE: In this logic, the system does not consider sequence breaks that are less than 06 bid slabs and identifies bids placed less than 06 bid slabs is still within the previous sequence.	ABC	690	PLK	680	MNB	670	ABC	660	MNB	650								
ABC	690																		
PLK	680																		
MNB	670																		
ABC	660																		
MNB	650																		
Sequence Break	A sequence break refers to when sequential bids have been broken due to a gap. E.g. <table border="1" data-bbox="589 1003 902 1434"> <tr><td>MNB</td><td>750</td></tr> <tr><td>ABC</td><td>740</td></tr> <tr><td>MNB</td><td>730</td></tr> <tr><td colspan="2">Sequence break/gap</td></tr> <tr><td>ABC</td><td>690</td></tr> <tr><td>PLK</td><td>680</td></tr> <tr><td>MNB</td><td>670</td></tr> <tr><td>PLK</td><td>660</td></tr> <tr><td>ABC</td><td>650</td></tr> </table> NOTE: In this logic, the system only considers breaks that are equal to or more than 06 bid slabs.	MNB	750	ABC	740	MNB	730	Sequence break/gap		ABC	690	PLK	680	MNB	670	PLK	660	ABC	650
MNB	750																		
ABC	740																		
MNB	730																		
Sequence break/gap																			
ABC	690																		
PLK	680																		
MNB	670																		
PLK	660																		
ABC	650																		
Sequentially Highest Penultimate Bid (SHPB)	This refers to the second highest bid of a sequence that is related to a buyer who has placed multiple bids within the respective sequence, and the value shall be captured as the opening bid during the second round. E.g., The Sequentially Highest Penultimate Bid = PLK 710																		

	<table><tr><td>XYZ</td><td>730</td><td>Mark Error</td></tr><tr><td>GHK</td><td>720</td><td></td></tr><tr><td>PLK</td><td>710</td><td>SHPB</td></tr><tr><td>MNB</td><td>700</td><td></td></tr><tr><td>ABC</td><td>690</td><td></td></tr><tr><td>PLK</td><td>680</td><td></td></tr><tr><td>MNB</td><td>670</td><td></td></tr><tr><td>PLK</td><td>660</td><td></td></tr></table>	XYZ	730	Mark Error	GHK	720		PLK	710	SHPB	MNB	700		ABC	690		PLK	680		MNB	670		PLK	660	
XYZ	730	Mark Error																							
GHK	720																								
PLK	710	SHPB																							
MNB	700																								
ABC	690																								
PLK	680																								
MNB	670																								
PLK	660																								
Fresh highest bidder	A buyer who places one bid (registered or unregistered) for the lot, and is the highest bidder.																								
Multi-bidder	A buyer who has placed multiple bids for the respective lot.																								
Baseline break	Baseline break refers to the minimum number of bid slab gap that breaks a bidding sequence, which allows a multi-bidder to mark the lot as an error. The baseline break is 06 bid slabs (this can be changed as directed by CTTA policies, which shall be notified via circulars.)																								

2. Improved buyer error logic

The SmartAuction solution has improved the buyer error logic by allowing buyers who have placed multiple bids for a lot to mark the lot as an error. This can only be done if there is a break in the bid sequence for more than 06 bid slabs.

The current error behaviour:

When a buyer has accidentally place one bid, which is the highest bid for the lot, and the broker sells it to the user.

The system shall show the “**Mark Error**” button, when all the following conditions are met;

- The user should have placed the highest registered bid for the lot
- The user should have made only one attempt for the lot (Registered OR unregistered bids)
- The broker should have sold the lot.

Once the lot is marked as an error:

- The lot will be highlighted in red.
- And the respective lot shall be re-auctioned after 08 lots on the same auction.
- The errored lot shall be opened for the second time with zero bids.
- A lot can be marked error twice in a single auction.
- The buyer who marked the lot as an error shall not be able to bid for it.

The new and improved error behaviour – Sequential Penultimate Bid Flow:

When buyers have sequentially placed bids, and the sequence is broken by six or more bid slabs creating a marginally high value, AND if a buyer places one bid after the sequence break, the respective user can mark it as an error, even though the user has placed multiple bids for the same lot.

NOTE: During this flow, when the lot opens for the 2nd round or the 3rd round, the system does not consider the history of the previous rounds, shall only carry forward the sequentially highest penultimate bid to the subsequent rounds.

To enable the '**Mark Error**' button, the system shall check the following conditions:

- The bid sequence must be broken by six or more bid slabs and the system shall consider only the registered bids
- The respective user should have placed only one registered bid after the sequence break, and it should be the highest.
- The broker should have sold the lot.

Once the lot is marked as an error:

- The lot will be highlighted in red, and the respective lot shall be re-auctioned on the same auction.
- If the SHPB is captured, it should be visible throughout the lot movement, and the lot shall be opened for the second round with the SHPB.
- If an SHPB is not captured, then the errored lot shall be opened for the second time with zero bids
- In this error flow;
 - a Lot can be marked error twice in a single auction, which means it shall open for three rounds.
 - The multi-bidder who marked the lot as an error can bid during the second round if the sequence is broken by a gap equal to or more than six bid slabs.

3. The logic of capturing the Sequentially Highest Penultimate Bid (SHPB)

The logic of capturing the sequentially highest penultimate bid (SHPB), is derived from the assumption that if a user has placed multiple bids within a sequence, the user is supporting the respective sequence and has intentionally placed the 2nd registered bid.

SHPB Logic: Once the lot is marked as an error, the system shall check the immediate 2nd highest bidder with multiple bids within a sequence and capture the value to use it as the opening bid for the 2nd round.

- **Step 01:** In the following scenario (Refer the next page for the example), the system shall consider the immediate 2nd highest bidder ABC 860. However, within the 2nd sequence, the user has not placed multiple bids, therefore, ABC 860 is not qualified.
- **Step 02:** Then the system considers MNB 850. Just as before, the user has not placed multiple bids within the 2nd sequence therefore, MNB 850 is not qualified.
- **Step 03:** Then the system considers the next registered bid PLK 780. Since within the 1st sequence PLK has placed multiple bids, it is assumed he supports the sequence therefore will be taking his highest value within the 1st sequence. Thus, the system shall finalise PLK 780 as the SHPB. The sequence break within the first sequence is negligible as it is less than 06 bid slabs.

(Refer the next page for the example)

Buyer	Value	Bid Sequence	Condition
PLK	870	2	Mark Error
ABC	860	2	
MNB	850	2	
Sequence break	840	Sequence break	
	830		
	820		
	810		
	800		
	790		
PLK	780	1	SHB
MNB	770	1	
ABC	760	1	
MNB	750	1	
Sequence break	740	Sequence break	
	730		
	720		
PLK	710	1	
MNB	700	1	
ABC	690	1	
PLK	680	1	
MNB	670	1	

2nd sequence

1st sequence

4. Buyer error scenarios and logic considered

NOTE: Since a fresh-highest bidder can always mark the lot as an error, the examples only capture scenarios where the multi-bidder can mark the lot as an error.

Example 01

Scenario: When there are no sequence breaks, with no fresh-highest bidders.

Baseline break: 06 bid slabs

SHPB: N/A

Buyer	Value	Bid Sequence	Condition
ABC	720	1	
PLK	710	1	
MNB	700	1	
ABC	690	1	
PLK	680	1	
MNB	670	1	

The Logic implemented: ABC cannot mark the lot as an error because;

- There is no sequence break equal to or more than 06 bid slabs, therefore, a multi-bidder such as ABC cannot mark the lot as an error.

Example 02

Scenario: When there is a break in the sequence, but it is less than the baseline break, and all the buyers are multi-bidders.

Baseline break: 06 bid slabs

SHPB: N/A

Buyer	Value	Bid Sequence	Condition
ABC	740	1	
Sequence break	730	Sequence break	
	720		
PLK	710	1	
MNB	700	1	
ABC	690	1	
PLK	680	1	
MNB	670	1	

The Logic implemented: ABC cannot mark the lot as an error because;

- The sequence break is less than 06 bid slabs; therefore, the system does not consider this as a break and treats it as 1 sequence.
- Therefore, a multi-bidder such as ABC cannot mark the lot as an error.

Example 03

Scenario: When there is a break in the sequence and the break is equal to or more than the baseline break, and the highest bidder is a multi-bidder.

Baseline break: 06 bid slabs

SHPB: PLK 710

Buyer	Value	Bid Sequence	Condition
ABC	780	2	Mark Error
Sequence break	770	Sequence break	
	760		
	750		
	740		
	730		
	720		
PLK	710	1	SHPB
MNB	700	1	
ABC	690	1	
PLK	680	1	
MNB	670	1	

The Logic implemented: ABC can mark the lot as an error because;

- The sequence break is equal to 06 bid slabs; therefore, the system considers this as a legit break in the sequence.
- Therefore, a multi-bidder such as ABC can mark the lot as an error, and PLK 710 will be captured as the SHPB, which will be the opening bid for the second round.

Example 04

Scenario: When there is a break in the sequence and the break is equal to or more than the baseline break, and there are multi-bidders in the 2nd sequence.

Baseline break: 06 bid slabs

SHPB: MNB 800

Buyer	Value	Bid Sequence	Condition
ABC	810	2	Mark Error
MNB	800	2	SHPB
PLK	790	2	
MNB	780	2	
Sequence break	770	Sequence break	
	760		
	750		
	740		
	730		
	720		
PLK	710	1	
MNB	700	1	
ABC	690	1	
PLK	680	1	
MNB	670	1	

The Logic implemented: ABC can mark the lot as an error because;

- The sequence break is equal to 06 bid slabs; therefore, the system considers this as a legit break in the sequence. Therefore, a multi-bidder such as ABC can mark the lot as an error, if during the second sequence, ABC has bid only once and is the highest bidder.
- MNB 800 will be captured as the SHPB and will be the opening bid for the second round since he has placed two bids within the 2nd sequence.

Example 05

Scenario: When there are multiple breaks in the sequence. One break is less than the baseline break, and the other is more than the baseline break.

Baseline break: 06 bid slabs

SHPB: PLK 780

Buyer	Value	Bid Sequence	Condition
PLK	870	2	Mark Error
ABC	860	2	
MNB	850	2	
Sequence break	840	Sequence break	
	830		
	820		
	810		
	800		
	790		
PLK	780	1	SHPB
MNB	770	1	

ABC	760	1	
MNB	750	1	
Sequence break	740	Sequence break	
	730		
	720		
PLK	710	1	
MNB	700	1	
ABC	690	1	
PLK	680	1	
MNB	670	1	

The Logic implemented: PLK can mark the lot as an error because;

- There is a sequence break equal to 06 bid slabs, and during the 2nd sequence the user has only placed one bid, and it is the highest value.
- PLK 780 will be SHPB, since in the first sequence he has placed bids multiple times.

Example 06

Scenario: When there are multiple breaks in the sequence, but all the breaks are equal to or more than the baseline break.

Baseline break: 06 bid slabs

SHPB: MNB 700

Buyer	Value	Bid Sequence	Condition
PLK	870	3	Mark Error
ABC	860	3	
MNB	850	3	
Sequence break	840	Sequence break	
	830		
	820		
	810		
	800		
	790		
PLK	780	2	
MNB	770	2	
Sequence break	760	Sequence break	
	750		
	740		
	730		
	720		
	710		
MNB	700	1	SHPB
ABC	690	1	

PLK	680	1	
MNB	670	1	

The Logic implemented: PLK can mark the lot as an error because;

- There is a sequence break equal to 06 bid slabs, and during the 3rd sequence the user has only placed one bid, and it is the highest value.
- MNB 700 will be SHPB, since in the first sequence he has placed bids multiple times.

Example 07

Scenario: When there are 3 rounds, and no sequence breaks in any round, and when the SHPB is captured from the 1st round.

Baseline break: 06 bid slabs

SHPB:

- The opening SHPB for round two is ALP 650
- Since there isn't a sequential highest penultimate bid in round 02, round 03 will open with ALP 650 from round 01

ROUND 01				ROUND 02				ROUND 03			
Buyer	Bid	Sequence	Condition	Buyer	Bid	Sequence	Condition	Buyer	Bid	Sequence	Condition
ALP	600	1		ALP	650	1	SHPB Open	ALP	650	1	SHPB Open
AB	610	1		EMP	660	1		EMP	660	1	
ALP	620	1		AB	670	1	Error	AB	670	1	
EMP	630	1						JKL	680	1	
AB	640	1									
ALP	650	1	SHPB								
ANV	660	1	Error								

The Logic implemented: The system shall be considering each of the rounds as independent and shall only be checking for the sequential highest penultimate highest bid across the rounds.

Example 08

Scenario: When there are 3 rounds, and no sequence breaks in any round, when the SHPB is captured from the 2nd round.

Baseline break: 06 bid slabs

SHPB:

- SHPB: ALP 650 from the first round.
- SHPB: EMP 680 from the second round.

ROUND 01				ROUND 02				ROUND 03			
Buyer	Bid	Sequence	Condition	Buyer	Bid	Sequence	Condition	Buyer	Bid	Sequence	Condition
ALP	600	1		ALP	650	1	SHPB Open	EMP	680	1	SHPB Open
AB	610	1		EMP	660	1		AB	690	1	
ALP	620	1		ALP	670	1		ALP	700	1	
EMP	630	1		EMP	680	1	SHPB	JKL	710	1	Cannot error
AB	640	1		MNB	690	1	Error				
ALP	650	1	SHPB								
ANV	660	1	Error								

The Logic implemented:

1. The users who marked the lot as an error will not be able to bid for any of the consecutive rounds. E.g., ANV and MNB.
2. In this scenario, only a buyer who is new to all three rounds can mark the lot as an error during respective rounds.
3. To capture the SHPB for the 3rd round, the system shall scan all the sequences in the 3rd round, and if there isn't one, shall scan the sequences of the 2nd round, and since there is an SHPB newer than the 1st round, EMP 680 will be captured from 1st sequence from the 2nd round.

Example 09

Scenario: When there are 3 rounds, and a sequence break in the 1st round, and the SHPB is captured from the 1st round.

Baseline break: 06

SHPB:

- SHPB: MNB 630 from the first round, shall open for 2nd and 3rd round.

ROUND 01				ROUND 02				ROUND 03			
Buyer	Bid	Sequence	Condition	Buyer	Bid	Sequence	Condition	Buyer	Bid	Sequence	Condition
ALP	600	1		MNB	630	1	SHPB Open	MNB	630	1	SHPB Open
MNB	610	1		ALP	640	1					
EMP	620	1		JKL	650	1	Error				
MNB	630	1	SHPB								
Sequence break more than 06 bid slabs											
ALP	740	2	Error								

The Logic implemented:

- ALP will be able to bid again for the consecutive rounds, as there was a sequence break.
- JKL cannot bid again as there was no sequence break.

Example 10

Scenario: When there are 3 rounds, and a sequence break in the 1st round, when there aren't any SHPB in any round.

Baseline break: 06

SHPB:

ROUND 01				ROUND 02				ROUND 03			
Buyer	Bid	Sequence	Condition	Buyer	Bid	Sequence	Condition	Buyer	Bid	Sequence	Condition
JFK	600	1		PLM	560	1		MNB	560	1	
MNB	610	1		JFK	570	1					
EMP	620	1		MNB	580	1					
QWE	630	1		ALP	590	1					
Sequence break more than 06 bid slabs				DHL	600	1	Error				
ALP	740	2	Error								

The Logic implemented:

- ALP will be able to bid again for the consecutive rounds, as there was a sequence break.
- DHL shall not be able to bid during 3rd round, since there was no sequence break.

Example 11

Scenario: When there are 3 rounds, and there are sequence breaks in 1st and 2nd rounds, and when the SHPB is captured from the 1st round.

Baseline break: 06

SHPB: MNB 630 shall be the SHPB for both 2nd and 3rd rounds.

ROUND 01				ROUND 02				ROUND 03			
Buyer	Bid	Sequence	Condition	Buyer	Bid	Sequence	Condition	Buyer	Bid	Sequence	Condition
ALP	600	1		MNB	630	1	SHPB Open	MNB	630	1	SHPB Open
MNB	610	1		ALP	640	1		JKL	640	1	
EMP	620	1		PLM	650	1					
MNB	630	1	SHPB	QWE	660	1					
Sequence break more than 06 bid slabs				Sequence break more than 06 bid slabs							
ALP	740	2	Error	JKL	770	2	Error				

The Logic implemented:

- ALP, and JKL will be able to bid again for the consecutive rounds, as there was a sequence break.

If you require further assistance or clarification, feel free to send an email to afammifar@ctta.lk

