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ANNEXES 1 to 4

**ANNEXES**

**to the**

**COMMISSION DELEGATED REGULATION (EU) No .../...**

**supplementing Regulation (EU) No 648/2012 on OTC derivatives, central counterparties and trade repositories of the European Parliament and of the Council with regard to regulatory technical standards for risk-mitigation techniques for OTC derivative contracts not cleared by a central counterparty**

**ANNEXES**

**ANNEX I**

**Correspondence of Probability of default ('PD') to Credit quality steps for the purposes of Articles 6 and 7**

1. An internal rating with a PD equal to or lower than the value in Table 1 shall be associated to the corresponding credit quality step.

**Table 1**

Credit Quality Step	Probability of default, as defined in Article 4(54) of Regulation (EU) 575/2013 lower than or equal to:
1	0.10%
2	0.25%
3	1%
4	7.5%

## ANNEX II

### Methodology to adjust the value of collateral for the purposes of Article 21

1. The value of the collateral shall be adjusted as follows:

$$C_{\text{value}} = C \cdot (1 - H_C - H_{\text{FX}})$$

where:

$C$  = the market value of the collateral;

$H_C$  = the haircut appropriate to the collateral, as calculated under paragraph 2;

$H_{\text{FX}}$  = the haircut appropriate to currency mismatch, as calculated under paragraph 6.

2. Counterparties shall apply at least the haircuts provided in the following Tables 2 and 3 to the market value of the collateral:

**Table 2**  
**Haircuts for long term credit quality assessments**

Credit quality step with which the credit assessment of the debt security is associated	Residual maturity	Haircuts for debt securities issued by entities described in Article 4 (1) (c) to (e) and (h) to (k), in (%)	Haircuts for debt securities issued by entities described in Article 4 (1) (f), (g), (l) to (n) in (%)	Haircuts for securitisation positions meeting the criteria in Article 4 (1) (o) in %
1	≤ 1 year	0.5	1	2
	>1 ≤ 5	2	4	8
	> 5	4	8	16
2-3	≤ 1 year	1	2	4
	>1 ≤ 5	3	6	12
	> 5	6	12	24
4 or below	≤ 1 year	15	N/A	N/A
	>1 ≤ 5	15	N/A	N/A
	> 5	15	N/A	N/A

**Table 3**  
**Haircuts for short term credit quality assessments**

Credit quality step with which the credit assessment of a short term debt security is associated	Haircuts for debt securities issued by entities described in Article 4(1) (c) and (j) in (%)	Haircuts for debt securities issued by entities described in Article 4(1) (m) in (%)	Haircuts for securitisation positions and meeting the criteria in Article 4(1) (o) in (%)
1	0.5	1	2
2-3 or below	1	2	4

1. Equities in main indices, bonds convertible to equities in main indices and gold shall have a haircut of 15%.
2. For eligible units in UCITS the haircut is the weighted average of the haircuts that would apply to the assets in which the fund is invested.
3. Cash variation margin shall be subject to a haircut of 0%.
4. For the purpose of exchanging variation margin, a haircut of 8% shall apply to all non-cash collaterals posted in a currency other than those agreed in an individual derivative contract, the relevant governing master netting agreement or the relevant credit support annex.
5. For the purpose of exchanging initial margin, a haircut of 8% shall apply to all cash and non-cash collaterals posted in a currency other than the currency in which the payments in case of early termination or default have to be made in accordance with the single derivative contract, the relevant exchange of collateral agreement or the relevant credit support annex ('termination currency'). Each of the counterparties may choose a different termination currency. Where the agreement does not identify a termination currency, the haircut shall apply to the market value of all the assets posted as collateral.

### ANNEX III

#### Own volatility estimates of the haircuts to be applied to the market value of collateral for the purposes of Article 22

1. The calculation of the adjusted value of the collateral shall meet all of the following conditions:
  - (a) counterparties shall base the calculation on a 99th percentile, one-tailed confidence interval;
  - (b) counterparties shall base the calculation on a liquidation period of at least 10 business days.
  - (c) counterparties shall calculate the haircuts by scaling up the daily revaluation haircuts, using the following square-root-of time formula:

$$H = H_M \cdot \sqrt{\frac{N_R + (T_M - 1)}{T_M}}$$

where:

H = the haircut to be applied;

H<sub>M</sub> = the haircut where there is daily revaluation;

N<sub>R</sub> = the actual number of business days between revaluations;

T<sub>M</sub> = the liquidation period for the type of transaction in question.

- (d) counterparties shall take into account the lesser liquidity of low quality assets. They shall adjust the liquidation period upwards in cases where there are doubts concerning the liquidity of the collateral. They shall also identify where historical data may understate potential volatility. Such cases shall be dealt with by means of a stress scenario;
- (e) the length of the historical observation period institutions use for calculating haircuts shall be at least one year. For counterparties that use a weighting scheme or other methods for the historical observation period, the length of the effective observation period shall be at least one year.
- (f) the market value of the collateral shall be adjusted as follows:

$$C_{\text{value}} = C \cdot (1 - H)$$

where:

C = the market value of the collateral;

H = the haircut as calculated in point (c) above.

2. Cash variation margin may be subject to a haircut of 0%.
3. For debt securities that have a credit assessment from an ECAI, counterparties may use their own volatility estimate for each category of security.
4. In determining relevant categories of securities for the purposes of paragraph 3, counterparties shall take into account the type of issuer of the security, the external credit assessment of the securities, their residual maturity, and their modified

duration. Volatility estimates shall be representative of the securities included in the category.

5. The calculation of haircuts resulting from the application of point (c) of paragraph 1 shall meet all of the following conditions:
  - (a) a counterparty shall use the volatility estimates in the day-to-day risk management process including in relation to its exposure limits;
  - (b) where the liquidation period used by a counterparty is longer than that referred to in point (b) of paragraph 1 for the type of OTC derivative contract in question, that counterparty shall increase its haircuts in accordance with the square root of time formula referred to in point (c) of that paragraph.

## ANNEX IV

### Standardised Method for the calculation of initial margin for the purposes of Articles 9 and 11

1. The notional amounts or underlying values, as applicable, of the OTC derivative contracts in a netting set shall be multiplied by the percentages in the following Table 1:

**Table 1**

Category	Add-on factor
Credit: 0–2 year residual maturity	2%
Credit: 2–5 year residual maturity	5%
Credit 5+ year residual maturity	10%
Commodity	15%
Equity	15%
Foreign exchange	6%
Interest rate and inflation: 0-2 year residual maturity	1%
Interest rate and inflation:: 2-5 year residual maturity	2%
Interest rate and inflation:: 5+ year residual maturity	4%
Other	15%

2. The gross initial margin of a netting set shall be calculated as the sum of the products referred to in paragraph 1 for all OTC derivative contracts in the netting set.
3. The following treatment shall be applied to contracts which fall within more than one category:

- (a) where a relevant risk factor for an OTC derivative contract can be clearly identified, contracts shall be assigned to the category corresponding to that risk factor;
- (a) where the condition referred to in point (a) is not met, contracts shall be assigned to the category with the highest add-on factor among the relevant categories;
- (b) the initial margin requirements for a netting set shall be calculated in accordance with the following formula:

Net initial margin = 0.4 \* Gross initial margin + 0.6 \* NGR \* Gross initial margin.

where:

- (i) net initial margin refers to the reduced figure for initial margin requirements for all OTC derivative contracts with a given counterparty included in a netting set;
  - (ii) NGR refers to the net-to-gross ratio calculated as the quotient of the net replacement cost of a netting set with a given counterparty in the numerator, and the gross replacement cost of that netting set in the denominator;
- (c) for the purposes of point (c), the net replacement cost of a netting set shall be the bigger between zero and the sum of current market values of all OTC derivative contracts in the netting set;
  - (d) for the purposes of point (c), the gross replacement cost of a netting set shall be the sum of the current market values of all OTC derivative contracts calculated

in accordance with Article 11(2) of Regulation (EU) No 648/2012 and Articles 16 and 17 of Commission Delegated Regulation No 149/2013 with positive values in the netting set;

- (e) the notional amount referred to in paragraph 1 may be calculated by netting the notional amounts of contracts that are of opposite direction and are otherwise identical in all contractual features except their notional amounts.