OTC Clearing Hong Kong Limited ("OTC Clear")
Risk Limit Maintenance Form

To:	OTC Clear Clearing Risk Management	From:	_____
	21/F, One Exchange Square		_____
	8 Connaught Place		(Full name of Clearing Member)

OCASS Clearing Member ID
(If available): |__|__|__|__|__|__|__|__|__|__|__|__|__|

Hong Kong
Tel: 2211 6753
Fax: 2427 1122

Name of Contact Person: _____
Tel: _____
Fax: ————————————————————
Email: ————————————————————

PART I – Basic Information

Account Type (Please check the box)	☐ House ☐ Client
Purpose	☐ New Limit ☐ To revise existing limit
Account Name (applies if account type is "client")	
Risk Limit Type[1]	☐ Delta_01 ☐ FX_Delta

Please note that OTC Clear reserve the right to revise/amend the Limit Amount

PART II – Risk Limit Amount

Delta_01 (in million) - For better limit usage select "**All Product**" and fill in "**All Tenors**" box.

Product	Limit Currency	All tenors[2]	2Y	5Y	10Y+
☐ All Product[3]	USD				
☐ USD IRS	USD				
☐ EUR IRS	USD				
☐ CNH IRS	USD				
☐ HKD IRS	USD				
☐ CNY NDIRS	USD				N/A
☐ TWD NDIRS	USD				
☐ INR NDIRS	USD				
☐ KRW NDIRS	USD				
☐ THB NDIRS	USD				
☐ USD/CNH CCS	USD				
☐ USD/HKD CCS	USD				

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[1] Clearing Members must set up at least one applicable Risk Limit Type for any product(s) selected on "Request for Change of Products Accepted for Clearing" form ("Applicable Products"), and fill in the corresponding figure(s) in Part II. Submitted form will be rejected if otherwise.

[2] Fill in limit for "All tenors" unless specific other tenors. For Risk Limit Level Assessment, please refer to appendix 4

[3] "All Product" include IRS, NDIRS and CC

FX_Delta (in million) - For better limit usage select "**All Product**" and fill in "**All Tenors**" box.

Product	Limit Currency	All tenors
□ All Product[4]	USD	
□ USD/CNY NDF	USD	
□ USD/TWD NDF	USD	
□ USD/INR NDF	USD	
□ USD/KRW NDF	USD	
□ USD/CNH CCS	USD	
□ USD/HKD CCS	USD	
□ USD/CNH FXForward[5]	USD	
□ USD/HKD FXForward[6]	USD	
□ USD/CNH FXSwap	USD	
□ USD/HKD FXSwap	USD	
□ USD/TWD NDF	USD	

[4] "All" including all NDF, CCS, FXForward and FXSwap.
[5] Including FXSpot
[6] Including FXSpot

Authorized Signature(s)		Authorized Signature(s)	
(Name of Signatories:	)	(Name of Signatories:	)

For Office Use Only	
Reviewed by:	*Approved by:*
Date:	*Date:*

Disclaimer

The following appendices do not constitute an offer or solicitation to anyone in any jurisdiction in which such offer or solicitation is not authorized or to any person to whom it is unlawful to make such offer or solicitation or is unlawful without compliance with any registration, filing or other requirements.

The information of the appendices serves for illustration purposes only. HKEx or OTC Clear endeavours to ensure the accuracy and reliability of the information provided and assumes no responsibility for any errors, omissions or conflicts with clearing house rules, procedures and other official notice/circulars. Also, all examples in this appendix are hypothetical situations used for illustration purposes only, and should not be considered the results of actual market circumstances. All matters pertaining to specifications herein are made subject to and are superseded by the Clearing Rules and Procedures.

Appendix 1: Explanatory Notes on Delta_01 Risk Limit Set Up

Firstly, the delta_01 refers to the change in Net Present Value (NPV) of the IRS or CCS position when yield curve(s) is shocked by 1 basis point.

Secondly, the denominated limit currency will be **in USD**.

Thirdly, the limit can be specified for each IRS, NDIRS or CCS product individually or in aggregate, which means:

- By each IRS product : USD, EUR, CNH, HKD; or
- By each NDIRS product : CNY, KRW, INR, TWD, THB, MYR; or
- By each CCS product : USD/CNH; or
- All Interest Rate products clearable via OTC Clear.

Finally, as delta_01 calculated by OCASS can be a positive or a negative value the risk limit specified by Clearing Members represents the maximum and minimum delta_01 limit. For example if a Clearing Member specifies 5 million delta_01 limit for all IRS products, then actual delta_01 for all of the Clearing Member's IRS product cannot exceed **+5 million** or fall behind **-5 million** USD respectively. In OCASS[7]:

- Clearing members' receive-fixed IRS position(s) will have positive delta_01;
- Clearing members' pay-fixed IRS position(s) will have negative delta_01;

How Delta_01 risk limit works

Assume Clearing Member XYZ specifies a risk limit as follows and has no trade in the portfolio. If XYZ submits the two USD IRS trades:

- Trade 1 – 1.5Y maturity and receive fix with delta_01 of 0.25 million USD
- Trade 2 – 6.5Y maturity and paying fix with delta_01 of -0.75 million USD

Table 1

Product	Tenor	Risk limit (in million USD)	Used(in million USD)
USD IRS	1Y	5	0
	3Y	4	0.25
	5Y	3	0
	10Y	2	-0.75

Figure in the table is for illustration purpose only.

- Delta_01 of trade 1 will be aggregated into the 3Y tenor (trade maturity is between 1 year and 3 years) and compare the amount with risk limit into the 3Y bucket (i.e. 4 million USD).

- Delta_01 of trade 2 will be aggregated into the 10Y tenor (trade maturity is between 5 year and 10

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[7] Assume the position is a par trade. However please note that the delta_01 will change subject to market data and/or trade terms.

years) and compare the amount with risk limit into the 10Y bucket (i.e. 2 million USD)

With the information in table 1, once the limit utilization (i.e. used divided by Risk limit reaches 100%) in the 3Y tenor bucket equal to or exceeds ±4 million USD, for each subsequent USD IRS trade[8]:

- The trade will not pass limit check if (i) its remaining maturity falls into the 3Y tenor bucket and (ii) it cannot reduce the limit utilization (below 100%).

- The trade will pass limit check if (i) its remaining maturity falls into other tenor buckets (i.e.1Y, 5Y, 10Y) or (ii) its remaining maturity falls into the 3Y tenor bucket but it can reduce limit utilization (below 100%).

Assume one year of time has passed and portfolio does not change at all i.e. trade 1 and 2 are only two trades in member XYZ's portfolio, then OCASS will show the information below[9]:

Table 2

Produ	Tenor	Risk limit (in million USD)	Used(in million USD)
USD IRS	1Y	5	0.25
	3Y	4	0
	5Y	3	0
	10Y	2	-0.75

Figure in the table is for illustration purpose only.

As the remaining maturity of trade 1 becomes 0.5 year, the delta_01 of trade 1 will be aggregated into the 1Y tenor bucket instead of the 3Y tenor bucket, while remaining maturity of trade 2 is 5.5 years so the trade is still in the 10Y tenor bucket. Please note that the Delta_01 for both trades may change according to various market factors such as rates movement, remaining maturity, etc.

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[8] See 4.6.2 and 4.6.3, Chapter 4 –Margin and Valuation of OTC Clearing Hong Kong Limited Clearing Procedures.
[9] Assume no decay in delta_01 for easier understanding.

Appendix 2: Explanatory Notes on FX_delta Risk Limit Set Up

Firstly, the FX_delta refers to the change in Net Present Value (NPV) of the Non Deliverable Forward (NDF) or Cross Currency Swap (CCS) position when the forward curve is shocked in parallel by 1 pip[10] (0.0001).

Secondly, the denominated limit currency will be **in USD**.

Thirdly, the limit can be specified for each NDF or CCS product or in aggregate, which means:

- By each NDF product : USD/CNY, USD/KRW, USD/INR, USD/TWD; or
- By each CCS product : USD/CNH; or
- All FX products clearable via OTC Clear.

Finally, as FX_delta calculated by OCASS can be a positive or a negative value the risk limit specified by Clearing Members represents the upper and lower bound of FX_delta limit. For example if a Clearing Member sets FX_delta limit to 2 million for all NDF products, then actual FX_delta for all of the Clearing Member's NDF product cannot exceed **+2 million** or fall behind **-2 million** USD respectively. In OCASS:

- Clearing members' long primary currency i.e. USD position(s) will have positive FX_delta;
- Clearing members' short primary currency i.e. USD position(s) will have negative FX_delta;

How FX_delta risk limit works

Assume Clearing Member XYZ specifies a risk limit as follows and has no trade in the portfolio. If XYZ submits the two USD/CNY NDF trades:

- Trade 1 – 3M maturity long USD position with FX_delta of 0.1 million USD
- Trade 2 – 1Y maturity short USD position with FX_delta of -0.3 million USD

Table 3

Product	Tenor	Risk limit (in million USD)	Used(in million USD)
USD/CNY NDF	All Tenors	5	-0.2

Figure in the table is for illustration purpose only.

- FX_delta of trade 1 and 2 will be aggregated and compare the amount with risk limit.

With the information in table 3, once the limit utilization (i.e. used divided by Risk limit reaches 100%) equals to or exceeds ±5 million USD, for each subsequent trade[11]:

- The trade won't pass limit check if it cannot reduce the limit utilization (below 100%).

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[10] It is an acronym for Percentage in Point.
[11] See 4.6.2 and 4.6.3, Chapter 4 –Margin and Valuation of OTC Clearing Hong Kong Limited Clearing Procedures.

- The trade will pass limit check if it can reduce limit utilization (below 100%).

Assume three months of time has passed and portfolio change as follow i.e. trade 1 has been matured and trade 2 are only one trades in member XYZ's portfolio, then OCASS will show the information below[12]:

Table 4

Product	Tenor	Risk limit (in million USD)	Used(in million USD)
USD/CNY NDF	All Tenors	5	-0.3

Figure in the table is for illustration purpose only.

As trade 1 becomes matured, the FX_delta of trade 1 will be zero, while remaining maturity of trade 2 is 9 months so the trade is still in the bucket. Please note that the FX_delta for trades will change according to various market factors such as spot/forward rates movement, remaining maturity, etc.

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[12] Assume no decay in FX_delta for easier understanding.

Appendix 3: Risk Limit Level Assessment

The following steps show how OTC Clearing Hong Kong Limited assesses Clearing Member's risk limit level with its Tier 1 Capital.

Consider the following situation:

Clearing Member: CM A

Clearing Member Tier 1 Capital: 50 billion HKD

Tolerated Exposure by OTC Clearing (Tier 1 Capital * 20%)[13]:   10 billion HKD (1.2747 billion USD)

Tolerated Delta_01 risk limit level[14]:

Delta_01 limit =   CM's Tier 1 Capital*20% x Delta_01 factor[15]

                =   1.2747 billion USD x 0.41%

                =   5.26 million USD

Tolerated FX_Delta risk limit level[16]:

FX_Delta limit =   CM's Tier 1 Capital*10% x FX_Delta factor[17]

                =   1.27 billion USD x 0.005%

                =   0.06 million USD

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[13] Initial Tolerance is a soft limit, higher level subject to further review by OTC Clearing Hong Kong Limited
[14] The assumption of calculations for Delta_01 risk limit base on USD IRS and USDCNH CCS products.
[15] Delta_01 factor is an internal factor used by OTC Clearing Hong Kong Limited and subject to change.
[16] The assumption of calculations for FX-Delta risk limit base on USDCNH CCS products.
[17] FX_Delta factor is an internal factor used by OTC Clearing Hong Kong Limited and subject to change.