INITIAL MARGIN CALCULATION ON DERIVATIVES MARKETS

GLOSSARY

Active Scenario

The number of the Risk Arrays scenario that gives the largest amount of Scanning Risk for the Combined Commodity is called the Active Scenario (worst-case scenario).

In case of the 16 Scanning Risk totals are negative (e.g. all corresponding to a gain) or zero (no risk), the Active Scenario is different between the Derivatives Clearing System and SPAN® RMC / PC SPAN®. In the Derivatives Clearing System, Active Scenario is set to Scenario 1, whereas in SPAN® RMC/ PC SPAN®, it is set to the "less gain scenario".

Basis point (bp)

An unit of measurement that is equivalent to the hundredth of one percent (0.01%). Currently used for currency derivatives products.

Black 76 model

Valuation model for European option contracts on futures and index options. It is derived from the Fisher Black & Myron Scholes model (1973).

Clearing Organization

Clearing House on a technical point of view. On a judicial level, there is only one Clearing House: LCH SA. SPAN® derivatives method is used for the MATIF and MONEP Clearing Organization.

Combined Commodity

A code gathering products traded on the same market and having the same underlying. This notion is used when calculating the Performance Bond amount. The Performance Bond amount is firstly calculated at Combined Commodity level.

Contract Value Factor

The Contract Value Factor is the multiplier, which converts a quoted price for the contract into its monetary value. It is derived from the specification of the contract size and the convention used for quoting prices.

Cox Ross Rubinstein model

Valuation model for equity options. It is a binomial model based upon neutral risk reasoning.

Cross-margining

A procedure allowing a member, under certain circumstances, to possibly benefit from a reduced Performance Bond amount for a position that includes both equity positions (CO SBF) and equity option positions (CO MONEP).

Delta

Measures the extent to which an option's value is affected by variation in the price of the underlying (i.e. the partial derivative of the option's value relative to the price of the underlying, ranging between –1 and +1). Delta can also be interpreted as the probability of an option being exercised. Alternatively, it represents the equivalent position in the underlying contract.

Delta Scaling Factor

A factor taking into account size differences between contracts belonging to the same Combined Commodity.

Excess Long Option Value

A negative result (credit) obtained from the calculation of the Performance Bond amount (Net Option Value subtracted from the Final Risk) required for a Combined Commodity. This excess is used for the Final Performance Bond amount calculation at the level of the portfolio (Performance Bond Account).

Future Price Risk

The variation in the portfolio's value related to the variation of the underlying price. This risk is considered in the calculation of Inter-commodity Spread credits.

Garman and Kohlhagen model

Valuation model for currency options. It is derived from the Merton model.

Implied volatility

The value of the volatility for which the price of the option quoted on the market is equal to the theoretical value of an option calculated by a valuation model (Black & Scholes or similar). Implied volatility reflects the price deviation of the underlying as anticipated by the market up until the option's expiry.

Initial Margin

Final Performance Bond requirement.

Inter-commodity spread credit

The credits to initial margin for offsetting positions in two or more commodities.

Inter-month (or intra-commodity) spread charge

The risk arising from the relative price variations between different underlying maturity months into a Combined Commodity.

Level (Tier)

A group of futures contract months within a combined commodity that are considered equally by the performance bond system for the calculation of inter-month spreads.

Margin parameters

LCH sets parameters for calculating the Performance Bond amounts. They include: Underlying Price Scanning Ranges and Volatility Scan Range (UPSR, VSR), inter-month spreads charges, delivery months charges, credits for inter commodity spreads and the short option minimum charge. They constitute the basis of the calculation made by SPAN®.

Minimum price fluctuation

The minimum price fluctuation, or tick, refers to the minimum allowable price fluctuation of a futures contract or option premium.

Net Delta position

Represents derivatives equivalent position in the underlying contract.

Net Option Value

It is the difference of the option value, calculated at the latest settlement prices, between the sell and the buy positions. This value is used as a basis for calculating the Performance Bond amount.

Performance Bond amount

The covers called upon the opening of a position that is intended to cover liquidation losses on the market if a member were to default in order to protect the other members. The amount can vary according to margin parameters.

Performance Bond account (PB account)

Initial Margin account. Portfolios of positions to be margined are held in Performance Bond accounts, or margin accounts.

Performance Bond Account Group

A Performance Bond account gathering code allowing to offset risks by transferring the Excess Long Option Value from one PB account to another in order to reduce the final Performance Bond requirement.

Risk Array

A Risk Array is a set of 16 scenarios defined for a particular contract specifying how a hypothetical single long position will loss or gain value if corresponding risk scenario occurs from the current situation day to the near future (in our case, next day).

Scanning Risk
For each Combined Commodity in the portfolio, Scanning Risk is a global worst-case scenario along with the future price assumptions defined for the 16 scenarios of Risk Arrays. The Scanning Risk is a component of those three elements: Scanning Risk = Price Risk + Volatility Risk + Time Risk.

Settlement price
A price set by the market at the end of each trading session, using closing prices. LCH SA uses the settlement price as a base for calculating margins.

Short option minimum charge
The minimum margin requirement needed with respect to short option positions. For each Combined Commodity, SPAN® compares the minimum value for short option positions and the sum of the Scanning Risk, the Inter-month Spread Charge, the Delivery Month Charge, and the credit for Inter Commodity Spreads. The higher of the two values is the Final Risk.

Spot (Delivery) month charge
The additional margin charge to reflect the additional risk of positions in specific months.

Time risk
The variation in the portfolio's value with the passing of time. This risk is considered in the calculation of credits for inter commodity spreads.

Underlying Price Scanning Range (UPSR)
A parameter defining the maximum movement up and down of the derivatives underlying price in a given time period on which LCH wants to be covered. The UPSR is used in Risk Array scenario calculations.

Volatility risk
The variation in the portfolio value generated by a variation in the level of volatility. This risk is considered in the calculation of credits for inter commodity spreads.

Volatility Scanning Range (VSR)
A parameter defining the maximum movement up and down of implied volatility, used in determining risk array scenarios. Volatility ranges have independent up and down shifts.