



# PAKISTAN STOCK BROKERS ASSOCIATION

(A company setup under section 42 of the Companies Act 2017)

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PSBA/Notice-096

May 11, 2023

## NOTICE FOR MEMBERS

### **COMMENTS ON PRE-TRADE RISK MANAGEMENT & NEW TRADING SYSTEM PROPOSAL SUBMITTED BY NATIONAL CLEARING COMPANY OF PAKISTAN LIMITED**

Respected Members,

We would like to draw your attention to the proposal submitted by NCCPL to PSBA regarding the pre-trade risk margins. The objective of developing this paper is to review the existing practice of pre-trade risk management in our market, in light of challenges that may be faced after the implementation of NTS.

As part of our commitment to transparency and engagement with our members, we invite your comments and feedback on these proposals. We encourage you to review the paper carefully and provide any comments or feedback to us at [psamail024@gmail.com](mailto:psamail024@gmail.com) so that we can compile a consolidated response to be submitted to the NCCPL for their consideration.

Please note that the proposal is attached herewith. The deadline for submitting comments is May 16, 2023. We appreciate your participation and engagement in this process and look forward to receiving your comments.

Thank you,

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**AKBER ALI**  
Officer - Secretariat

#### **Copy to:**

1. PSBA Website

# Pre - Trade Risk Management

NOVEMBER 4, 2022

Risk Management Department  
NCCPL

**Preamble:**

The objective of developing this paper is to review the existing practice of pre trade risk management in our market in light of challenges faced during implementation of New Trading System “NTS” of Shenzhen Stock Exchange “SZSE”.

Currently pre-trade risk management is carried out at PSX and NCCPL systems simultaneously.

Following features are not developed in NTS;

1. Exposure Demand Calculation on Netted Trades
2. Live Valuation of Margin Eligible Securities
3. Open-end Fund as Market Collateral
4. Pre-trade Checks on GEM (No change in NTS, changes in NCCPL Regulations)
5. Mark to Market computations
6. Liquidity and Concentration Margin computations
7. Basic Deposit proposed for Futures Market
8. DFC Close-out
9. PCM / T&C risk management

**Overview of Pre-Trade Risk Management**

In our market, we follow the “client level margining” regime where the margins are linked to specific investors, so the Brokers have to arrange client wise margins.

The Pre-Trade Risk Management is applicable on the following markets. However, the applicability of pre-trade risk management is not unanimous for all the markets listed hereunder. Therefore, the document provides differentiating features of pre-trade risk management for each market.

1. Ready Market
2. Growth Enterprise Market (GEM)
3. Deliverable Futures Market (DFC)
4. Cash Settled Futures Market (CSF)
5. Stock Index Future Contract Market (SIFC)
6. Margin Trading (MT)- “to the extent of exposure and margin determination of unsettled position”
7. Debt Market
8. F7 Key - Leverage Buy (pre- existing interest of MTS)
9. F8 Key - SLB Short sale
10. F9 Key - MSF (pre- existing interest of MSF)

**Basic Deposit:**

Currently every broker clearing member provides Rs 200,000 as security deposit for regular market to NCCPL which is allowed to be used as collateral during the trading hours. This basic deposit is communicated to PSX trading engine as collateral each day.

In addition to that, NCCPL provide basic deposit to PSX trading engine of Rs. 1 million of DFC Market collected from BCMs, which is allowed to be used throughout the day as collateral.

**Capital Adequacy:**

Currently, NCCPL will transmit Liquid Capital balance of Broker Clearing Members to PSX at day-end and Liquid Capital requirement as per Schedule I of NCCPL Regulations is monitored at pre trade engine of PSX.

**Collateral Management:**

PSX system performs check of collateral which is communicated by NCCPL. If the pre-trade margin of 5% is available than the broker is allowed to place order, otherwise order is declined by the PSX system. The accepted order is passed to NCCPL risk management system by PSX, where again the collaterals are marked against the order.

Once the trade is executed PSX system book the collateral against the trade as per the security VaR calculated and communicated by NCCPL. The executed trade is passed to NCCPL by PSX, and NCCPL risk management system also booked the margins as per security applicable VaR. PSX system will not allow any further order, if the collateral value is short after booking VaR margin for executed trade. However, orders placed earlier and accepted as per availability of 5% pre trade margin are not cancelled by the system and may be executed as per their matching and queue.

Besides collateral, NCCPL also pass following information to pre trade engine on run time basis

1. Settlement drop out
2. Pre Settlement Delivery
3. IDS Drop out

**Position Limits:**

NCCPL is not monitoring position limits at post trade level, Furthermore, DFC position limits can be continued to be monitored on NTS.

**Proposal:****Basic Deposit and Capital Adequacy:**

Monitoring of basic deposit and capital adequacy will be discontinued at PSX trading engine.

**Collateral Management:**

To compute the pre-trade exposure margin requirement in Ready market, GEM and DFC from NCCPL system only. (i.e. no pre-trade risk management at PSX trading engine)

In order to mitigate the above risk of orders (above the broker's capacity) it is proposed that the basic deposits provided by the broker will not be allowed to be used as collateral during the trading hours. It may be relevant to mention that the maximum order allowed

as per PSX regulation is Rs 5 Million against which the pre-trade margin @ 5% is Rs 250,000 which will be mostly covered through basic deposits.

### **Position Limits:**

It is proposed that PSX include position limits in its regulation as product specification and NCCPL will align Risk Management according to the Position Limits implemented in NTS. Risk Management may include 100% margin / settlement for breach contract positions due to across contract netting or any other feature.

### **Impact:**

In case the pre-trade risk management is discontinued from PSX trading engine, then NCCPL may receive orders and NCCPL would only able to restrict broker once they have breached exposure limits considering available collateral and Liquid Capital for both Ready and DFC markets.

Moreover, currently, PSX trading engine manages and decision making is performed at PSX system. While NCCPL system perform similar calculations but no decision making with the implementation of above proposal, decision making will also be performed at NCCPL system.

In addition to that NCCPL transmits outstanding positions, VaR, collaterals, Liquid capital. IDS data at day end to PSX for launching which will not be transferred in case of implementation of said regime

### **Benefits:**

#### **NTS Development Requirements**

**No new development in NTS required to implement the proposed changes.**

The removal of pre trade risk management checks at PSX level can ease certain development challenges on the NTS. Change requirements may reduce significantly, providing a simplified structure and cost reduction. Furthermore, it is probable that the time associated with implementation may also be reduced.

Collateral checks including but not limited to valuation of units of open ended funds and applicable haircuts for near cash instruments may also be automated, reducing manual dependencies.

Significant reduction in data exchange between NCCPL and PSX systems at end of day and during the day.

#### **NCCPL Systems**

Development will be required to make decisions relating to Liquid Capital and Collateral to allow exposure which is currently implemented at PSX trading engine.

Development for valuation of open-end funds units and near cash instruments, provided as collateral by the clearing members.

The implementations on the PCM regime will also require a certain amount of development.

Furthermore, market halts also need to be considered.

**Way Forward:**

1. Draft Proposal share with PSX (July 26, 2022)
2. Presentation to Risk Committee (September 20, 2022)
3. Presentation to NCCPL Board of Directors (October 18, 2022)
4. Share proposal with SECP (November 4, 2022)
5. Share Proposal with Market Participants (PSBA)
6. After SECP consensus, amendments will be proposed in NCCPL Regulations.



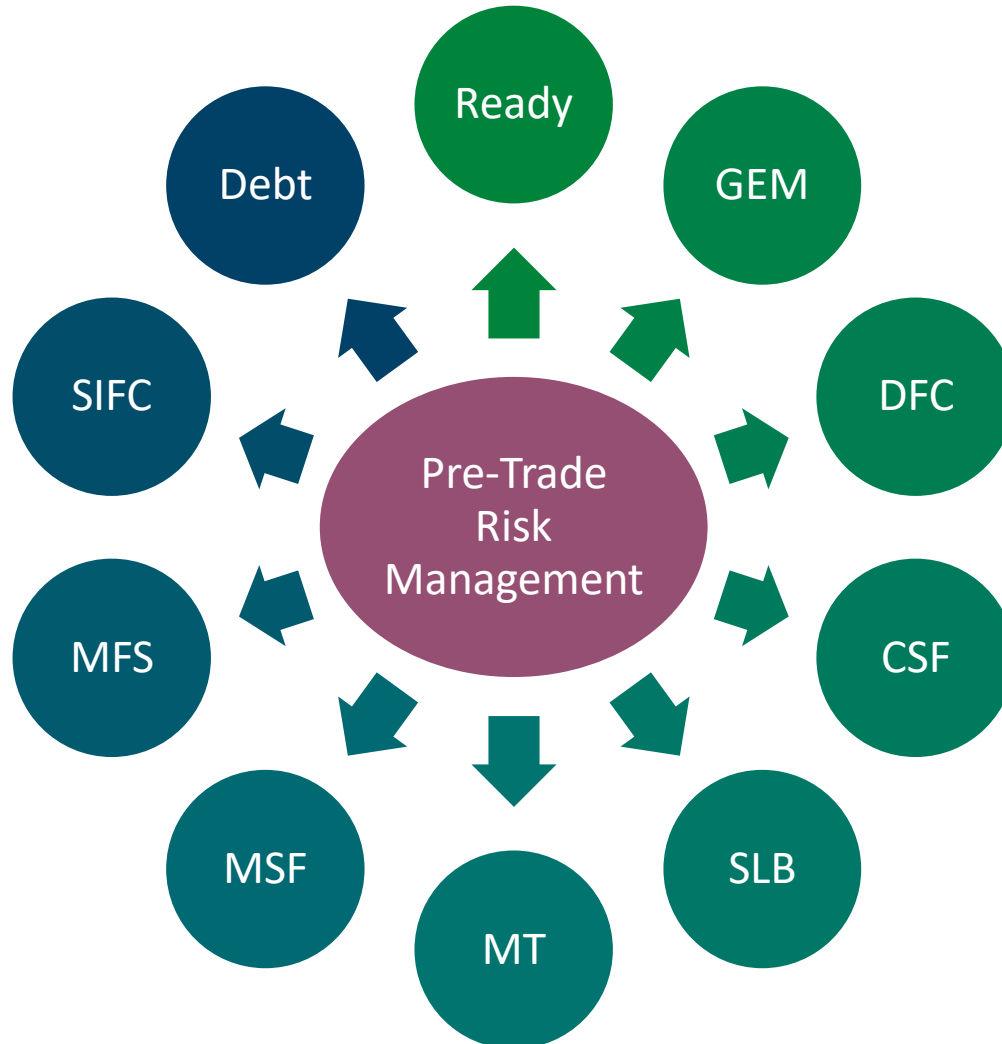
# **Pre-Trade Risk Management & New Trading System**

**May 09, 2023**

# Pre Trade Risk Management & NTS

## Overview: Pre Trade Risk Management

It is simultaneously done at NCCPL and PSX systems and is applicable to:



Risk Management on NTS, available with modifications, has posed various challenges.

### Proposal:

- Pre Trade Risk Management may be shifted from PSX to NCCPL in order to assist the Exchange in launching NTS.
- In view of the mentioned, NCCPL RMD has drafted a detailed proposal for Pre Trade Risk Management.



# Pre Trade Risk Management & NTS

## BACKGROUND

- Several discrepancies were observed by Risk and Operations during **UAT**, for instance, calculations of Exposure, Position Limits, Pre Settlement Delivery etc.
- There are still certain major discrepancies that remain unresolved, which are discussed in next few slides.
- Change in Methodology for **Valuation of Margin Eligible Securities (MES)**.
- Valuation of **Open End Funds** as Market Collateral.
- Demand Calculation on **Netted Trades**.
- Risk Management of **Trading only** brokers availing services from Trading & Clearing Member (**T&C**) or Professional Clearing Members (**PCM**).

Non-Availability of **GEM Risk Management** Functionalities as defined in NCCPL Regulations (similar to Regular Market developed).--- *Amended NCCPL Regulations*

# Pre Trade Risk Management & NTS

## *Change in Methodology for Valuation of Margin Eligible Securities (MES).*

System Methodology	Requirement	Work Around	NCCPL Comments 19 August 2022
<p>Valuation of MES is based on Prevailing Market Price.</p> <p>In NTS, it is valued on last day closing price(LDCP).</p> <p>PSX has to provide LDCP including ex-price to NCCPL electronically</p>	<p>Matter under discussion with NCCPL and PSX.</p> <p>Valuation must be processed systematically.</p>	<p>Matter already concluded last year that collateral valuation shall be based on LDCP.</p> <p>This is identified as a best practice.</p> <p>A flat increase in applicable haircuts is expected to cause liquidity stress</p>	<p>Security valuation at NCCPL end for all relevant systems will be changed to LDCP.</p> <p>No further changes are required in NTS.</p> <p><b>October 10, 2022:</b> NCCPL Risk Committee reviewed the MES Proposal in its meeting held on September 20, 2022 and approved the change in eligibility criteria and applicable Haircuts i.e. to enhanced haircuts.</p>

# Pre Trade Risk Management & NTS

## *Valuation of Open End Funds as Market Collateral.*

System Methodology	Requirement	Work Around	PSX Comments 11 August 2022	NCCPL Comments 19 August 2022
Open End funds deposited as market collateral are maintained as MES as per existing NCCPL Regulations	Open End funds deposited with NCCPL as market collateral should be maintained as MES in NTS	Open End Funds will be treated as Cash instead of MES (as a temporary solution)	<p>Given the low risk for money market CIS and GDS, it is recommended that these be transmitted as Cash for the time being</p> <p><b>Work be expedited on NCCPL's post trade risk proposal</b></p>	<p>NCCPL proposal on risk management to be presented in Risk Committee</p> <p>After prior approval of RC, regulatory amendments will be presented to the BoD in meeting to be held in October 2022.</p> <p>Proposed changes for inclusion of CIS as acceptable Collateral in Futures market are Under Review of SECP</p> <p><b>NCCPL will implement the same</b> subject to approval by SECP and <b>implementation of pre trade RMS.</b></p> <p><b>No changes required in NTS</b></p> <p><b>October 10, 2022:</b> SECP approved the requisite amendments in NCCPL Regulations on September 19, 2022.</p>

# Pre Trade Risk Management & NTS

## *Demand Calculation on Netted Trades.*

System Methodology	Requirement	PSX Comments 11 August 2022	NCCPL Comments 19 August 2022
<p>Margin Amount is calculated on differential amount of netted trades.</p> <p>Presently, the same mechanism is practiced at both PSX and NCCPL</p>	<p>Market Participant’s (PSBA) feed back is exposure demand should be on netted trades</p> <p>It has been agreed with PSX and PSBA that NCCPL’s post trade RMS will be modified to cater to the above</p> <p>It was also highlighted that a difference will be observed in exposure computed by NCCPL RMS and PSX trading engine</p> <p>A joint session will be arranged by NCCPL, PSX and PSBA prior to implementation of this facility and agreement with PSBA to be documented</p>	<p>No System Developments will be required</p>	<p>NCCPL will implement the netted trade mechanism. There will be differences in NCCPL RMS and OTS values for utilization of collateral under exposure.</p> <p><b>No development on NTS</b> will result in continuation of this difference and will continue till <b>pre trade risk management is acquired by NCCPL.</b></p> <p><b>October 10, 2022:</b> PSX and NCCPL teams are working again on the CRF raised in January 2022 by NCCPL.</p>

# Pre Trade Risk Management & NTS

## *Risk Management of Trading Only Brokers*

System Methodology	Requirement	PSX Comments	NCCPL Comments
<b>Capital Adequacy Requirement</b>	Utilization of net worth according to NCCPL Regulation	NCCPL can also bypass the following Collateral for individual/All TOs Exposure Position Limit	As agreed by all stakeholders all the regulatory requirements / Controls of NCCPL and EClear will be managed through centralized risk management system developed by EClear. NCCPL may by-pass collateral, exposure, etc. through provided interface of NTS.
<b>Collateral Utilization Against Margin Demand</b>	Utilization of Collateral according to NCCPL Regulation	NCCPL can also bypass Collateral for individual/All TOs	
<b>Basic Deposit</b>	According to NCCPL Regulations, there is no requirement of Basic deposit from Trading Only Broker (without limited custody) in Ready and DFC Market	NCCPL have interface by which they can restrict Basic Deposit through real time instruction	

# Pre Trade Risk Management & NTS

*Non-Availability of GEM Risk Management Functionalities as defined in NCCPL Regulations (similar to Regular Market developed)*

System Methodology	Requirement	Work Around	NCCPL Comments 19 August 2022
<p>GEM Risk Management is separate from Regular market's as per NCCPL Regulations.</p> <p>Exposure margins for GEM are calculated though VaR and capped at 25%. A minimum of 50% of Margins deposits are required in form of cash</p>	<p>NTS developments required as per existing Regulations of NCCPL</p>	<p>Risk Management of GEM to be aligned to that of Ready on pre trade basis.</p> <p>Post trade Risk Management to be done by NCCPL</p>	<p>Risk Management of GEM to be same as that for Ready with the Addition of Basic Deposit of RS.100,000/- per Broker.</p> <p>NCCPL will propose the required Regulatory amendments in Regulations to be presented in BoD meeting of October 2022</p> <p><b>October 10, 2022:</b> NCCPL Risk Committee has approved the proposal to align collateral with Regular Market. No additional Security Deposit due to the low volumes and activity in GEM.</p>

# Pre Trade Risk Management & NTS

- **Basic Deposits:**

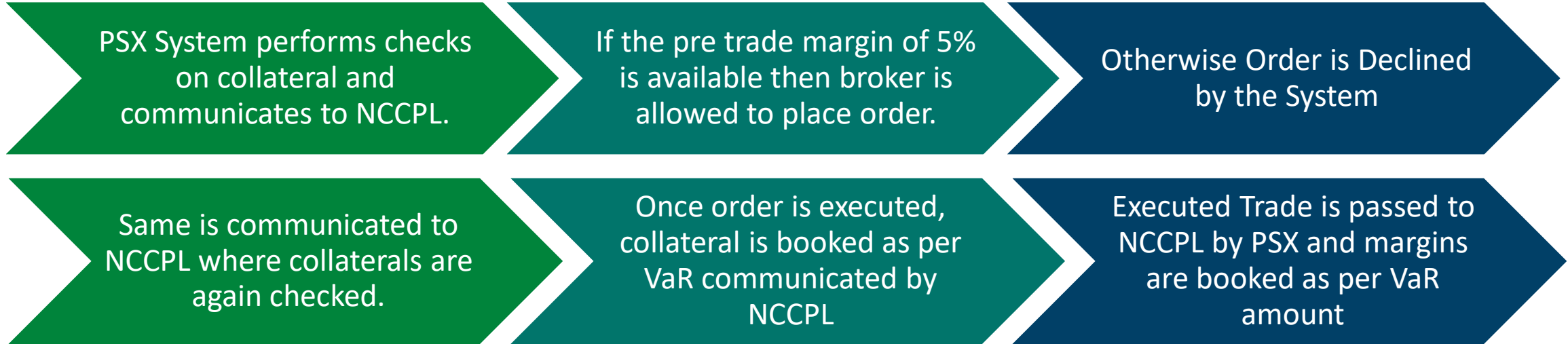
Existing	Proposed
<p>Basic Deposits are communicated to PSX Trading Engine each day as are allowed to be used as collateral during trading hours.</p> <p>Each Broker/CM provides:</p> <ul style="list-style-type: none"> <li>• Rs. 200, 000 as Basic Deposit for Ready Market.</li> <li>• Rs. 1,000,000 as Basic Deposit for Futures Market.</li> </ul>	<p>Monitoring to be discontinued at PSX Trading Engine.</p> <p>Basic deposit of broker not to be utilized as collateral during trading hours.</p>

- **Capital Adequacy:**

Existing	Proposed
<p>Liquid Capital Requirements as per NCCPL Regulations Schedule I is monitored on Pre trade engine of PSX.</p> <p>Liquid Capital Balance of Broker Clearing Members transmitted to PSX at day end.</p> <p>Breaches occur due to change in LC values.</p>	<p>Monitoring to be discontinued at PSX Trading Engine.</p> <p>NCCPL will receive orders and can restrict brokers once they breached exposure limit based on LC.</p>

# Pre Trade Risk Management & NTS

- Collateral Management:



Existing	Proposed
<p>PSX System will not allow any further order if collateral value is short after booking VaR Margin.</p> <p>Initial orders accepted as per 5% collateral availability are not cancelled by the system.</p> <p>Breaches may occur due to applicability of VaR based Margins after trade execution.</p>	<p>NCCPL will receive orders and can restrict brokers once they breached exposure limit against available Collateral.</p> <p><i>For Information, the maximum order allowed is Rs. 5 million. Pre trade margin against this at 5% translates to Rs. 250,000.</i></p>



# Pre Trade Risk Management & NTS

- Position Limits

Existing	Proposed
<p>Position Limits as per NCCPL Regulations Schedule IV for Regular Market and Futures Markets (Market wide, broker wide and UIN wide), based on free float of each eligible security, are implemented and monitored on trading engine of PSX.</p> <p>NCCPL does not monitor Position Limits at any level for mentioned markets.</p>	<p>PSX includes position limits in their regulations as product specifications.</p> <p>NCCPL aligns risk management according to Position Limits implemented as per PSX Regulations.</p> <p>Risk Management may include higher rates of <b>concentration margins</b>, may be up to 100%, if PSX not define any Position Limits.</p>

# Pre Trade Risk Management & NTS

**BATS Exposure Monitoring not available.**

System Methodology	Requirement	Work Around
<p>The LC limit utilization in case of debt market trades shall be monitored on pre-trade basis.</p> <p>Maximum Exposure in each and/or all Markets of a Broker Clearing Member shall not exceed the number of times of his LC attributed to the Company as provided in Schedule-I of Chapter 12 of NCCPL Regulations.</p> <p>PSX trading engine re-calculates exposure on run time basis incorporating new trades and exposure drop outs.</p>	<p>Monitoring of BATS Trading should be on pre trade basis &amp; 10 times of allotted Liquid Capital as provided in sign-off document on June 19, 2020.</p>	<p>Pre trade Monitoring of BATS Trading in NTS will not be available</p> <p>Capital Adequacy, Exposure Calculation, &amp; margins shall continue to be monitored by NCCPL on post trade basis</p>
<p><b>PSX E mail (September 2, 2022):</b> We have received the costing for CR019 pertaining to <b>BNB - Pre-Trade Risk Management. It is USD 178,200.</b></p> <p>As an alternate, <b>SZSE has suggested</b> another option <b>without MtM losses calculation</b> which is coming out to be <b>USD 64,800.</b></p> <ol style="list-style-type: none"> <li><b>Option 1</b> with MtM losses calculation</li> <li><b>Option 2</b> without MtM losses calculation</li> <li><b>Discard this CR</b> as it is not currently implemented in OTS as well and would be a waste of resources and avoid charges on NCCPL especially because we are planning to move from <b>Pre-trade to Post-trade regime Post-Go-Live as suggested by NCCPL.</b></li> </ol>		<p><b>NCCPL Reply (September 9, 2022):</b> NCCPL management has decided to <b>discard</b> the CR 019 pertaining to BNB - Pre-Trade Risk Management. Accordingly, necessary system/regulatory changes, if any, will be initiated with the proposed <b>NCCPL post-trade regime.</b></p>

# Pre Trade Risk Management & NTS

## Proposal: Pre Trade Risk Management

- **Impact**

- As of present decision making is done by PSX system, while NCCPL performs similar calculations only. Thus, decision making will be implemented in NCCPL system.
- In case of transfer of Pre Trade from PSX, NCCPL would only be able to receive orders and can only restrict brokers once they breached exposure limits (based on collateral or LC).
- NCCPL transmits Outstanding positions, VaR, collaterals, LC, Settlement Drop-out and IDS data. This will not be transferred in case of transfer of Pre Trade to NCCPL.

- **Benefits**

- NTS Development Requirements: Removal of Pre trade risk management checks at PSX level can ease certain NTS development challenges and significantly reduce change requirements.
- This will result in simplicity and cost reduction along with reduction in time associated with implementation.
- **No development in NTS required to implement the proposed changes.**
- NCCPL Systems: Valuation of open ended funds units and near cash instruments provided as collateral.
- Loss demand to be segregated from other margins. This is currently not available in any PSX trading Engine.
- Separate Risk Management for various type of brokers / clearing members like TO, T&SC, T&C and PCM will be implemented and facilitated.

# Pre Trade Risk Management & NTS

## Way Forward:

*Approved proposal shared with PSX (Draft shared with PSX earlier and principally agreed)*

*Approved proposal shared with SECP (November 18, 2022)*

*After acceptance from PSBA, Regulatory amendments will be presented to NCCPL Board for approval*

**Thank You**