



# Revisions to Trading Rules in Connection with Launch of Next J-GATE

---

June 2015  
Market Planning Division  
Osaka Exchange, Inc.

# Changes to trading rules

## Outline of changes to trading rules

1. Extension of trading hours	
(1) Change to start time of regular session of day session for index futures	P8,10
(2) Expansion of night session	P9-10
2. Revision of trading method	
(1) Introduction of Non-Cancel Period	P11-12
(2) Change to rules to determine contract price by Itayose Method	P13,26-28
(3) Change to Market to Limit Order	P14
(4) Change to reference price of immediately executable price range	P21
(5) Revision to price limits on bids and offers pertaining to index options	P15
3. Revision to method of setting issues related to options trading	
(1) Increase in number of contract months of TOPIX Options	P21
(2) Revision to strike price intervals for security options	P21
(3) Setting strike prices based on application	P16,28
(4) Extension of period to add strike prices related to options	P21

# Changes to trading rules

## Outline of changes to trading rules

4. Strengthening management systems and frameworks pertaining to erroneous orders	
(1) Mandatory use of hard-limit function provided by OSE	P23
(2) Mandatory establishment of systems and frameworks for management of automatic order placement system malfunctions	P23-24
5. Revision to J-NET trading rules	
(1) Change to tick size	P17
(2) Changes to tradable price range	P17-18
(3) Change to the max. number of component issues in combo trading	P21
6. Others	
(1) Change to handling of implied function	P19
(2) Introduction of GTC/GTD orders for strategy trading	P21
(3) Partial change to method for calculating final settlement price for Nikkei 225 VI Futures	P20

---

## <Disclaimer>

- This document has been prepared solely for the purpose of providing general information on Futures/Options trading rules and market conditions, and are not intended as an offer or solicitation of the purchase or sale of any Futures or Options.
- Information in this document is an overview of Futures/Options trading rule reform under consideration as of June 2015 and may be changed in the future without further notice.
- While every effort has been taken to ensure the accuracy of the information in this document, we can not guarantee the completeness of the information contained.
- All rights reserved. Reproduction, duplication or distribution of this document in whole or in part is prohibited without prior written permission of OSE.

---

# I About the Next Generation Derivatives Trading System

# 1. Basic Info on Next Generation Derivatives Trading System

## <Basic Information>

- Next Generation Derivatives Trading System (“Next J-GATE”), which is scheduled to go live in mid 2016, adopted NASDAQ OMX’s “Genium INET Trading,” the successor of “CLICK XT” used in the current J-GATE.
  - Genium INET Trading is a package system used in markets operated by NASDAQ OMX and major exchanges in Asia such as Hong Kong.
- OMnet API used in current J-GATE will be used for connecting to Next J-GATE as well (however, different API will be used.)
- This will reduce the burden of system development/migration on the user-side although functions and API specification will be changed partially.

### 【Overall Schedule (As of now)】

	2015				2016		
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Mid 2016
Trading rules	→ Working Groups	▲ Trading rule outlines to be published					
Participant Briefing	▲ 1 <sup>st</sup> Briefing	▲ 2 <sup>nd</sup> Briefing			▲ 3 <sup>rd</sup> Briefing		
System Development					→ Connectivity Test		★ Go Live

---

## II About Partial Revisions to Trading Rules

# 1-1. Extension of trading hours

---

- We will extend trading hours as follows in order to further expand and boost trading opportunities/functionalities for better price discovery in the OSE market.

## <Move up the start of Day Session>

- Move up the start of Day Session to 8:45 for index futures (excluding Nikkei 225 VI Futures)
  - As the market operator, we aim to meet investor demand by providing more hedging opportunities before the equity market opens and to provide the functionality for better price discovery to recapture trading outflows to other markets.
  - The start of daytime J-NET trading remains unchanged.

## <Extend the Night Session>

- Move down the end of Night Session from the current 3:00 am to 5:30 am.
  - As the market operator, we aim to meet investor demand by providing more hedging opportunities to respond to overseas market developments with an overlap in market hours with NY and to provide the functionality for better price discovery during this period, which is currently offered by other markets.
  - Plan to enable work in co-location sites during Night Session, which is currently not allowed.

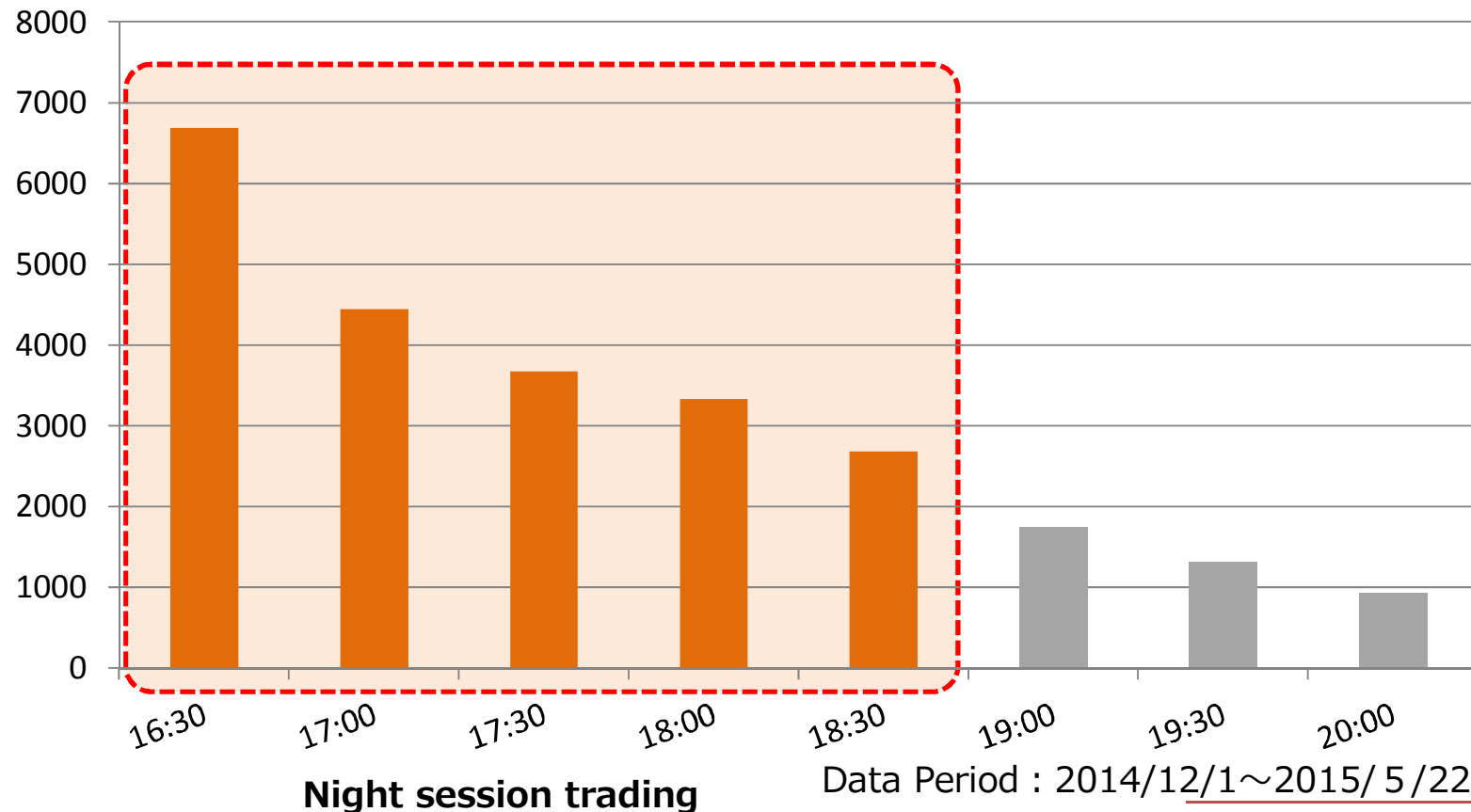


## 1-2. Expansion of night session

---

- We will introduce the Night Session for Nikkei 225VI futures in order to promote the product and attract new participants.
- This is only for 16:30~19:00 (JST) and applicable to contract months of underlying NK225 options ※ that have a certain level of liquidity.
- ※ The 1<sup>st</sup>/2<sup>nd</sup> contract months (From the third day before the last trading day of the 1<sup>st</sup> contract month, it will be 2<sup>nd</sup>/3<sup>rd</sup> contract months)

### Average daily volume of Nikkei 225 options (applicable contract months)



# 1-3. Extension of trading hours

JST		8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7
TSE	Equities		9:00~11:30			12:30~15:00																			
OSE	Index futures		8:45~15:15										16:30~5:30												
OSE	Nikkei VI future		9:00~15:15									16:30~19:00													
OSE	Index options		9:00~15:15										16:30~5:30												
OSE	Single stock options		9:00~11:35			12:30~15:15																			
OSE	JGB futures		8:45~11:02			12:30~15:02							15:30~5:30												
OSE	JGB option		8:45~11:02			12:30~15:02							15:30~5:30												
Singapore time		7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6
REF: SGX	Nikkei 225 future		8:45~15:30											16:15~3:00											
CST		17	18	19	20	21	22	23	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
REF: CME	Nikkei 225 future																								

\*Parts indicated in red are trading hour extensions.

\*Trading hours for security options is unchanged.

\*While care has been taken to ensure the accuracy, completeness and reliability of the information on foreign exchanges, OSE assumes no responsibility for any errors or omissions.

## 2-1. Introduction of Non-Cancel Period

---

- We will introduce time periods when amendments or cancellations to orders will not be accepted (Non Cancel Period: NCP) before the opening/closing auction so as to prevent price fluctuation due to order amendments/cancellations just before Itayose.
  - Several overseas exchanges like SGX and CME have already introduced this.
  - In response to feedback that pricing is disturbed by order amendments/cancellations just before Itayose, we currently adopt operational procedures to restrict large order amendments/cancellations just before Itayose.
  - However, we recognize complaints about the complicated operational criteria and also the burden of handling inquiries. Therefore, we aim to resolve the issue of pricing and operational burden by implementing a system-based NCP
- Specifications for NCP are as follows.

Items	Considerations
Products	•Nikkei 225 Futures, Nikkei 225 mini, TOPIX Futures (Large contract)
Applicable time period (NCP period)	•For one minute before opening/closing auction (excluding closing session of the day session) <ul style="list-style-type: none"><li>– Not applicable to pre-Itayose period when market resumes after trading suspension due to DCB and Circuit Breakers</li></ul>
Applicable order	•Order amendments and order cancellations <ul style="list-style-type: none"><li>– Non-converted STOP orders can be amended or cancelled as they are not on the order book</li><li>– Not applicable to J-NET trading</li></ul>
Exemption	•Refer to next page

※ The Exchange may issue warning or take disciplinary actions for self-matching that is intended at circumventing the NCP.

## 2-2. Introduction of Non-Cancel Period

---

- In principle, order amendment or cancellation are not accepted in NCP. But for the purpose of preventing market impact by an erroneous order, the following exemptions will be made.

### < Exemptions >

- Order amendment or cancellation in NCP must fulfill at least one of the following ①~③ conditions and must be done by the IDs which is strictly controlled and used by trading participants
  - ① In the event that a Trading Participant has failed to execute a customer order (excluding discretionary trading agreements) for market derivatives on the OSE markets under his/her instructions due to errors, etc. caused by truly unavoidable reasons
    - From the standpoint of fairness, this condition is valid only for a customer order (excluding customer orders under discretionary trading agreement because customer intent cannot be confirmed) .
  - ② Cancel an erroneous order that is expected to fill at a price that is deviant from the market price by some extent (over 0.8%)
    - This is to prevent erroneous orders from impacting the market
    - Market price is assumed to be the last contract price or theoretical price, etc.
    - 0.8% is same as the price range for Dynamic circuit breaker (DCB)
  - ③ Cancel an erroneous order due to malfunction of trading participant or customer system.
- Trading participants must prove all order amendment or cancellation in NCP to fall under the above exemptions.

## 3-1. Change to rules to determine contract price by Itayose Method

---

- We will revise the rule to determine contract price by Itayose Method.
  - Refer to reference material 1.2

### Current

1. The price where bids and offers match, at which there are limit orders on either the buy or sell side.
2. In the case where there are two or more prices that meet Condition 1, the price at which there will be maximum traded volume.
3. In the case where there are two or more prices that meet Condition 2, the price at which the difference between the cumulative volume of sell orders and the cumulative volume of buy orders (hereinafter referred to as "imbalance") is the smallest.
4. In the case where there are two or more prices that meet Condition 3, one of the following prices:
  - ① In the case where all imbalances are on the sell side, the lowest among such prices;
  - ② In the case where all imbalances are on the buy side, the highest among such prices; or
  - ③ Otherwise, the price in Condition 5.
5. One of the following prices:
  - ① In the case where the highest price among the prices at which the imbalance (if there are several prices at which there are imbalances on both sell and buy sides, it shall be limited to the lowest price among the prices at which there are sell-side imbalances and the highest price among the prices at which there are buy-side imbalances; the same shall apply hereinafter) is smallest is lower than the Reference Price, such highest price;
  - ② In the case where the Reference Price falls within the range of the prices at which the imbalance is smallest, the Reference Price\*2 ; or
  - ③ In the case where the lowest price, among the prices at which the imbalance is smallest, is higher than the Reference Price, such lowest price.

### Next J-GATE

1. The price where bids and offers match that is between one tick above the highest bid price and one tick below the lowest offer price\*1.
2. Same as on the left.
3. Same as on the left.
4. Same as on the left.
5. Same as on the left.

\*1 : This executable price range may exceed the range defined by the price limits on bids/offers.

\*2 : "Reference Price" shall be determined as follows:

- (1) The last contract price on the trading day;
- (2) In the case where the price described in (1) is not available, the reference price for the price limits on bids/offers on the trading day.

## 4. Change to Market to Limit Order

- We will change the specifications for Market to Limit Order (MLO).

### Change

If there is no bid and ask limit order, Market to Limit Order (MLO) is canceled.



If there is no bid limit order, ask Market to Limit Order (MLO) is canceled.  
If there is no ask limit order, bid Market to Limit Order (MLO) is canceled.

In the case below, the order remains as a limit order at JPY 20,000, which is the best price than the best ask by 1 tick, because there are no bids in the current system. But in the Next J-GATE, The MLO will be cancelled.

Ask Qty	Price	Bid Qty
<b>MO</b>		
10	20020	
10	20010	
	20000	
	19990	
	19980	
	19970	

Ask Qty	Price	Bid Qty
<b>MO</b>		
10	20020	
10	20010	
5	20000	

Ask Qty	Price	Bid Qty
<b>MO</b>		
<del>5</del>		
10	20020	
10	20010	
	20000	
	19990	

5@MLO

The order remains in the order book as a limit order at JPY 20,000, which is now the best offer by 1 tick

All units are cancelled

Current J-GATE

Next J-GATE

\*Market to Limit Order (MLO) :A limit order that is placed without a specific price for execution at the best price.

## 5. Revision to price limits on bids and offers pertaining to index options

- We will revise daily price limits on bids/offers for index option products. Price limits on bids and offers pertaining to index options shall be set by underlying index based on the reference price (RP) for each issue.

### 【Nikkei 225 Options】

RP(JPY)	Price range	
	Next	Current
RP < 50	4%	11%
50 ≤ RP < 200	6%	
200 ≤ RP < 500	8%	
500 ≤ RP	11%	

### 【TOPIX Options】

RP(Pt.)	Price range	
	Next	Current
RP < 5	4%	11%
5 ≤ RP < 20	6%	
20 ≤ RP < 50	8%	
50 ≤ RP	11%	

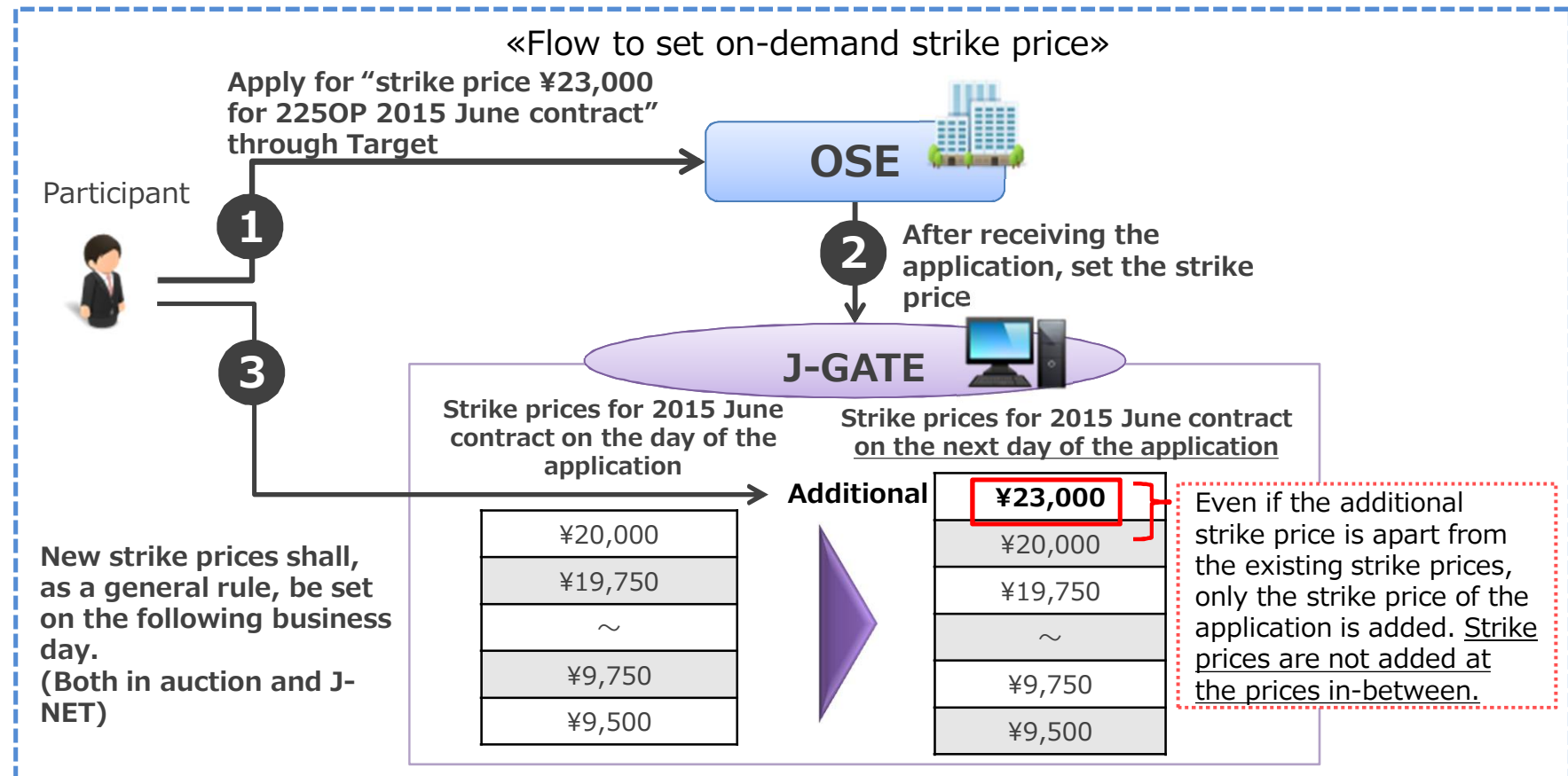
- Price limits on bids/offers will be calculated by multiplying the base price for calculating the price limit range<sup>※</sup> by the rates in the tables.
- The price limits on bids/offers for index options will be expanded by 3% for each of the 1st and 2nd expansions.

※The average value of the reference price of the price limits for bids and offers on each trading day with regards to the leading contract month on each underlying index for 20 days.(Revised every 3 months)

- Price limits on bids/offers for other options remain unchanged.
  - Security options : 25% of the reference price for price limits on bids/offers of an underlying security on the designated market.
  - JGB options : JPY 2.1

## 6. Application-based strike prices (on-demand strike)

- We will introduce on-demand strike prices in options trading (excluding security options), which is already available on SGX and other overseas exchanges, in order to cater to the need for a wider range of strike prices.
- The on-demand strike price offers a mechanism to add strike prices based on participant applications alongside normal strike prices that are automatically set according to the exchange's rules.
- Participants apply for the additional strike prices through Target. The series start trading from the next business day.
- This will be available for all options (excluding security options). The new strike prices can be set at price intervals based on its remaining period (NK225 options: JPY 125 for the three nearest contract months, otherwise JPY 250)





## 7-1. Change to tick size and tradable price range for J-NET trading

- We will change to tick size and tradable price range in J-NET trading for some products in order to enhance market convenience in response to user demand after the introduction of average unit price.
- (1) Tick size in J-NET trading
- Reduce the tick size to 0.0001 points.

Product	System	Tick size
All futures/options (excluding Security options)	Next J-GATE	JPY 0.0001 / 0.0001 pts.
	Current J-GATE	JPY 1 (NK225 futures, NK225 mini, NK225 options) 0.1 pts. (TOPIX futures)

\*1) Contract value below JPY 1 is discarded. Give-up will not be accepted if the resulting total buy trading value and total sell trading value do not match.

\*2) Tick size for security options in J-NET trading is unchanged (JPY 0.1 or 1).

- (2) Tradable price range in J-NET trading
- Change to the method based on the reference price of order price range in auctions

Product	System	Reference price of the price range	Price range
Index options	Next J-GATE	RP for the price limits of the day	Fluctuation range of the price of the underlying index of the day <sup>*1</sup> + Closing price of the underlying index on previous trading day × 8% <sup>*2</sup>
	Current J-GATE	Theoretical price	Closing price of the underlying index on previous trading day × 8%
Security options	Next J-GATE	RP for the price limits of the day	Fluctuation range of the price of the underlying security of the day + Closing price of the underlying security on previous trading day × 8%
	Current J-GATE	Theoretical price	RP of price range for underlying on the day × 8%

\*1) Use the value calculated from futures price of the same underlying.

\*2) 11% for contracts other than the nearest 3 contract months and weekly contracts.

\* For index futures, JGB futures and JGB options, same as in the current J-GATE (See the next page).

## 7-2. Change to tick size and tradable price range for J-NET trading

- Listed below are the tradable price ranges for each product in Next J-GATE.

	Product	Reference price of price range	Price range
Futures	Index (with some exceptions)	Last DCB Reference price (BBO mid price)	RP of price range in auctions on the trading day × 8%
	NK225VI		RP of price range in auctions on the trading day × 20%
	Dividend index		RP of price range in auctions on the trading day × 10%
	JGB		RP of price range in auctions on the trading day × 0.5%
Options	Index	Same as RP of price range in auctions	Fluctuation range of the price of the underlying index of the day <sup>※1</sup> + Closing price of the underlying index on the previous trading day × 8% <sup>※2</sup>
	Securities		Fluctuation range of the price of the underlying security of the day + Closing price of the underlying security on the previous trading day × 8%
	JGB	Last DCB Reference price (BBO mid price)	RP of price range for the subject contract month on the trading day × 0.5%

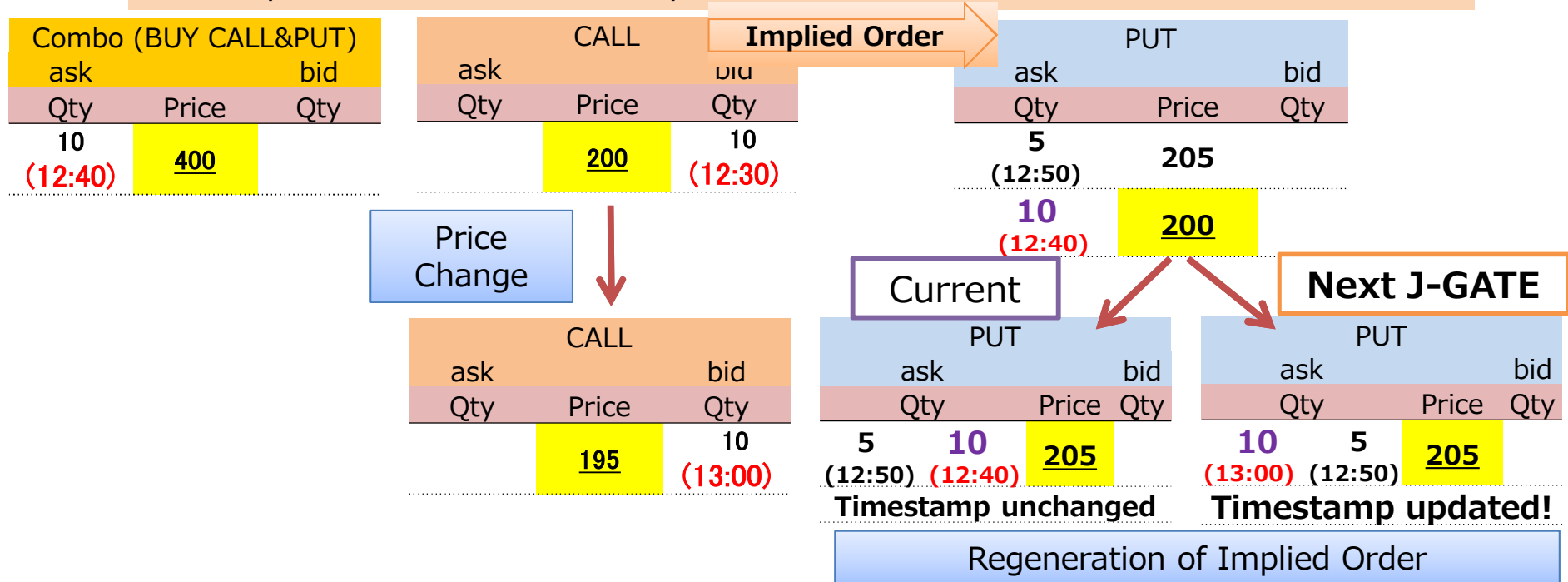
\*1) Use the value calculated from futures price of the same underlying.

\*2) 11% for contracts other than weekly options and the nearest 3 contract months.

## 8. Change to handling of implied function

- Implied function (which generates a bid and offer for the issue involved in the strategy trade from a bid or offer based on a certain strategy) shall be introduced for TOPIX Options. Timestamps of implied orders at the same price in auction trading shall be changed as follows.
  - Current J-GATE: The timestamp remains the same as when the strategy trading order was placed.
  - Next J-GATE : The timestamp is updated when the Implied Order is regenerated.

Case : A Combo (Buy Call&Put) order and a call order generates a put Implied Order. When the price of the call order is changed, the timestamp of the Implied Order will also be updated in Next J-GATE.

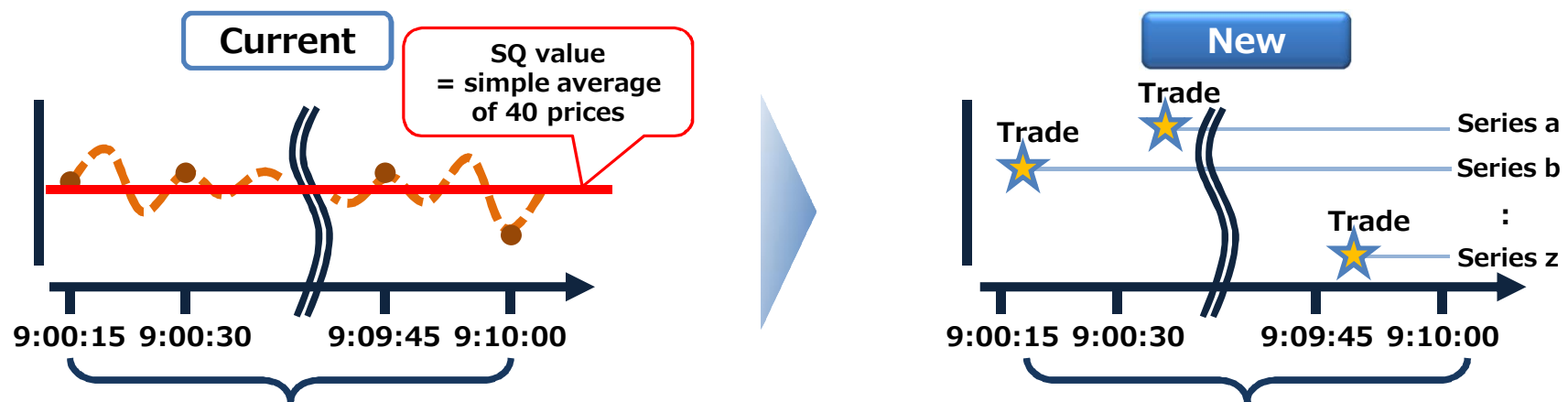


## 9. Partial change to method for calculating final settlement price for Nikkei 25 VI Futures

- Change to the method using opening price of Nikkei 25 options formed by many participants so that SQ will be more appropriate and spread will be reduced with lower execution cost for liquidity providers.
  - In addition, aligning the method with the U.S., the leader in volatility investment, is expected to increase flow from overseas investors.

Item	Current method		New method under consideration
① Price to be adopted	Average of prices in 10-min period from start of Day Session* (per 15 sec, 40 times)	>	<b>Itayose price</b> (The price of the earliest trade within 10 min from start of calculation)
② Quote to be adopted	If there is no trade, provide quote with reasonably narrow spread		<b>No quote</b>

\* Excluding when Circuit Breaker is triggered



Calculate for 10 min at 15-sec interval (= 40 individual prices)

Contract month	Settlement value	Estimated value*	Difference
2014/11	25.51	25.35	-0.16
2014/10	23.54	23.41	-0.13
2014/9	17.23	17.21	-0.02

SQ value = calculate from opening price of each series

\*The estimated value uses data in the 10-min period from 9:00 am.

# 10. Other changes

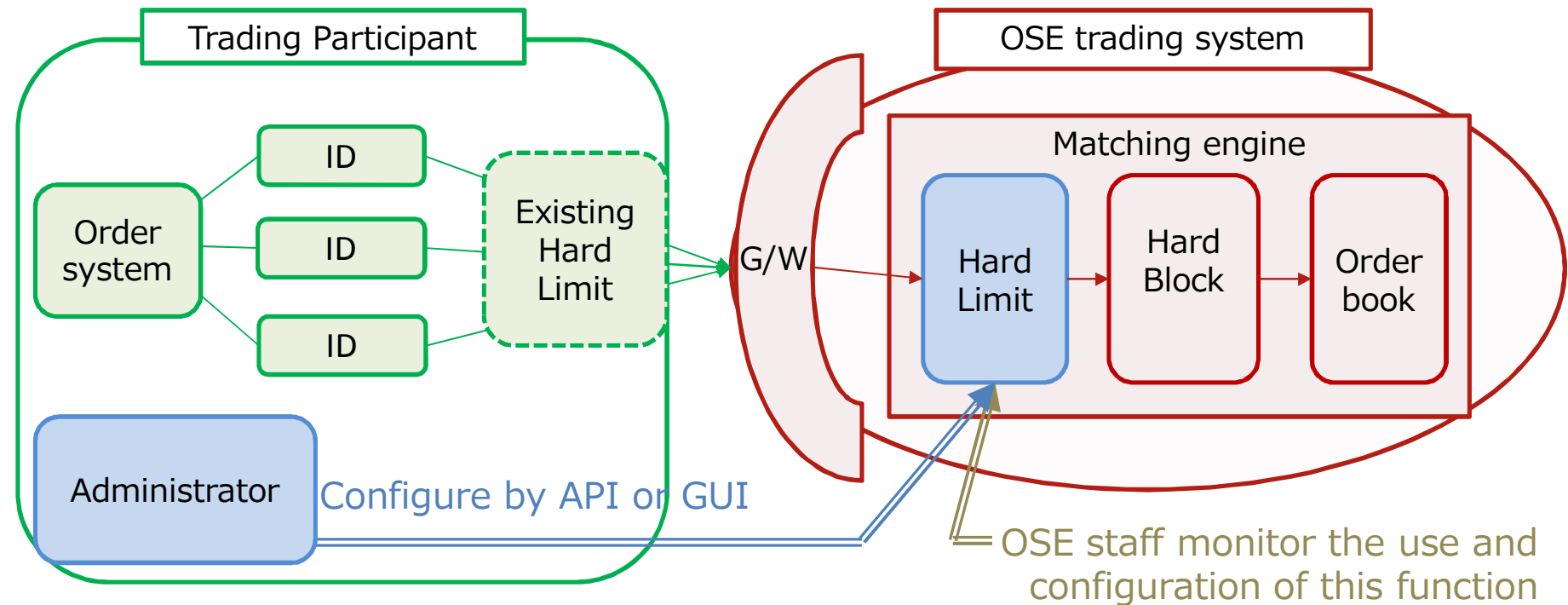
Item	Considerations	Notes
Change to reference price of immediately executable price range【2.(4)】	For all products, the reference price of the immediately executable price range shall be the middle price of the last best bid and offer (including the last contract price).	Currently, many products adopt the last contract price.
Increase in number of contract months of TOPIX Options【3.(1)】	The number of contract months of TOPIX Options shall be increased from 8 (max. 15 months) to 19 (max. 5 years).	19 contracts Jun. Dec.: Nearest 10 contracts Mar. Sep.: Nearest 3 contracts Others : Nearest 6 contracts
Revision to strike price intervals for security options【3.(2)】	The intervals for strike prices of security options in the price range from JPY 10,000 to less than JPY 30,000 shall be changed to JPY 500.	
Extension of period to add strike prices related to options【3.(4)】	As is the case with Options on JGB Futures and Nikkei 225 Options, for security options and TOPIX Options, strike prices can be added until the last trading day based on the closing price of the underlying security and TOPIX on the previous business day.	
Change to the max. number of component issues in combo trading【5.(3)】	The maximum number of component issues in combo trading shall be changed from 10 to 6. (Combo trading means J-NET trading where transactions in multiple issues are simultaneously effected.)	
Introduction of GTC/GTD orders for strategy trading【6.(2)】	For strategy trading (limited to futures calendar spread), GTC/GTD orders shall be introduced.	For JGB futures, GTC/GTD orders are already available.

---

### III Strengthening management systems and frameworks pertaining to erroneous orders

# 1. Mandatory use of hard limit function provided by OSE

- OSE will provide the hard limit function (reject orders that exceed the quantity or value set in advance by each trading participant) and mandate the use of this function.
- OSE staff will monitor the use and configuration of this function by each trading participant periodically and on a timely basis.
- With above approach, OSE will secure a situation where the hard limit is set without omission and improve the credibility of the rules on order management and of our market.



\*Refer to the reference material for a brief overview of the function.

\*Hard limit function does not apply to orders for J-NET trading.

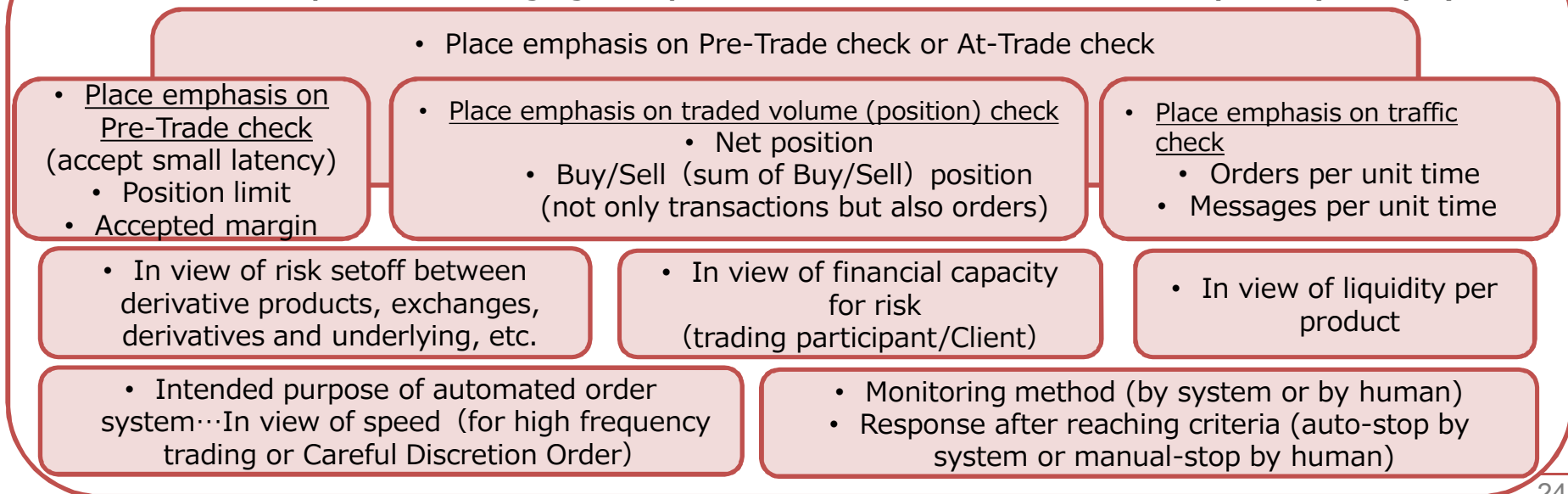
\*The setting value of Hard Block in auction market and J-NET trading will be the same as current.

## 2. Mandatory establishment of systems and frameworks for management of automated order placement system malfunctions

- OSE will mandate the management of excessive amount of orders and positions that may occur due to unexpected behavior of automated order placement systems.
- In addition to existing measures, aligning with the global trend of implementing appropriate risk management that keeps pace with faster trading will improve the credibility of Japanese derivatives market.
- The desired method and viewpoint will vary depending on the behavior of the automated order system. OSE will offer managing methods and viewpoints as guidelines based on existing risk management for derivatives positions at each trading participant.
- Additionally, OSE will provide the function to stop order placement after reaching the pre-set value by monitoring trading volume and numbers of orders per second for each ID group. (At-Trade check function on Trade Guard\*)
  - Use of this function is optional.

\*Refer to reference material 4, 5, 6

### Method/viewpoint for managing unexpected behavior of automated order system (example)





---

# Reference material

# 1 Change in rule to determine contract price by Itayose

- Contract price determined by Itayose method is based on the price that maximizes the traded volume. In next J-GATE, the price may be changed as current J-GATE because of the revision of condition 1.

	Sell		Buy				
Sum	Quantity	Price	Quantity	Sum	Execution	Imbalance	
		<b>MO</b>	<b>30</b>				
⋮		⋮		⋮	⋮	⋮	
10		<b>20050</b>		30	10	20	
10		<b>20040</b>		30	10	20	
10		<b>20030</b>		30	10	20	
10		<b>20020</b>		30	10	20	
10		<b>20010</b>		30	<b>10</b>	<b>20</b>	
10	<b>10</b>	<b>20000</b>	<b>1</b>	31	<b>10</b>	<b>21</b>	
0		<b>19990</b>		31	0	31	
⋮		⋮		⋮	⋮	⋮	



Price range meeting current condition 1



Price range meeting revised condition 1

- In above case, a transaction is made at JPY 20,000 in current J-GATE. In next J-GATE, due to the revision to condition 1, candidate prices will be from JPY 19,990 to JPY 20,010. A transaction is made at JPY 20,010 based on condition 3.

\* Same as current, the unfilled part of a market order will be cancelled.

## 2 Change in rule to determine contract price by Itayose

- Due to the revision to condition 1, a transaction may be made at the price that is one tick beyond the order price limit on bids /offers.

	Sell		Buy				
Sum	Quantity	Price	Quantity	Sum	Execution	Imbalance	
	<b>30</b>	<b>MO</b>					
⋮		⋮		⋮	⋮	⋮	⋮
30		<b>20040</b>		0	<b>0</b>	<b>30</b>	
30		<b>20030</b>		0	0	30	
30		<b>20020</b>	<b>5</b>	5	5	25	
30		<b>20010</b>	<b>5</b>	10	10	20	
30		<b>20000</b>	<b>5</b>	15	15	15	
	<b>30</b>	<b>19990</b>		<b>15</b>	<b>15</b>	<b>15</b>	

Lower order price limit on bids/offers



Price range meeting current condition 1



Price range meeting revised condition 1

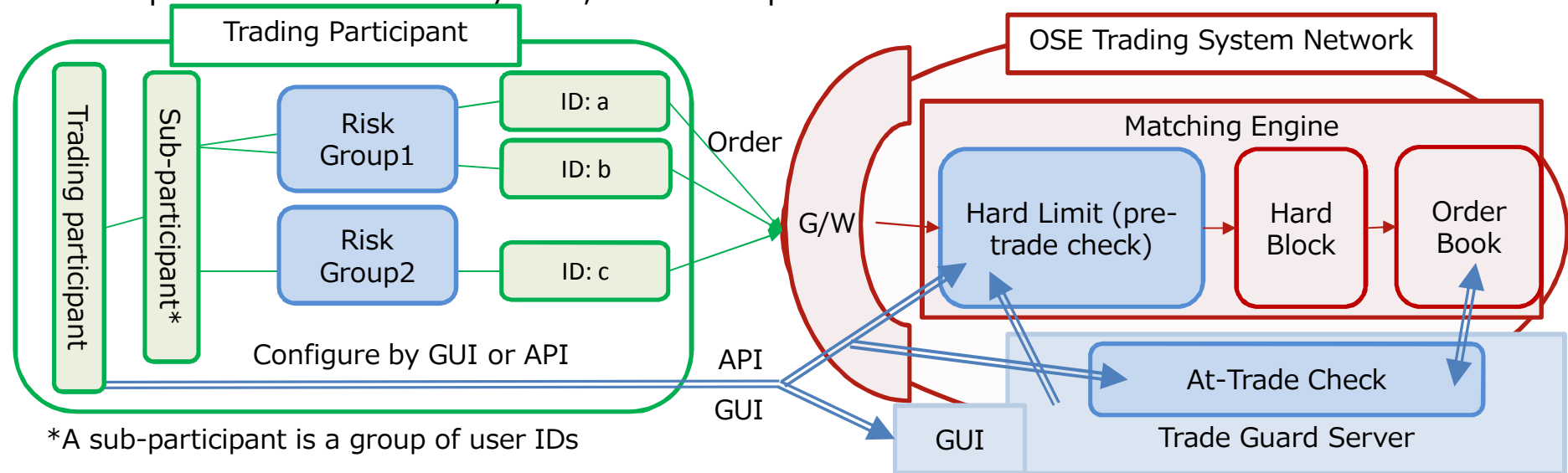
- In above case, a transaction is made at JPY 20,000 in current J-GATE. In next J-GATE, due to the revision to condition 1, candidate prices will be from JPY 19,990 to JPY 20,030. Matching occurs at JPY 19,990 (which is lower than the lower order price limit on bids /offers) based on condition 4 ①.
- If the lower order price limit on bids /offers is the minimum tick (e.g. JPY 1 for Nikkei 225 Options), matching will not occur below the minimum tick.

### 3 Contract specifications of On-demand Options

Item	Contents
Applicable Products	Options trading excluding security options
Application	Fill in the designated form with the desired product and strike price and submit it through Target
Time to accept application	~12 : 00 (Applications after this time will be reflected on the business day after next.)
Setting date	Day session of the business day after the application
Applicable strike price	Strike price interval is same as for normal options. There are upper / lower limit to the strike price range (The upper limit will be twice higher than the reference product price and the lower limit is the interval of the strike price. The upper / lower limit for JGB Futures Options are separately specified.)
Max number of strike prices that can be set (being considered)	Up to 25 strike prices per week and up to 100 strike prices per month can be set per product. In addition, if a certain participant has applied for more than 5 strike prices for one product in a month, and if their usage rate* (for their applied series) is under 20%, this participant may apply for only up to 20 strike prices in the next month. *usage rate = The number of series that they traded out of those they applied for and were set within the month(*) ÷ The number of series that they applied for and were set in the month ×100% (* ) The series that were applied for this month but will only start trading next month will be considered in calculations for the next month.

## 4 General image of risk management functions supplied by OSE

- For the purpose of benefiting risk control of overall market and participants, we will provide Nasdaq OMX "Trade Guard" system, which has pre-trade and at-trade check functions.



Items	Contents	Remarks
Risk Group	•IDs are bundled under a sub-participant to create a Risk Group (Risk Group cannot be set across sub-participants)	•Check per risk group
Pre-Trade Check	•Check, for each Risk Group, orders for their volume (value) and state before registering in the order book	•Orders exceeding the pre-set value are not accepted.
At-Trade Check	•Check each order book registration and trade for risk value and new order count •When the risk value reaches the setting value, reject orders for the applicable product, and when the new order count reaches the setting value, reject new/amend orders for all products at the pre-trade check.	• <u>Since the check is conducted at the same time as order book registration, it does not impact latency.</u> •Since the mechanism functions so that the information is sent to pre-trade check when the setting value is reached, it cannot prevent orders and trades proactively.
Others	•Mass cancel function to cancel all orders of IDs in the Risk Group •Order restriction function to instruct the restriction of new/amend orders from IDs in the Risk Group	

## 5 Outline of risk control functions

- Listed below are the items for risk group registration and check settings.
- In the at-trade check, when a Risk Group's risk value for a product reaches the setting value, new/amend orders for the product (when the order count reaches the setting value, all products) will not be accepted.
  - "Product" is specified by instrument type/class. (e.g., NK225OP Put, NK225OP Call, NK225mini)
  - It can be set as either volume- or value-based (price x volume x trading conversion factor (e.g., 100 for NK225mini))
  - The risk value is reset when the trading date changes, and is carried over when moving from the Night Session to the Day Session.

Check	Item	Detail	Activation
Risk Group	Risk group registration	Register/delete user ID under sub-participant to risk group	Next day
	Product registration	Register product to be checked. Able to restrict orders for non-registered products	Next day
Pre-Trade check	Order volume (value)	Max order volume/value in the registered product (not applicable to orders carried over from other trading days)	Immediate
	Product restriction	Restrict orders when non-registered product is under the order restriction and the at-trade check violation	Immediate
	Risk group restriction	Restrict orders when the entire risk group is under the order restriction	Immediate
At-Trade Check (per product except for order count)	Max order volume (value)	①Sell orders total, ②buy orders total on the order book	Immediate
	Max trade volume (value)	③Buy trades total, ④sell trades total, ⑤net trades total	Immediate
	Max total volume (value)	⑥Buy total = buy orders total + buy trades total ⑦Sell total = sell orders total + sell trades total	Immediate
	Max net volume (value)	⑧Net buy = buy trades total - sell trades total + buy orders total ⑨Net sell = sell trades total - buy trades total + sell orders total	Immediate
	Max new order count	Max number of new orders per second (total of all products)	Immediate

\*"Next day" in the "Activation" column means after the end of the Night Session.

\*When the setting value is 0, the check will not be conducted.

\*If a volume- or value-based check criteria is set, it will be applicable to both the pre-trade and at-trade checks.

# 6 How the functionality works (e.g. NK225 Futures, volume-based)

- <Setting for Risk Group A>
- Registered user ID: a and b
  - Product limitation: only allowed to trade NK225 futures
  - Pre-trade order volume check: NK225 futures volume under 300 lots
  - At-trade buy order total check: NK225 futures volume under 300 lots
  - Alert mail: First trigger 50% (150 lots), second trigger 75% (225 lots)

time	User	Order, etc.	Pre-Trade check			Register in order book	At-Trade check Sum of buy order	Remarks
			Product Restriction	Group Restriction	Hard Limit			
20:00:00	b	① 225OP new buy order 200lot (GFD) →	×					NK225 Futures only
20:00:00	a	② 225Fut new buy order 300 lot (GFD) →			×			300 lot is not accepted
23:30:00	a	③ 225Fut new buy order 200 lot (GTC) →				Register	+200	Send first E-mail
2:50:00	b	④ 225Fut new buy order 10 lot (GFD) →				Register	+210	
5:30:00		End of night session					+200	Recalculation is done by the expiring of GFD orders
8:00:00		Order acceptance in day session starts						
8:30:00	a	⑤ 225Fut new buy order 80 lot (GFD) →				Register	+280	Send second E-mail
12:00:00	a	⑥ 225Fut new buy order 30 lot (GTC) →				Register	+310	Send breach E-mail
13:00:00	a	⑦ 225Fut the price amendment of ⑥ →	12:00:00 starts ×					no new/amend order
14:00:00	a	⑧ 225Fut order cancellation of ③ →	14:00:00 ends			Register	+110	cancel order allowed
14:30:00		Group restrictions by trading participants starts		14:30:00 starts				
15:00:00	b	⑨ 225Fut new buy order 10 lot (GFD) →		×				User b is restricted, too
15:20:00		Group restrictions by trading participants ends		15:20:00 ends				
around 16:00:00		Change trading day					+30	reset the value Order ⑥ are reflected

\*GFD is valid until the end of Day Session of the day (for Night Session, the end of Night Session) and GTC is valid until cancelled.

\*When it reaches the set number of new orders, the risk group limitation is triggered.