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**MARKET NOTICE**Johannesburg  
Stock ExchangeTel: +27 11 520 7000  
[www.jse.co.za](http://www.jse.co.za)**Number:** 238/2022**Relates to:**

- Equity Market
- Equity Derivatives Market
- Commodity Derivatives Market
- Currency Derivatives Market
- Interest Rate Derivatives Market
- Bond Market
- Bond ETP Market

**Date:** 9 May 2022**SUBJECT:** ENHANCEMENT TO THE MARGIN METHODOLOGY FOR CASH EQUITY MARKET**Name and Surname:** Alex Comninos**Designation:** Head of Risk, Chief Risk Officer (JSE Clear)

Dear Client

JSE will be implementing an enhancement to the Cash Equity margin methodology on **Wednesday, 1 June 2022**. The change is to the calculation of the volatility parameter in the parametric VaR model that is used to determine the margin rate % per equity.

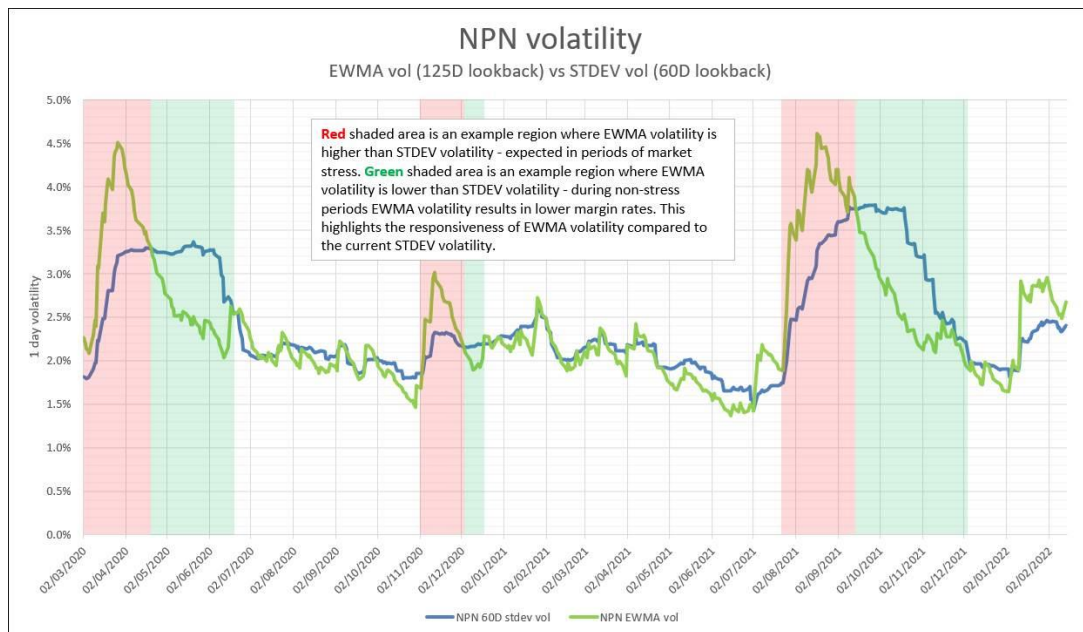
The volatility parameter in the existing methodology is based on the standard deviation of the last 60 days' daily price log returns; time-series returns are equally weighted in this measure of volatility. The margin methodology enhancement replaces the 60-day standard deviation-based volatility parameter with a volatility parameter based on an exponentially weighted moving average (EWMA) with a longer 125-day lookback period and a lambda parameter (decay factor) of 0.94. The result of this change is a volatility measure that is more responsive to changes in market conditions, with greater weight given to more recent price return observations. This will ensure a margin calculation that adjusts more quickly to changing market conditions, especially during periods of high volatility. A lambda parameter of 0.94 is widely used for short-term forecasts. The confidence level applied in the parametric VaR methodology remains 99.95%.

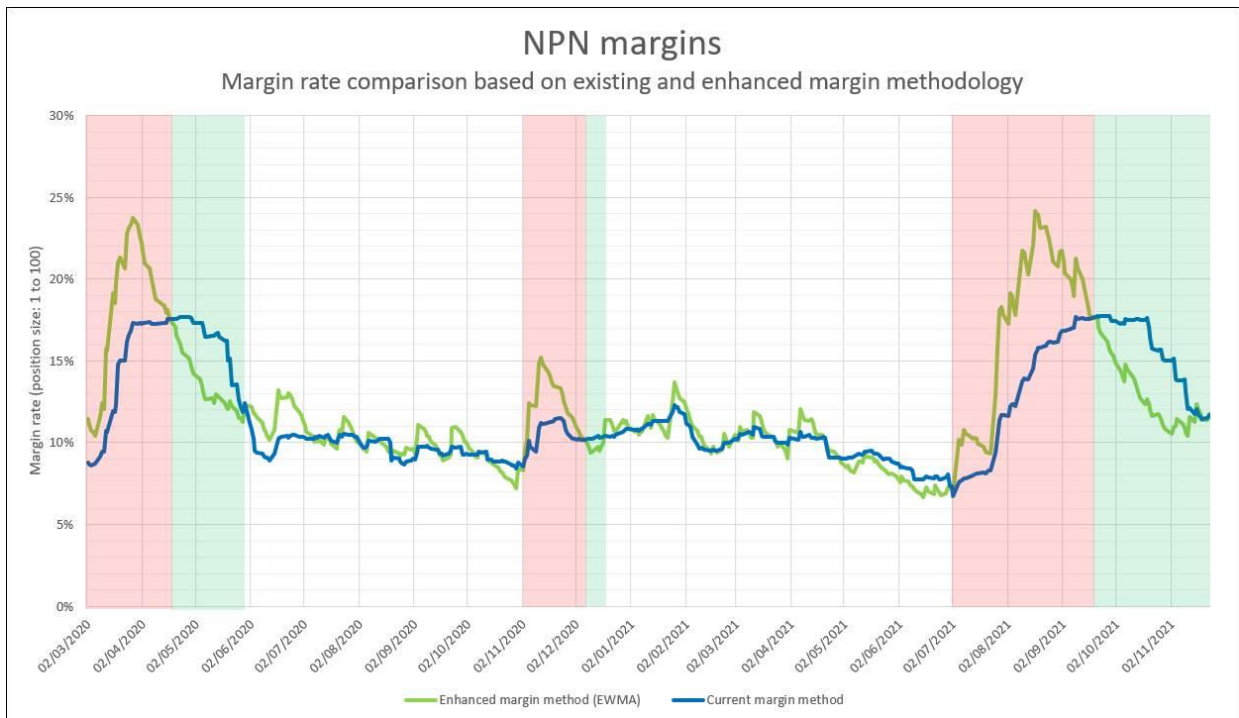
For more detail on the margin methodology please refer to the document available at the link below:

<https://www.jse.co.za/sites/default/files/media/documents//JSE%20Cash%20Equity%20Margin%20Methodology%20v1.0%20Final%2028May%202022%29.pdf>

The impact of the change in volatility measure was assessed over a two-year period from March 2020 to February 2022 on a sample of the 13 most traded single names over FY2021 (AGL, ANG, BHP/BHG, CFR, CPI, FSR, GFI, IMP, MTN, NPN, PRX, SBK, SSW), based on average daily value traded. Impacts across the 13 stocks were observed to be consistent, with the key differences between current and enhanced margin methodology summarized below, using NPN (Naspers) as an example:

- EWMA volatilities are more responsive than STDEV volatilities and this is clearly observed during periods of stress or increased market volatility. Overall, the result is greater risk sensitivity in margining to protect counterparts against extreme daily price moves during high market volatility periods on the enhanced methodology. Using NPN as an example, we observe that EWMA volatility rises during the height of the Covid stress period in March – May 2020 and again during August – September 2021 during the NPN/PRX Exchange Offer corporate action period.
- While margins based on the EWMA volatility increase during stress periods (illustrated by the red shaded regions in the NPN volatility and margin graphs below), the EWMA volatilities also appropriately adjust once out of the stress periods which results in margins returning more quickly to normal market levels post the stress period (illustrated by the green shaded regions in the NPN volatility and margin graphs below).
- For the 13 stocks assessed, the average overall margin rates based on the EWMA volatilities were slightly lower than margin rates based on STDEV volatilities over the period of analysis.
- Back-testing analysis confirmed that the margin methodology with EWMA volatilities provides better coverage (margin calculated on 2-day period of risk exceeding the actual 2-day PnL or price moves) during highly volatile periods in the market (such as during the Covid and the recent Russia-Ukraine stress periods) than the current margin method.





For any queries regarding the location of the files containing these parameters, please contact the Client Service Centre (CSC) on +27 11 520 7777 or [CustomerSupport@jse.co.za](mailto:CustomerSupport@jse.co.za)

If you have any questions or comments on the enhancement to the margin methodology, please contact [risk@jse.co.za](mailto:risk@jse.co.za)

This Market Notice will be available on the website at <https://www.jse.co.za/redirects/market-notice-and-circulars>