

## MARKET NOTICE

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SUBJECT: CHANGES TO THE OPTION VOLATILITY MARK-TO-MARKET METHODOLOGY FOR ALL  
COMMODITY DERIVATIVE PRODUCTS

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Dear JSE Stakeholder

### Changes to the option volatility mark-to-market (MTM) methodology

Further to market notice A2024 and following extensive consultation with the option community, there is support for the following changes to the option volatility MTM methodology in order to improve the daily valuation of option positions more accurately.

Going forward the option volatility MTM will be determined as follows, two examples are included to clarify the process:

- Options traded **onscreen** over **the last hour of the** trading session will be considered for the MTM process.
- **The Defined strike range for products where price limits are applicable: strike prices considered for MTM will be based off the standard daily price limits of the product taking into account the futures mtm on the day. To avoid any confusion; should extended price limits apply no additional strike prices will be added. *AN EXAMPLE: for WMAZ with R80 price limits and a R20 strike interval, 8 or 9 strike prices will be considered depending on the futures mtm of the day, at extended limits of R120 the JSE will continue to only reference the 8or 9 strike prices. Similarly in the case of SOYA with R130 price limits, 13 or 14 strike prices will be considered depending on the futures mtm on the day.***
- **The Defined strike range for products where price limits are not applicable: strike prices 5% either side of the at-the-money option strike will be considered.**
- **A volume weighted average price (VWAP) will be calculated** considering all contracts traded within the defined strike range and during the option MTM period.
- A minimum number of **40 options contracts traded across the defined strike range** during the option MTM period is required when referencing a VWAP calculation for the day. This value will be considered as an indicator of the last traded volatility for the day.
- Volatility bids and offers will be considered in the final option MTM process referencing the delta option quotes: should there be **40 or more delta option contracts better bid or offered lower** than the VWAP calculation across the defined strike range quoted for no less than **15 minutes that starts at 11h30** for

**products that stop trading at 12h00 and 16h30 for products that stop trading at 17h00**, the most aggressive volatility quote will be considered as an improvement on the VWAP calculation and referenced as the final option volatility MTM on the day.

**AN EXAMPLE:** *if the VWAP calculation was 25% and there is a better volatility bid of 26% in 40 or more contracts (the 40 contracts can consist of a single or multiple quotes), then the MTM will move to 26%. If the VWAP calculation was 25% and there is a lower volatility offer of 23% on screen throughout the required period, then the MTM will move to 23%. Since quotes across the defined strike range will be considered during the 15 minute period including the orders quoted in the depth, should this improve on the VWAP calculation the MTM will be amended. Again considering the above scenario where 40 contracts are offered at 23% and 10 contracts trade during the 15 minute period, the 10 will be included in the VWAP calculation. Should this be the only 10 contracts traded for the day, and we have evidence that this was part of the 40 contracts available, in this case we will reference the lower offer and change the MTM to 23%. Should the lower offer not be part of a minimum 40 contracts, then if we do not see a minimum of 40 VWAP contracts traded the MTM will remain unchanged.*

- On trading days when the futures market is **locked at the price limit** and options match on premium, the resulting trades and system calculated volatilities **will be excluded** from the VWAP calculations.  
**AN EXAMPLE:** *if, say, between 11h10 and 11h30 on a particular day the futures market is locked limits up and 20 naked option contracts traded during that period after which the market trades normally again off limits, such contracts will be excluded from the VWAP calculations.*
- The exchange **reserves the right to make the final decision** regarding the option MTM volatility and may exercise its discretion as required.

The above methodology will be implemented as from **Monday 1 September 2014** in order to allow the MTM team additional time to update our internal procedures to implement this and also to ensure no changes before the Sep14 option closeout.

The JSE values and appreciates the constructive manner in which we could engage with market participants in order to further improve the daily valuations.