



Advisory Notice

Clearing House

12-511

TO: Clearing Member Firms
FROM: CME Clearing
SUBJECT: **Introducing Volatility Offset addition to SPAN Margin Methodology**
DATE: November 28, 2012

Please be advised that on December 3, 2012, CME Clearing will implement a change in SPAN® methodology allowing volatility offsets for correlated products.

These changes will be applied to the **modified-split** version of the published SPAN files **ONLY** (<ftp://ftp.cmegroup.com/pub/span/data/cme>). **PA2 files without modified-split** (<ftp://ftp.cmegroup.com/pub/span/data/cme/noMOD>) will remain unchanged and will stay compatible with prior versions of PC-SPAN®. Please see following advisory for more information on location of these files: <http://www.cmegroup.com/tools-information/lookups/advisories/clearing/files/Chadv12-405.pdf>

In conjunction with this update to the margin methodology, CME Clearing will be releasing a new version of the margining software. **The PC-SPAN version 4.5 build 561 will be required to calculate margins in Production effective December 3, 2012.** This new software will be required for all products including CDS, OTC FX, and ERIS products. Please note that there will be no changes to margin methodology or requirements for any products other than those directly affected by volatility offsets.

Test files for this new methodology are available at <ftp://ftp.cmegroup.com/span/data/cme/test/2012/>

SPAN Volatility offset methodology description:

For each combined commodity:

- Calculate **volatility risk** for all intercommodity tiers. It is calculated as part of **WFPR** calculation as unsigned number – assign a sign to it based on the sign for the **volatility scan magnitude** for the corresponding active scenario. Store this **signed volatility risk**.
- Take **signed volatility risk** for inter tier 0 (overall tier) and call it **CC Vega Risk**

- For each inter other than inter tier 0:
 - If **signed volatility risk** has same sign as **CC Vega Risk** set **Tier Vega Risk** to **signed volatility risk**
 - If **signed volatility risk** has different sign from **CC Vega Risk** set **Tier Vega Risk** to 0
- Add **Tier Vega Risk** numbers across all inter tiers other than 0 yielding **Combined Vega Risk**
- For each inter other than inter tier 0 set **Tier Vega Risk** to **Tier Vega Risk** multiplied by **CC Vega Risk** and divided by **Combined Vega Risk**. Set **Remaining Tier Vega Risk** to **Tier Vega Risk**.
- For tier 0 set **Tier Vega Risk** to **CC Vega Risk**. Set **Remaining Tier Vega Risk** to **Tier Vega Risk**.
- For all intercommodity tiers set **Intercommodity Volatility Credit** to 0

For each inter and super-inter delta based spread:

- Check for spread type – if it is set to ‘DELTAVOL’ **in addition to** regular processing invoke volatility offset logic below
- For each leg, determine the number of volatility leg-spreads that can be formed for it under the current assumption of market side (equal to the **Remaining Tier Vega Risk** if it has same sign as current market side; 0 otherwise).
- Take the smallest such number of volatility leg-spreads across all the legs of the spread. This is **Volatility Spreads Formed**.
- If **Volatility Spreads Formed** is greater than zero:
 - For each leg:
 - Decrement **Remaining Tier Vega Risk** by the **Volatility Spreads Formed**.
 - If this is not overall tier (tier 0) reduce the **Remaining Tier Vega Risk** for tier 0 of the same combined commodity by the **Volatility Spreads Formed**.
 - Otherwise starting with tier 1 reduce the **Remaining Tier Vega Risk** for each tier of the same combined commodity by the smaller of **Remaining Tier Vega Risk** and **Volatility Spreads Formed** until you assigned all spreads formed to the tiers.

- Calculate the **Volatility Credit** for the spread for this leg as multiplied by Credit Rate for volatility offset specified for this spread.
- Add **Volatility Credit** to the **Intercommodity Volatility Credit** for the corresponding intercommodity tier.

After all spreads are evaluated **Intercommodity Volatility Credit** participates in determination of the SPAN Risk in the same way as delta based **Intercommodity Spread Credit** – it reduces the overall requirement by the amount of credit.

Scanning based spreads:

- For target combined commodity in addition to regular processing:
 - As we aggregate intercommodity tiers set **Intercommodity Volatility Credit** on the target tier to sum the **Intercommodity Volatility Credits** from each of the non-target leg tiers
 - Recalculate volatility risk and **Tier Vega Risk** for all intercommodity tiers
 - Set **Remaining Tier Vega Risk** to 0 for all intercommodity tiers
- For non-target combined commodities in addition to regular processing set **Intercommodity Volatility Credit**, **Tier Vega Risk**, and **Remaining Tier Vega Risk** to 0.

PA2 file format changes:

Following optional fields will be added to the type 6 record starting with byte 152:

- Volatility spread method code X(1):
 - 'N' or blank (default) – no vol spread
 - 'R' – spread based on volatility risk
 - 'V' – spread based on vega (new CME method – will be used in the future)
- Credit rate in percent 9(3)V9(4) – credit rate for vol offset

Please contact the CME Clearing Risk Hotline at clearing.riskmanagement@cmegroup.com or 312.648.3888 for more information.