



**THE FOUNDATION
FOR SECURE
MARKETS**

#50215

Date: March 18, 2022

Subject: S&P 500 Implied Volatility and VIX Futures Modeling Enhancements

OCC is performing several enhancements to its modeling of volatility future pricing and index implied volatility simulations. OCC has filed for regulatory approval and is planning for an April 9, 2022 implementation that will be reflected in OCC margins for settlement date Tuesday morning, April 12, 2022. If all regulatory approvals are not received by April 8, 2022, or if the target implementation is modified for any other reason, OCC will announce a new implementation date via information memorandum. The proposed rule change can be located at <https://www.sec.gov/rules/sro/occ/2022/34-94165.pdf>.

The modeling enhancements will affect futures on S&P 500 Index related volatility indices (including VIX futures, SPIKES futures and S&P 500 Variance futures). The model will price these futures from SPX vanilla options based on a replication methodology while SPIKES Futures will be replicated from vanilla SPY options. The underlying scenarios for VIX and SPIKES options will also use the corresponding scenario future prices. This methodology will more closely couple Index volatility levels with volatility future pricing and returns.

Additionally, a new S&P 500 Implied Volatility Simulation Model will be utilized to generate implied volatility scenarios for options written on S&P 500 Index related underlyings (including options on SPX, S&P 500 Index ETFs (e.g. SPY), and E-mini S&P 500 futures). This will allow for implied volatility scenarios for the impacted products to be more consistent across different strikes and maturities, while preserving put-call parity.

Impact analysis against the current STANS production model performed to date generally yielded an increase in aggregated margin requirements. Each Clearing Member Organization will independently observe different levels and magnitude of impact based on their specific portfolios.

These enhancements will not currently be implemented in RBH/CPM Theoretical Profit and Loss Values files and will have no impact to RBH/CPM margin requirements.

OCC will make available a series of reports showing margin requirements, calculated with the enhancements. Currently, reports spanning 3/1/2022 through 3/11/2022 are available for review.

Additional business dates will be added as they are completed and will continue through the final implementation date.

These pro forma results can be accessed in the Training External ENCORE environment as follows:

- Select the 'MyOCC Training' link for the Alt Environments tab to access the Training MyOCC page. 'Training' will be displayed at the top of this page.
- Select the 'Launch ENCORE' button from the upper right-hand area of the page. 'OCC / ENCORE/ train' will be displayed at the top of the External ENCORE window that opens.

The Training External ENCORE environment makes available the following reports for user review:

- **Daily Margin Reconciliation** – reports daily margin requirement at OCC
- **Daily Margin Summary and Daily Margin Detail** – two separate reports that provide risk factor and position data, respectively, included in the Daily Margin Reconciliation margin requirement
- **Margin Memo – Collateral Reconciliation** – reports margin requirement at OCC excluding valued security and certain government security collateral deposits
- **Margin Memo – Collateral, Stock Loan & Repo Reconciliation** – reports margin requirement for broker-dealers members used in the SEA 15c3-3 Customer Reserve computation
- **Add On Charge Summary Report** – reports the breakdown of Add On charges displayed in the aggregate on the Daily Margin Reconciliation Report
- Other reports include – **Stock Loan Memo Margin Reconciliation, Collateral in Margins Memo, and Customer Gross Margin Summary.**

When accessing reports related to this parallel testing, please be sure to identify the 'DRGFR04' or 'DRGFR02' tag in the lower left-hand corner of each report. Other tags are applicable to different parallel testing initiatives.

Users encountering issues with, or lack of, ENCORE access should contact Member Services at (800) 621-6072.

If you have any questions regarding this memo, or understanding your specific results, please contact your Credit Risk Analyst. Clearing Members may also e-mail creditriskanalysts@theocc.com.