SGX
SINGAPORE EXCHANGE

29 July 2011

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and

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Dear Sir,

FEEDBACK ON CPSS AND IOSCO'S CONSULTATIVE REPORT ON PRINCIPLES FOR FINANCIAL MARKET INFRASTRUCTURES

1. We refer to the consultative report in relation to principles for financial market infrastructures released in March 2011.

2. We welcome the opportunity to give feedback on the new standards which are intended to improve the robustness of financial market infrastructures to better withstand financial shocks than at present. Our response to the consultative report is attached.

3. If you require further clarification, please do not hesitate to contact Mr. Zhang Changhao (email: changhao.zhang@sgx.com) or Ms. Phua Hui Sim (email: phua_huisim@sgx.com).

Yours sincerely,

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CONSULTATIVE REPORT ON PRINCIPLES FOR FINANCIAL MARKET INFRASTRUCTURES

SGX COMMENTS

29 July 2011

INTRODUCTION

Singapore Exchange Limited ("SGX") welcomes the opportunity to provide its comments on CPSS-IOSCO's consultative report dated 10 March 2011 ("Consultative Report") on the proposed principles for Financial Market Infrastructures ("FMIs"). Together with the Consultative Report, CPSS-IOSCO released a cover note containing specific questions on the proposed principles ("Cover Note").

SGX's comments on the Consultative Report is given in our capacity as firstly, an operator of CCPs for our securities and derivatives markets, as well as OTC commodities and financial derivative contracts; and secondly, a provider of depository and settlement services for securities and securities-based contracts.

PART A COMMENTS ON THE CONSULTATIVE REPORT AS A WHOLE

1. CPSS-IOSCO should demonstrate that the cumulative impact of the proposals to raise risk standards will not be unnecessarily burdensome

1.1. CPSS-IOSCO should demonstrate that the cumulative impact of the proposals to raise risk management standards will benefit the marketplace without becoming unnecessarily onerous on participants. Analysis in support of the proposals could be provided by conducting impact studies. Such analysis should then be shared with FMIs, in order that they may provide more constructive feedback.

1.2. That FMIs generally weathered the severe credit crisis in 2008 well reflects the adequacy of the existing sets of CPSS-IOSCO standards. However, SGX supports

CPSS-IOSCO efforts to review and improve on these standards to better reflect the lessons learnt during the global financial crisis.

1.3. To demonstrate the appropriateness of the new standards, extensive impact studies could be conducted across FMIs to assess their potential downstream impact. Insufficient assessment poses a tangible risk of unintended, and potentially significant and negative effects on market dynamics. Other international standards-setting bodies have conducted fairly extensive impact assessments to provide assurance that the new regulations would achieve the desired outcome and appropriately address inadvertent adverse effects. For example, Basel conducted Qualitative Impact Studies and is still working towards finalising the changes to capital requirements for bank counterparty exposures to CCPs.

2. Adequate time should be given for the implementation of the new standards

2.1. The proposed implementation timeline by end 2012 is too tight. Implementation of the new standards may require significant changes to FMIs' business rules and procedures, capital structure, as well as their systems and other infrastructure. Insufficient time for implementation will result in areas of significant operational and financial risk to the FMI being overlooked due to inadequate assessment.

2.2. The new standards may also have numerous ramifications on FMIs' participants. CPSS-IOSCO can consider a phased approach toward implementation, for example, by implementing standards relating to areas with a higher risk first.

3. The guidelines should focus on risk management standards rather than implementation details

3.1. The Consultative Report appears to place substantial emphasis on specific details of how risk measures should be implemented. The focus of the proposals should be shifted from prescribing specific implementation details, to articulating more definitively, the standards of risk management which should be achieved. Such clarity will enable regulators to better understand the standards which FMIs are expected to meet and implement the appropriate measures accordingly.

3.2. This will promote consistency of standards across FMIs, thereby mitigating regulatory arbitrage. It will also provide regulators with the flexibility to determine the calibration and implementation of specific risk measures, taking into account their respective local conditions and conventions.

4. **<u>The standards on the adequacy of CCPs' resources should consider CCPs' clearing resources in totality</u>**

4.1. The individual standards on the adequacy of CCPs' resources should be calibrated, taking into account the aggregate amount of clearing resources available to CCPs. Viewing each individual source of funds in isolation may lead to excessive requirements which may not be meaningful.

4.2. CCPs' clearing resources are acquired through various risk management tools (e.g. margin and default funds), which are individually calibrated to cater for different market conditions. However, they serve a common purpose of meeting clearing losses. Where such losses are sustained, the sum total of the clearing resources will be available to the CCP regardless of how they were acquired. Clearing resources should therefore be holistically evaluated.

PART B: SGX'S COMMENTS ON SPECIFIC PRINCIPLES

5. Principle 4: Credit Risk

Coverage of top two participant default is excessive

5.1. Paragraph 3.4.10 of the Consultative Report states that CCPs should have additional resources to cover potential stress scenarios, including the default of the top one/two participants and their affiliates. In the Cover Note, CPSS-IOSCO sought comments on 3 different options for establishing a minimum credit requirement, namely, (i) "cover top[1] one", (ii) "cover top two", or (iii) either "cover top one" or "cover top two" depending on risk characteristics.

5.2. SGX is of the view that there is little basis for covering the top two participants. At a fundamental level, the amount of funds which a CCP is expected to maintain should be commensurate with the risk which the CCP may plausibly be exposed to. In this regard, we are not aware of any occasion in recent times where a top CCP participant defaulted on its obligations, much less the top two.

5.3. SGX recognises that CCPs' risk profile may also increase through the recent global move towards mandatory clearing of OTC financial derivatives through CCPs. However, SGX considers that the main contributors to risk in this regard, will be banks. They will therefore be subject to the Basel III requirements, which raises the prudential standards for banks in order that they may individually withstand stressed conditions.

5.4. In determining the risk, due regard should be given to the quality of participants. The admission and continuing standards of financial soundness which CCPs require of their participants should therefore be taken into account. Also, daily monitoring and robust margining practices form an integral part of CCPs' risk management framework.

[1] The "top" participant refers to the participant to which the CCP has the largest credit exposure.

5.5. In this context, there are sufficient safeguards in place such that the likelihood of a CCP's top two participants defaulting within a short period of time is extremely remote.

<u>Default fund should cover top participant and a few financially weaker ones</u>

5.6. The current minimum standard caters for the failure of the top participant, as set out in The CPSS-IOSCO Recommendations for Central Counterparties published in 2004.

5.7. SGX is of the view that the additional resources should cover the default of the top participant. In addition, it should cover a few financially weaker participants. The latter addresses the further risk of contagion as weaker participants are likely to be more vulnerable in stressed market conditions.

5.8. CCPs and their respective regulators may determine what constitutes "financially weaker" and the number of weaker participants the financial resources should cover, based on the total number of participants and their credit quality.

<u>Default arrangement should be substantially, but not fully, prefunded</u>

5.9. Paragraph 3.4.10 of the Consultative Report states that a CCP should maintain additional financial resources, such as a prefunded default arrangement to cover credit exposures from participant defaults in extreme but plausible market conditions. While the level of prefunding required has not been explicitly set out, the explanatory notes allude to full prefunding.

5.10. It is excessive to require full prefunding, as the default fund is typically a sizable pool of resources meant to cover extreme events. Furthermore, given that a CCP has sound risk management practices, it is rare for the entire default fund to be utilised.

5.11. However, as the default fund is a key resource to cover exposures in the event of member defaults, we recommend that half of the default fund be prefunded. This, coupled with timely review of fund size, achieves an appropriate balance.

5.12. Further, a CCP's own capital should form a meaningful component of the default fund, with a portion of CCP capital to be tapped on first in the event of a default. This encourages more prudent risk management by the CCP, for example, by deterring CCPs from setting low margins. CCPs contribution to the first layer of the default fund is also aligned with the Basel III recommendations, which recognises that this practice is safer for CCP participants. It therefore sets a lower risk charge on banks' exposure to CCPs with a sufficient capital contribution in the first layer of the clearing fund.

<u>Greater clarity is required as to which scenarios should be covered by additional financial resources for consistency across CCPs</u>

5.13. Paragraph 3.4.13 of the Consultative Report provides descriptions of stress scenarios that CCPs should consider, such as peak historical price volatilities, shifts in other market factors, multiple defaults, forward-looking scenarios, etc.

5.14. Firstly, these descriptions are too broad and greater clarity on the basis for scenario selection is needed. For example, it is not clear which periods should be considered in determining peak historical price volatilities. Secondly, the standards should set out the extent to which these scenarios should be covered by additional financial resources. The lack of such clarity may lead to fragmented implementation, resulting in inconsistent risk management standards across CCPs.

5.15. For the purpose of scenario selection, we suggest the following basis:-

(a) Scenarios should be realistic and reflective of the prevailing and plausible financial structures.

(b) Relevance of historical scenarios should be assessed based on the factors that led to the scenario, and the likelihood of recurrence. The determination of relevance should take into account changes since the historical event, in economic infrastructures, laws and regulations, market evolution, as well as risk controls.

(c) Forward looking scenarios may be too speculative in nature to form a sound basis for the provision of additional financial resources. They can be useful tools for CCPs to assess the possible worst outcome if these scenarios play out, but should not form the basis for provision of additional financial resources.

5.16. In determining the extent to which financial resources should be maintained, CPSS-IOSCO has specified that a portion of tail risk should be covered. We agree that it is not possible to cover all simulated worst loss scenarios 100% of the time. As these are deemed extreme but plausible events, regulators should recognise that exceptions may occur during daily monitoring. A reasonable number of exceptions should be allowed from time to time.

Stress testing should be conducted daily

5.17. Paragraph 3.4.12 proposes monthly stress testing (at a minimum) of the adequacy of total financial resources available in the event of a participant default.

5.18. SGX considers daily stress testing of the adequacy of total financial resources to be best practice and advocates that it be set as the minimum standard. Exchange-traded and OTC markets are increasingly dynamic. Exposures can increase significantly over short periods of time. As monthly stress testing cannot capture such rapid changes, it poses a risk that the days on which the default fund may be inadequate due to large exposures, may be overlooked.

Reverse stress testing should be of limited application

5.19. Paragraph 3.4.14 proposes that a CCP conduct reverse stress tests aimed at identifying the extreme scenarios and market conditions in which its financial resources would provide insufficient coverage of credit exposures.

5.20. SGX is of the view that reverse stress testing should be limited to complex products with many risk factors, or stress testing methodologies with many assumptions. For example, credit default swaps could be a possible candidate.

5.21. However, reverse stress testing for standard futures and options contracts is not necessary to help CCPs determine the limits of their models and resources. The risk profiles of such instruments are already well-understood.

6. **Principle 6: Margin**

Margin for cash markets should be appropriate to the risk

6.1. Paragraph 3.6.3 of the Consultative Report states that a CCP should establish margin levels that are commensurate with the risks and attributes of each product, portfolio and market it serves.

6.2. SGX is of the view that margining in cash markets need not be at the same levels as that for derivatives. This is because a CCP's risk exposure to cash trades is a settlement risk of short duration (settlement cycles are typically two or three day), which can be effectively managed through other risk management tools, such as an adequately sized default fund.

6.3. Derivative markets, however, are different. Firstly, a CCP's exposure to such derivatives subsists for as long as the positions remain open. Secondly, unlike cash products, derivative contracts are leveraged. Margining for the derivatives market is therefore more critical to limiting exposure, and should be maintained at high standards.

Procyclicality measures have been over-prescribed

6.4. The Consultative Report has prescribed several measures to reduce procyclicality. Paragraph 3.6.10 states that CCPs should adopt forward-looking and relatively conservative and stable margin requirements to avoid the need for destabilising procyclical changes. Additionally, paragraph 3.6.6 states that initial margin set by a CCP should meet a confidence level of at least 99 percentile. Together with the buffer, this implies a level even higher than 99 percentile. Furthermore, it was suggested that CCPs could increase the size of their prefunded default arrangements.

6.5. The standards should avoid over-prescribing how a CCP should manage procyclicality. It cannot be predicted how margins should be adjusted in a stress situation, or even how margin buffers can be set meaningfully. Resources taken in totality (margin and default fund) should avoid creating an unnecessarily heavy burden on the market.

6.6. Adequate flexibility must be provided for CCPs to manage the risk as appropriate. Overly prescriptive requirements could force actions that pose more risk to the system. This cannot be overemphasized. During extreme stress market events, margin increments to meet a compulsory 99 percentile confidence level could further aggravate liquidity pressures. Already, requirements on prefunding for default fund create room for proper management in a crisis. CCPs should have the ability to decide to hold the margin level, or raise them gradually.

<u>99 percentile confidence level for margin should apply to a CCP's more significant products</u>

6.7. Paragraph 3.6.6 of the Consultative Report states that initial margin set by a CCP should meet an established confidence level of at least 99 percent for each product, spread and members.

6.8. A 99 percentile confidence level is appropriate for a CCP's more significant products. However, some leeway should be given for products that have insignificant contribution to a CCP's risk, e.g. less than 2% of total margin requirements. This is especially so if the CCP has itself set aside substantial capital for the default fund.

<u>Annual backtesting of margins is appropriate</u>

6.9. Paragraph 3.6.14 of the Consultative Report proposes rigorous daily backtesting to evaluate whether there are any exceptions to its initial margin coverage. Monthly (if not more frequent) stress testing is also proposed.

6.10. For CCPs, the critical process is daily stress testing, as it assesses the resources of the CCP in totality. Margins represent only a subset of clearing resources, and annual backtesting is adequate for validation of margin parameters.

6.11. SGX recognises that certain circumstances may warrant more frequent backtesting. These include the following:

(a) in the case of complex products which exhibit highly idiosyncratic risks or are susceptible to unexpected jumps in value, such as credit default swaps; and

(b) in the case of margin models that rely only on extremely long or extremely short periods of historical data.

6.12. It is also pertinent to note that a CCP's risk framework as a whole, provides other safeguards to limit exposure. For example, the daily mark-to-market of positions mitigates the accumulation of risk at the first instance, which is a practice not commonly found in banks for their various credit exposures.

7. Principle 7: Liquidity Risk

Liquid resources should cover the default of the top FMI participant

7.1. Paragraph 3.7.8 of the Consultative Report proposes that an FMI should ensure that it has sufficient resources to effect same-day settlement with a high degree of confidence under a wide range of potential stress scenarios, including the default of the top one/two participant(s) and their affiliates. In the Cover Note, CPSS-IOSCO sought comments on 3 different options for establishing a requirement for liquid resources, namely, (i) "cover top one", (ii) "cover top two", or (iii) either "cover top one" or "cover top two" depending on risk characteristics.

7.2. SGX is of the view that liquid resources should cover the default of the top participant to a high degree of confidence. With replenishment of liquid resources upon prompt liquidation of collateral and positions shortly after a default, CCPs are effectively able to provide for another default within a short period of time. Covering defaults of the top two participants is tantamount to anticipating the default of the top two participants within the same day, the likelihood of which is extremely remote.

8. Principle 14: Segregation and portability

8.1. Principle 14 of the Consultative Report sets out standards for and guidance on the segregation and portability of customers' positions and collateral. It also recognizes the potential challenges, be it legal, operational or cost, and is cognizant of the difficulty of designing a single model appropriate for CCPs across all jurisdictions.

8.2. SGX is of the view that the existing segregation frameworks in the U.S. and Asian jurisdictions were in general adequate for CCPs' default management purposes during the recent credit crisis. For instance, SGX already offers segregation and portability structures that provide more than adequate protection to our customers.

Individual CCP to decide on the extent of its customer segregation and portability structure

8.3. Paragraphs 3.14.1 and 3.14.2 of the Consultative Report highlighted the benefits from the segregation and portability of customers' positions and collateral.

8.4. The benefit of segregation and portability may not be apparent to all customers, or significant enough given the high implementation and operating cost. Hence we recommend that the degree of segregation and portability of customers' positions and collateral should not be mandated, but to be decided by individual CCPs, and provided at the customer's election.

Clearer definition of "customer" is required

8.5. Paragraphs 3.14.5 to 3.14.7 of the Consultative Report discussed the possible types of account structure to achieve segregation and portability.

8.6. Greater clarity is needed on the definition of "customers", distinguishing between the following:-

(a) **Direct customers** – These are persons or entities which a CCP participant has contractual relationships with. These may be brokers holding positions on behalf on their own customers, which may therefore not have beneficial ownership of the positions.

(b) **End-customers –** These are beneficial owners of the positions. However, their specific identities may not be known to the CCP or the CCP participant.

8.7. Practically, segregation and portability can only be reasonably applied to the direct customers. Members typically do not have contractual relationships with end-customers, and often may not be aware of their identities. Requiring portability of both positions and collateral down to the end-customers will be onerous for both CCPs and market participants.

Margining treatment for suggested portability models

8.8. In the derivatives markets, it is best practice for customers to be margined by their respective CCP participants. To facilitate portability, the sum of margin requirement across all direct customer accounts should in turn be placed with the CCP. In other words, margin offset should not be allowed across different direct customer accounts of the clearing member. SGX further recommends that margin treatment for each direct account to be based on the account's applicable segregation/portability model, as described in the table below.

Type of Direct Account	Description	Margin treatment
Individual	Account containing proprietary positions of a single individual end customer	Net across positions in each account.
Affiliate group Omnibus	Omnibus Account containing only proprietary positions of an individual customer and its affiliate	Net across positions in each omnibus account.
Unrelated Omnibus – Opted in for segregation/portability	Omnibus Account containing positions of two or more unrelated individual customers, all of whom have opted for segregation and portability	Gross across positions in each omnibus account.
Unrelated Omnibus – Opted out of segregation/portability	Omnibus Account containing positions of two or more unrelated individual customers, all of whom have opted out of segregation and portability	Net across positions in each omnibus account.

9. Principle 15: General business risk

A requirement for FMIs to set aside equity capital equal to six months of expenses is appropriate

9.1. Paragraph 3.15.6 of the Consultative Report proposes 3 options in terms of the quantum of equity capital which an FMI must provide for at a minimum during normal times. The quantum should be equal to six, nine or twelve months of expenses.

9.2. SGX is of the view that a quantum equal to six months of expenses is appropriate. Various jurisdictions presently require capital equal to six months of expenses to be set aside, and there does not appear to be any pressing reason for increasing the quantum.

Other instruments should be permitted for the funding of liquid net assets

9.3. Paragraph 3.15.6 of the Consultative Report proposes that the liquid net assets be funded by equity capital for the purpose of covering general business risk.

9.4. SGX recommends that other instruments be permitted for the purpose of funding liquid net assets, for example, subordinated loans and other quasi-debt. Such instruments, however, should have the ability to absorb losses.

9.5. SGX recommends that other instruments be permitted for the purpose of funding liquid net assets. This may include certain subordinated loans and other quasi-debt which have the ability to absorb loss. Whether a particular instrument is appropriate for a specific market may be determined by the FMI, subject to its regulator's approval.

Default resources should not be taken into account in assessing the adequacy of capital to cover business risk

9.6. Paragraph 3.15.7 of the Consultative Report states that to the extent possible, the resources for covering losses resulting from participant defaults should not be considered in assessing the adequacy of resources covering business risk.

9.7. SGX recommends that the phrase "to the extent possible" be removed. We are of the view that in no circumstances should the resources for covering participant defaults be taken into account in assessing sufficiency of capital to cover business risk The resources catering for participant defaults are set aside for a systemically important purpose and cannot be applied against business losses. Taking default resources into account may skew the assessment of sufficiency of capital to cover business risk, resulting in inadequate provision of such capital.

Capital plans should be formulated as broad guiding principles

9.8. Paragraphs 3.15.8 to 3.15.10 of the Consultative Report proposes the establishment of capital plans to ensure an appropriate level of capital. The plan should specify capital-raising as well as winding-down or reorganisation arrangements and take into account the financial resources which may be required.

9.9. SGX proposes that further clarity of the scope and level of detail of capital plans be provided. In this regard, we recommend that capital plans should be formulated as broad guiding principles and not detailed operating procedures.

9.10. SGX fully appreciates the need for contingency planning. However, contingency measures of this nature typically come into play at a time of significant market uncertainty. Further, adverse conditions may develop in a variety of ways and against a complex economic/political backdrop. The FMI's discretion to act may also be limited as it will be subject to the direction of its regulator. The appropriate action to take may only be ascertained at the time of the event, taking into account the prevailing conditions. For example, at the time of the event, the FMI may face great difficulty in raising capital on its own due to its financial distress. Alternatives such as capital restructuring may then have to be considered. The plans cannot therefore serve as procedures to be strictly complied with.

9.11. The usefulness of the plans lies in providing some forethought in preparation for such an event, setting out key considerations and possible avenues of action. The plans should be developed in that light.

10. ADDITONAL COMMENTS

10.1. Please see the attached appendix for additional comments on specific explanatory notes.

11. CONCLUSION

11.1. SGX would like to thank CPSS-IOSCO for the opportunity to provide these comments. Please feel free to contact our Mr. Zhang Changhao (email: changhao.zhang@sgx.com), or Ms. Phua Hui Sim (email: phua_huisim@sgx.com) if you require further information. We look forward to be involved in future public consultations.

Appendix – Additional Comments

Comments in this appendix pertain to specific explanatory notes.

Reference	Text	Issue
Principle 6 Consideration 7	A CCP should regularly review and validate its margin system.	It is unclear what a margin system refers to, and what entails an acceptable a review.
3.4.5, 3.12.2	3.4.5 A payment system, CSD and SSS should cover its current and where it exists, potential future exposure to each participant fully with a high degree of confidence using as a rule, collateral and, exceptionally, equity capital (after deduction of the amount dedicated to cover general business risk. 3.12.2 An FMI that is an exchange of value settlement system should eliminate principal risk by linking the final settlement of one obligation to the final settlement of the other.	3.12.2 requires FMIs to link final settlement of obligations, while 3.4.5 requires collateralisation of any intraday credit extended. We seek clarification that these two referenced paragraphs refer to separate concepts. i.e. 3.4.5 is not applicable should 3.12.2 not be met. We would like to highlight that it may not always be practical to eliminate principle risk by linking final settlement. In such cases, the FMI should be allowed to identify and mitigate such risks in other ways.
3.8.4	With batch settlement, the time between the acceptance and final settlement of payment or transfer instructions or obligations should be kept short.	The value or purpose of this requirement is unclear. In fact, early receipt of settlement instructions can provide more settlement certainty. For example, in the case of securities settlement on T+3, it is desirable to receive the instructions on T+1 or T+2 as it will provide clarity early in the settlement process.
3.11.6	If a CSD acts as a principle in a securities lending transaction, it should identify, monitor, and manage its risks, including potential credit and liquidity risks, under the conditions set in principles 4 and 7.	Clarification should be provided that the standards set out in principle 6 should not apply to securities lending transactions. These already entail margining to cover the full value of the loaned security at minimum. The confidence level prescribed for derivatives is not appropriate given the different nature of risk.
3.8.3	An FMI's processes should be designed to, at a minimum, complete final settlement no later than the end of the value date.	There may be circumstances where it is not feasible or practical to settle on the value date. For example, while delivery failure on cash markets can be minimised, they cannot be completely eliminated. A strict interpretation of 3.8.3 does not allow for this. In contrast, 3.6.3 alludes to recognising that delivery fails are part of the settlement process.
3.23.5	Transparency of fees, however, will be undermined if an FMI bundles its fees for services or if it offers selective discounts to certain users without disclosing the basis for the discount.	In setting out this principle, it should be recognised that this is not always practical. We suggest adding a clause "where practical".
3.6.7	The close-out period should be set based on anticipated close-out times in stressed market conditions.	Margins serve as the first-level of protection, and should be based on close-out periods under normal market conditions. Stressed market conditions should be covered, but by considering margins together with the default fund in totality.
3.6.9	CCP should collect additional initial margin to cover any exposure that could give rise to general wrong-way risk, in which the exposure to a counterparty is likely to increase when the credit worthiness of that counterparty is deteriorating.	The nature of general wrong way risk is too indefinite for additional margins to be required. We are not aware of any existing margining methodology that captures general wrong way risk.