CDS Clearing and Depository Services Inc. (CDS®)

MATERIAL AMENDMENTS TO CDS PROCEDURES

AMENDMENTS RELATED TO THE MITIGATION OF PROCYCLICAL EFFECTS ON CALCULATIONS OF EQUITY HAIRCUTS AND THE CNS PARTICIPANT FUND COLLATERAL REQUIREMENTS

REQUEST FOR COMMENTS

A. DESCRIPTION OF THE PROPOSED CDS PROCEDURE AMENDMENTS

The proposed amendments to the CDS Participant Procedures (“Amendments”) introduce measures to mitigate procyclical effects on the calculation of equity haircuts and Continuous Net Settlement (“CNS”) Fund collateral requirements. This Notice describes technical details described in the CDS Participant Procedures (“Procedures”). The proposed Amendments respond to CDS’s Recognition Order requirements to observe, as soon as possible, CPSS-IOSCO Principles for Financial Market Infrastructures (“PFMI”). CDS’s PFMI self-assessment identified the need to introduce additional measures to mitigate procyclical effects on the calculation of equity haircuts and Fund collateral requirements.

Timely observance of the PFMIs by CDS is required by CDS’s regulators under its Recognition Order requirements:

- Autorité des Marchés Financiers: Reconnaissance de Services de dépôt et de compensation CDS inc. à titre de chambre de compensation en vertu de la *Loi sur les valeurs mobilières,* L.R.Q., c. V-1.1 – Part III, paragraph 43.1
- Ontario Securities Commission The Canadian Depository for Securities Limited and CDS Clearing and Depository Service Inc. Order; Section 144 of the Act, the Current Recognition Order – Part II: (Terms and Conditions Applicable to CDS Ltd. and CDS Clearing), Paragraph 9.1
- British Columbia Securities Commission requires CDS to comply with the terms and conditions of the order of the Ontario Securities Commission

Procyclicality is defined by CPSS-IOSCO as the changes in risk-management requirements or practices that are positively correlated with business or credit cycle fluctuations and that may cause or exacerbate financial instability (PFMI Principle 3, Explanatory Note 3.5.6). As a central counterparty (“CCP”), CDS is alert to the positive correlation which exists between the volatility of equity returns and the associated haircuts used for collateral valuation and calculations used to determine the CNS collateral requirements. For CDS this procyclicality raises two key considerations:

i) the calculation of equity haircuts used to calculate the aggregate collateral value (“ACV”) of securities in a Participant’s risk accounts and;
ii) the calculation of CNS collateral requirements of a Participant’s portfolio of outstanding CNS positions.

The purpose of applying haircuts to securities in a Participant’s risk accounts or outstanding CNS positions is to ensure the risk adjusted value of the securities in the corresponding pool or fund collateralize the underlying credit or market risk at the desired confidence level.[1]

[1] Equity haircuts are VaR based and designed to ensure the underlying risk is collateralized to a 99% confidence level under normal market conditions. The haircut represents the extent to which the value of a security could decline from the time of default to the time that the collateral securities are liquidated within a predetermined confidence level. Therefore, the size of the haircut depends on the risk of the securities based on their return volatility over the calculation period.

A Participant's negative funds account balance must not exceed the risk adjusted value of the securities in a Participant's risk accounts. In the CDS Risk Model ("Risk Model") this is referred to as the ACV Edit.

In determining the collateral requirements associated with a Participant's portfolio of outstanding positions in CNS, the Risk Model considers the following:

1. The largest unpaid mark-to-market over the preceding 50-days;
2. The Value-at-Risk ("VaR") associated with non-diversification eligible outstanding positions; and
3. The VaR associated with the portfolio of diversification eligible outstanding positions.

The outstanding positions component of the Participant Fund is designed to cover the risk that CDS would face if a Participant defaulted with outstanding transactions in the CNS Function. In the event of a Participant default, CDS sells or buys securities to close-out the Participant's outstanding positions. The difference between what CDS pays and receives in the marketplace for these close-out transactions and what CDS receives and pays in accordance with the terms of the original transactions represents the loss (or gain) that CDS uses to cover through the liquidation of CNS Participant Fund collateral.

The calculation of the outstanding position component for non-diversification eligible is the sum of the gross market value of each non-diversification eligible position multiplied by the haircut applicable to that security. [2]

The outstanding position component for diversification-eligible positions is calculated by estimating the risk of the positions through the daily changes in value of the portfolio of outstanding positions over the recent past. The risk of the outstanding positions is based on the largest of the 20, 90 and 260-day standard deviation of portfolio value changes. Diversification effects are incorporated by allowing gains and losses to offset themselves on each of the days in the historical observation period. The holding period applied to each of the outstanding positions is determined using the same method used for calculation of haircut rates for equities for ACV purposes.

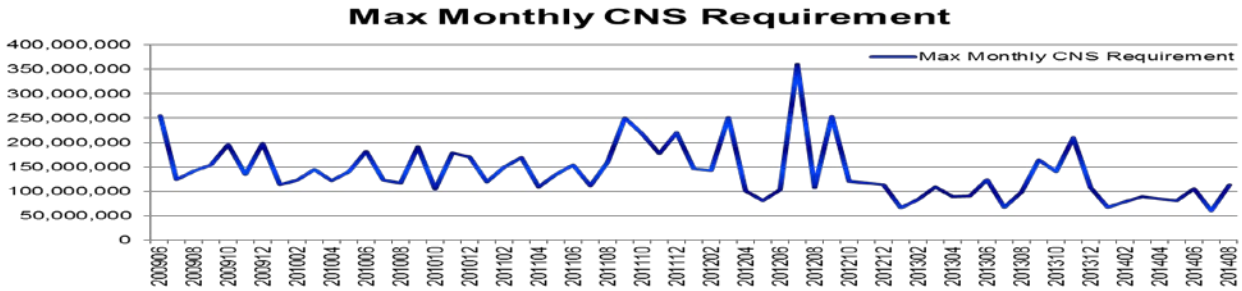
The outstanding positions component for a CNS Participant is currently calculated as the higher of the VaR on the Participant's outstanding positions (including both diversification and non-diversification eligible securities) or the average of the VaR over the most recent 20 business days, including the current day for which the calculation is being made.

The final calculation of each CNS Participant's outstanding position component collateral requirement, including both the non-diversification and diversification eligible outstanding positions, is as described in the Risk Model (i.e., the outstanding position component requirement for each CNS Participant is the sum of the requirement for diversification and non-diversification eligible securities). Lastly, the CNS collateral requirement is equal to the square root of the sum of the squares of the unpaid mark and the outstanding position component.

Risk models are inherently procyclical as equity haircuts are positively correlated with volatility resulting in:

1. Equity haircuts which are too low (relative to historical norms) during periods of low volatility; and,
2. Equity haircuts which are prone to sudden, rapid yet unsustainable increases in collateral requirements during periods with spikes in market volatility.

[2] The haircuts used in calculating the VaR associated with the non-diversification eligible outstanding positions are determined as noted under "Equity Haircuts" above.



When market volatility and equity haircuts are at cyclically low levels, significantly less collateral (margin) is collected and Participants are able to take on more risky positions than they otherwise could with the same collateral, relative to normal market conditions.

When market volatility and equity haircuts experience sudden, sharp and unsustainable increases (e.g., due to market volatility shocks), Participants may temporarily be charged additional required collateral (margin) at a time when their access to market liquidity is constrained or scarce potentially exacerbating Participants' and the market's stability. Given the unsustainable nature of such volatility spikes, the increase would only be temporary.

However, procyclicality is a question of degree subject to adequate risk sensitivity. The objective is to have a risk model that is not overly procyclical acknowledging that there is no standard measure of procyclicality.

During times of high market volatility, CDS's margin and haircut calculations are largely based on a 20-day price volatility measure approximately 1-months' worth of price volatility. As such, CDS's volatility measures allow for some smoothing and less prone to sudden, sharp and un-sustained increases in margin requirements than volatility measures based on shorter time horizons.

As a CCP, CDS is vulnerable to fast changing risk exposures, thus CDS needs a margin methodology that is reasonably responsive to those changes. Models which are not reasonably responsive mutualize the risk, which is inconsistent with the principle that Participants collateralize their risk exposure fully with a high degree of confidence.

CDS is of the opinion that its Risk Model is at the minimum acceptable confidence level for risk collateralization (i.e. 99%). Thus we don't have the same room to provide margin relief that other CCPs may have.

During times of low volatility, CDS's margin and haircut calculations are driven by a 260-day price volatility measure meaning Participants may be able to take on larger portfolios with the same amount of collateral, portfolios which they would not otherwise be able to collateralize under typical market conditions. Such exposures could put a Participant in a collateral liquidity constraint should market volatility revert to normal levels.

Proposed Amendments

CDS's proposal is to retain the current margin methodology during times of high market volatility and to introduce a Through-the-Cycle ("TTC") period which will introduce a margin floor during times of low market volatility.

The proposal is based on the following factors:

1. During times of high market volatility, CDS's margin measures allow for some smoothing and are less prone to sudden, sharp and un-sustained increases in margin requirements than volatility measures based on shorter time horizons.

2. During times of low market volatility, CDS's margin measures are such that Participants may be able to take on larger portfolios with the same amount of collateral – portfolios which they would not otherwise be able to collateralize under typical market conditions. Such exposures could put a Participant in a collateral liquidity constraint should market volatility revert to normal levels.

Since CDS as a CCP is most vulnerable to fast changing risk exposures in either high or low volatility environments, the proposed margin methodology is reasonably responsive to those changes. Models which are not reasonably responsive mutualize the risk – which is inconsistent with the principle that Participants collateralize their risk exposure fully with a high degree of confidence.

CDS proposes the following amendments to the CDS procedures to implement the enhancements proposed to CDS's Risk Model in order to mitigate procyclical effects which can adversely affect the stability of the financial markets – the proposed amendments impact the calculations of equity haircuts and CNS Participant Fund Collateral as follows:

Equity Haircuts

It is proposed that the calculation of VaR in IRMS be done using the following steps:

1. Calculate the standard deviation of one-day price changes for each equity security over the most recent 20 day, 90 day, 260 day and through the cycle TTC periods.[3]

2. Determine the maximum standard deviation of these one-day price movements for the most recent 20, 90, 260 and TTC day periods.

3. Lastly, the standard deviation determined in 2 is used along with the confidence level factor and holding period to calculate the haircut[4].

[3] The TTC period (i.e., the number of business days representing a typical "economic" cycle) is an input that is reviewed once a year and updated as necessary. The TTC period is based on identifying economic cycles from long-term historical daily return data from the S&P/TSX Composite Index and the S&P 500 Index.

[4] The standard deviation is multiplied by 2.33 to achieve a 99% confidence level and then multiplied by the square root of the holding period.

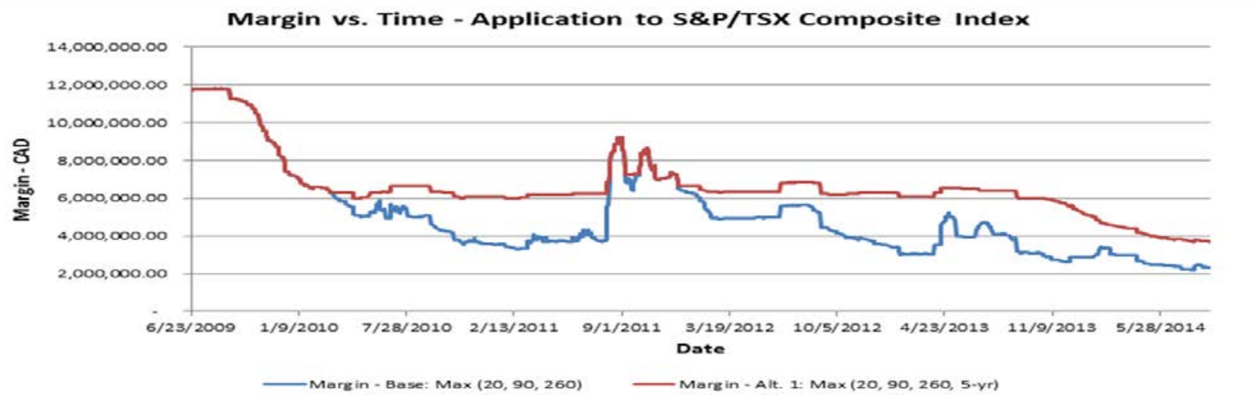
CNS Participant Fund Collateral

The outstanding position component for diversification-eligible positions is calculated by estimating the risk of the positions through the daily changes in value of the portfolio of outstanding positions over the recent past. The risk of the outstanding positions is based on the standard deviation of portfolio value changes as determined in the following steps:

1. Calculate the standard deviation of one-day portfolio value changes over the most recent 20, 90, 260 and through the cycle TTC day periods.[5]

2. Determine the maximum standard deviation of these one-day portfolio value changes for the most recent 20, 90, 260 and TTC day periods.

The following diagram provides an indication of the difference in the margin calculation methodology between the current and proposed methodologies.



B. NATURE AND PURPOSE OF THE PROPOSED CDS PROCEDURE AMENDMENTS

The proposed amendments to CDS Procedures align those procedures with corresponding changes to the CDS Risk Model.

CDS Clearing and Depository Services Inc., "**Participating in CDS Services**" (Release 10.2 – August 11, 2014), Section 16.3 (Calculating the current day VaR): The Amendments reflect the above noted changes impacting the calculation of equity haircuts and the outstanding position component.

C. IMPACT OF THE PROPOSED CDS PROCEDURE AMENDMENTS

(a) CDS Clearing - The Amendments will ensure CDS's observance of the PFMIs and adoption of a recognized international standard for market infrastructures. The Amendments will also enhance risk management by removing leverage from the CCRs.

(b) CDS Participants -The Amendments will benefit Participants by providing them with access to a market infrastructure that meets global standards.

[5] The TTC period (i.e., the number of business days representing a typical "economic" cycle) is an input that is review once a year and updated as necessary. The TTC period is based on identifying economic cycles from long-term historical daily return data from the S&P/TSX Composite Index and the S&P 500 Index.

(c) & (d) Other Market Participants and Securities and Financial Markets in General -- The Amendments will help mitigate systemic risk and contribute the efficiency of Canadian capital markets.

C.1 Competition

The Amendments apply to all CDS Participants who currently use, or may choose in the future to use, the CNS CCP service. From the perspective of fair access, no Participant will be disadvantaged or otherwise prejudiced with the introduction of these changes.

C.2 Risks and Compliance Costs

The Amendments will result in changes to the Risk Model and the resulting management of financial risks in CDS's clearing, settlement and depository services. CDS does not foresee other risks or compliance costs accruing to CDS Participants or other stakeholders.

C.3 Comparison to International Standards – (a) Committee on Payment and Settlement Systems of the Bank for International Settlements, (b) Technical Committee of the International Organization of Securities Commissions, and (c) the Group of Thirty

The PFMIs are minimum international standards for enhancing the safety and efficiency of clearing, settlement and recording arrangements, which aim to limit systemic risk and foster transparency and financial stability. The PFMIs apply to CCPs, central securities depositories ("CSDs") and security settlement systems ("SSS"). CDS engages in all three of these market infrastructure activities. According to the terms of CDS's recognition order requirements, CDS is required to observe PFMIs as soon as possible.

The Amendments mitigate procyclicality such that CDS's margin and collateral valuation methods do not unnecessarily cause or exacerbate financial instability. The Amendments are consistent with Principle 6, Key Consideration 3, and Explanatory Note 3.6.10 of the PFMIs.

D. DESCRIPTION OF THE PROCEDURE DRAFTING PROCESS

D.1 Development Context

CDS prepared documents describing the proposed procyclicality mitigation strategy which were tabled at CDS's Risk Advisory Committee.

D.2 Procedure Drafting Process

The Amendments were drafted by CDS's Risk Management group, and will be submitted for consultation to CDS's Strategic Development Review Committee ("SDRC"). The SDRC comments on CDS-related systems development and may suggest system or operating changes to CDS. The SDRC's membership includes representatives from a cross-section of the CDS Participant community and meets on a monthly basis.

D.3 Issues Considered

During the analysis of the initiative, consideration was given to the operational impacts that the enhancements might create for CDS Participants as outlined in section C.

D.4 Consultation

This Amendment was initiated by CDS. CDS received input from the RAC on the concept and methodology underlying this Amendment. The SDRC is expected to comment on operational aspects at its next meeting.

CDS Customer Service account managers will provide ongoing communication and status updates of proposed changes to clients and will solicit input on those changes.

CDS facilitates consultation through a variety of means, including regularly scheduled SDRC subcommittee meetings and monthly meetings with service bureaus to discuss potential development impacts to them. As a courtesy, development initiatives are presented to the Investment Industry Regulatory Organization of Canada's ("IIROC") Financial Administrators Section ("FAS") working group.

D.5 Alternatives Considered

Alternatives, essentially minor variations of the preferred option, were considered. The proposed methodology is the result of input received from the members of the RAC.

D.6 Implementation Plan

The Amendments and the proposed implementation schedule will be communicated to CDS Participants through the SDRC and the RAC. CDS Relationship Managers and the Customer Service department will provide Participants with also provide details of the upcoming changes. Subject to regulatory approval, CDS will distribute a bulletin to all Participants the week before implementation reminding them of the upcoming changes and confirming the effective date of those changes.

CDS is recognized as a clearing agency by the Ontario Securities Commission pursuant to section 21.2 of the Ontario *Securities Act*, and by the British Columbia Securities Commission pursuant to section 24(d) of the British Columbia *Securities Act*, and as a clearing house by the *Autorité des marchés financiers* pursuant to Section 169 of the Quebec *Securities Act*. In addition CDS is deemed to be the clearing house for CDSX®, a clearing and settlement system designated by the Bank of Canada pursuant to section 4 of the *Payment Clearing and Settlement Act.* The Ontario Securities Commission, the British Columbia Securities Commission, the *Autorité des marchés financiers* and the Bank of Canada will hereafter be collectively referred to as the "Recognizing Regulators".

The Amendments may become effective upon approval of the amendments by the Recognizing Regulators following public notice and comment. Subject to regulatory approval, CDS intends to implement the Amendments on **December 31, 2014**.

E. TECHNOLOGICAL SYSTEM CHANGES

E.1 CDS

There are technological system changes required by CDS.

Technical changes are required to allow for the introduction of the TTC period.

CDS is working to have the required technical changes completed by the end of January 2015.

E.2 CDS Participants

CDS is unaware of technological system changes required by CDS Participants.

E.3 Other Market Participants

CDS is unaware of technological system changes required by CDS Participant service bureaus.

F. COMPARISON TO OTHER CLEARING AGENCIES

CDS considered related documentation as published by the Bank of England.[6]

In developing the proposed methodology, CDS also discussed methodology with CDCC and DTCC. DTCC is not considering margin relief during periods of market stress or higher volatility, which is consistent with CDS's approach.

G. PUBLIC INTEREST ASSESSMENT

CDS has determined that the proposed amendments are not contrary to the public interest.

H. COMMENTS

Comments on the proposed amendments should be in writing and submitted within 30 calendar days following the date of publication of this notice in the Ontario Securities Commission Bulletin, the British Columbia Securities Commission Bulletin or the Autorité des marchés financiers Bulletin to:

David Stanton
Chief Risk Officer
CDS Clearing and Depository Services Inc.
85 Richmond Street West
Toronto, Ontario M5H 2C9

Telephone: 416-365-8489
Email: dstanton@cds.ca

Copies should also be provided to the Autorité des marchés financiers, the British Columbia Securities Commission and the Ontario Securities Commission by forwarding a copy to each of the following individuals:

M[e] Anne-Marie Beaudoin
Secrétaire générale
Autorité des marchés financiers
800, square Victoria, 22[e] étage
C.P. 246, tour de la Bourse
Montréal (Québec) H4Z 1G3

Télécopieur: (514) 864-6381
Courrier électronique: consultation-en-cours@lautorite.qc.ca

Manager, Market Regulation
Market Regulation Branch
Ontario Securities Commission
Suite 1903, Box 55,
20 Queen Street West
Toronto, Ontario, M5H 3S8

Fax: 416-595-8940
email: marketregulation@osc.gov.on.ca

Doug MacKay
Manager, Market and SRO Oversight
British Columbia Securities Commission
701 West Georgia Street

Mark Wang
Manager, Legal Services
British Columbia Securities Commission
701 West Georgia Street

[6] Financial Stability Paper No. 29 – May 2014: "An investigation into the procyclicality of risk-based initial margin models". http://www.bankofengland.co.uk/research/Documents/fspapers/fs_paper29.pdf

P.O. Box 10142, Pacific Centre
Vancouver, B.C. V7Y 1L2

Fax: 604-899-6506
Email: dmackay@bcsc.bc.ca

P.O. Box 10142, Pacific Centre
Vancouver, B.C., V7Y 1L2

Fax: 604-899-6506
Email: mwang@bcsc.bc.ca

CDS will make available to the public, upon request, all comments received during the comment period.

I. PROPOSED CDS PROCEDURE AMENDMENTS

Access the proposed amendments to the CDS Procedures on the User documentation revisions web page (http://www.cds.ca/cdsclearinghome.nsf/Pages/-EN-UserDocumentation?Open).