INTEGRATED TRADING AND CLEARING (ITAC) GUIDANCE NOTE ON CORPORATE ACTIONS

OCTOBER 2018

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1. REVISION HISTORY

Version	Description	Date
1.0	Initial release	03/10/2018
1.1	Updated Partial Conversion Unbundling (UB) process.	04/09/2019

2. INTRODUCTION

The purpose of this guidance note is to inform the market of the handling and processing of corporate action events on derivative instruments and their positions post ITaC.

3. CORPORATE ACTION COMMUNICATIONS

A market notice will be published for every upcoming corporate action, detailing the intended processing or the intention NOT to process a corporate action before Last Date to Trade (LDT).

4. SUMMARY OF CORPORATE ACTION IMPACTS ON DERIVATIVES (BARRING EXCEPTIONS)

Corporate Action Event Type	Position Factor and Option Factor Formula	Impact on Reference Data	Impact on Future/CFD positions	Impact on Options Positions	Impact on Structured Products (Basket Futures, Exotic Futures and Exotic Options)
o Special Dividend (IS) **o Capital Reduction (CR)** **o Capital Payment (CP)** **o Capitalisation Issue (CI)**	• **Adjusted Price Formula** Closing Price - Cash Dividend - Rate • **Position Factor Formula** (Closing Price - Cash Dividend) / Adjusted Price • **Option Factor Formula** Adjusted Price / (Closing Price - Cash Dividend)	• New Option Strikes with a New Strike Price are created on LDT End of Day based on the calculated Option Factor, and the existing Option Strikes remain Active after LDT. • Note: Duplicates for Option Strikes cannot be created. If an Option with a certain Strike Price already exists, it will not be created again.	•The positions on futures and CFDs are closed and new adjusted positions are opened on the same future and CFD by applying the position factor. The CA trades are processed on LDT with trade date = ex-date.	• Positions on old Option strikes are closed in RTC and opened on the newly created Option Strikes, or existing Options Strikes that match the new calculated Strike price, on LDT with trade date=Ex-date. • These positions are opened by applying the position factor on the position on the old strike.	• No automated processing is done. Clients need to advise the JSE how they would like the corporate action to be applied to the Structured product.

Corporate Action Event Type	Position Factor and Option Factor Formula	Impact on Reference Data	Impact on Future/CFD positions	Impact on Options Positions	Impact on Structured Products (Basket Futures, Exotic Futures and Exotic Options)
o Consolidation (CO) **o Sub-division (SD)**	• **Position Factor Formula** Resultant Ratio / Source Ratio • **Option Factor Formula** Source Ratio / Resultant Ratio	• New Option Strikes with a New Strike Price are created on LDT End of Day by applying the Option Factor on the old strikes. • The old Option Strikes are suspended on LDT effective ex-date and terminated on ex-date effective ex-date +1 (if they are not destination Option Expiries for positions). •Note: Duplicates for Option Strikes cannot be created. If an Option with a certain Strike Price already exists, it will not be created again.	• The positions on futures and CFDs are closed and new adjusted positions are opened on the same future and CFD by applying the position factor. These trades are created on LDT with trade date = ex-date.	• Positions on old Option strikes are closed in RTC and opened on the newly created Option Strikes, or existing Options Strikes that match the new calculated Strike price. These trades are created on LDT with trade date = ex-date. • These positions are opened by applying the position factor on the position on the old strike.	• No automated processing is done. Clients need to advise the JSE how they would like the corporate action to be applied to the Structured product.

Corporate Action Event Type	Position Factor and Option Factor Formula	Impact on Reference Data	Impact on Future/CFD positions	Impact on Options Positions	Impact on Structured Products (Basket Futures, Exotic Futures and Exotic Options)
o Rights Offer (RT) on JSE Equity	• **CSM Formula** [(Source Ratio * TOP) + (Resultant Ratio * IRV)] / (Source Ratio * TOP) • **TOP Formula** ((Closing Price – Cash Dividend) * Source Ratio) + (Resultant Ratio * Take-up Price)) / (Resultant Ratio + Source Ratio) • **IRV Formula** TOP - Cash Dividend - Take-up Price New Contract Size Formula Round(Old Contract Size * CSM) • **Option Factor Formula** 1 / New Contract Size * Old Contract Size	• Based on the calculated CSM factor, new Futures and Option Strikes are created with a New contract size (Nominal) on LDT and effective at the end of LDT - this applies only for CA on Single Stock Futures. • Excludes CFDs which have a contract size of 1. Corresponding instruments are not created for these instruments. Only Positions are moved using the CSM Factor as the Position Factor. • The existing Futures and Options on Single Stocks with the old Contract Size (Nominal) will remain Active after LDT.	• Positions on Futures with the Old Contract size are closed in RTC and opened in the Futures with the New Contract size by applying a Position Factor of 1 on LDT with trade date =ex-date. • For CA on CFDs, the positions are closed on the existing Instruments and opened on the same instruments by applying the calculated CSM factor, on LDT with trade date=ex-date.	• Positions on Options with the Old Contract size are closed in RTC and opened on Options with the New Contract size by applying a Position Factor of 1 (applies only for Options on Single Stock).	• No automated processing is done. Clients need to advise the JSE how they would like the corporate action to be applied to the Structured product.

Corporate Action Event Type	Position Factor and Option Factor Formula	Impact on Reference Data	Impact on Future/CFD positions	Impact on Options Positions	Impact on Structured Products (Basket Futures, Exotic Futures and Exotic Options)
o Rights Offer (RT) on International Equity	• **CSM Formula** [(Source Ratio * TOP) + (Resultant Ratio * IRV)] / (Source Ratio * TOP) • **TOP Formula** ((Closing Price – Cash Dividend) * Source Ratio) + (Resultant Ratio * Take-up Price)) / (Resultant Ratio + Source Ratio) • **IRV Formula** TOP - Cash Dividend - Take-up Price New Contract Size Formula Round(Old Contract Size * CSM) • **Option Factor Formula** 1 / New Contract Size * Old Contract Size	• Based on the calculated CSM factor, new Futures and Option Strikes are created with a New contract size (Nominal) on LDT and effective at the end of LDT - this applies only for CA on International Equity Quantos. • Excludes International Equities which have a contract size of 1. For these instruments, corresponding instruments are not created; only positions are moved using the CSM factor as the Position Factor. • The existing Futures and Options on the International Equity Quanto with the old Contract Size (Nominal) will remain Active after LDT.	• Positions on Futures with the Old Contract size are closed in RTC and opened in the Futures with the New Contract size by applying a Position Factor of 1 on LDT with trade date =ex-date. • For CA on CFDs, the positions are closed on the existing Instruments and opened on the same instruments by applying the calculated CSM factor, on LDT with trade date=ex-date.	• Positions on Options with the Old Contract size are closed in RTC and opened on Options with the New Contract size by applying a Position Factor of 1 (applies only for Options on International Equity Quantos).	• No automated processing is done. Clients need to advise the JSE how they would like the corporate action to be applied to the Structured product.

Corporate Action Event Type	Position Factor and Option Factor Formula	Impact on Reference Data	Impact on Future/CFD positions	Impact on Options Positions	Impact on Structured Products (Basket Futures, Exotic Futures and Exotic Options)
o Termination with no Capital Payment (Note - The JSE will implement the termination of the derivatives on the effective date of the suspension of the underlying equity)	N/A	• The Futures, CFDs and Options linked to the equity are Suspended effective ex-date and terminated effective ex-date +1. No new reference Data is created.	• The market will be requested to close out all positions on Futures and CFDs before EOD on LDT.	• The market will be requested to close out positions on Options before EOD on LDT.	• The JSE system will automatically terminate all derivatives on the equity that is terminating. Clients will need to close out their positions before EOD on LDT.
o Termination with Capital Payment (Note - The JSE will implement the termination of the derivatives on the effective date of the suspension of the underlying equity)			• The Futures and CFDs will be closed at a Fair Value Price on LDT with trade date = ex-date.	• The positions on Options will be closed at a Fair Value Price on LDT with trade date = ex-date.	• The JSE system will automatically terminate all derivatives on the equity that is terminating. Positions will be closed at a Fair Value Price on LDT with trade date = ex-date.
o Full Conversion (where the source equity is suspended and terminated)	• **Position Factor Formula** Resultant Ratio / Source Ratio • **Option Factor Formula** ((Closing price of the source instrument / (resultant ratio/source ratio)) / Closing price of the source instrument)	• If the Conversion is to an existing Equity, then new Futures, CFDs and Options are created on the Resultant in accordance to what exists on the Source equity only if there aren't already corresponding existing instruments.	• Positions on Futures and CFDs on the source equity will be closed and opened on the Resultant Equity after applying the Position Factor. The CA trades will be done on LDT with trade date = ex-date. Positions may already exist on the corresponding resultant future or CFD which will not be impacted.	• Positions on source Option will be closed and opened on the corresponding resultant option by applying the Position Factor. The CA trades will be done on LDT with trade date = ex-date. Positions may already exist on the corresponding resultant option which will not be impacted.	• All derivatives on the source equity will be terminated by the JSE system. Clients will need to close out their positions, and advise the JSE if they want the structured product to be created on the resultant equity. Positions will not be moved automatically.

Corporate Action Event Type	Position Factor and Option Factor Formula	Impact on Reference Data	Impact on Future/CFD positions	Impact on Options Positions	Impact on Structured Products (Basket Futures, Exotic Futures and Exotic Options)
		• If the Conversion is to a new equity, then new Futures, CFDs and Options are created on the resultant equity, in accordance to what existed on the Source equity. •The instruments linked to the Source equity are suspended effective Ex-Date and Terminated effective Ex-Date+1.			

Corporate Action Event Type	Position Factor and Option Factor Formula	Impact on Reference Data	Impact on Future/CFD positions	Impact on Options Positions	Impact on Structured Products (Basket Futures, Exotic Futures and Exotic Options)
o Partial Conversion Unbundling (UB)	N/A	• A new Basket underlying is created on LDT; containing the Source and Resultant equity instruments, and the Futures and Options (option factor is 1) on the Source is replicated on the Basket linked Derivatives on LDT.~~.~~ •No Basket CFD instrument to be created, New ~~Futures~~ CFDs instrument will be created~~and Options are also created~~ on the Resultant Equity as per the Source equity, only if there aren't already existing ones. This Corporate Action will not apply for International equities as the system currently does not cater for a Basket of International Equities.	• Positions on Futures on the source equity will be closed and opened on the Futures linked to the Basket Underlying by applying the Position Factor of 1. • For positions on CFDs, the positions will not close on the Source ~~equity~~ instrument and manually open on the Resultant ~~Equity~~ CFD instrument (not basket underlying) at the ratio published in the market notice.	• Positions on Options on the source equity will close and open on Options linked to the Basket Underlying by applying the Position Factor.	• No automated processing is done. Clients need to advise the JSE how they would like the corporate action to be applied to the Structured product.

Corporate Action Event Type	Position Factor and Option Factor Formula	Impact on Reference Data	Impact on Future/CFD positions	Impact on Options Positions	Impact on Structured Products (Basket Futures, Exotic Futures and Exotic Options)
o Name Change (NC) where history is retained **o Reverse Listing (RL) where history is retained**	N/A	• New version of the equity is created on LDT. • New Futures, CFDs and Options are created with the new Alpha code of the Equity on LDT effective at the end of LDT on RTC. • The Futures, CFDs and Options linked to the old Alpha code of the equity are suspended on LDT effective ex-date and terminated on ex-date effective ex-date + 1 on RTC. •This Corporate Action does not apply to International equities as we will always process a Name Change No History Corporate Action for all Name Changes on international equities.	• Positions on Futures and CFDs are closed on the instruments with the Old Alpha Code and opened in the New instruments with the New Alpha Code by applying a Position Factor of 1. The CA trades are booked on LDT with trade date = ex-date.	• Positions on Options are closed on the Old Options with the Old Alpha Code and opened in the New Options with the New Alpha Code by applying a Position Factor of 1. The CA trades are booked on LDT with trade date = ex-date.	• New derivatives are automatically created on the new name and positions are carried over on a 1:1 basis. The derivatives on the source equity is automatically suspended on LDT effective ex-date and terminated on ex-date effective ex-date + 1 on RTC.

Corporate Action Event Type	Position Factor and Option Factor Formula	Impact on Reference Data	Impact on Future/CFD positions	Impact on Options Positions	Impact on Structured Products (Basket Futures, Exotic Futures and Exotic Options)
o Name Change (NC) where history is not retained **o Reverse Listing (RL) where history is not retained**	N/A	• New equity is effective at the end of LDT on RTC. • New Futures, CFDs and Options are created on the new Equity at the end of LDT. • The Futures, CFDs and Options linked to the old equity are suspended on LDT effective ex-date and terminated on ex-date effective ex-date + 1, on RTC.	• Positions on Futures and CFDs are closed on the Old Futures linked to the source Equity and opened in the New Futures and CFDs linked to the Resultant Equity by applying a Position Factor of 1. The CA trades are booked on LDT with trade date = ex-date.	• Positions on Options are closed on the Old Options linked to the source Equity and opened on the New Options linked to the Resultant Equity by applying a Position Factor of 1. The CA trades are booked on LDT with trade date = ex-date.	• New derivatives are automatically created on the new name and positions are carried over on a 1:1 basis. The derivatives on the source equity is automatically suspended on LDT effective ex-date and terminated on ex-date effective ex-date + 1 on RTC.

Note:

Reported trades or position management is not allowed on the day that instruments are terminating. Any reported trades or position management done inadvertently will need to be reversed.

5. CORPORATE ACTIONS ON INTERNATIONAL EQUITIES

Context:
Corporate actions on international equities may sometimes only be approved by the local exchange after LDT, where South Africa's time zone is ahead of the local exchange's time zone where the international equity is listed. It is especially of concern where the underlying equity is listed in America, due to the big time difference. If the JSE processes the corporate action on LDT, before the corporate action is approved, there is a risk that the corporate action may be updated or cancelled after the JSE has already processed the corporate action.

The correction of the corporate action is dependent on the ability to make corrective position movements and/or position adjustments.

In the light of the above, the JSE will engage with the market to consider/agree the proposed approach to process corporate actions on international equities:

Option 1:
A decision can be made to process the corporate action at EOD on LDT, SA time, even if final approval is not received. If the corporate action is then cancelled or updated, a reversal and/or correction will be made at the time when the rectification is discovered. New instruments created as a result of the corporate action may be terminated, but this will be determined on a case by case basis.

Pros- The corporate action is processed on positions as at EOD on LDT, SA time. If the CA was cancelled or updated, position adjustments can be made to rectify the CA processed originally on LDT.

Cons- There is a risk of incorrectly processing the CA on LDT. Certain changes can be difficult to undo, especially if the underlying equity or linked derivatives are terminated as part of the corporate action processing.

Option 2:
There may be cases where the complexity or risk of undoing and/or correcting a corporate action is too big and therefore a decision can be made to rather wait for the final approval before processing the corporate action. When the corporate action is processed, the position adjustments will be made on positions as at LDT post EOD.

Pros- The corporate action is processed correctly every time. No risk of incorrect processing.

Cons-The CA may only be processed on ex-date or thereafter, depending on when the confirmed CA details and approval is received by the JSE.

6. CORPORATE ACTION RESULTING IN A NEW INSTRUMENT WITH A NEW NOMINAL

The processing of certain corporate action types may result in instruments with a new nominal being created. New instruments created with a new nominal will have a contract code with a CA identifier appended to the contract code. This is to ensure uniqueness of the contract code when similar instruments exist, with only a different nominal.
The logic of the incremental number is as follows:

1. Initially when there is a change in the nominal, the CA identifier number is incremented as CA1, so the new instruments will have Contract Codes like 15MAR18 SGL PHY CA1 and 20DEC18 SGL PHY CA1 11.37P
2. Later if there is another change in the nominal/ contract size on the same equity, the CA identifier number is then incremented to CA2, so those new instruments will have Contract Codes like 15MAR18 SGL PHY CA2 and 20DEC18 SGL PHY CA2 11.37P.

We have received requests to include the actual nominal/contract size in the Contract Code instead of the CA identifier. This will be considered post go-live.

7. ITAC DIVIDEND PAYMENT METHODOLOGY

The Dividend Payment methodology describes the methodology applied by the JSE to calculate dividend payments on derivative for ITaC.

The below link provides more details:
Guidance note on ITaC Dividend Payment Methodology

8. ITAC CORPORATE ACTION POSITIONS ADJUSTMENT METHODOLOGY

Context:

Certain types of corporate actions require futures and options positions to be adjusted. This is done by applying the relevant position factor.

As positions in a contract are integer values and the application of the position factor often results in decimal values, rounding is a key part of the CA processing.

Currently the adjustment of derivative positions is a manual process which allows a degree of flexibility with regards to the level at which position factors are applied. Currently position factors are applied at the main account level (house main and client main i.e. legal entity level) and if there is an imbalance between longs and shorts, positions are added to the side with the lower aggregate position until the longs and shorts balance across the market. In other words if the aggregate of the long positions is greater than that of the short positions post application of the position factor and rounding, short positions are adjusted up until the market balances. If the aggregate of the long positions is less than that of the short positions post application of the position factor and rounding, long positions are adjusted up until the market balances.

ITaC introduces full automation of the corporate actions process including the adjustment of derivative positions. While this is expected to improve the rigour of the corporate actions process and reduce risk of error a higher degree of standardisation is required. The ITaC methodology for adjusting derivative positions due to corporate actions is as follows:

Determine the new Open Interest (OI):

1. Calculate new OI (NOI) by applying the CA position factor and rounding to the nearest integer value. If decimal is >= 0.5 round up else round down. The Open Interest (OI) is the Open Interest for the whole market in that security.

Determine the new Positions in the derivative contract:

2. Calculate new positions (NP) for all long and short positions by multiplying the position with the position factor.
   This step applies the position factor at the level at which positions are held in the JSE Clearing system. In other words if the member/branch has house sub accounts the position factor is applied at house sub account level. Similarly if a client has sub accounts the factor is applied at the client sub account level.
3. Round the new positions to the nearest integer (NRP – New Rounded Position) applying the above rounding rule.

Determine if further adjustments are required to ensure that the sum of the long positions equals the sum of short positions and that these equal the NOI:

Rounding may result in the sum of the longs not being equal to the sum of the shorts. The process to determine if further position adjustments are required is as follows:

4. Determine the sum of all long NRPs (LNRP).
5. Determine the absolute value of the sum all short NRPs (SNRP).
6. If LNRP and SNRP both equal NOI, rounding is not an issue and the process is complete. The NRPs as calculated in step 4 above will be the new position on each account post the corporate action.

Else continue:

7. Determine the long adjustment as the difference between NOI and LNRP
   a. A positive difference means lots will need to be added on long positions
   b. A negative difference means lots will need to be removed from long positions.

8. Determine the short adjustment as the difference between NOI and SNRP
   a. A positive difference means lots will need to be added on short positions
   b. A negative difference means lots will need to be removed from short positions.

Examples:

NOI	LNRP	SNRP	Adjustments
30	30	30	None
30	31	29	Remove 1 lot from longs Add 1 lot to shorts
30	29	31	Add 1 lot to longs Remove 1 lot from shorts
30	32	29	Remove 2 lots from longs Add 1 lot to the shorts

Determine the size of the rounding difference for each account. This is used in determining which accounts will have lots added/removed to ensure LNRP = SNRP = NOI:

9. Calculate the difference (DIFF) between |NRP| - |NP| (absolute values) for each account. If the difference is negative, there is a "position shortage".

Make position adjustments to ensure total longs and shorts balance:

10. If adjustment is needed on the long side:
    a. If the long adjustment is positive, add the first lot to the long position with largest negative DIFF and the next to the second largest negative DIFF etc., until the long adjustment is fully allocated (See Example 1 attached)
    b. If the long adjustment is negative, remove the first lot from the position with largest positive DIFF and the next from the second largest positive DIFF etc., until the long adjustment is fully allocated (See Example 2 attached).

11. If adjustment is needed on the short side:
    a. If the short adjustment is positive, add the first lot to the position with largest negative DIFF and the next to the second largest negative DIFF etc., until the short adjustment is fully allocated (See Example 1 attached)
    b. If the short adjustment is negative, remove the first lot from the position with largest positive DIFF and the next from the second largest positive DIFF etc., until the short adjustment is fully allocated (See Example 2 attached).

If two or more accounts have the same DIFF the system adds or removes the lot from any one of these accounts randomly.

The position on each account after completion of steps 10 and/or 11 will be the new positions post the corporate action.

The JSE will publish a market notice in advance of the corporate action with information - the position factor and option factor calculation example - that will allow market participants to obtain an indication of what their adjusted positions post the corporate action may be. For certain corporate actions the position factor is known in advance while for others it and the option factor depend on the spot price on LDT. Members will be able to calculate their rounded positions based on the provided factor (known or estimated).

Given the positions and open interest in the market are likely to change between the time of the market notice and LDT and the fact that the JSE Clearing System randomly selects the positions to be adjusted as part of the process of balancing the aggregate longs and shorts in the market it will not be possible to know in advance which positions will be adjusted and therefore the exact final positions, even if the position factor is known.

Example 1 – ITaC Method

Positive Long adjustment; Negative Short adjustment

Current Open Interest (OI)	**476**	**New Open Interest (NOI)**	**750**		
Factor	1.57563	1.57563			
Account	**Old position**	**New Position (NP)**	**New Rounded Position (NRP)**	**NRP-NP (DIFF)**	**New Adjusted Position**
TM_A House Main	152	239.4958	239	-0.4958	240
TM_A House Sub Acc 1	250	393.9076	394	0.092437	394
TM_A House Sub Acc 1	25	39.39076	39	-0.39076	39
TM_B House Main	37	58.29832	58	-0.29832	58
TM_A Client 1	12	18.90756	19	0.092437	19
Sum old Long side	**476**				
Sum Long NRP (LNRP)			**749**		
Long adjustment: NOI – LNRP				**1**	
New total adjusted long position					**750**
TM_L House Main	133	209.5588	210	0.441176	210
TM_L House Sub Acc 1	20	31.51261	32	0.487395	31
TM_M Branch 1 Main Acc	200	315.1261	315	-0.12605	315
TM_M Branch 1 Client 1	123	193.8025	194	0.197479	194
Sum old Short side	**476**				
Sum Short NRP (SNRP)			**751**		
Short adjustment: NOI – SNRP				**-1**	
New total adjusted short position					**750**

Position factor	**Position adjusted by +1**
Long positions	**Position adjusted by -1**
Short positions	**Total quantities of the long and short sides equal the new open interest**

Example 2 – ITaC Method

Negative Long adjustment; Positive Short adjustment

Current Open Interest (OI)	**50**	**New Open Interest (NOI)**	**70**		
Factor	1.4	1.4			
Account	**Old position**	**New Position (NP)**	**New Rounded Position (NRP)**	**NRP-NP (DIFF)**	**New Adjusted Position**
TM_A House Main	4	5.6	6	0.4	5
TM_A House Sub Acc 1	32	44.8	45	0.2	45
TM_A House Sub Acc 1	2	2.8	3	0.2	3
TM_B House Main	5	7	7	0	7
TM_A Client 1	7	9.8	10	0.2	10
Sum old Long side	**50**				
Sum Long NRP (LNRP)			**71**		
Long adjustment: NOI – LNRP				**-1**	
New total adjusted long position					**70**
TM_L House Main	1	1,4	1	-0,4	2
TM_L House Sub Acc 1	12	16,8	17	0,2	17
TM_M Branch 1 Main Acc	5	7	7	0	7
TM_M Branch 1 Client 1	21	29,4	29	-0,4	29
TM_M Branch 1 Client 1	11	15,4	15	-0,4	15
Sum old Short side	**50**				
Sum Short NRP (SNRP)			**69**		
Short adjustment: NOI – SNRP				**1**	
New total adjusted short position					**70**

Position factor	**Position adjusted by -1**
Long positions	**Position adjusted by +1**
Short positions	**Total quantities of the long and short sides equal the new open interest**

For additional information please contact the Customer Support team on:
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