REPUBLIKA NG PILIPINAS
KAGAWARAN NG PANANALAPI
KAWANIHAN NG INGATANG-YAMAN
(BUREAU OF THE TREASURY)
Intramuros, Manila 1002

Funding the Republic

MEMORANDUM

TO	:	**All NRoSS Direct Participants**
SUBJECT	:	**Change in NRoSS Settlement Queuing Algorithm From FIFO to FAFO**
DATE	:	**09 November 2020**

Effective 09 November 2020, the Bureau shall implement in NRoSS the First-Available-First-Out (FAFO) settlement algorithm replacing the First-In-First-Out (FIFO). This enhancement aims to mitigate the possible gridlock scenarios in securities which may potentially cause delay or failure of settlement.

Following are the expected changes in the system. Refer further to Annex A - Illustration on the NRoSS System Behavior for FIFO and FAFO.

System Process	FIFO	FAFO
1. Queuing of settlement instructions	Transactions are processed based on the sequence of the time of creation in NRoSS.	Transactions are processed based on the time of approval or final approval in case counterparties are involved.
2. Consideration of Account Balance	System tries to process the first queued transaction but if it cannot be executed owing to lack of securities, the system will not proceed to check the next transaction in the queue.	System tries to process the first queued transaction but if it cannot be executed owing to lack of securities then it tries to settle the next transaction in the queue. This process is reiterated until the system is able to process all transactions that the current available balance can cover.

For guidance.

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Illustration on the NRoSS System Behavior for FIFO and FAFO

Consider the following trades where Bank A sells to Bank B.

Trade Amount	Creation Time	Completion of Final Approval
200MM	10:01AM	10:06AM
100MM	10:02AM	10:05AM
300MM	10:03AM	10:04AM

Scenario 1: Bank A has available balance of 100MM

System Process	FIFO	FAFO
1. Queueing of settlement instructions	Sytem queue is: 1st 200MM 2nd 100MM 3rd 300MM	System queue is: 1st 300MM 2nd 100MM 3rd 200MM
2. Consideration of Account Balance	System will process first the 200MM. The transaction will stay in "Waiting for Securities" status and will not consider settling the 100MM trade.	The system will try to settle the 300MM, but as the available balance is insufficient so it tries to settle the next transaction which is the 100MM

FIFO table:

Queue	Transaction Amount	Securities Reservation
1	200MM	100MM
2	100MM	0
3	300MM	0

FAFO table:

Queue	Transaction Amount	Securities Reservation
1	300MM	0
2	100MM	100MM
3	200MM	0

Scenario 2: Continuing from the Scenario 1, Bank A has additional available balance of 500MM

System Process	FIFO	FAFO
1. Queueing of settlement instructions	Sytem queue is: 1st 200MM 2nd 100MM 3rd 300MM	System queue is updated as follows: 1st 300MM 2nd 200MM
2. Consideration of Account Balance	The system will apply the account balance following the sequence of the queue.	The system will settle the trade following the queue for the remaining trades.

FIFO table:

Queue	Transaction Amount	Securities Reservation
1	200MM	100MM (from earlier) + 100MM
2	100MM	100MM
3	300MM	300MM

FAFO table:

Queue	Transaction Amount	Securities Reservation
1	300MM	300MM
2	200MM	200MM