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COVER NOTE

from: Secretary-General of the European Commission,
signed by Mr Jordi AYET PUIGARNAU, Director

date of receipt: 19 December 2012

to: Mr Uwe CORSEPIUS, Secretary-General of the Council of the European
Union

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Subject: COMMISSION DELEGATED REGULATION (EU) No .../.. of 19.12.2012
supplementing Regulation (EU) No 648/2012 of the European Parliament and
of the Council of 4 July 2012 with regard to regulatory technical standards on
requirements for central counterparties

Delegations will find attached Commission document C(2012) 9623 final.

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Brussels, 19.12.2012
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COMMISSION DELEGATED REGULATION (EU) No .../..

of 19.12.2012

supplementing Regulation (EU) No 648/2012 of the European Parliament and of the Council of 4 July 2012 with regard to regulatory technical standards on requirements for central counterparties

(Text with EEA relevance)

EXPLANATORY MEMORANDUM

1. CONTEXT OF THE DELEGATED ACT

Articles 25(8), 26(9), 29(4), 34(3), 41(5), 42(5), 44(2), 45(5), 46(3), 47(8), 49(4) of Regulation (EU) No 648/2012 empower the Commission to adopt, following submission of draft standards by the European Securities and Markets Authority (ESMA), and in accordance with Article 10 of Regulation (EU) No 1095/2010, delegated acts on regulatory technical standards regarding :

- (a) Recognition of a CCP;
- (b) Organisational requirements;
- (c) Record keeping;
- (d) Business Continuity;
- (e) Margins;
- (f) Default fund;
- (g) Liquidity risk controls;
- (h) Default waterfall
- (i) Collateral requirements
- (j) Investment policy
- (k) Review of models, stress testing and back-testing

In accordance with Articles 10 to 15 of Regulation (EU) No 1095/2010 establishing ESMA, the Commission shall decide within three months of receipt of the draft standards whether to endorse the drafts submitted. The Commission may also endorse the draft standards in part only, or with amendments, where the Union's interests so require, having regard to the specific procedure laid down in those Articles.

2. CONSULTATIONS PRIOR TO THE ADOPTION OF THE ACT

In accordance with the third subparagraph of Article 10(1) of Regulation (EU) No 1095/2010, ESMA has carried out a public consultation on the draft technical standards submitted to the Commission in accordance with Articles of Regulation (EU) No 648/2012. A consultation paper (CP) was published on the ESMA internet site on 26 June 2012, and the consultation closed on 5 August 2012. Prior to the publication of Regulation (EU) No 648/2012 on 27 July 2012, ESMA released a discussion paper¹ (DP) on the basis of the political agreement on EMIR reached on 9 February 2012. This document presented preliminary views and possible options for the development of the draft technical standards ESMA is required to develop.

¹ <http://www.esma.europa.eu/system/files/2012-95.pdf>

Moreover, ESMA also consulted i) the Post-Trading Consultative Working Group which was asked in September 2011 to respond to a call for input; ii) the Securities and Markets Stakeholder Group (SMSG), which provided advice on both the DP and the CP; iii) the authorities that ESMA is required to consult under the different articles of Regulation (EU) No 648/2012. ESMA held two open hearings on 6 March 2012 and 12 July 2012. Together with the draft technical standards, ESMA has submitted an explanation of how the outcome of these consultations has been taken into account in the development of the final draft technical standards submitted to the Commission.

3. ANALYSIS OF COSTS AND BENEFITS

Together with the draft technical standards, and in accordance with the third subparagraph of Article 10(1) of Regulation (EU) No 1095/2010, ESMA has submitted an analysis of the costs and benefits related to the draft technical standards submitted to the Commission. This analysis is available at:

<http://www.esma.europa.eu/content/Impact-assessment-Annex-VIII-Final-report-draft-Regulatory-and-Implementing-Technical-Standa>

The analysis examines the main benefits and costs that have been identified by ESMA in relation to the draft technical standards.

4. LEGAL ELEMENTS OF THE DELEGATED ACT

Article 1 sets out definitions.

Article 2 details the information to be provided to ESMA for the recognition of a CCP.

Article 3 sets out provisions on governance arrangements.

Article 4 sets out provisions on risk management and internal control mechanisms.

Article 5 sets out provisions on compliance policy and procedures

Article 6 sets out provisions on the compliance function.

Article 7 sets out provisions on organisational structure and separation of reporting lines.

Article 8 sets out provisions on remuneration policy.

Article 9 sets out provisions on information technology systems.

Article 10 sets out provisions on disclosure.

Article 11 sets out provisions on auditing.

Article 12 sets out provisions on general requirements applicable to record keeping.

Article 13 sets out provisions on transactions records.

Article 14 sets out provisions on position records.

Article 15 sets out provisions on business records.

Article 16 sets out provisions on records on data reported to a trade repository.

Article 17 sets out provisions on business continuity strategy and policy.

Article 18 sets out provisions on business impact analysis.

Article 19 sets out provisions on disaster recovery.

Article 20 sets out provisions on testing and monitoring.

Article 21 sets out provisions on maintenance.

Article 22 sets out provisions on crisis management.

Article 23 sets out provisions on communication.

Article 24 sets out provisions on the percentage used for margins calculation.

Article 25 sets out provisions on the time horizon for the calculation of historical volatility.

Article 26 sets out provisions on the time horizon for the liquidation period.

Article 27 sets out provisions on portfolio margining.

Article 28 sets out provisions on procyclicality.

Article 29 sets out provisions on the framework and governance of CCPs' default fund

Article 30 sets out provisions on the identification of extreme but plausible market conditions.

Article 31 sets out provisions on the review of extreme but plausible scenarios.

Article 32 sets out provisions on the assessment of liquidity risk.

Article 33 sets out provisions on access to liquidity.

Article 34 sets out provisions on concentration risk.

Article 35 sets out provisions on the calculation of the amount of the CCPs own resources to be used in the default waterfall.

Article 36 sets out provisions on the maintenance of the amount of the CCPs own resources to be used in the default waterfall.

Article 37 sets out general requirements on collateral.

Article 38 sets out provisions on cash collateral.

Article 39 sets out provisions on financial instruments provided as collateral.

Article 40 sets out provisions on bank guarantees.

Article 41 sets out provisions on gold.

Article 42 sets out provisions on the valuation of collateral.

Article 43 sets out provisions on the haircuts.

Article 44 sets out provisions on the concentration limits.

Article 45 sets out provisions on highly liquid financial instruments.

Article 46 sets out provisions on highly secured arrangements for the deposit of financial instruments.

Article 47 sets out provisions on highly secured arrangements for maintaining cash.

Article 48 sets out provisions on concentration limits.

Article 49 sets out provisions on non-cash collateral.

Article 50 sets out provisions on model validation.

Article 51 sets out provisions on testing programmes.

Article 52 sets out provisions on backtesting.

Article 53 sets out provisions on sensitivity testing and analysis.

Article 54 sets out provisions on stress testing.

Article 55 sets out provisions on the risk factors to test.

Article 56 sets out provisions on total financial resources.

Article 57 sets out provisions on liquid financial resources.

Article 58 sets out provisions on the maintenance of sufficient coverage.

Article 59 sets out provisions on the review of models on the basis of test results.

Article 60 sets out provisions on reverse stress tests.

Article 61 sets out provisions on the testing of default procedures.

Article 62 sets out provisions on the frequency of default procedures' tests

Article 63 sets out provisions on the time horizons used when performing tests.

Article 64 sets out provisions on the information to be publicly disclosed.

Article 65 provides that the Regulation shall enter into force on the twentieth day following that of its publication in the Official Journal, and that certain provisions on commercial bank guarantees shall apply from 3 years after the entry into force of the Regulation.

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

of 19.12.2012

supplementing Regulation (EU) No 648/2012 of the European Parliament and of the Council of 4 July 2012 with regard to regulatory technical standards on requirements for central counterparties

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to the opinion of the European Central Bank²,

Having regard to Regulation (EU) No 648/2012 of the European Parliament and of the Council of 4 July 2012 on OTC derivatives, central counterparties and trade repositories³, and in particular Article 25(8), Article 26(9), Article 29(4), Article 34(3), Article 41(5), Article 42(5), Article 44(2), Article 45(5), Article 46(3), Article 47(8) and Article 49(4) thereof,

Whereas:

- (1) The provisions in this Regulation are closely linked, since they deal with organisational requirements, including record keeping and business continuity, and prudential requirements, including in relation to margins, the default fund, liquidity risk controls, the default waterfall, collateral, investment policy, review of models, stress testing and back testing. To ensure coherence between those provisions, which should enter into force at the same time, and to facilitate a comprehensive view and compact access to them by persons subject to those obligations it is desirable to include all the regulatory technical standards required under Title III and Title IV of Regulation (EU) No 648/2012 in a single Regulation.
- (2) In view of the global nature of financial markets, this Regulation should take into account the Principles for Financial Market Infrastructures issued by the Committee on Payment and Settlement Systems and the International Organization of Securities Commissions ('CPSS-IOSCO Principles') which serve as a global benchmark for regulatory requirements for central counterparties (CCPs).
- (3) To ensure that they are safe and sound in all market conditions, it is important that CCPs adopt prudent risk management procedures which duly cover all the risks they are or may be exposed to. In this respect, the risk management standards actually implemented by CCPs should be more stringent than those set forth in this Regulation if for risk management purposes it is deemed appropriate.

² OJ C X, xx.xx.201x, p.xx

³ OJ L 201. 27.7.2012, p. 1.

- (4) In order to clearly identify a limited number of concepts stemming from Regulation (EU) No 648/2012, as well as to specify the technical terms necessary for developing this technical standard, a number of terms should be defined.
- (5) It is important to ensure that recognised third country CCPs do not disrupt the orderly functioning of Union markets. For this reason, it is essential to ensure that recognised CCPs are not in a position to lower their risk management requirements below Union standards, which could lead to regulatory arbitrage. The information to be provided to ESMA concerning the recognition of a third country CCP should enable ESMA to assess whether that CCP is in full compliance with the prudential requirements applicable in that third country. In addition, the equivalence determination by the Commission should ensure that the laws and regulations of the third country are equivalent to every provision under Title IV of Regulation (EU) No 648/2012 and of this Regulation.
- (6) To ensure an adequate level of investor protection, in the recognition of third country CCPs the European Securities and Markets Authority (ESMA) may require additional information to the one strictly necessary to assess that conditions established in Regulation (EU) No 648/2012 are fulfilled.
- (7) The on-going assessment of the full compliance of a third country CCP with the prudential requirements of such third country is the duty of the third country competent authority. The information to be provided to ESMA by the applicant third country CCP should not have the objective of replicating the assessment of the third country competent authority, but ensuring that the CCP is subject to effective supervision and enforcement in that third country, thus guaranteeing a high degree of investor protection.
- (8) To allow ESMA to perform a complete assessment, the information provided by the applicant third country CCP should be complemented by that information necessary to assess the effectiveness of the on-going supervision, enforcement powers and actions taken by the third country competent authority. Such information should be provided under the cooperation arrangement established in accordance with Regulation (EU) No 648/2012. Such a cooperation arrangement should ensure that ESMA is informed in a timely manner of any supervisory or enforcement action against the CCP applying for recognition and any change of the conditions under which authorisation was granted to the relevant CCP and on any relevant update of the information originally provided by the CCP under the recognition process.
- (9) The requirements of Regulation (EU) No 648/2012 relating to internal risk reporting lines need further specification to implement a risk-management framework, which includes the structure, rights and responsibilities of the internal risk management process. Governance arrangements should take into account different regimes on corporate law in the Union, in order to ensure that CCPs operate within a sound legal framework.
- (10) To ensure that a CCP implements the appropriate procedures to comply with this Regulation, Regulation (EU) No 648/2012 and Regulation (EU) No xx/xxxx [Commission implementing regulation laying down implementing technical standards on record keeping], the role and responsibilities of a compliance function of a CCP should be specified.

- (11) It is necessary to clearly define the responsibilities of the board and the senior management as well as to specify minimum requirements for the functioning of the board in order to ensure that the organisational structure of a CCP enables it to perform its services and activities in a continuous and orderly manner. It is also necessary to set up clear and direct reporting lines to ensure accountability.
- (12) In order to ensure the sound and prudent management of a CCP, it is important that its remuneration policy discourages excessive risk taking. For the remuneration policy to produce the intended effects, it should be adequately monitored and reviewed by the board that should set-up a specific committee to appropriately oversee the fulfilment of remuneration policy.
- (13) To ensure that CCPs operate with the necessary level of human resources to meet all of their obligations, they are accountable for the performance of their activities and competent authorities have the relevant contact points within the CCPs they supervise, CCPs should have at least a chief risk officer, a chief compliance officer and chief technology officer.
- (14) CCPs should adequately assess and monitor the extent to which board members that sit on the boards of different entities have conflicts of interest, whether within or outside the group of the CCP. Board members should not be prevented from sitting on different boards unless this gives rise to conflicts of interest.
- (15) In order to have an effective audit function, a CCP should define the responsibilities and reporting lines of its internal auditors, to ensure that relevant matters are brought before the board of the CCP and the competent authorities in a timely manner. When establishing and maintaining an internal audit function, its mission, independence and objectivity, scope and responsibility, authority, accountability and standards of operation should be clearly defined.
- (16) To carry out its duties effectively, the relevant competent authority should be provided with access to all necessary information to determine whether the CCP is in compliance with its conditions of authorisation. Such information should be made available by the CCP without undue delay.
- (17) Records kept by CCPs should facilitate a thorough knowledge of CCPs' credit exposure towards clearing members and allow monitoring of the implied systemic risk. They should also enable competent authorities, ESMA and the relevant members of the European System of Central Banks (ESCB) to adequately re-construct the clearing process, in order to assess compliance with regulatory requirements including reporting requirements. Once recorded, that data is also useful for CCPs in meeting regulatory requirements and obligations towards clearing members and in disputes.
- (18) Data reported by CCPs to trade repositories should be recorded so as to empower competent authorities to verify the compliance of CCPs with the reporting obligation set out in Regulation (EU) No 648/2012 and to easily access information in cases where this cannot be found in trade repositories.
- (19) The record-keeping requirements in relation to trades should make use of the same concepts used in the reporting obligation set out in Article 9 of Regulation (EU) No 648/2012, in order to ensure appropriate reporting by CCPs.

- (20) To ensure business continuity in times of disruption, the secondary processing site of the CCP should be located sufficiently distant and in a sufficiently geographically distinct location from the primary site so that it would not be subject to the same disaster which may cause the unavailability of the primary site. Scenarios should be created to analyse the impact of crisis events on critical services, including scenarios which envisage the unavailability of systems caused by a natural disaster. Those analyses should be reviewed periodically.
- (21) CCPs are systemically relevant financial market infrastructures and they should recover critical functions within two hours, with backup systems ideally starting processing immediately after an incident. CCPs should also ensure with very high probability that no data will be lost
- (22) It is important that the default of a clearing member does not cause significant losses to other market participants. Therefore, CCPs are required to cover through margins posted by the defaulter, at least, a relevant proportion of the possible loss that during the close out process the CCP might have. Rules should determine the minimum percentage the margins should cover for different classes of financial instruments. Furthermore, CCPs should follow principles to adequately tailor their margin levels to the characteristics of each financial instrument or portfolio they clear.
- (23) CCPs should not reduce their margins to a level that compromises their safety as a result of the existence of a highly competitive environment. For this reason, margin calculations should follow specific requirements in their basic components. In this sense, margins should take into account a full range of market conditions including periods of stress.
- (24) Rules should be established to specify the appropriate percentage and time horizons for the liquidation period and the calculation of historical volatility. However, in order to ensure that CCPs duly manage the risk they face, it is desirable not to specify the approach which the CCP should take to calculating margin requirements from these parameters. For the same reasons, CCPs should not be prevented to rely on various reliable methodological approaches for the development of portfolio margining, they should be allowed to rely on methods based on correlations between price risk of the financial instrument or set of financial instruments they clear, as well as any appropriate methods based on equivalent statistical parameters of dependence.
- (25) To determine the period of time during which a CCP is exposed to market risk related to the management of a defaulter's position, the CCP should consider the relevant characteristics of the financial instruments or portfolio cleared, such as their level of liquidity and the size of the position or its concentration. CCPs should prudently evaluate the time required for the complete closure of a defaulter's position since the latest collection of margins, the size of the position and its concentration.
- (26) In order to avoid causing or exacerbating financial instability, CCPs should, to the maximum extent practical, adopt forward-looking margin methodologies that limit the likelihood of procyclical changes in margin requirements, without undermining the resilience of the CCP.
- (27) A higher confidence interval for OTC derivatives is typically justified because those products can suffer from less reliable pricing and shorter runs of historical data on

which to base exposure estimations. CCPs might clear OTC derivatives that do not suffer from such phenomena and have the same risk characteristics as listed derivatives and they should be able to clear those products consistently irrespective of the execution method.

- (28) A suitable definition of extreme but plausible market conditions is a core component of CCP risk management. For the purposes of keeping the CCP risk management framework up to date, extreme but plausible market conditions should not be considered as a static concept, but rather as conditions that evolve over time and vary across markets. One market scenario can be extreme but plausible for one CCP while not having great importance for another. A CCP should establish a robust internal policy framework for identifying the markets to which it is exposed and employ a common minimum set of standards for defining extreme but plausible conditions in each identified market. It should also consider objectively the potential for simultaneous pressures in multiple markets.
- (29) To ensure appropriate and robust governance arrangements are in place, the framework used by a CCP to identify extreme but plausible market conditions should be discussed by the risk committee and approved by the board. It should be reviewed at least annually, with results discussed by the risk committee and then shared with the board. The review should ensure that changes to the scale and concentration of the CCP's exposures as well as developments in the markets in which it operates are reflected in the definition of extreme but plausible market conditions. That review should not, however, be a substitute for continuous judgment by the CCP on the adequacy of its default fund in light of evolving market conditions.
- (30) To ensure efficient management of their liquidity risk, CCPs should be required to establish a liquidity risk management framework. That framework should depend on the nature of its obligations and address the tools a CCP has available for assessing the liquidity risk it is facing, determining the liquidity pressures likely to occur and ensuring the adequacy of its liquid resources.
- (31) In assessing the adequacy of its liquid resources, a CCP should be required to consider the size and liquidity of the resources it holds, as well as the possible concentration risk of those assets. It is important that CCPs are able to identify all major kinds of liquidity risk concentrations within their resources so that the CCP's liquidity resources are immediately available when necessary. CCPs should also consider additional risks stemming from multiple relationships, interdependencies and concentrations.
- (32) As liquidity has to be readily available for same day transactions or even intra-day transactions, a CCP might employ cash at the central bank, of issue, cash at creditworthy commercial banks, committed lines of credit, committed repos, highly marketable collateral held in custody and investments that are readily available and convertible into cash with prearranged and highly reliable funding arrangements, even in stressed market conditions. Such cash and collateral should only be counted as part of prearranged liquid financial resources under certain conditions.
- (33) In order to provide the necessary incentive to the CCP to set prudent requirements and to keep that amount to an adequate level while avoiding regulatory arbitrage, it is important to establish a common methodology for the calculation and the maintenance

of a specific amount of the dedicated own resources that a CCP should maintain to be used in the default waterfall. It is essential to keep those resources covering default losses separate and with a distinct function from the CCP's minimum capital requirements which cover different risks to which a CCP might be exposed.

- (34) It is important that CCPs apply a consistent methodology for the calculation of the own resources to be used in the default waterfall, in order to ensure equivalent conditions field between CCPs. Allowing CCPs discretion to implement a methodology that is insufficiently clear would lead to very different results among CCPs, thus providing incentives for regulatory arbitrage. It is therefore essential that the methodology does not allow for discretion to CCPs. For this purpose, it would be appropriate to have a simple percentage based on a clearly identifiable measure and a clear methodology for ensuring a consistent calculation of CCPs' own resources to be used in a default waterfall.
- (35) A minimum set of criteria should be laid down to ensure that acceptable collateral is highly liquid and can be converted into cash rapidly and with minimal price impact. Those criteria should refer to the issuer of the collateral, the extent to which it can be liquidated in the market and whether its value is correlated with the credit standing of the member posting the collateral to cater for possible wrong-way risk. A CCP should have the option to apply additional criteria where necessary to achieve the desired level of robustness.
- (36) CCPs should only accept highly liquid collateral with minimal credit and market risk. In order to ensure that the collateral held by CCPs remains highly liquid at all times, it is necessary that CCPs establish transparent and predictable policies and procedures to assess and continuously monitor the liquidity of assets accepted as collateral, implement adequate valuation methodologies. To that purpose, CCPs should also implement concentration limits aimed at maintaining a sufficient diversification of the collateral to ensure that it can be liquidated promptly without significant market risk affecting its value. In determining their policies on eligible collateral and concentration limits they should take in account the global availability of such collateral in view of the potential macro-economic effects of their policies.
- (37) To avoid wrong-way risk, clearing members should not, in general, be permitted to use as collateral their own securities or securities issued by an entity from their same group. However, a CCP should be able to allow clearing members to post covered bonds that are insulated from the insolvency of the issuer. The underlying collateral should nevertheless be appropriately segregated from the issuer and satisfy the minimum criteria for acceptability of collateral. A clearing member should not issue financial instruments for the primary purpose of using them as collateral by another clearing member.
- (38) To ensure the safety of CCPs, a CCP should accept as collateral a commercial bank guarantee only after a thorough assessment of the issuer and of the legal, contractual and operational framework of the guarantee. Unsecured exposures of CCPs to commercial banks should be avoided. Therefore, commercial bank guarantees may be accepted only under strict conditions. Those conditions are generally met in markets characterised by a high concentration of commercial banks willing to provide credit to non-financial clearing members. For this reason a higher concentration limit should be permitted in these cases.

- (39) To limit its market risk, a CCP should be required to value its collateral at least daily. It should apply prudent haircuts that reflect the potential decrease of value of the collateral over the interval between its last revaluation and the time by which the collateral can reasonably be assumed to be liquidated under stressed market conditions. The level of collateral should also take account of potential wrong-way risk exposures.
- (40) The implementation of haircuts should enable the CCP to avoid large and unexpected adjustments to the amount of collateral required, thus avoiding procyclical effects to the extent possible.
- (41) A CCP should not concentrate collateral on a limited number of issuers or in a limited number of assets, so as to avoid potential significant adverse price effects in case of liquidation of the collateral in a short period of time. Concentrated collateral positions should not be considered highly liquid for this reason.
- (42) Liquidity, credit and market risk should be considered at portfolio level as well as at the level of an individual financial instrument. A concentrated portfolio can have a significant negative effect on the liquidity of the collateral or of the financial instruments in which the CCP can invest its financial resources, since selling large positions in stressed market conditions is unlikely to be feasible without depressing the market price. For the same reason, collateral maintained by the CCP should be monitored and valued on a continuous basis to ensure that it remains liquid.
- (43) Energy derivative markets show a particularly strong interlink with spot commodity markets and in these derivative markets the proportion of non-financial clearing members is high. On those markets, a significant number of market participants are also producers of the underlying commodity. Access to sufficient collateral to back commercial bank guarantees in full could require substantial divesting by those non-financial clearing members of their current positions or could impede them from continuing to clear their positions as a direct clearing member of a CCP. That process could cause market disruptions in energy markets, in terms of liquidity and diversity of market participants. Therefore, its application should be postponed according to a well established timeframe.
- (44) In order to ensure a consistent application of the framework established in Regulation (EU) No 648/2012, all sectors should face similar requirements in the final form of the rules applicable to them. Energy firms currently operate under a well-established framework that will require time to adapt to the new requirements established to avoid detrimental effects to the real economy. Therefore, it is considered desirable to establish an application date for such types of markets that allows an appropriate transition from the current market practice without affecting unduly market structure and liquidity.
- (45) The investment policy of a CCP should assign the highest priority to the principles of capital preservation and liquidity maximisation. The investment policy should also ensure that no conflicts of interest arise with the commercial interests of the CCP.
- (46) The criteria that financial instruments should meet to be considered eligible investments for the CCP, should take into account Principle 16 of the CPSS-IOSCO Principles –in order to ensure international consistency. In particular, a CCP should be

required to apply restrictive standards concerning the issuer of the financial instrument, the transferability of the financial instrument and the credit, market, volatility and foreign exchange risk of the financial instrument. A CCP should ensure that it does not undermine measures taken to limit the risk exposure of its investments by having excessive exposures to any individual financial instrument, type of financial instrument, individual issuer, type of issuer or individual custodian.

- (47) The use of derivatives by a CCP exposes it to additional credit and market risks and it is therefore necessary to define a restrictive set of circumstances in which a CCP can invest its financial resources in derivatives. Given that a CCP's aim should be to have a flat position with regards to market risk, the only risks that a CCP should need to hedge are those concerning the collateral that it accepts or the risks arising from the default of a clearing member. Risks concerning the collateral that a CCP accepts can be sufficiently managed through haircuts and it is not considered necessary for a CCP to use derivatives in this regard. Derivatives should only be used by a CCP for managing liquidity risk arising for exposures to different currencies and for the purposes of hedging the portfolio of a defaulted clearing member and only where the CCP's default management procedures envisage such use.
- (48) To ensure the safety of CCPs, they should only be allowed to maintain cash in unsecured deposits in minimal proportions. In securing its cash, CCPs should always ensure that they are always adequately protected against liquidity risk.
- (49) It is necessary to set out rigorous stress and back testing requirements to ensure that a CCP's models, their methodologies and the liquidity risk management framework work properly, taking into account all risks the CCP is exposed to, so that the CCP has at all times adequate resources to cover those risks.
- (50) To ensure consistent application of requirements for CCPs, it is necessary to set out detailed provisions with respect to the types of tests to be undertaken, including both stress and back testing. In order to cater for the wide range of security and derivative contracts which may be cleared in the future, reflect differences in CCP's business and risk management approaches, allow for future developments and new risks to be dealt with and allow for sufficient flexibility, a criteria based approach is necessary.
- (51) In validating a CCP's models, their methodologies and the liquidity risk management framework it is important to use an appropriate independent party so that any necessary corrective measures can be found and implemented before implementation and to avoid any material conflicts of interest. The independent party should be sufficiently separate from the part of the CCP's business that develops, implements and will operate the model or policies being reviewed and should not hold a material conflict of interest. Those conditions could be met either by an internal party that has separate reporting lines or an external party.
- (52) Various aspects of a CCP's financial resources, notably margin coverage, default funds and other financial resources, are designed to cover different scenarios and objectives. It is therefore necessary to provide specific requirements to reflect these objectives and to ensure consistent application across CCPs. In assessing the necessary coverage the CCP should not net off any exposures between defaulting clearing members, in order to avoid reducing the potential impacts that these exposures might have.

- (53) The different types of financial instruments which a CCP may clear are subject to a variety of specific risks. A CCP should therefore be required to consider all the risks relevant to the markets it provides clearing services for in its models, their methodologies and the liquidity risk management framework to ensure it adequately measures its potential future exposure. In order for such risks to be properly considered, stress testing requirements should include instrument-specific risks relevant to different types of financial instruments.
- (54) For a CCP to ensure that its model for calculating initial margins adequately reflects its potential exposures, in addition to the daily back testing of its margin coverage which looks at the adequacy of the margin being called, it should also back test key parameters and assumptions of the model. This is essential to ensure that CCPs' models calculate initial margin accurately.
- (55) Rigorous sensitivity analysis of margin requirements may take on increased importance when markets are illiquid or volatile and should be used to determine the impact of varying important model parameters. Sensitivity analysis is an effective tool to explore hidden shortcomings that cannot be discovered through back testing.
- (56) Failure to conduct stress and back tests regularly could lead to a CCP's financial and liquid resources being inadequate to cover the actual risks it is exposed to. Appropriate tests will also allow a CCP's models, their methodologies and the liquidity risk management framework to deal with changing markets and new risks promptly. Test results should therefore be used promptly by CCPs to review their models, methodologies and liquidity risk management framework.
- (57) Modelling extreme market conditions can help a CCP determining the limits of its current models, the liquidity risk management framework and the financial and liquid resources. However, it requires the CCP to exercise judgment when modelling different markets and products. Reverse stress testing should be considered a helpful management tool, whilst not the main one, to determine the appropriate level of financial resources.
- (58) The involvement of clearing members, clients and other relevant stakeholders in the testing of a CCP's default management procedures, through simulation exercises, is essential to ensure that they have the understanding and operational capability to successfully participate in a default management situation. Simulation exercises should replicate a default scenario to demonstrate the roles and responsibilities of clearing members, clients and other relevant stakeholders. Additionally it is important that a CCP has appropriate mechanisms that enable it to ascertain whether corrective action is required and to identify any lack of clarity in, or discretion allowed by, the rules and procedures. The testing of a CCP's default management procedures is particularly important where it relies on non-defaulting clearing members or third parties to assist in the close-out process and where the default procedures have never been tested by an actual default.
- (59) This Regulation is based on the draft regulatory technical standards submitted by the European Securities and Markets Authority (ESMA) to the Commission.
- (60) ESMA has consulted, where relevant, the European Banking Authority (EBA), the European Systemic Risk Board and the members of the ESCB before submitting the

draft technical standards on which this Regulation is based. In accordance with Article 10 of Regulation (EU) No 1095/2010 of the European Parliament and the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority)⁴, ESMA has conducted open public consultations on such draft regulatory technical standards, analysed the potential related costs and benefits and requested the opinion of the Securities and Markets Stakeholder Group established in accordance with Article 37 of Regulation (EU) No 1095/2010,

HAS ADOPTED THIS REGULATION:

CHAPTER I

GENERAL

Article 1

Definitions

For the purposes of this Regulation, the following definitions apply:

- (1) ‘basis risk’ means the risk arising from less than perfectly correlated movements between two or more assets or contracts cleared by the central counterparty (CCP);
- (2) ‘confidence interval’ means the percentage of exposures movements for each financial instrument cleared with reference to a specific lookback period that a CCP is required to cover over a certain liquidation period;
- (3) ‘convenience yield’ means the benefits from direct ownership of the physical commodity and is affected both by market conditions and by factors such as physical storage costs;
- (4) ‘margins’ means margins as referred to in Article 41 of Regulation (EU) No 648/2012 which may include initial margins and variation margins;-
- (5) ‘initial margin’ means margins collected by the CCP to cover potential future exposure to clearing members providing the margin and, where relevant, interoperable CCPs in the interval between the last margin collection and the liquidation of positions following a default of a clearing member or of an interoperable CCP default;
- (6) ‘variation margin’ means margins collected or paid out to reflect current exposures resulting from actual changes in market price;
- (7) ‘jump to default risk’ means the risk that a counterparty or issuer defaults suddenly before the market has had time to factor in its increased default risk;
- (8) ‘liquidation period’ means the time period used for the calculation of the margins that the CCP estimates necessary to manage its exposure to a defaulting member and

⁴ OJ L 331, 15.12.2010 p. 84

during which the CCP is exposed to market risk related to the management of the defaulter's positions;

- (9) 'lookback period' means the time horizon for the calculation of historical volatility;
- (10) 'testing exception' means the result of a test which shows that a CCP's model or liquidity risk management framework did not result in the intended level of coverage;
- (11) 'wrong-way risk' means the risk arising from exposure to a counterparty or issuer when the collateral provided by that counterparty or issued by that issuer is highly correlated with its credit risk.

CHAPTER II

RECOGNITION OF THIRD COUNTRY CCPs

(Article 25 of Regulation (EU) No 648/2012)

Article 2

Information to be provided to ESMA for the recognition of a CCP

An application for recognition submitted by a CCP established in a third country shall contain at least the following information:

- (a) full name of the legal entity;
- (b) identities of the shareholders or members with qualifying holdings;
- (c) a list of the Member States in which it intends to provide services;
- (d) classes of financial instruments cleared;
- (e) details to be included in the ESMA website in accordance with Article 88 (1)(e) of Regulation (EU) No 648/2012;
- (f) details of its financial resources, the form and methods in which they are maintained and the arrangements to secure them including default management procedures;
- (g) details on the margin methodology and for the calculation of the default fund;
- (h) a list of the eligible collateral;
- (i) a breakdown of values, in prospective form if needed, cleared by the applying CCP by each Union currency cleared;
- (j) results of the stress tests and back tests performed during the year preceding the date of application;

- (k) its rules and internal procedures with evidences of full compliance with the requirements applicable in that third country;
- (l) details of any outsourcing arrangements;
- (m) details on segregation arrangements and respective legal soundness and enforceability;
- (n) details on the CCP's access requirements and terms for suspension and termination of membership;
- (o) details of any interoperability arrangement, including the information provided to the third country competent authority for the purpose of assessing the arrangement.

CHAPTER III

ORGANISATIONAL REQUIREMENTS

(Article 26 of Regulation (EU) No 648/2012)

Article 3

Governance arrangements

1. The key components of the governance arrangements of the CCP that define its organisational structure as well as clearly specified and well-documented policies, procedures and processes by which its board and senior management operate shall include the following:
 - (a) the composition, role and responsibilities of the board and any board committees;
 - (b) the roles and responsibilities of the management;
 - (c) the senior management structure;
 - (d) the reporting lines between the senior management and the board;
 - (e) the procedures for the appointment of board members and senior management;
 - (f) the design of the risk management, compliance and internal control functions;
 - (g) the processes for ensuring accountability to stakeholders.
2. A CCP shall have adequate staff to meet all obligations arising from this Regulation and from Regulation (EU) No 648/2012. A CCP shall not share its staff with other group entities, unless under the terms of an outsourcing arrangement in accordance with Article 35 of Regulation (EU) No 648/2012.

3. A CCP shall establish lines of responsibility which are clear, consistent and well-documented. A CCP shall ensure that the functions of the chief risk officer, chief compliance officer and chief technology officer are carried out by different individuals, who shall be employees of the CCP entrusted with the exclusive responsibility of performing these functions.
4. A CCP that is part of a group shall take into account any implications of the group for its own governance arrangements including whether it has the necessary level of independence to meet its regulatory obligations as a distinct legal person and whether its independence could be compromised by the group structure or by any board member also being a member of the board of other entities of the same group. In particular, such a CCP shall consider specific procedures for preventing and managing conflicts of interest including with respect to outsourcing arrangements.
5. Where a CCP maintains a two-tiered board system, the role and responsibilities of the board as established in this Regulation and in Regulation (EU) No 648/2012 shall be allocated to the supervisory board and the management board as appropriate.
6. The risk management policies, procedures, systems and controls shall be part of a coherent and consistent governance framework that is reviewed and updated regularly.

Article 4

Risk management and internal control mechanisms

1. A CCP shall have a sound framework for the comprehensive management of all material risks to which it is or may be exposed. A CCP shall establish documented policies, procedures and systems that identify, measure, monitor and manage such risks. In establishing risk-management policies, procedures and systems, a CCP shall structure them in a way as to ensure that clearing members properly manage and contain the risks they pose to the CCP.
2. A CCP shall take an integrated and comprehensive view of all relevant risks. These shall include the risks it bears from and poses to its clearing members and, to the extent practicable, clients as well as the risks it bears from and poses to other entities such as, but not limited to interoperable CCPs, securities settlement and payment systems, settlement banks, liquidity providers, central securities depositories, trading venues served by the CCP and other critical service providers.
3. A CCP shall develop appropriate risk management tools to be in a position to manage and report on all relevant risks. These shall include the identification and management of system, market or other interdependencies. If a CCP provides services linked to clearing that present a distinct risk profile from its functions and potentially pose significant additional risks to it, the CCP shall manage those additional risks adequately. This may include separating legally the additional services that the CCP provides from its core functions.
4. The governance arrangements shall ensure that the board of a CCP assumes final responsibility and accountability for managing the CCP's risks. The board shall

define, determine and document an appropriate level of risk tolerance and risk bearing capacity for the CCP. The board and senior management shall ensure that the CCP's policies, procedures and controls are consistent with the CCP's risk tolerance and risk bearing capacity and that they address how the CCP identifies, reports, monitors and manages risks.

5. A CCP shall employ robust information and risk-control systems to provide the CCP and, where appropriate, its clearing members and, where possible, clients with the capacity to obtain timely information and to apply risk management policies and procedures appropriately. These systems shall ensure, at least that credit and liquidity exposures are monitored continuously at the CCP level as well as at the clearing member level and, to the extent practicable, at the client level.
6. A CCP shall ensure that the risk management function has the necessary authority, resources, expertise and access to all relevant information and that it is sufficiently independent from the other functions of the CCP. The CCP chief risk officer shall implement the risk management framework including the policies and procedures established by the board.
7. A CCP shall have adequate internal control mechanisms to assist the board in monitoring and assessing the adequacy and effectiveness of its risk management policies, procedures and systems. Such mechanisms shall include sound administrative and accounting procedures, a robust compliance function and an independent internal audit and validation or review function.
8. A CCP's financial statement shall be prepared on an annual basis and be audited by statutory auditors or audit firms within the meaning of Directive 2006/43/EC.

Article 5

Compliance policy and procedures

1. A CCP shall establish, implement and maintain adequate policies and procedures designed to detect any risk of failure by the CCP and its employees to comply with its obligations under this Regulation, Regulation (EU) No 648/2012 and Regulation (EU) No xx/2012 [Commission implementing regulation laying down implementing technical standard on record keeping], as well as the associated risks, and put in place adequate measures and procedures designed to minimise such risk and to enable the competent authorities to exercise their powers effectively under these Regulations.
2. A CCP shall ensure that its rules, procedures and contractual arrangements are clear and comprehensive and they ensure compliance with this Regulation, Regulation (EU) No 648/2012 and Regulation (EU) No xx/2012 [Commission implementing regulation laying down implementing technical standards on record keeping] as well as all other applicable regulatory and supervisory requirements. –

The rules, procedures and contractual arrangements of the CCP shall be recorded in writing or another durable medium. These rules, procedures, and contractual arrangements and any accompanying material shall be accurate, up-to-date and

readily available to the competent authority, clearing members and, where appropriate, clients.

A CCP shall identify and analyse the soundness of the rules, procedures and contractual arrangements of the CCP. If necessary, independent legal opinions shall be sought for the purpose of this analysis. The CCP shall have a process for proposing and implementing changes to its rules and procedures and prior to implementing any material changes to consult with all affected clearing members and submit the proposed changes to the competent authority.

3. In developing its rules, procedures and contractual arrangements a CCP shall consider relevant regulatory principles and industry standards and market protocols and clearly indicate where such practices have been incorporated into the documentation governing the rights and obligations of the CCP, its clearing members and other relevant third parties.
4. A CCP shall identify and analyse potential conflicts of law issues and develop rules and procedures to mitigate legal risk resulting from such issues. If necessary, independent legal opinions shall be sought by the CCP for the purpose of this analysis.

A CCP's rules and procedures shall clearly indicate the law that is intended to apply to each aspect of the CCP's activities and operations.

Article 6

Compliance function

1. A CCP shall establish and maintain a permanent and effective compliance function which operates independently from the other functions of the CCP. It shall ensure that the compliance function has the necessary authority, resources, expertise and access to all relevant information.

When establishing its compliance function, the CCP shall take into account the nature, scale and complexity of its business, and the nature and range of the services and activities undertaken in the course of that business.

2. The chief compliance officer shall at least have the following responsibilities:
 - (a) monitor and, on a regular basis, assess the adequacy and effectiveness of the measures put in place in accordance with Article 5(4) and the actions taken to address any deficiencies in the CCP's compliance with its obligations;
 - (b) administer the compliance policies and procedures established by senior management and the board;
 - (c) advise and assist the persons responsible for carrying out the CCP services and activities to comply with the CCP's obligations under this Regulation (EU), Regulation No 648/2012 and Regulation (EU) No xx/2012 [Commission implementing regulation laying down implementing technical standard on record keeping] and other regulatory requirements, where applicable;

- (d) report regularly to the board on compliance by the CCP and its employees with this Regulation, Regulation (EU) No 648/2012 and Regulation (EU) No xx/2012 [Commission implementing regulation laying down implementing technical standards on record keeping];
- (e) establish procedures for the effective remediation of instances of non-compliance;
- (f) ensure that the relevant persons involved in the compliance function are not involved in the performance of the services or activities they monitor and that any conflicts of interest of such persons are properly identified and eliminated.

Article 7

Organisational structure and separation of the reporting lines

1. A CCP shall define the composition, role and responsibilities of the board and senior management and any board committees. These arrangements shall be clearly specified and well-documented. The board shall establish, at a minimum an audit committee and a remuneration committee. The risk committee established in accordance with Article 28 of Regulation (EU) No 648/2012 shall be an advisory committee to the board.
2. The board shall assume at least the following responsibilities:
 - (a) the establishment of clear objectives and strategies for the CCP;
 - (b) the effective monitoring of senior management;
 - (c) the establishment of appropriate remuneration policies,
 - (d) the establishment and oversight of the risk management function;
 - (e) the oversight of the compliance function and internal control function;
 - (f) the oversight of outsourcing arrangements;
 - (g) the oversight of compliance with all provisions of this Regulation, Regulation (EU) No 648/2012, Regulation (EU) No xx/2012 [Commission implementing regulation laying down implementing technical standards on record keeping] and all other regulatory and supervisory requirements;
 - (h) the provision of accountability to the shareholders or owners and employees, clearing members and their customers and other relevant stakeholders.
3. Senior management shall have at least the following responsibilities:
 - (a) ensuring consistency of the CCP's activities with the objectives and strategy of the CCP as determined by the board;
 - (b) designing and establishing compliance and internal control procedures that promote the CCP's objectives;

- (c) subjecting the internal control procedures to regular review and testing;
 - (d) ensuring that sufficient resources are devoted to risk management and compliance;
 - (e) be actively involved in the risk control process;
 - (f) ensuring that risks posed to the CCP by its clearing and activities linked to clearing are duly addressed.
4. Where the board delegates tasks to committees or sub-committees, it shall retain the approval of decisions that could have a significant impact on the risk profile of the CCP.
 5. The arrangements by which the board and senior management operate shall include processes to identify, address and manage potential conflicts of interest of members of the board and senior management.
 6. A CCP shall have clear and direct reporting lines between its board and senior management in order to ensure that the senior management is accountable for its performance. The reporting lines for risk management, compliance and internal audit shall be clear and separate from those for the other operations of the CCP. The chief risk officer shall report to the board either directly or through the chair of the risk committee. The chief compliance officer and the internal audit function shall report directly to the board.

Article 8

Remuneration policy

1. The remuneration committee shall design and further develop the remuneration policy, oversee its implementation by senior management and review its practical operation on a regular basis. The policy itself shall be documented and reviewed at least on an annual basis.
2. The remuneration policy shall be designed to align the level and structure of remuneration with prudent risk management. The policy shall account for prospective risks as well as existing risks and risk outcomes. Pay out schedules shall be sensitive to the time horizon of risks. In particular in the case of variable remuneration the policy shall take due account of possible mismatches of performance and risk periods and shall ensure that payments are deferred as appropriate. The fixed and variable components of total remuneration shall be balanced and shall be consistent with risk alignment.
3. The remuneration policy shall provide that staff engaged in risk management, compliance and internal audit functions are remunerated in a manner that is independent of the business performance of the CCP. The level of remuneration shall be adequate in terms of responsibility as well as in comparison to the level of remuneration in the business areas.

4. The remuneration policy shall be subject to independent audit, on an annual basis. The results of these audits shall be made available to the competent authority.

Article 9

Information technology systems

1. A CCP shall design and ensure its information technology systems are reliable and secure as well as capable of processing the information necessary for the CCP to perform its activities and operations in a safe and efficient manner.

The information technology architecture shall be well-documented. The systems shall be designed to deal with the CCP's operational needs and the risks the CCP faces, be resilient, including in stressed market conditions, and be scalable, if necessary, to process additional information. The CCP shall provide for procedures and capacity planning as well as for sufficient redundant capacity to allow the system to process all remaining transactions before the end of the day in circumstances where a major disruption occurs. The CCP shall provide for procedures for the introduction of new technology including clear reversion plans.

2. In order to ensure a high degree of security in information processing and to enable connectivity with its clearing members and clients as well as with its service providers, a CCP shall base its information technology systems on internationally recognised technical standards and industry best practices. The CCP shall subject its systems to stringent testing, simulating stressed conditions, before initial use, after making significant changes and after a major disruption has occurred. Clearing members and clients, interoperable CCPs and other interested parties shall be involved as appropriate in the design and conduct of these tests.
3. A CCP shall maintain a robust information security framework that appropriately manages its information security risk. The framework shall include appropriate mechanisms, policies and procedures to protect information from unauthorised disclosure, to ensure data accuracy and integrity and to guarantee the availability of the CCP's services.
4. The information security framework shall include at least the following features:
 - (a) access controls to the system;
 - (b) adequate safeguards against intrusions and data misuse;
 - (c) specific devices to preserve data authenticity and integrity, including cryptographic techniques;
 - (d) reliable networks and procedures for accurate and prompt data transmission without major disruptions;
 - (e) audit trails.
5. The information technology systems and the information security framework shall be reviewed at least on an annual basis. They shall be subject to independent audit

assessments. The results of these assessments shall be reported to the board and shall be made available to the competent authority.

Article 10

Disclosure

1. A CCP shall make the following information available to the public free of charge:
 - (a) information regarding its governance arrangements, including the following:
 - (i) its organisational structure as well as key objectives and strategies;
 - (ii) key elements of the remuneration policy;
 - (iii) key financial information including its most recent audited financial statements;
 - (b) information regarding its rules, including the following:
 - (i) default management procedures, procedures and supplementary texts;
 - (ii) relevant business continuity information;
 - (iii) information on the CCP's risk management systems, techniques and performance in accordance with Chapter XII;
 - (iv) all relevant information on its design and operations as well as on the rights and obligations of clearing members and clients, necessary to enable them to identify clearly and understand fully the risks and costs associated with using the CCP's services;
 - (v) the CCP's current clearing services, including detailed information on what it provides under each service;
 - (vi) the CCP's risk management systems, techniques and performance, including information on financial resources, investment policy, price data sources and models used in margin calculations;
 - (vii) the law and the rules governing:
 - (1) - the access to the CCP;
 - (2) - the contracts concluded by the CCP with clearing members and, where practicable, clients;
 - (3) - the contracts that the CCP accepts for clearing;
 - (4) - any interoperability arrangements;

- (5) - the use of collateral and default fund contributions, including the liquidation of positions and collateral and the extent to which collateral is protected against third party claims
- (c) information regarding eligible collateral and applicable haircuts;
- (d) a list of all current clearing members, including admission, suspension and exit criteria for clearing membership.

Where the competent authority agrees with the CCP that any of the information under point (b) or (c) of this paragraph may put at risk business secrets or the safety and soundness of the CCP, the CCP may decide to disclose that information in a manner that prevents or reduces those risks, or not to disclose such information.

- 2. A CCP shall disclose to the public, free of charge, information regarding any material changes in its governance arrangements, objectives, strategies and key policies as well as in its applicable rules and procedures.
- 3. Information to be disclosed to the public by the CCP shall be accessible on its website. Information shall be available in at least a language customary in the sphere of international finance.

Article 11

Internal auditing

- 1. A CCP shall establish and maintain an internal audit function which is separate and independent from the other functions and activities of the CCP and which has the following tasks:
 - (a) to establish, implement and maintain an audit plan to examine and evaluate the adequacy and effectiveness of the CCP's systems, internal control mechanisms and governance arrangements;
 - (b) to issue recommendations based on the result of work carried out in accordance with point (a);
 - (c) to verify compliance with those recommendations;
 - (d) to report internal audit matters to the board.
- 2. The internal audit function shall have the necessary authority, resources, expertise, and access to all relevant documents for the performance of its functions. It shall be sufficiently independent from the management and shall report directly to the board.
- 3. Internal audit shall assess the effectiveness of the CCP's risk management processes and control mechanisms in a manner that is proportionate to the risks faced by the different business lines and independent of the business areas assessed. The internal audit function shall have the necessary access to information in order to review all of the CCP's activities and operations, processes and systems, including outsourced activities.

4. Internal audit assessments shall be based on a comprehensive audit plan that shall be reviewed and reported to the competent authority at least on an annual basis. The CCP shall ensure that special audits may be performed on an event-driven basis at short notice. Audit planning and review shall be approved by the board.
5. A CCP's clearing operations, risk management processes, internal control mechanisms and accounts shall be subject to independent audit. Independent audits shall be performed, at a least, on an annual basis.

CHAPTER IV

RECORD KEEPING

(Article 29 of Regulation (EU) No 648/2012)

Article 12

General requirements

1. A CCP shall keep records in a durable medium that allows information to be provided to the competent authorities, ESMA and relevant European System of Central Banks (ESCB) members, and in such a form and manner that the following conditions are met:
 - (a) each key stage of the processing by the CCP may be reconstituted;
 - (b) the original content of a record before any corrections or other amendments may be recorded, traced and retrieved;
 - (c) measures to prevent unauthorised alteration of records are in place;
 - (d) security and confidentiality of the data recorded are ensured through appropriate measures;
 - (e) a mechanism for identifying and correcting errors is incorporated in the record keeping system;
 - (f) the timely recovery of the records in the case of a system failure is ensured within the record keeping system.
2. Where records or information are less than six months old, they shall be provided to the authorities listed in paragraph 1 as soon as possible and at the latest by the end of the following business day following a request from the relevant authority.
3. Where records or information are older than six months, shall be provided to the authorities listed in paragraph 1 as soon as possible and within five business days following a request from the relevant authority.
4. Where the records processed by the CCP contain personal data CCPs shall have regard to their obligations under Directive 95/46/EC of the European Parliament and

of the Council⁵ and Regulation (EC) No 45/2001 of the European Parliament and of the Council⁶.

5. Where a CCP maintains records outside the Union, it shall ensure that the competent authority, ESMA and the relevant members of the ESCB are able to access the records to the same extent and within the same periods as if they were maintained within the Union.
6. Each CCP shall name the relevant persons who can, within the delay established in paragraphs 2 and 3 for the provision of the relevant records, explain the content of its records to the competent authorities.
7. All records required to be kept by a CCP under this Regulation shall be open to inspection by the competent authority. A CCP shall provide the competent authority with a direct data feed to the records required under Articles 13 and 14, when requested.

Article 13

Transaction records

1. A CCP shall maintain records of all transactions in all contracts it clears and shall ensure that its records include all information necessary to conduct a comprehensive and accurate reconstruction of the clearing process for each contract and that each record on each transaction is uniquely identifiable and searchable at least by all fields concerning the CCP, interoperable CCP, clearing member, client, if known to the CCP, and financial instrument.
2. In relation to every transaction received for clearing, a CCP shall, immediately upon receiving the relevant information, make and keep updated a record of the following details:
 - (a) the price, rate or spread and quantity;
 - (b) the clearing capacity, which identifies whether the transaction was a buy or sale from the perspective of the CCP recording;
 - (c) the instrument identification;
 - (d) the identification of the clearing member;
 - (e) the identification of the venue where the contract was concluded;
 - (f) the date and time of interposition of the CCP;
 - (g) the date and time of termination of the contract;
 - (h) the terms and modality of settlement;

⁵ OJ L 281, 23.11.1995, p. 31.

⁶ OJ L 8, 12.1.2001, p. 1.

- (i) the date and time of settlement or of buy-in of the transaction and to the extent they are applicable of the following details:
 - (i) the day and the time at which the contract was originally concluded;
 - (ii) the original terms and parties of the contract;
 - (iii) the identification of the interoperable CCP clearing one leg of the transaction, where applicable;
 - (iv) the identity of the client, including any indirect client, where known to the CCP, and in case of a give-up, the identification of the party that transferred the contract.

Article 14

Position records

1. A CCP shall maintain records of positions held by each clearing member. Separate records shall be held for each account kept in accordance with Article 39 of Regulation (EU) No 648/2012 and the CCP shall ensure that its records include all information necessary to conduct a comprehensive and accurate reconstruction of the transactions that established the position and that each record is identifiable and searchable at least by all fields concerning the CCP, interoperable CCP, clearing member, client, if known to the CCP, and financial instrument.
2. At the end of each business day a CCP shall make a record in relation to each position including the following details, to the extent they are linked to the position in question:
 - (a) the identification of the clearing member, of the client, if known to the CCP, and of any interoperable CCP maintaining such position, where applicable;
 - (b) the sign of the position;
 - (c) the daily calculation of the value of the position with records of the prices at which the contracts are valued, and of any other relevant information.
3. A CCP shall make, and keep updated, a record of the amounts of margins, default fund contributions and other financial resources referred to in Article 43 of Regulation (EU) No 648/2012, called by the CCP and the corresponding amount actually posted by the clearing member at the end of day and changes to that amount that may occur intraday, with respect to each single clearing member and client account if known to the CCP.

Article 15

Business records

1. A CCP shall maintain adequate and orderly records of activities related to its business and internal organisation.

2. The records referred to in paragraph 1 shall be made each time a material change in the relevant documents occurs and shall include at least:
- (a) the organisational charts for the board and relevant committees, clearing unit, risk management unit, and all other relevant units or divisions;
 - (b) the identities of the shareholders or members, whether direct or indirect, natural or legal persons, that have qualifying holdings and the amounts of those holdings;
 - (c) the documents attesting the policies, procedures and processes required under Chapter III and Article 29;
 - (d) the minutes of board meetings and, if applicable, of meetings of sub-committees of the board and of senior management committees;
 - (e) the minutes of meetings of the risk committee;
 - (f) the minutes of consultation groups with clearing members and clients, if any;
 - (g) internal and external audit reports, risk management reports, compliance reports, and reports by consultant companies, including management responses;
 - (h) the business continuity policy and disaster recovery plan, required under Article 17;
 - (i) the liquidity plan and the daily liquidity reports, required under Article 32;
 - (j) records reflecting all assets and liabilities and capital accounts as required under Article 16 of Regulation (EU) No 648/2012;
 - (k) complaints received, with information on the complainant's name, address, and account number; the date the complaint was received; the name of all persons identified in the complaint; a description of the nature of the complaint; the disposition of the complaint, and the date the complaint was resolved;
 - (l) records of any interruption of services or dysfunction, including a detailed report on the timing, effects and remedial actions;
 - (m) records of the results of the back and stress tests performed;
 - (n) written communications with competent authorities, ESMA and the relevant members of the ESCB;
 - (o) legal opinions received in accordance with Chapter III;
 - (p) where applicable, documentation regarding interoperability arrangements with other CCPs;
 - (q) the information under Article 10 (1)(b)(vii) and (1)(d);
 - (r) the relevant documents describing the development of new business initiatives.

Article 16

Records of data reported to a trade repository

A CCP shall identify and retain all information and data required to be reported in accordance with Article 9 of Regulation (EU) No 648/2012, along with a record of the date and time the transaction is reported.

CHAPTER V

BUSINESS CONTINUITY

(Article 34 of Regulation (EU) No 648/2012)

Article 17

Strategy and policy

1. A CCP shall have a business continuity policy and a disaster recovery plan which are approved by the board. The business continuity policy and the disaster recovery plan shall be subject to independent reviews which are reported to the board.
2. The business continuity policy shall identify all critical business functions and related systems, and include the CCP's strategy, policy, and objectives to ensure the continuity of these functions and systems.
3. The business continuity policy shall take into account external links and interdependencies within the financial infrastructure including trading venues cleared by the CCP, securities settlement and payment systems and credit institutions used by the CCP or a linked CCP. It shall also take into account critical functions or services which have been outsourced to third-party providers.
4. The business continuity policy and disaster recovery plan shall contain clearly defined and documented arrangements for use in the event of a business continuity emergency, disaster or crisis which are designed to ensure a minimum service level of critical functions.
5. The disaster recovery plan shall identify and include recovery point objectives and recovery time objectives for critical functions and determine the most suitable recovery strategy for each of these functions. Such arrangements shall be designed to ensure that in extreme scenarios critical functions are completed on time and that agreed service levels are met.
6. A CCP's business continuity policy shall identify the maximum acceptable time for which critical functions and systems may be unusable. The maximum recovery time for the CCP's critical functions to be included in the business continuity policy shall not be higher than 2 hours. End of day procedures and payments shall be completed on the required time and day in all circumstances.

7. A CCP shall take into account the potential overall impact on market efficiency in determining the recovery times for each function.

Article 18

Business impact analysis

1. A CCP shall conduct a business impact analysis which is designed to identify the business functions which are critical to ensure the services of the CCP. The criticality of these functions to other institutions and functions in the financial infrastructure shall be part of the analysis.
2. A CCP shall use scenario based risk analysis which is designed to identify how various scenarios affect the risks to its critical business functions.
3. In assessing risks, a CCP shall take into account dependencies on external providers, including utilities services. A CCP shall take action to manage such dependencies through appropriate contractual and organisational arrangements.
4. Business impact analysis and scenario analysis shall be kept up to date, shall be reviewed at least on an annual basis and following an incident or significant organisational changes. The analyses shall take into account all relevant developments, including market and technology developments.

Article 19

Disaster recovery

1. A CCP shall have in place arrangements to ensure continuity of its critical functions based on disaster scenarios. These arrangements shall at least address the availability of adequate human resources, the maximum downtime of critical functions, and fail over and recovery to a secondary site.
2. A CCP shall maintain a secondary processing site capable of ensuring continuity of all critical functions of the CCP identical to the primary site. The secondary site shall have a geographical risk profile which is distinct from that of the primary site.
3. A CCP shall maintain or have an immediate access to a secondary business site, at least, to allow staff to ensure continuity of the service if the primary location of business is not available.
4. The need for additional processing sites shall be considered by the CCP, in particular if the diversity of the risk profiles of the primary and secondary sites does not provide sufficient confidence that the CCP's business continuity objectives will be met in all scenarios.

Article 20

Testing and monitoring

1. A CCP shall test and monitor its business continuity policy and disaster recovery plan at regular intervals and after significant modifications or changes to the systems or related functions to ensure the business continuity policy achieves the stated objectives including the 2 hour maximum recovery time objective. Tests shall be planned and documented.
2. Testing of the business continuity policy and disaster recovery plan shall fulfil the following conditions:
 - (a) involve scenarios of large scale disasters and switchovers between primary and secondary sites;
 - (b) include involvement of clearing members, external providers and relevant institutions in the financial infrastructure with which interdependencies have been identified in the business continuity policy.

Article 21

Maintenance

1. A CCP shall regularly review and update its business continuity policy to include all critical functions and the most suitable recovery strategy for them.
2. A CCP shall regularly review and update its disaster recovery plan to include the most suitable recovery strategy for all critical functions.
3. Updates to the business continuity policy and disaster recovery plan shall take into consideration the outcome of the tests and recommendations of independent reviews and other reviews and of competent authorities. CCPs shall review their business continuity policy and disaster recovery plan after every significant disruption, to identify the causes and any required improvements to the CCP's operations, business continuity policy and disaster recovery plan.

Article 22

Crisis management

1. A CCP shall have a crisis management function to act in case of an emergency. The crisis management procedure shall be clear and documented in writing. The board shall monitor the crisis management function and regularly receive and review reports on it.
2. The crisis management function shall contain well-structured and clear procedures to manage internal and external crisis communications during a crisis event.
3. Following a crisis event, the CCP shall undertake a review of its handling of the crisis. The review shall, where relevant, incorporate contributions from clearing members and other external stakeholders.

Article 23

Communication

1. A CCP shall have a communication plan which documents the way in which the senior management, the board and relevant external stakeholders, including competent authorities, clearing members, clients, settlement agents, securities settlement and payment systems and trading venues, will be kept adequately informed during a crisis.
2. Scenario analysis, risk analysis, reviews and results of monitoring and tests shall be reported to the board.

CHAPTER VI

MARGINS

(Article 41 of Regulation (EU) No 648/2012)

Article 24

Percentage

1. A CCP shall calculate the initial margins to cover the exposures arising from market movements for each financial instrument that is collateralized on a product basis, over the time period defined in Article 25 and assuming a time horizon for the liquidation of the position as defined in Article 26. For the calculation of initial margins the CCP shall at least respect the following confidence intervals:
 - (a) for OTC derivatives, 99.5%;
 - (b) for financial instruments other than OTC derivatives, 99%.
2. For the determination of the adequate confidence interval for each class of financial instruments it clears, a CCP shall in addition consider at least the following factors:
 - (a) the complexities and level of pricing uncertainties of the class of financial instruments which may limit the validation of the calculation of initial and variation margin;
 - (b) the risk characteristics of the class of financial instruments, which can include, but are not limited to, volatility, duration, liquidity, non-linear price characteristics, jump to default risk and wrong way risk;
 - (c) the degree to which other risk controls do not adequately limit credit exposures;
 - (d) the inherent leverage of the class of financial instruments, including whether the class of financial instrument is significantly volatile, is highly concentrated among a few market players or may be difficult to close out.

3. The CCP shall inform its competent authority and its clearing members on the criteria considered to determine the percentage applied to the calculation of the margins for each class of financial instruments.
4. Where a CCP clears OTC derivatives that have the same risk characteristics as derivatives executed on regulated markets or an equivalent third country market, on the basis of an assessment of the risk factors set out in paragraph 2, the CCP may use an alternative confidence interval of at least 99% for those contracts if the risks of OTC derivatives contracts it clears are appropriately mitigated using such confidence interval and the conditions in paragraph 2 are respected.

Article 25

Time horizon for the calculation of historical volatility

1. A CCP shall ensure that according to its model methodology and its validation process established in accordance with Chapter XII, initial margins cover at least with the confidence interval defined in Article 24 and for the liquidation period defined in Article 26 the exposures resulting from historical volatility calculated based on data covering at least the latest 12 months.

A CCP shall ensure that the data used for calculating historical volatility capture a full range of market conditions, including periods of stress.
2. A CCP may use any other time horizon for the calculation of historical volatility provided that the use of such time horizon results in margin requirements at least as high as those obtained with the time period defined in paragraph 1.
3. Margin parameters for financial instruments without a historical observation period shall be based on conservative assumptions. A CCP shall promptly adapt the calculation of the required margins based on the analysis of the price history of the new financial instruments.

Article 26

Time horizons for the liquidation period

1. A CCP shall define the time horizons for the liquidation period taking into account the characteristics of the financial instrument cleared, the market where it is traded, and the period for the calculation and collection of the margins. These liquidation periods shall be at least:
 - (a) five business days for OTC derivatives;
 - (b) two business days for financial instruments other than OTC derivatives.
2. In all cases, for the determination of the adequate liquidation period, the CCP shall evaluate and sum at least the following:

- (a) the longest possible period that may elapse from the last collection of margins up to the declaration of default by the CCP or activation of the default management process by the CCP;
 - (b) the estimated period needed to design and execute the strategy for the management of the default of a clearing member according to the particularities of each class of financial instrument, including its level of liquidity and the size and concentration of the positions, and the markets the CCP will use to close-out or hedge completely a clearing member position;
 - (c) where relevant, the period needed to cover the counterparty risk to which the CCP is exposed.
3. In evaluating the periods defined in paragraph 2, the CCP shall consider at least the factors indicated in Article 24(2) and the time period for the calculation of the historical volatility as defined in Article 25.
 4. Where a CCP clears OTC derivatives that have the same risk characteristics as derivatives executed on regulated markets or an equivalent third country market, it may use a time horizon for the liquidation period different from the one specified in paragraph 1, provided that it can demonstrate to its competent authority that:
 - (a) such time horizon would be more appropriate than that specified in paragraph 1 in view of the specific features of the relevant OTC derivatives;
 - (b) such time horizon is at least two business days.

Article 27

Portfolio margining

1. A CCP may allow offsets or reductions in the required margin across the financial instruments that it clears if the price risk of one financial instrument or a set of financial instruments is significantly and reliably correlated, or based on equivalent statistical parameter of dependence, with the price risk of other financial instruments.
2. The CCP shall document its approach on portfolio margining and it shall at least provide that the correlation, or an equivalent statistical parameter of dependence, between two or more financial instruments cleared is shown to be reliable over the look-back period calculated in accordance with Article 25 and demonstrates resilience during stressed historical or hypothetical scenarios. The CCP shall demonstrate the existence of an economic rationale for the price relation.
3. All financial instruments to which portfolio margining is applied shall be covered by the same default fund. By way of derogation, if a CCP can demonstrate in advance to its competent authority and to its clearing members how potential losses would be allocated among different default funds and has set out the necessary provisions in its rules, portfolio margining may be applied to financial instruments covered by different default funds. –
4. Where portfolio margining covers multiple instruments, the amount of margin reductions shall be no greater than 80% of the difference between the sum of the

margins for each product calculated on an individual basis and the margin calculated based on a combined estimation of the exposure for the combined portfolio. Where the CCP is not exposed to any potential risk from the margin reduction, it may apply a reduction of up to 100% of that difference.

5. The margin reductions related to portfolio margining shall be subject to a sound stress test programme in accordance with Chapter XII.

Article 28

Procyclicality

1. A CCP shall ensure that its policy for selecting and revising the confidence interval, the liquidation period and the lookback period deliver forward looking, stable and prudent margin requirements that limit procyclicality to the extent that the soundness and financial security of the CCP is not negatively affected. This shall include avoiding when possible disruptive or big step changes in margin requirements and establishing transparent and predictable procedures for adjusting margin requirements in response to changing market conditions. In doing so, the CCP shall employ at least one of the following options:
 - (a) applying a margin buffer at least equal to 25% of the calculated margins which it allows to be temporarily exhausted in periods where calculated margin requirements are rising significantly;
 - (b) assigning at least 25% weight to stressed observations in the look-back period calculated in accordance with Article 26;
 - (c) ensuring that its margin requirements are not lower than those that would be calculated using volatility estimated over a 10 year historical look-back period.
2. When a CCP revises the parameters of the margin model in order to better reflect current market conditions, it shall take into account any potential procyclical effects of such revision.

CHAPTER VII

DEFAULT FUND

(Article 42 of Regulation (EU) No 648/2012)

Article 29

Framework and governance

1. To determine the minimum size of default fund and amount of other financial resources necessary to satisfy the requirements of Articles 42 and 43 of Regulation (EU) 648/2012, taking into account group dependencies, a CCP shall implement an

internal policy framework for defining the types of extreme but plausible market conditions that could expose it to greatest risk.

2. The framework shall include a statement describing how the CCP defines extreme but plausible market conditions. It shall be fully documented and retained in accordance with Article 12.
3. The framework shall be discussed by the risk committee and approved by the board. The robustness of the framework and its ability to reflect market movements shall be subject to at least an annual review. The review shall be discussed by the risk committee and reported to the board.

Article 30

Identifying extreme but plausible market conditions

1. The framework described in Article 29 shall reflect the risk profile of the CCP, taking account of cross-border and cross-currency exposures where relevant. It shall identify all the market risks to which a CCP would be exposed following the default of one or more clearing member, including unfavourable movements in the market prices of cleared instruments, reduced market liquidity for these instruments, and declines in the liquidation value of collateral. The framework shall also reflect additional risks to the CCP arising from the simultaneous failure of entities in the group of the defaulting clearing member.
2. The framework shall individually identify all the markets to which a CCP is exposed in a clearing member default scenario. For each identified market the CCP shall specify extreme but plausible conditions based at least on:
 - (a) a range of historical scenarios, including periods of extreme market movements observed over the past 30 years, or as long as reliable data have been available, that would have exposed the CCP to greatest financial risk. If a CCP decides that recurrence of a historical instance of large price movements is not plausible, it shall justify its omission from the framework to the competent authority.
 - (b) a range of potential future scenarios, founded on consistent assumptions regarding market volatility and price correlation across markets and financial instruments, drawing on both quantitative and qualitative assessments of potential market conditions.
3. The framework shall also consider, quantitatively and qualitatively, the extent to which extreme price movements could occur in multiple identified markets simultaneously. The framework shall recognise that historical price correlations may breakdown in extreme but plausible market conditions.

Article 31

Reviewing extreme but plausible scenarios

The procedures described in Article 30 shall be reviewed by the CCP on a regular basis, taking into account all relevant market developments and the scale and concentration of clearing member exposures. The set of historical and hypothetical scenarios used by a CCP to identify extreme but plausible market conditions shall be reviewed by the CCP, in consultation with the risk committee, at least annually and more frequently when market developments or material changes to the set of contracts cleared by the CCP affect the assumptions underlying the scenarios and so require an adjustment to the scenarios. Material changes to the framework shall be reported to the board.

CHAPTER VIII

LIQUIDITY RISK CONTROLS

(Article 44 of Regulation (EU) No 648/2012)

Article 32

Assessment of liquidity risk

1. A CCP shall establish a robust liquidity risk management framework which shall include effective operational and analytical tools to identify, measure and monitor its settlement and funding flows on an on-going and timely basis, including its use of intraday liquidity. CCPs shall regularly assess the design and operation of their liquidity management framework, including considering the results of the stress tests.
2. A CCP's liquidity risk management framework shall be adequately robust to ensure that the CCP is able to effect payment and settlement obligations in all relevant currencies as they fall due, including where appropriate intraday. A CCP's liquidity risk management framework shall also include the assessment of its potential future liquidity needs under a wide range of potential stress scenarios. Stress scenario shall include the default of clearing members according to Article 44 of Regulation (EU) No 648/2012 from the date of a default until the end of a liquidation period and the liquidity risk generated by the CCP's investment policy and procedures in extreme but plausible market conditions.
3. The liquidity risk management framework shall include a liquidity plan which is documented and retained in accordance with Article 12. The minimum content of the liquidity plan shall include the CCP's procedures for:
 - (a) managing and monitoring, at least on a daily basis, its liquidity needs across a range of market scenarios;
 - (b) maintaining sufficient liquid financial resources to cover its liquidity needs and distinguish among the use of the different types of liquid resources;
 - (c) the daily assessment and valuation of the liquid assets available to the CCP and its liquidity needs;
 - (d) identifying sources of liquidity risk;

- (e) assessing timescales over which the CCP's liquid financial resources should be available;
- (f) considering potential liquidity needs stemming from clearing members ability to swap cash for non-cash collateral;
- (g) the processes in the event of liquidity shortfalls;
- (h) the replenishment of any liquid financial resources it may employ during a stress event.

The board of the CCP shall approve the plan after consulting the risk committee.

4. A CCP shall assess the liquidity risk it faces including where the CCP or its clearing members cannot settle their payment obligations when due as part of the clearing or settlement process, taking also into account the investment activity of the CCP. The risk management framework shall address the liquidity needs stemming from the CCP's relationships with any entity towards which the CCP has a liquidity exposure including:
 - (a) settlement banks;
 - (b) payments systems;
 - (c) securities settlement systems;
 - (d) nostro agents;
 - (e) custodian banks;
 - (f) liquidity providers;
 - (g) interoperable CCPs;
 - (h) service providers.
5. A CCP shall take into account any interdependencies across the entities listed in paragraph 4 and multiple relationships that an entity listed in paragraph 4 may have with a CCP in its liquidity risk management framework.
6. A CCP shall establish a daily report on the needs and resources under points (a), (b) and (c) of paragraph 3 and a quarterly report on its liquidity plan under points (d) to (h) of paragraph 3. The reports shall be documented and retained in accordance with Chapter IV.

Article 33

Access to liquidity

1. A CCP shall maintain, in each relevant currency, liquid resources commensurate with its liquidity requirements, defined in accordance with Article 44 of Regulation

(EU) No 648/2012 and Article 32 of this Regulation. These liquid resources shall be limited to:

- (a) cash deposited at a central bank of issue;
 - (b) cash deposited at authorised credit institutions in accordance with Article 47;
 - (c) committed lines of credit or equivalent arrangements with non-defaulting clearing members;
 - (d) committed repurchase agreements;
 - (e) highly marketable financial instruments that satisfy the requirements of Article 45 and Article 46 and that the CCP can demonstrate are readily available and convertible into cash on a same-day basis using prearranged and highly reliable funding arrangements, including in stressed market conditions.
2. A CCP shall have regard to the currencies in which its liabilities are denominated and shall take into account the potential effect of stressed conditions on its ability to access foreign exchange markets in a manner consistent with the securities settlement cycles of foreign exchange and securities settlement systems.
 3. Committed lines of credit against collateral provided by clearing members shall not be double-counted as liquid resources. A CCP shall take action to monitor and control the concentration of liquidity risk exposures to individual liquidity providers.
 4. A CCP shall conduct rigorous due diligence that its liquidity providers have enough capacity to perform according to the liquidity arrangements.
 5. A CCP shall periodically test its procedures to access pre-arranged funding arrangements. This may include drawing down test amounts of the commercial lines of credit, to check the speed of access to the resources and reliability of procedures.
 6. A CCP shall have detailed procedures within its liquidity plan for using its liquid financial resources to fulfil its payment obligations during a liquidity shortfall. The liquidity procedures shall clearly state when certain resources should be used. The procedures shall also describe how to access cash deposits or overnight investments of cash deposits, how to execute same-day market transactions, or how to draw on prearranged liquidity lines. These procedures shall be regularly tested. A CCP shall also establish an adequate plan for the renewal of funding arrangements in advance of their expiration.

Article 34

Concentration risk

1. A CCP shall closely monitor and control the concentration of its liquidity risk exposure, including its exposures to the entities listed in Article 32(4) and to entities in the same group.

2. A CCP's liquidity risk management framework shall include the application of exposure and concentration limits.
3. A CCP shall define processes and procedures for breaches of concentration limits.

CHAPTER IX

DEFAULT WATERFALL

(Article 45 of Regulation (EU) No 648/2012)

Article 35

Calculation of the amount of the CCP's own resources to be used in the default waterfall

1. A CCP shall keep, and indicate separately in its balance sheet, an amount of dedicated own resources for the purpose set out in Article 45(4) of Regulation (EU) No 648/2012.
2. A CCP shall calculate the minimum amount referred to in paragraph 1 by multiplying the minimum capital, including retained earnings and reserves, held in accordance with Article 16 of Regulation (EU) No 648/2012 and Regulation (EU) No xx/2012 [Commission delegated regulation laying down regulatory technical standards on minimum capital requirements] by 25%.

The CCP shall revise that minimum amount on a yearly basis.

3. Where the CCP has established more than one default fund for the different classes of financial instruments it clears, the total dedicated own resources calculated under paragraph 1 shall be allocated to each of the default funds in proportion to the size of each default fund, to be separately indicated in its balance sheet and used for defaults arising in the different market segments to which the default funds refer to.
4. No resources other than capital, including retained earnings and reserves, as referred to in Article 16 of Regulation (EU) No 648/2012 shall be used to comply with the requirement under paragraph 1.

Article 36

Maintenance of the amount of the CCP's own resources to be used in the default waterfall

1. A CCP shall immediately inform the competent authority if the amount of dedicated own resources held falls below the amount required in Article 35, together with the reasons for the breach and a comprehensive description in writing of the measures and the timetable for the replenishment of such amount.
2. Where a subsequent default of one or more clearing members occurs before the CCP has reinstated the dedicated own resources, only the residual amount of the allocated

dedicated own resources shall be used for the purpose of Article 45 of Regulation (EU) No 648/2012.

3. A CCP shall reinstate the dedicated own resource at the least within one month from the notification under paragraph 1.

CHAPTER X

COLLATERAL

(Article 46 of Regulation (EU) No 648/2012)

Article 37

General requirements

A CCP shall establish and implement transparent and predictable policies and procedures to assess and continuously monitor the liquidity of assets accepted as collateral and take remedial action where appropriate.

A CCP shall review its eligible asset policies and procedures at least annually. Such a review shall also be carried out whenever a material change occurs that affects the CCP's risk exposure.

Article 38

Cash collateral

For the purposes of Article 46(1) of Regulation (EU) No 648/2012, highly liquid collateral in the form of cash shall be denominated in one of the following:

- (a) a currency for which the CCP can demonstrate to the competent authorities that it is able to adequately manage the risk;
- (b) a currency in which the CCP clears transactions, in the limit of the collateral required to cover the CCP's exposures in that currency.

Article 39

Financial instruments –

For the purposes of Article 46(1) of Regulation (EU) No 648/2012, financial instruments, bank guarantees and gold that meet the conditions set out in Annex I shall be considered as, highly liquid collateral.

Article 40

Valuing collateral

1. For the purposes of valuing highly liquid collateral as defined in Article 37, a CCP shall establish and implement policies and procedures to monitor on a near to real time basis the credit quality, market liquidity and price volatility of each asset accepted as collateral. A CCP shall monitor on a regular basis, and at least annually, the adequacy of its valuation policies and procedures. Such review shall also be carried out whenever a material change occurs that affects the CCP's risk exposure.
2. A CCP shall mark-to-market its collateral on a near to real time basis and, where not possible, a CCP shall be able to demonstrate to the competent authorities that it is able to manage the risks.

Article 41

Haircuts

1. A CCP shall establish and implement policies and procedures to determine prudent haircuts to apply to collateral value.
2. Haircuts shall recognise that collateral may need to be liquidated in stressed market conditions and take into account the time required to liquidate it. The CCP shall demonstrate to the competent authority that haircuts are calculated in a conservative manner to limit as far as possible procyclical effects. For each collateral asset, the haircut shall be determined taking in consideration the relevant criteria, including:
 - (a) the type of asset and level of credit risk associated with the financial instrument based upon internal assessment by the CCP. In performing such assessment the CCP shall employ a defined and objective methodology that shall not fully rely on external opinions and that takes into consideration the risk arising from the establishment of the issuer in a particular country;
 - (b) the maturity of the asset;
 - (c) the historical and hypothetical future price volatility of the asset in stressed market conditions;
 - (d) the liquidity of the underlying market, including bid/ask spreads;
 - (e) the foreign exchange risk, if any;
 - (f) wrong-way risk.
3. A CCP shall monitor on a regular basis the adequacy of the haircuts. A CCP shall review the haircut policies and procedures at least annually and whenever a material change occurs that affects the CCP risk exposure, but should avoid as far as possible disruptive or big step changes in haircuts that could introduce procyclicality. The haircut policies and procedures shall be independently validated at least annually.

Article 42

Concentration limits

1. A CCP shall establish and implement policies and procedures to ensure that the collateral remains sufficiently diversified to allow its liquidation within a defined holding period without a significant market impact. The policies and the procedures shall determine the risk mitigation measures to be applied when the concentration limits specified in paragraph 2 are exceeded.
2. A CCP shall determine concentration limits at the level of:
 - (a) individual issuers;
 - (b) type of issuer;
 - (c) type of asset;
 - (d) each clearing member;
 - (e) all clearing members.
3. Concentration limits shall be determined in a conservative manner taking into account all relevant criteria, including:
 - (a) financial instruments issued by issuers of the same type in terms of economic sector, activity, geographic region;
 - (b) the level of credit risk of the financial instrument or of the issuer based upon an internal assessment by the CCP. In performing such assessment the CCP shall employ a defined and objective methodology that shall not fully rely on external opinions and that takes into consideration the risk arising from the establishment of the issuer in a particular country;
 - (c) the liquidity and the price volatility of the financial instruments.
4. A CCP shall ensure that no more than 10% of its collateral is guaranteed by a single credit institution, or equivalent third country financial institution, or by an entity that is part of the same group as the credit institution or third country financial institution. Where the collateral received by the CCP in the form of commercial bank guarantees is higher than 50% of the total collateral, this limit may be set up to 25%.
5. In calculating the limits provided for in paragraph 2, a CCP shall include the total exposure of a CCP to an issuer, including the amount of the cumulative credit lines, certificates of deposit, time deposits, savings accounts, deposit accounts, current accounts, money-market instruments, and reverse repurchase facilities utilised by the CCP. These limits shall not apply to collateral held by the CCP in excess of the minimum requirements for margins, default fund or other financial resources.
6. When determining the concentration limit for a CCP's exposure to an individual issuer, a CCP shall aggregate and treat as a single risk its exposure to all financial instruments issued by the issuer or by a group entity, explicitly guaranteed by the issuer or by a group entity, and to financial instruments issued by undertakings whose exclusive purpose is to own means of production that are essential for the issuer's business.

7. A CCP shall monitor on a regular basis the adequacy of its concentration limit policies and procedures. A CCP shall review its concentration limit policy and procedure at least annually and whenever a material change occurs that affects the risk exposure of the CCP.
8. A CCP shall inform the competent authority and the clearing members of the applicable concentration limits and of any amendment to these limits.
9. If the CCP materially breaches a concentration limit set out in its policies and procedures, it shall inform the competent authority immediately. The CCP shall rectify the breach as soon as possible.

CHAPTER XI

INVESTMENT POLICY

(Article 47 of Regulation (EU) No 648/2012)

Article 43

Highly liquid financial instruments

10. For the purposes of Article 47(1) of Regulation (EU) No 648/2012, debt instruments can be considered highly liquid, bearing minimal credit and market risk if they are debt instruments meeting each of the conditions set out in Annex II.

Article 44

Highly secured arrangements for the deposit of financial instruments

1. If a CCP is unable to deposit the financial instruments referred to in Article 45 or those posted to it as margins, default fund contributions or contributions to other financial resources, both by way of title transfer and security interest, with the operator of a securities settlement system that ensures the full protection of those instruments then such financial instruments shall be deposited with any of the following:
 - (a) a central bank that ensures the full protection of those instruments and that enables the CCP prompt access to the financial instruments when required;
 - (b) an authorised credit institution as defined under Directive 2006/48/EC that ensures the full segregation and protection of those instruments, enables the CCP prompt access to the financial instruments when required and that the CCP can demonstrate has low credit risk based upon an internal assessment by the CCP. In performing such an assessment, the CCP shall employ a defined and objective methodology that shall not fully rely on external opinions and that takes into consideration the risk arising from the establishment of the issuer in a particular country;

- (c) a third country financial institution that is subject to and complies with prudential rules considered by the relevant competent authorities to be at least as stringent as those laid down in Directive 2006/48/EC and which has robust accounting practices, safekeeping procedures, and internal controls and that ensures the full segregation and protection of those instruments, enables the CCP prompt access to the financial instruments when required and that the CCP can demonstrate to have low credit risk based upon an internal assessment by the CCP. In performing such an assessment, the CCP shall employ a defined and objective methodology that shall not fully rely on external opinions and that takes into consideration the risk arising from the establishment of the issuer in a particular country.
- 2. Where financial instruments are deposited in accordance with letter (b) or (c) of paragraph 1, they shall be held under arrangements that prevent any losses to the CCP due to the default or insolvency of the authorised financial institution.
 - 3. Highly secured arrangements for the deposit of financial instruments posted as margins, default fund contributions or contributions to other financial resources shall only allow the CCP to re-use these financial instruments where the conditions in Article 39(8) of Regulation (EU) No 648/2012 are met and where the purpose of the reuse is for making payments, managing the default of a clearing member or in the execution of an interoperable arrangement.

Article 45

Highly secured arrangements maintaining cash

- 1. For the purposes of Article 47(4) of Regulation (EU) No 648/2012, where cash is deposited other than with a central bank then such deposit shall meet each of the following conditions:
 - (a) the deposit is in one of the following currencies:
 - (i) a currency the risks of which the CCP can demonstrate with a high level of confidence that it is able to manage;
 - (ii) a currency in which the CCP clears transactions, in the limit of the collateral received in that currency;
 - (b) the deposit shall be placed with one of the following entities:
 - (i) an authorised credit institution as defined under Directive 2006/48/EC that the CCP can demonstrate to have low credit risk based upon an internal assessment by the CCP. In performing such assessment the CCP shall employ a defined and objective methodology that shall not fully rely on external opinions and that takes into consideration the risk arising from the establishment of the issuer in a particular country;
 - (ii) a third country financial institution that is subject to and complies with prudential rules considered by the competent authorities to be at least as stringent as those laid down in Directive 2006/48/EC of the European

Parliament and of the Council⁷ and which has robust accounting practices, safekeeping procedures, and internal controls and that the CCP can demonstrate to have low credit risk based upon an internal based upon an internal assessment by the CCP. In performing such assessment the CCP shall employ a defined and objective methodology that shall not fully rely on external opinions and that takes into consideration the risk arising from the establishment of the issuer in a particular country;

2. Where cash is maintained overnight in accordance with paragraph 1 then not less than 95% of such cash, calculated over an average period of one calendar month, shall be deposited through arrangements that ensure the collateralisation of the cash with highly liquid financial instruments meeting the requirements under Article 45, except the requirement at paragraph 1(c) of that Article.

Article 45

Concentration limits

1. A CCP shall establish and implement policies and procedures to ensure that the financial instruments in which its financial resources are invested remain sufficiently diversified.
2. A CCP shall determine concentration limits and monitor the concentration of its financial resources at the level of:
 - (a) individual financial instruments;
 - (b) types of financial instruments;
 - (c) individual issuers;
 - (d) types of issuers;
 - (e) counterparties with which arrangements as provided for in points (b) and (c) of Article 44(1) or in Article 45(2) are established.
3. When considering types of issuers a CCP shall take into account the following:
 - (a) geographic distribution;
 - (b) interdependencies and multiple relationships that an entity may have with a CCP;
 - (c) the level of credit risk;
 - (d) exposures the CCP have to the issuer through products cleared by the CCP.
4. The policies and the procedures shall determine the risk mitigation measures to be applied when the concentration limits are exceeded.

⁷ OJ L 177, 30.6.2006, p. 1.

5. When determining the concentration limit for a CCP's exposure to an individual issuer or custodian, a CCP shall aggregate and treat as a single risk, the exposure to all financial instruments issued by, or explicitly guaranteed by, the issuer and all financial resources deposited with the custodian.
6. A CCP shall monitor on a regular basis the adequacy of its concentration limit policies and procedures. In addition, a CCP shall review its concentration limit policy and procedure at least annually and whenever a material change occurs that affects the risk exposure of the CCP.
7. If the CCP breaches a concentration limit set out in its policies and procedures, it shall inform the competent authority immediately. The CCP shall rectify the breach as soon as possible

Article 46

Non-cash collateral

Where collateral is received in the form of financial instruments in accordance with the provisions of Chapter X, only Articles 44 and 45 shall apply.

CHAPTER XII

REVIEW OF MODELS, STRESS TESTING AND BACK TESTING

(Article 49 Regulation (EU) No 648/2012)

SECTION 1

MODELS AND PROGRAMMES

Article 47

Model Validation

1. A CCP shall conduct a comprehensive validation of its models, their methodologies and the liquidity risk management framework used to quantify, aggregate, and manage its risks. Any material revisions or adjustments to its models, their methodologies and the liquidity risk management framework shall be subject to appropriate governance, including seeking advice from the risk committee, and validated by a qualified and independent party prior to application
2. A CCP's validation process shall be documented and at least shall specify the policies used to test the CCP's margin, default fund and other financial resources methodologies and framework for calculating liquid financial resources. Any material revisions or adjustments to such policies shall be subject to appropriate governance, including seeking advice from the risk committee, and validated by a qualified and independent party prior to application.

3. A comprehensive validation shall, at least, include the following:
 - (a) an evaluation of the conceptual soundness of the models and framework, including developmental supporting evidence;
 - (b) a review of the on-going monitoring procedures, including verification of processes and benchmarking;
 - (c) a review of the parameters and assumptions made in the development of its models, their methodologies and the framework;
 - (d) a review of the adequacy and appropriateness of the models, their methodologies and framework adopted in respect of the type of contracts they apply to;
 - (e) a review of the appropriateness of its stress testing scenarios in accordance with Chapter VII and Article 52;
 - (f) an analysis of the outcomes of testing results.
4. A CCP shall establish the criteria against which it assesses whether its models, their methodologies and liquidity risk management framework can be successfully validated. The criteria shall include successful testing results.
5. Where pricing data is not readily available or reliable, a CCP shall address such pricing limitations and, at least, adopt conservative assumptions based on observed correlated or related markets and current behaviours of the market.
6. Where pricing data is not readily available or reliable, the systems and valuation models used for this purpose shall be subject to appropriate governance, including seeking advice from the risk committee, and validation and testing. A CCP shall have its valuation models validated under a variety of market scenarios by a qualified and independent party to ensure that its models accurately produces appropriate prices, and where appropriate, it shall adjust its calculation of initial margins to reflect any identified model risk.
7. A CCP shall regularly conduct an assessment of the theoretical and empirical properties of its margin model for all the financial instruments that it clears.

Article 48

Testing programmes

1. A CCP shall have in place policies and procedures that detail the stress and back testing programmes it undertakes to assess the appropriateness, accuracy, reliability and resilience of the models and their methodologies used to calculate its risk control mechanisms including margin, default fund contributions, and other financial resources in a wide range of market conditions.

2. A CCP's policies and procedures shall also detail the stress testing programme it undertakes to assess the appropriateness, accuracy, reliability and resilience of the liquidity risk management framework.
3. The policies and procedures shall include at least methodologies for the inclusion of the selection and development of appropriate testing, including portfolio and market data selection, the regularity of the tests, the specific risk characteristics of the financial instruments cleared, the analysis of testing results and exceptions and the relevant corrective measures needed.
4. A CCP shall include any client positions when performing all tests.

SECTION 2

BACK TESTING

Article 49

Back testing procedure

1. A CCP shall assess its margin coverage by performing an ex-post comparison of observed outcomes with expected outcomes derived from the use of margin models. Such back testing analysis shall be performed each day in order to evaluate whether there are any testing exceptions to margin coverage. Coverage shall be evaluated on current positions for financial instruments, clearing members and take into account possible effects from portfolio margining and, where appropriate, interoperable CCPs.
2. A CCP shall consider the appropriate historical time horizons for its back testing programme to ensure that the observation window used is sufficient enough to mitigate any detrimental effect on the statistical significance.
3. A CCP shall consider in its back testing programme, at least, clear statistical tests, and performance criteria to be defined by CCPs for the assessment of back testing results.
4. A CCP shall periodically report its back testing results and analysis in a form that does not breach confidentiality to the risk committee in order to seek their advice in the review of its margin model.
5. Back testing results and analysis shall be made available to all clearing members and, where known to the CCP, clients. For all other clients back testing results and analysis shall be made available by the relevant clearing members on request. Such information shall be aggregated in a form that does not breach confidentiality and clearing members and clients shall only have access to detailed back testing results and analysis for their own portfolios.
6. A CCP shall define the procedures to detail the actions it could take given the results of back testing analysis.

SECTION 3

SENSITIVITY TESTING AND ANALYSIS

Article 50

Sensitivity testing and analysis procedure

1. A CCP shall conduct sensitivity tests and analysis to assess the coverage of its margin model under various market conditions using historical data from realised stressed market conditions and hypothetical data for unrealised stressed market conditions.
2. A CCP shall use a wide range of parameters and assumptions to capture a variety of historical and hypothetical conditions, including the most-volatile periods that have been experienced by the markets it serves and extreme changes in the correlations between prices of contracts cleared by the CCP, in order to understand how the level of margin coverage might be affected by highly stressed market conditions and changes in important model parameters.
3. Sensitivity analysis shall be performed on a number of actual and representative clearing member portfolios. The representative portfolios shall be chosen based on their sensitivity to the material risk factors and correlations to which the CCP is exposed. Such sensitivity testing and analysis shall be designed to test the key parameters and assumptions of the initial margin model at a number of confidence intervals to determine the sensitivity of the system to errors in the calibration of such parameters and assumptions. Appropriate consideration shall be given to the term structure of the risk factors, and the assumed correlation between risk factors.
4. A CCP shall evaluate the potential losses in clearing member positions.
5. A CCP shall, where applicable, consider parameters reflective of the simultaneous default of clearing members that issue financial instruments cleared by the CCP or the underlying of derivatives cleared by the CCP. Where applicable, the effects of a client's default that issues financial instruments cleared by the CCP or the underlying of derivatives cleared by the CCP shall also be considered.
6. A CCP shall periodically report its sensitivity testing results and analysis in a form that does not breach confidentiality to the risk committee in order to seek its advice in the review of its margin model.
7. A CCP shall define the procedures to detail the actions it could take given the results of sensitivity testing analysis.

SECTION 4

STRESS TESTING

Article 51

Stress testing procedure

1. A CCP's stress tests shall apply stressed parameters, assumptions, and scenarios to the models used for the estimation of risk exposures to make sure its financial resources are sufficient to cover those exposures under extreme but plausible market conditions.
2. A CCP's stress testing programme shall require the CCP to conduct a range of stress tests on a regular basis that shall consider the CCP's product mix and all elements of its models and their methodologies and its liquidity risk management framework.
3. A CCP's stress testing programme shall prescribe that stress tests are performed, using defined stress testing scenarios, on both past and hypothetical extreme but plausible market conditions in accordance with Chapter VII. Past conditions to be used shall be reviewed and adjusted, where appropriate. A CCP shall also consider other forms of appropriate stress testing scenarios including, but not limited to, the technical or financial failure of its settlement banks, nostro agents, custodian banks, liquidity providers, or interoperable CCPs.
4. A CCP shall have the capacity to adapt its stress tests quickly to incorporate new or emerging risks.
5. A CCP shall consider the potential losses arising from the default of a client, where known, which clears through multiple clearing members.
6. A CCP shall periodically report its stress testing results and analysis in a form that does not breach confidentiality to the risk committee in order to seek its advice in the review of its models, its methodologies and its liquidity risk management framework.
7. Stress testing results and analysis shall be made available to all clearing members and, where known to the CCP, clients. For all other clients, back testing results and analysis shall be made available by the relevant clearing members on request. Such information shall be aggregated in a form that does not breach confidentiality and clearing members and clients shall only have access to detailed stress testing results and analysis for their own portfolios.
8. A CCP shall define the procedures to detail the actions it could take given the results of stress testing analysis.

Article 52

Risk factors to stress test

1. A CCP shall identify, and have an appropriate method for measuring, relevant risk factors specific to the contracts it clears that could affect its losses. A CCP's stress tests shall, at least, take into account risk factors specified for the following type of financial instruments, where applicable:

- (a) interest rate related contracts: risk factors corresponding to interest rates in each currency in which the CCP clears financial instruments. The yield curve modelling shall be divided into various maturity segments in order to capture variation in the volatility of rates along the yield curve. The number of related risk factors shall depend on the complexity of the interest rate contracts cleared by the CCP. Basis risk, arising from less than perfectly correlated movements between government and other fixed-income interest rates, shall be captured separately.
 - (b) exchange rate related contracts: risk factors corresponding to each foreign currency in which the CCP clears financial instruments and to the exchange rate between the currency in which margin calls are made and the currency in which the CCP clears financial instruments.
 - (c) equity related contracts: risk factors corresponding to the volatility of individual equity issues for each of the markets cleared by the CCP and to the volatility of various sectors of the overall equity market. The sophistication and nature of the modelling technique for a given market shall correspond to the CCP's exposure to the overall market as well as its concentration in individual equity issues in that market.
 - (d) commodity contracts: risk factors that take into account the different categories and sub-categories of commodity contracts and related derivatives cleared by the CCP, including, where appropriate, variations in the convenience yield between derivatives positions and cash positions in the commodity.
 - (e) credit related contracts: risk factors that consider jump to default risk, including the cumulative risk arising from multiple defaults, basis risk and recovery rate volatility.
2. In its stress tests, a CCP shall also give appropriate consideration at least to the following:
- (a) correlations, including those between identified risk factors and similar contracts cleared by the CCP;
 - (b) factors corresponding to the implied and historical volatility of the contract being cleared;
 - (c) specific characteristics of any new contracts to be cleared by the CCP;
 - (d) concentration risk, including to a clearing member, and group entities of clearing members;
 - (e) interdependencies and multiple relationships;
 - (f) relevant risks including foreign exchange risk;
 - (g) set exposure limits;
 - (h) wrong-way risk.

Article 53

Stress testing total financial resources

1. A CCP's stress-testing programme shall ensure that its combination of margin, default fund contributions and other financial resources are sufficient to cover the default of at least the two clearing members to which it has the largest exposures under extreme but plausible market conditions. The stress testing programme shall also examine potential losses resulting from the default of entities in the same group as the two clearing members to which it has the largest exposures under extreme but plausible market conditions.
2. A CCP's stress-testing programme shall ensure that its margins and default fund are sufficient to cover at least the default of the clearing member to which it has the largest exposures or of the second and third largest clearing members, if the sum of their exposures is larger in accordance with Article 42 of Regulation (EU) No 648/2012.
3. The CCP shall conduct a thorough analysis of the potential losses it could suffer and shall evaluate the potential losses in clearing member positions, including the risk that liquidating such positions could have an impact on the market and the CCP's level of margin coverage.
4. A CCP shall, where applicable, consider in its stress tests, the effects of the default of a clearing member that issues financial instruments cleared by the CCP or the underlying of derivatives cleared by the CCP. Where applicable, the effects of a client's default that issues financial instruments cleared by the CCP or the underlying of derivatives cleared by the CCP shall also be considered.
5. A CCP's stress tests shall consider the liquidation period as provided for in Article 26.

Article 54

Stress testing liquid financial resources

1. A CCP's stress-testing programme of its liquid financial resources shall ensure that they are sufficient in accordance with the requirements laid down in Chapter VIII.
2. A CCP shall have clear and transparent rules and procedures to address insufficient liquid financial resources highlighted by its stress tests to ensure settlement of payments obligations.

A CCP shall also have clear procedures for using the results and analysis of its stress tests to evaluate and adjust the adequacy of its liquidity risk management framework and liquidity providers.

3. The stress testing scenarios used in the stress testing of liquid financial resources shall consider the design and operation of the CCP, and include all entities that might pose material liquidity risk to it. Such stress tests shall also consider any strong linkages or similar exposures between its clearing members, including other entities

that are part of the same group, and assess the probability of multiple defaults and the contagion effect among its clearing members that such defaults may cause.

SECTION 5

COVERAGE AND USE OF TEST RESULTS

Article 55

Maintaining sufficient coverage

1. A CCP shall establish and maintain procedures to recognise changes in market conditions, including increases in volatility or reductions in the liquidity of the financial instruments it clears, so as to promptly adapt calculation of its margin requirement to appropriately account for new market conditions.
2. A CCP shall conduct tests on its haircuts in order to ensure collateral can be liquidated at least at its haircutted value in observed and extreme but plausible market conditions.
3. If a CCP collects margin at a portfolio, as opposed to product level, it shall continuously review and test offsets among products. A CCP shall base such offsets on prudent and economically meaningful methodology that reflects the degree of price dependence between the products. In particular, a CCP shall test how correlations perform during periods of actual and hypothetical severe market conditions.

Article 56

Review of models using test results

1. A CCP shall have clear procedures to determine the amount of additional margin it may need to collect, including on an intraday basis, and to recalibrate its margin model where back testing indicates that the model did not perform as expected with the result that it does not identify the appropriate amount of initial margin necessary to achieve the intended level of confidence. Where a CCP has determined that it is necessary to call additional margin it shall do so by the next margin call.
2. A CCP shall evaluate the source of testing exceptions highlighted by its back tests. Depending on the source of exceptions, the CCP shall determine whether a fundamental change to the margin model, or to the models that input into it, is required and whether the recalibration of current parameters is necessary.
3. A CCP shall evaluate the sources of testing exceptions highlighted by its stress tests. The CCP shall determine whether a fundamental change to its models, their methodologies or its liquidity risk management framework is required or if the recalibration of current parameters or assumptions is necessary, on the basis of the sources of exceptions.

4. Where the results of the tests show an insufficient coverage of margin, default fund or other financial resources, a CCP shall increase overall coverage of its financial resources to an acceptable level by the next margin call. Where the results of the tests show insufficient liquid financial resources, the CCP shall increase its liquid financial resources to an acceptable level as soon as is practicable.
5. A CCP shall, in reviewing its models, their methodologies and the liquidity risk management framework, monitor the frequency of reoccurring testing exceptions to identify and resolve issues appropriately and without undue delay.

SECTION 6

REVERSE STRESS TESTS

Article 57

Reverse stress tests

1. A CCP shall conduct reverse stress tests which are designed to identify under which market conditions the combination of its margin, default fund and other financial resources may provide insufficient coverage of credit exposures and for which its liquid financial resources may be insufficient. When conducting such tests, a CCP shall model extreme market conditions that go beyond what are considered plausible market conditions, in order to help determine the limits of its models, its liquidity risk management framework, its financial resources and its liquid financial resources.
2. A CCP shall develop reverse stress tests tailored to the specific risks of the markets and of the contracts that it provides clearing services for.
3. A CCP shall use the conditions identified in paragraph 1 and the results and analysis of its reverse stress tests to help in identifying extreme but plausible scenarios in accordance with Chapter VII.
4. A CCP shall periodically report its reverse stress testing results and analysis in a form that does not breach confidentiality to the risk committee in order to seek their advice in its review.

SECTION 7

DEFAULT PROCEDURES

Article 58

Testing default procedures

1. A CCP shall test and review its default procedures to ensure they are both practical and effective. A CCP shall perform simulation exercises as part of the testing of its default procedures.

2. A CCP shall, following testing of its default procedures, identify any uncertainties and appropriately adapt its procedures to mitigate such uncertainty.
3. A CCP shall, through conducting simulation exercises, verify that all clearing members, where appropriate, clients and other relevant parties including interoperable CCP's and any related service providers, are duly informed and know the procedures involved in a default scenario.

SECTION 8

VALIDATION AND TESTING FREQUENCY

Article 59

Frequency

1. A CCP shall conduct a comprehensive validation of its models and their methodologies at least annually.
2. A CCP shall conduct a comprehensive validation of its liquidity risk management framework at least annually.
3. A CCP shall conduct a full validation of its valuation models at least annually.
4. A CCP shall review the appropriateness of the policies specified in Article 51 at least annually.
5. A CCP shall analyse and monitor its model performance and financial resources coverage in the event of defaults by back testing margin coverage at least daily and conducting at least daily stress testing using standard and predetermined parameters and assumptions.
6. A CCP shall analyse and monitor its liquidity risk management framework by conducting at least daily stress tests of its liquid financial resources.
7. A CCP shall conduct a detailed thorough analysis of testing results at least on a monthly basis in order to ensure its stress testing scenarios, models and liquidity risk management framework, underlying parameters and assumptions are correct. Such analysis shall be conducted more frequently in stressed market conditions, including when the financial instruments cleared or markets served in general display high volatility, become less liquid, or when the size or concentrations of positions held by its clearing members increase significantly or when it is anticipated that a CCP will encounter stressed market conditions.
8. Sensitivity analysis shall be conducted at least monthly, using the results of sensitivity tests. This analysis should be conducted more frequently when markets are unusually volatile or less liquid or when the size or concentrations of positions held by its clearing members increase significantly.
9. A CCP shall test offsets among financial instruments and how correlations perform during periods of actual and hypothetical severe market conditions at least annually.

10. A CCP's haircuts shall be tested at least monthly.
11. A CCP shall conduct reverse stress tests at least quarterly.
12. A CCP shall test and review its default procedures at least quarterly and perform simulation exercises at least annually, in accordance with Article 61. A CCP shall also perform simulation exercises following any material change to its default procedures.

SECTION 9

TIME HORIZONS USED WHEN PERFORMING TESTS

Article 60

The time horizons

1. The time horizons used for stress tests shall be defined in accordance with Chapter VII and shall include forward-looking extreme but plausible market conditions.
2. The historical time horizons used for back tests shall include data from at minimum the most recent year or as long as a CCP has been clearing the relevant financial instrument if that is less than a year.

SECTION 10

PUBLIC DISCLOSURE

Article 61

Information to be publicly disclosed

1. A CCP shall publicly disclose the general principles underlying its models and their methodologies, the nature of tests performed, with a high level summary of the test results and any corrective actions undertaken.
2. A CCP shall make available to the public key aspects of its default procedures, including:
 - (a) the circumstances in which action may be taken;
 - (b) who may take those actions;
 - (c) the scope of the actions which may be taken, including the treatment of both proprietary and client positions, funds and assets;
 - (d) the mechanisms to address a CCP's obligations to non-defaulting clearing members;

- (e) the mechanisms to help address the defaulting clearing member's obligations to its clients.

Article 62

Entry into force and application

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

Point (h) Section 2 of Annex I shall apply from three years after the date of entry into force of this Regulation in respect of transactions on derivatives, as referred to in points (b) and (d) of Article 2(4) of Regulation (EU) No 1227/2011 of the European Parliament and of the Council⁸.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 19.12.2012

For the Commission
The President
José Manuel BARROSO

⁸ OJ L 326, 8.12.2011, p. 1.

ANNEX I

Conditions applicable to financial instruments, bank guarantees and gold considered as highly liquid collateral

Section 1

Financial instruments

For the purposes of Article 46(1) of Regulation (EU) No 648/2012, highly liquid collateral in the form of financial instruments shall be financial instruments meeting the conditions provided for in point 1 of Annex II of this Regulation or transferable securities and money-market instruments which meet each of the following conditions:

- (a) the CCP can demonstrate to the competent authority that the financial instruments have been issued by an issuer that has low credit risk based upon an adequate internal assessment by the CCP. In performing such an assessment, the CCP shall employ a defined and objective methodology that shall not fully rely on external opinions and that takes into consideration the risk arising from the establishment of the issuer in a particular country;
- (b) the CCP can demonstrate to the competent authority that the financial instruments have a low market risk based upon an adequate internal assessment by the CCP. In performing such an assessment, the CCP shall employ a defined and objective methodology that shall not fully rely on external opinions;
- (c) they are denominated in one of the following currencies:
 - (i) a currency the risk of which the CCP can demonstrate to the competent authorities that it is able to manage;
 - (ii) a currency in which the CCP clears contracts, in the limit of the collateral required to cover the CCP's exposures in that currency;
- (d) they are freely transferable and without any regulatory or legal constraint or third party claims that impair liquidation;
- (e) they have an active outright sale or repurchase agreement market, with a diverse group of buyers and sellers, to which the CCP can demonstrate reliable access, including in stressed conditions;
- (f) they have reliable price data published on a regular basis;
- (g) they are not issued by:
 - (i) the clearing member providing the collateral, or an entity that is part of the same group as the clearing member, except in the case of a covered bond and only where the assets backing that bond are appropriately segregated within a robust legal framework and satisfy the requirements set out in this section;
 - (ii) a CCP or an entity that is part of the same group as a CCP;

- (iii) an entity whose business involves providing services critical to the functioning of the CCP, unless that entity is an EEA central bank or a central bank of issue of a currency in which the CCP has exposures;
- (h) they are not otherwise subject to significant wrong-way risk.

Section 2

Bank guarantees

1. A commercial bank guarantee, subject to limits agreed with the competent authority, shall meet the following conditions to be accepted as collateral under Article 46(1) of Regulation (EU) No 648/2012:
 - (a) it is issued to guarantee a non-financial clearing member;
 - (b) it has been issued by an issuer that the CCP can demonstrate to the competent authority that it has low credit risk based upon an adequate internal assessment by the CCP. In performing such assessment the CCP shall employ a defined and objective methodology that shall not fully rely on external opinions and that takes into consideration the risk arising from the establishment of the issuer in a particular country;
 - (c) it is denominated in one of the following currencies:
 - (i) a currency the risk of which the CCP can demonstrate to the competent authorities that it is able to adequately manage;
 - (ii) a currency in which the CCP clears contracts, in the limit of the collateral required to cover the CCP's exposures in that currency;
 - (d) it is irrevocable, unconditional and the issuer cannot rely on any legal or contractual exemption or defence to oppose the payment of the guarantee;
 - (e) it can be honoured, on demand, within the period of liquidation of the portfolio of the defaulting clearing member providing it without any regulatory, legal or operational constraint;
 - (f) it is not issued by:
 - (i) an entity that is part of the same group as the non-financial clearing member covered by the guarantee;
 - (ii) an entity whose business involves providing services critical to functioning of the CCP, unless that entity is an EEA central bank or a central bank of issue of a currency in which the CCP has exposures;
 - (g) it is not otherwise subject to significant wrong-way risk;
 - (h) it is fully backed by collateral that meets the following conditions:
 - (i) it is not subject to wrong way risk based on a correlation with the credit standing of the guarantor or the non-financial clearing member, unless

that wrong way risk has been adequately mitigated by haircutting of the collateral;

- (ii) the CCP has prompt access to it and it is bankruptcy remote in case of the simultaneous default of the clearing member and the guarantor.
 - (i) the suitability of the guarantor has been ratified by the board of the CCP after a full assessment of the issuer and of the legal, contractual and operational framework of the guarantee in order to have a high level of comfort on the effectiveness of the guarantee, and notified to the competent authority.
2. A bank guarantee issued by a central bank shall meet the following conditions to be accepted as collateral under Article 46(1) of Regulation (EU) No 648/2012:
- (a) it is issued by an EEA central bank or a central bank of issue of a currency in which the CCP has exposures;
 - (b) it is denominated in one of the following a currencies:
 - (i) a currency the risk of which the CCP can demonstrate to the competent authorities that it is able to adequately manage;
 - (ii) a currency in which the CCP clears transactions, in the limit of the collateral required to cover the CCP's exposures in that currency;
 - (c) it is irrevocable, unconditional and the issuing central bank cannot rely on any legal or contractual exemption or defence to oppose the payment of the guarantee;
 - (d) it can be honoured within the period of liquidation of the portfolio of the defaulting clearing member providing it without any regulatory, legal or operational constraint or any third party claim on it.

Section 3

Gold

Gold shall be allocated pure gold bullion of recognised good delivery and meet the following conditions to be accepted as collateral under Article 46(1) of Regulation (EU) No 648/2012:

- (a) it is directly held by the CCP;
- (b) it is deposited with an EEA central bank or a central bank of issue of a currency in which the CCP has exposures that has adequate arrangements so as to safeguard clearing member or clients' ownership rights to the gold and enables the CCP prompt access to the gold when required;
- (c) it is deposited with an authorised credit institution as defined under Directive 2006/48/EC that has adequate arrangements so as to safeguard clearing member or clients' ownership rights to the gold, enables the CCP prompt access to the gold when required and the CCP can demonstrate to the competent authority that it has low credit risk based upon an adequate internal

assessment by the CCP. In performing such an assessment, the CCP shall employ a defined and objective methodology that shall not fully rely on external opinions and that takes into consideration the risk arising from the establishment of the credit institution in a particular country;

- (d) it is deposited with a third country credit institution that is subject to and complies with prudential rules considered by the competent authorities to be at least as stringent as those laid down in Directive 2006/48/EC and which has robust accounting practices, safekeeping procedures and internal controls and that has adequate arrangements so as to safeguard clearing member or clients' ownership rights to the gold, enables the CCP prompt access to the gold when required and CCP can demonstrate to the competent authority that it has low credit risk based upon an internal assessment by the CCP. In performing such an assessment, the CCP shall employ a defined and objective methodology that shall not fully rely on external opinions and that takes into consideration the risk arising from the establishment of the credit institution in a particular country.

ANNEX II

Conditions applicable to highly liquid financial instruments

- (1) For the purposes of Article 47(1) of Regulation (EU) No 648/2012, financial instruments can be considered highly liquid financial instruments, bearing minimal credit and market risk if they are debt instruments meeting each of the following conditions:
 - (a) they are issued or explicitly guaranteed by:
 - (i) a government;
 - (ii) a central bank;
 - (iii) a multilateral development bank as listed under Section 4.2 of Part 1 of Annex VI to Directive 2006/48/EC;
 - (iv) the European Financial Stability Facility or the European Stability Mechanism where applicable;
 - (b) the CCP can demonstrate that they have low credit and market risk based upon an internal assessment by the CCP. In performing such assessment the CCP shall employ a defined and objective methodology that shall not fully rely on external opinions and that takes into consideration the risk arising from the establishment of the issuer in a particular country;
 - (c) the average time-to-maturity of the CCP's portfolio does not exceed two years;
 - (d) they are denominated in one of the following currencies:
 - (i) a currency the risks of which the CCP can demonstrate that it is able to manage; or
 - (ii) a currency in which the CCP clears transactions, in the limit of the collateral received in that currency.
 - (e) they are freely transferable and without any regulatory constraint or third party claims that impair liquidation;
 - (f) they have an active outright sale or repurchase agreement market, with a diverse group of buyers and sellers, including in stressed conditions and to which the CCP has reliable access;
 - (g) reliable price data on these instruments are published on a regular basis.
- (2) For the purposes of Article 47(1) of Regulation (EU) No 648/2012, derivative contracts can also be considered highly liquid financial investments, bearing minimal credit and market risk if they are entered into for the purpose of:
 - (a) (a) hedging the portfolio of a defaulted clearing member as part of the CCP's default management procedure; or

- (b) (b) hedging currency risk arising from its liquidity management framework established in accordance with Chapter VIII.

Where derivative contracts are used in such circumstances, their use shall be limited to derivative contracts in respect of which reliable price data is published on a regular basis and to the period of time necessary to reduce the credit and market risk to which the CCP is exposed.

The CCP's policy for the use of derivative contracts shall be approved by the board after having consulted the risk committee.