

Developing Rules and Regulations in connection with Integration of Clearing Organizations
with Osaka Securities Exchange Co., Ltd.

January 30, 2013
Japan Securities Clearing Corporation

Item	Summary	Remarks
I. Purpose	<ul style="list-style-type: none"> • The clearing organization for Futures, Options and other Contracts (which term means futures, options and exchange foreign currency margin trading, the same shall apply hereinafter) listed on Osaka Securities Exchange Co., Ltd. (hereinafter referred to as “OSE”) is to be integrated to JSCC in association with the business combination of Tokyo Stock Exchange Group, Inc. and OSE, and JSCC will make necessary amendments to the structures. • Through such integration, JSCC will realize the unification of Margins related to Futures and Options Contracts and the integrated Margin and fund settlement operations for Futures, Options and other Contracts, and, thereby, make efforts to enhance fund efficiency on the part of investors and participants and mitigate operational burden on the part of Clearing Participants. 	<ul style="list-style-type: none"> • Currently, Futures, Options and other Contracts executed on OSE are cleared by OSE. • The measures for unification of Margins will be taken in advance, on the premise of continuation of the operations using existing clearing systems of both JSCC and OSE for the time being in terms of the functionality towards the finalization of positions, such as Offsetting-Sales, Offsetting-Purchases or option exercises, etc.
II. Contracts subject to Clearing	<ul style="list-style-type: none"> • Following contracts executed on OSE will be newly added to the Contracts subject to Clearing: <ul style="list-style-type: none"> • Security Options Contracts; • Index Futures Contracts; • Index Options Contracts; and 	

Item	Summary	Remarks
<p>III. Clearing Participants System</p> <p>1. Change, etc. of Categories of Clearing Qualifications</p> <p>2. Types of FX Clearing Qualification</p> <p>3. Obtaining FX Clearing Qualification</p>	<ul style="list-style-type: none"> • Exchange Foreign Currency Margin Trading (hereinafter referred to as the “Exchange-FX Contracts”). • Index Futures, etc. Clearing Qualification shall be the qualification eligible for clearing Individual Options Contracts, Security Options Contracts, Index Futures Contracts and Index Options Contracts and abolish Individual Option Clearing Qualification category. • FX Clearing Qualification (qualification eligible for clearing Exchange-FX Contracts) will be newly established. Clearing Participant Agreement for FX Clearing Qualification shall be newly created. • FX Clearing Qualification shall be categorized into two types, i.e., “Principal Clearing Qualification” and “Agency Clearing Qualification.” • Any person who intends to obtain FX Clearing Qualification shall apply for the Clearing Qualification and obtain approval of JSCC. • Criteria for FX Clearing Qualification shall be as follows: <Criteria for Clearing Qualification> ① Applicant must be Type II Financial Instruments Exchange Business Operator (if engages in the clearing of Exchange-FX Contracts on customer account, must be 	<ul style="list-style-type: none"> • Current Individual Option Clearing Qualification covers Individual Options only. • Obligations, etc. of FX Clearing Participants shall be the same as the obligations, etc. of existing Clearing Participants.

Item	Summary	Remarks
<p>IV. Clearing and Settlement Operations related to Futures and Options Contracts</p> <ul style="list-style-type: none"> Intra-Day Margin 	<p>registered for Securities, etc Management Business) or registered financial institution;</p> <p>② Applicant meets certain criteria for financial conditions; and</p> <p>③ Applicant has management structure and business structure appropriate for a Clearing Participant.</p> <ul style="list-style-type: none"> With respect to Futures Contracts, if a fluctuation at the time prescribed by JSCC during the intraday trading hours exceeds the predetermined threshold, or otherwise JSCC deems it necessary, and when the amount of Margins deposited for its proprietary account is less than the Intra-Day Margin Requirement, the Clearing Participant shall deposit with JSCC as the Margin for its proprietary account an amount not less than such shortfall. The Intra-Day Margin Requirement shall be Recalculated Risk Amount based on the proprietary position for Futures and Options Contract on OSE as of 11:00 a.m. and the proprietary position for Futures and Options Contracts on TSE as of 11:35 a.m. plus/minus the amount of the Value Equivalent to Differences pertaining to Futures Contracts and the amount of the Value Equivalent to Option Contract Price for proprietary trades, trades on customers accounts and on Non-Clearing Participant account. 	<ul style="list-style-type: none"> See Annex 1 for detailed financial criteria. The time prescribed by JSCC means 11:00 a.m. for Futures Contracts executed on OSE, 11:35 a.m. for Index Futures Contracts executed on TSE and 11:02 a.m. for JGB Futures Contracts executed on TSE. Recalculated Risk Amount shall be the amount calculated by subtracting aggregate amount of net option value calculated with respect to its proprietary positions of Options Contracts from the amount calculated through SPAN® with respect to

Item	Summary	Remarks
<p>V. Settlement Performance Guarantee System related to Futures and Options Contracts</p> <p>1. Clearing Funds</p> <p>(1) Clearing Funds Requirement</p> <p>① Calculation of Aggregate Amount of Requirement</p>	<ul style="list-style-type: none"> • Deposit cutoff time for Intra-Day Margin shall be 4:00 p.m. on the relevant day. • Securities may be posted as Intra-Day Margin in lieu of cash. <ul style="list-style-type: none"> • The Clearing Funds Requirement to be deposited by Clearing Participant with JSCC shall be the sum of the Requirement for each category of Clearing Qualifications the relevant Clearing Participant holds. • Aggregate Amount of Clearing Funds Requirement by each category of Clearing Qualification shall be as outlined below. 	<p>combined proprietary positions of Futures and Options Contracts on OSE and TSE.</p> <ul style="list-style-type: none"> • Scope of calculation of the Value Equivalent to Difference of Futures Contract and the Value Equivalent to Option Contract Price shall be those traded by 11:00 a.m. for OSE and by 11:35 a.m. for TSE. • No change. • No change to scope of substituted securities and substituting price. <ul style="list-style-type: none"> • No change. • See Annex 2 for detailed calculation method and

Item	Summary	Remarks
<p>(*) (*) Excluding Requirement with respect to physical settlement of JGB Futures Contracts</p>	<p>(i) Aggregate Amount of Clearing Funds Requirement for Index Futures, etc. Sum of the Base PML Amount (*1) related to Index Futures, etc. Contracts (such term means Security Options Contracts, Individual Options Contracts, Index Futures Contracts and Index Options Contracts, the same shall apply hereinafter) of the Clearing Participant (including Clearing Participant which is an affiliate, the same shall apply in this ①) whose Base PML Amount is the largest and the total estimated losses of 5 Clearing Participants, whose net assets are ranked bottom 5, is calculated daily, and the largest amount of such sum during the past 6 months period will be the aggregate amount of Clearing Funds Requirement for Index Futures, etc. Clearing Qualification.</p> <p>(ii) Aggregate Amount of Clearing Funds Requirement for JGB Futures, etc. Sum of the Base PML Amount (*1) related to JGB Futures, etc. Contracts (such term means JGB Futures and Option on JGB Futures, the same shall apply hereinafter) of the Clearing Participant whose Base PML Amount is the largest and the total estimated losses of 5 Clearing Participants, whose net assets are ranked bottom 5, is calculated daily, and the largest amount of such sum during the past 6 months period will be the aggregate amount of Clearing Funds Requirement for JGB Futures, etc. Clearing Qualification.</p> <p>(*1) Base PML Amount is the amount calculated by deducting current balance of Margins on proprietary account and Margin Requirement for Customer Account for previous day from PML Amount (*2). The Margin amount to be deducted from PML Amount when calculating respective Base PML Amount for Index Futures, etc. Contracts and JGB Futures, etc. Contracts shall be calculated by prorating the sum of current balance of Margins on proprietary account and Margin Requirement for Customer Account on previous day by percentage of</p>	<p>calculation example.</p> <ul style="list-style-type: none"> • Clearing Funds Requirement related to physical settlement of JGB Futures Contract will continue to be calculated based on the current concept.

Item	Summary	Remarks
<p>② Requirement applied to each Clearing Participant</p>	<p>PML amount related to Index Futures, etc. Contracts and PML amount related to JGB Futures, etc. Contracts, respectively, of the relevant Participant on each date of calculation.</p> <p>(*2) PML (Probable Maximum Loss) amount means the amount to be calculated by reflecting the amount to be paid/received with respect to differences and contract prices to estimated losses arising from each Clearing Participant positions upon occurrence of price fluctuation or volatility variation to be envisaged in the extreme but plausible market conditions.</p> <ul style="list-style-type: none"> • Requirement to be applied to each Clearing Participant by type of Clearing Qualification shall be as follows: <ul style="list-style-type: none"> (i) Clearing Funds Requirement for Index Futures, etc. Amount calculated by prorating the aggregate amount obtained in ① (i) by the amount equivalent to the Margin Requirement related to Index Futures, etc. Contracts of each Clearing Participant for previous month. (ii) Clearing Funds Requirement for JGB Futures, etc. Amount calculated by prorating the aggregate amount obtained in ① (ii) by the amount equivalent to the Margin Requirement related to JGB Futures, etc. Contracts of each Clearing Participant for previous month. <p>* The amount equivalent to the Margin Requirement related to Index Futures, etc.</p>	<ul style="list-style-type: none"> • Price fluctuation rate, etc. to be adopted in the calculation of PML amount shall be, with respect to Index Futures, etc. Contracts and JGB Futures, etc. Contracts, respectively, the fluctuation rate to be determined by JSCC taking into consideration the distribution curve of price fluctuation rate during the period of 250 business days during which the diversification of two day price fluctuation rate has been the largest since 1985.

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<p>③ Minimum Requirement to be Applied</p> <p>(2) Revision of Requirement</p>	<p>Contracts and the amount equivalent to the Margin Requirement related to JGB Futures, etc. Contracts shall be the monthly average of the amount calculated by prorating the Margin Requirement of each Clearing Participant (aggregate Requirement for proprietary and customer) on each business day by the percentage of PML amount of Index Futures, etc. Contracts and JGB Futures, etc. Contracts of each Clearing Participant on each business day.</p> <ul style="list-style-type: none"> • The minimum amount of the Clearing Funds Requirement related to JGB Futures, etc. Clearing Qualification and Index Futures, etc. Clearing Qualification shall be 10 million yen, respectively. • JSCC reviews and revises the Requirement at the end of each month in principle, which revision shall apply from the 5th business day of the succeeding month. • JSCC may revise the Clearing Funds Requirement on an ad hoc basis. 	<ul style="list-style-type: none"> • No change. • The Requirement so applied will be deposited on the 6th business day. • To be ready for sudden increase of position risks by a Clearing Participant, introduction of ad hoc revision to the Clearing Funds Requirement is planned. When the Clearing Funds Requirement is revised on an ad hoc basis, Clearing Participant shall deposit such Requirement by the cutoff time prescribed by JSCC.

Item	Summary	Remarks
2. Recovery by Default Compensation Reserve for Futures and Options Contracts	<ul style="list-style-type: none"> • OSE and JSCC will enter into an agreement to compensate for losses incurred by JSCC due to settlement failure related to Futures and Options Contracts up to the amount of Default Compensation Reserve for Futures and Options Contracts at OSE (Approximately 7,010 million yen). 	
3. Recovery Scheme for Losses Arising from Settlement Failure related to Futures and Options Contracts	<ul style="list-style-type: none"> • Losses related to Index Futures, etc. Contracts and JGB Futures, etc. Contracts arising from settlement failure of Clearing Participant shall be compensated for by Index Futures, etc. Clearing Funds and JGB Futures, etc. Clearing Funds deposited by Clearing Participants other than Defaulting Clearing Participant in the following order: (First Priority) Deposit (such as Clearing Funds and Margins) of Defaulting Clearing Participant (Second Priority) Loss compensation by Designated Market Operator (Third Priority) JSCC's surplus fund for listed products (Fourth Priority) Amount equivalent to Clearing Funds Requirement for Index Futures, etc. Contracts and Clearing Funds Requirement for JGB Futures, etc. Contracts of Clearing Participants other than Defaulting Clearing Participant (*Point amended this time.) (Fifth Priority) Special Clearing Charge 	<ul style="list-style-type: none"> • The amount to be borne by each Clearing Participant in Fourth Priority shall be determined by (i) calculating the excess losses that cannot be covered by financial resources up to Third Priority by each category of Clearing Qualification, and (ii) then prorating such excess losses by Clearing Funds Requirement of each Clearing Participant by each category of Clearing Qualification.
VI. Handling of Exchange FX Contracts	<ul style="list-style-type: none"> • Clearing and settlement operations concerning Exchange-FX Contracts shall be the same as current handling at OSE in principle. 	<ul style="list-style-type: none"> • Clearing and settlement operations related to Exchange-FX Contracts will be processed by using OSE FX

Item	Summary	Remarks
1. Assumption of Obligations	<ul style="list-style-type: none"> With respect to Exchange-FX Contracts which are Contracts subject to Clearing, JSCC assumes obligations upon execution of the contracts. 	<p>Clearing System.</p> <ul style="list-style-type: none"> No give-up structure, position transfer structure or intra-day margin structure will be established for Exchange-FX Contracts. Same as current process at OSE.
2. Clearing and Settlement Operations (1) Notification of Position Size	<ul style="list-style-type: none"> Clearing Participant shall notify JSCC of the number of positions resulting from Offsetting-sales or Offsetting-purchases of Exchange-FX Contracts for its proprietary account and on customer account and for proprietary and customer accounts of Non-Clearing Participant which has designated the relevant Clearing Participant as Designated Clearing Participant. 	<ul style="list-style-type: none"> Same as current process at OSE.
(2) Settlement of Exchange Balance	<ul style="list-style-type: none"> Net of the aggregate payment amount and the aggregate receiving amount of the exchange balance (i.e., amount of discounted net difference, amount of net difference to previous day, amount of settlement balance and amount of swap points) calculated based on the clearing price prescribed by JSCC by each financial index shall be paid/received on each day, excluding Japanese bank holiday, between Clearing Participant and JSCC by adding to or subtracting from Margins. 	<ul style="list-style-type: none"> Same as current process at OSE.

Item	Summary	Remarks
3. Margins	<ul style="list-style-type: none"> <li data-bbox="539 284 1621 504"> <p data-bbox="185 284 472 312">(1) Deposit of Margins</p> <ul style="list-style-type: none"> <li data-bbox="539 284 1621 360">• With respect to Exchange-FX Contracts executed on OSE, JSCC will accept deposit of Margins from customers and Clearing Participants. <li data-bbox="539 379 1621 504">• Upon execution of sale or purchase of Exchange-FX Contracts on its own account or on customer account, Clearing Participant shall deposit Margins by noon of the day immediately following the closing day of trading day. <li data-bbox="539 571 1621 1327"> <p data-bbox="185 571 472 600">(2) Margin Requirement</p> <ul style="list-style-type: none"> <li data-bbox="539 571 1621 743">• The Margin Requirement for proprietary account shall be, with respect to proprietary positions, the sum of the amounts obtained for each name by multiplying the greater of the quantity of short positions or long positions of such name by the standard amount of Margins. <li data-bbox="539 954 1621 1126">• The Margin Requirement for customer accounts shall be obtained by aggregating for all customers the sums, calculated for each customer, of the products of the quantity of short positions or long positions (whichever greater) for each name and the standard amount of Margins. <li data-bbox="539 1152 1621 1327">• Clearing Participant shall notify the Margin Requirement with respect to Exchange-FX Contracts for its proprietary account and customer accounts, and for proprietary and customer accounts of Non-Clearing Participant which has designated the relevant Clearing Participant as Designated Clearing Participant by 10:00 a.m. of the day 	<ul style="list-style-type: none"> <li data-bbox="1675 284 2058 312">• Same as current process at OSE. <li data-bbox="1675 379 2058 408">• Same as current process at OSE. <li data-bbox="1675 571 2069 890">• Same as current process at OSE. Margins shall be deposited in cash only, and substitution by securities will not be allowed (posting securities as Margins for customer account in lieu of cash is permitted). <li data-bbox="1675 954 2058 983">• Same as current process at OSE. <li data-bbox="1675 1152 2058 1181">• Same as current process at OSE.

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(3) Additional Deposit of Margins	<p>immediately following the closing day of trading day.</p> <ul style="list-style-type: none"> If Margins deposited with JSCC for direct deposit or substituting deposit related to customer transactions and transactions of Non-Clearing Participants fall short of the Margin Requirement related to customer transactions and transactions of Non-Clearing Participants, Clearing Participant shall deposit the amount of money not less than the difference of the relevant Margin Requirement and the amount of deposit balance of Margins with JSCC as Margins by noon of the day immediately following the closing day of trading day on which such shortfall occurs. 	<ul style="list-style-type: none"> Same as current process at OSE.
4. Settlement Performance Guarantee Structure	<ul style="list-style-type: none"> Settlement performance guarantee structure for Exchange-FX Contracts shall be subject to the settlement performance guarantee structure for Futures and Options Contracts (V.3) (excluding the calculation method of Clearing Funds Requirement). The calculation method of the Clearing Funds Requirement for Exchange-FX Contracts shall be the same as the current calculation method of the clearing margins requirement at OSE. 	<ul style="list-style-type: none"> Losses related to Exchange-FX Contracts will be covered by the loss compensation under the Loss Compensation Agreement related to TSE and OSE listed Futures and Options Contracts.
<p>VII. Fees, etc. related to Futures, Options and other Contracts</p> <p>1. Clearing Fees</p>	<ul style="list-style-type: none"> Fee rate applicable to clearing fees for contracts listed on OSE shall be as per Annex 3. 	<ul style="list-style-type: none"> JSCC will commission to OSE the operations of receiving clearing fees for Futures, Options and other Contracts on

Item	Summary	Remarks
<p>2. Other Fees</p> <p>VIII. Others</p>	<ul style="list-style-type: none"> • Rates applicable to clearing qualification acquisition fees and fixed fees shall be as per Annex 3. • Other necessary amendment will be made. • Measures necessary in association with transition will be established. 	<p>OSE and fixed fee for FX Clearing Qualification.</p> <ul style="list-style-type: none"> • Clearing Participant will pay these fees to OSE as in the same manner as current practice. (OSE will in turn pay the clearing fees, etc. so received to JSCC.) • When a person having futures or options clearing qualification or FX clearing qualification of OSE intends to obtain JSCC Clearing Qualification in the same category, examination of the financial conditions shall be based on the criteria for the maintenance of Clearing Qualification. • No clearing qualification

Item	Summary	Remarks
IX. Implementation Timing (Scheduled)	<ul style="list-style-type: none"> <li data-bbox="533 523 848 555">• Aimed at July 16, 2013. 	<p data-bbox="1675 188 2069 507">acquisition fee is required when a person having futures or options clearing qualification or FX clearing qualification of OSE obtains JSCC Clearing Qualification of the same category.</p>

== End of Document ==

Financial Criteria for Acquisition and Maintenance of FX Clearing Qualification

(1) Acquisition Criteria

【Financial Instruments Business Operator】

	Principal Clearing Qualification	Agency Clearing Qualification
Stated Capital	Not less than JPY300mil	Not less than JPY300mil
Net Assets	Not less than JPY2bil and exceeding Amount of Stated Capital	Not less than JPY20bil and exceeding Amount of Stated Capital
Capital-to-Risk Ratio	More than 200%	More than 200%
Consolidated Capital-to-Risk Ratio(*1)	More than 200%	More than 200%

*1 : Apply to Special Financial Instruments Business Operators

【Registered Financial Institution】

	Principal Clearing Qualification	Agency Clearing Qualification
Stated Capital	Not less than JPY300mil	Not less than JPY300mil
Net Assets	Not less than JPY2bil and exceeding Amount of Stated Capital	Not less than JPY20bil and exceeding Amount of Stated Capital
Non-consolidated or Consolidated Capital Adequacy Ratio(*1)	Uniform International Standard (i) (*2) : Common Equity Tier 1 ratio (*3): more than 4.5% (*4), Tier 1 ratio: more than 6% (*5), Total capital adequacy ratio: more than 8% Uniform International Standard (ii) (*6): More than 8% Domestic Standards (*7) : More than 4%	Uniform International Standard (i) (*2) : Common Equity Tier 1 ratio (*3): more than 4.5% (*4), Tier 1 ratio: more than 6% (*5), Total capital adequacy ratio: more than 8% International Standards (ii) (*6): More than 8% Domestic Standards (*7) : More than 4%
Non-consolidated or Consolidated Solvency Margin (*8)	More than 400%	More than 400%

*1 : Apply to Registered Financial Institution other than insurance companies

*2 : Apply to banks subject to Uniform International Standard, Norinchukin Bank and Shoko Chukin Bank

*3 : Ordinary Investment Securities Tier 1 ratio for Norinchukin Bank

*4 : Transitional arrangement, i.e. 3.5% from March 31, 2013 to March 30, 2014 and 4% from March 31, 2014 to March 30, 2015, will apply

*5 : Transitional arrangement, i.e. 4.5% from March 31, 2013 to March 30, 2014 and 5.5% from March 31, 2014 to March 30, 2015, will apply

*6 : Apply to Registered Financial Institutions having overseas business office other than banks subject to Uniform International Standard, Norinchukin Bank and Shoko Chukin Bank

*7 : Apply to Registered Financial Institutions not having overseas business office

*8 : Apply to insurance companies

(2) Maintenance Criteria

【Financial Instruments Business Operator】

	Principal Clearing Qualification	Agency Clearing Qualification
Stated Capital	Not less than JPY300mil	Not less than JPY300mil
Net Assets	Not less than JPY300mil	Not less than JPY20bil
Capital-to-Risk Ratio	Not less than 120%	Not less than 200%
Consolidated Capital-to-Risk Ratio(*1)	Not less than 120%	Not less than 200%

*1 : Apply to Special Financial Instruments Business Operator

【Registered Financial Institution】

	Principal Clearing Qualification	Agency Clearing Qualification
Stated Capital	Not less than JPY300mil	Not less than JPY300mil
Net Assets	Not less than JPY300mil	Not less than JPY20bil
Non-consolidated or Consolidated Capital Adequacy Ratio(*1)	Uniform International Standard (i) (*2) : Common Equity Tier 1 ratio (*3): not less than 2.25% (*4), Tier 1 ratio: not less than 3% (*5), Total capital adequacy ratio: not less than 4% Uniform International Standard (ii) (*6): Not less than 4% Domestic Standards (*7) : Not less than 2%	Uniform International Standard (i) (*2) : Common Equity Tier 1 ratio (*3): not less than 4.5% (*8), Tier 1 ratio: not less than 6% (*9), Total capital adequacy ratio not less than 8% Uniform International Standard (ii) (*6): Not less than 4% Domestic Standards (*7) : Not less than 4%
Non-consolidated or Consolidated Solvency Margin (*10)	Not less than 400%	Not less than 400%

*1 : Apply to Registered Financial Institution other than insurance companies

*2 : Apply to banks subject to Uniform International Standard, Norinchukin Bank and Shoko Chukin Bank.

*3 : Ordinary Investment Securities Tier 1 ratio for Norinchukin Bank.

*4 : Transitional arrangement, i.e. 1.75% from March 31, 2013 to March 30, 2014 and 2% from March 31, 2014 to March 30, 2015, will apply.

*5 : Transitional arrangement, i.e. 2.25% from March 31, 2013 to March 30, 2014 and 2.75% from March 31, 2014 to March 30, 2015, will apply.

*6 : Apply to Registered Financial Institutions having overseas business office other than banks subject to Uniform International Standard, Norinchukin Bank and Shoko Chukin Bank.

*7 : Apply to Registered Financial Institutions not having overseas business office.

*8 : Transitional arrangement, i.e. 3.5% from March 31, 2013 to March 30, 2014 and 4% from March 31, 2014 to March 30, 2015, will apply.

*9 : Transitional arrangement, i.e. 4.5% from March 31, 2013 to March 30, 2014 and 5.5% from March 31, 2014 to March 30, 2015, will apply.

*10 : Apply to insurance companies.

(Note) Both acquisition criteria and maintenance criteria for Index Futures, etc. Clearing Qualification are the same as those for FX Clearing Qualification.

Calculation Method of Clearing Funds Requirement

1. Outline

- The Clearing Fund is to be positioned as the collateral to cover risks of incurrence of following losses in the amount exceeding the amount of Margins deposited by Defaulting Clearing Participants upon simultaneous defaults of the Clearing Participant with the largest exposure and five Clearing Participants with relatively weak financial basis.
 - ① Losses arising from defaults of Clearing Participants in extreme but plausible market conditions (hereinafter referred to as “Stressed Conditions”) (i.e., “Tail Risk”).
 - ② Losses arising from non-payment by Defaulting Clearing Participant of differences and contract prices.
- In order to cover above risk amount, the Clearing Funds Requirement will be calculated through following Steps 1 to 5.
 - Step 1 : Setting price fluctuation rate, etc. in stress scenarios
 - Step 2 : Calculation of loss amount at Stressed Conditions
 - Step 3 : Calculation of Base PML Amount
 - Step 4 : Calculation of Clearing Funds Requirement (All Participants)
 - Step 5 : Calculation of Clearing Funds Requirement (Each Participant)

2. Details in each Step

Step 1 : Setting price fluctuation rate, etc. in stress scenarios

- With respect to each of the Commodities subject to Index Futures, etc. Clearing Qualification and JGB Futures, etc. Clearing Qualification, there will be nine types of stress scenarios¹ consisting of combinations of each of rising scenario / no-change scenario / decline scenario of volatilities with each of rising scenario / no-change scenario / decline scenario of underlying asset price.
- For setting price fluctuation rate (price fluctuation rate in stress scenarios) of each Commodity to be applied in rising scenario / decline scenario of underlying asset price, the level of Nikkei 225 for Commodities related to Index Futures, etc. Clearing Qualification and the price of JGB Futures for Commodities related to JGB Futures, etc. Clearing Qualification will be adopted as the underlying asset price. For each underlying asset price, the price

¹ Because volatility will not be taken into consideration for Futures, stress scenarios will substantially be three types, i.e., rising scenario / no-change scenario / decline scenario of underlying asset price.

fluctuation rate for two business days (holding period) will be calculated with respect to each day during the period from 1985 to date, and the standard deviation of price fluctuation rate for each consecutive observation period consisting of 250 business days will be calculated², and then the period of 250 business days during which the standard deviation is the largest will be identified.

- Then, identify t distribution curve that best matches the actual distribution of two days price fluctuation rate during the said period of 250 business days with the largest standard deviation³, and the value obtained as conditional expectation with respect to the portion exceeding 99% confidence interval within the said t distribution (“Expected Shortfall”) will be the price fluctuation rate of the stress scenarios.

【Price Fluctuation Rate in Stress Scenarios of each Commodity Obtained by above Method (as of today⁴)】

Commodity	Price Fluctuation Rate
Level of Nikkei 225	Rising Scenario : 20.3818%, Decline Scenario : 20.5143%
Price of JGB Futures	Rising Scenario : 3.9709%, Decline Scenario : 3.8842%

* Price Fluctuation Rates for both rising scenario and decline scenario will be obtained respectively.

- On the other hand, with respect to volatility variation rate (volatility variation rate in stress scenarios) of each Commodity to be applied in volatility rising scenario / decline scenario, the volatility variation rate in stress scenarios shall be estimated IV variation rate (rising scenario and decline scenario) calculated based on the formula below by using the model which takes into consideration the autocorrelation (AR(1) Model).

$$\text{Current IV Variation Rate (Estimate)} = a \times \text{Previous Day IV Variation Rate (Actual Value)} + 99\% \text{ Coverage Value of White Noise}$$

* “a” means autoregression factor in autoregressive model.

Assume empirical distribution for white noise.

Step 2 : Calculation of loss amount at Stressed Conditions

- Then, calculate the loss amount at Stressed Conditions by using the price fluctuation rate and IV variation rate obtained in Step 1.
- For Futures Contracts, profit-loss amount of Futures positions in each stress scenario will be obtained by (i) netting Long-Positions and Short-Positions of each contract month and calculating Contract Value of such Net Positions, and (ii) multiplying the resulting figure by the futures price variation range upon emergence of the price fluctuation rate in the stress scenario.

² To determine respective 250 business day observation period during the period from 1985 to date, slide the first day and the last day of the period of 250 business days by one business day (i.e., the first such period will be from Day 1 to Day 250, the second such period will be from Day 2 to Day 251, and the third such period will be from Day 3 to Day 252, and so on) . Then calculate the standard deviation during respective period of 250 business days with respect to all consecutive periods of 250 business days from 1985 to date.

³ Each parameter will be estimated by maximum-likelihood method.

⁴ Price fluctuation rate to be applied will be changed when the period of 250 business days with the largest standard deviation changes due to future fluctuation in Nikkei 225 or bond futures price.

Profit-Loss Amount of Futures Contracts

$$= \text{Net Position} \times \text{Trading Unit Value of each Commodity} \times \text{Futures Price Variation Range upon Emergence of Price Fluctuation Rate in Stress Scenario}$$

* Price Fluctuation Rate : Price Fluctuation Rate obtained in Step 1 , Net Position : Long Position – Short Position

Futures Price Variation Range upon Emergence of Price Fluctuation Rate in Stress Scenario shall be, for Commodity whose theoretical price can be obtained, the difference between the theoretical price of the Futures Contract obtained by moving the price of underlying assets by the price fluctuation rate in stress scenario and the settlement price on the relevant day and, for Commodity whose theoretical price is difficult to calculate, the product of the settlement price of Futures Contract on the relevant day and the Price Fluctuation Rate in Stress Scenario.

- For Option Contracts, profit-loss amount of Option positions (settlement amount necessary upon offsetting purchase or sale) will be calculated by (i) netting Long-Positions and Short-Positions by each contract month and calculating Contract Value of such Net Positions, and (ii) multiplying the resulting figure by the theoretical price of each contract month calculated with respect to each stress scenario.

Profit-Loss Amount of Option Contract (Settlement Amount necessary for Offsetting Purchase or Sale)

$$= \text{Net Position} \times \text{Trading Unit Value of each Commodity} \times \text{Theoretical Price in Stress Scenario}$$

* Theoretical Price : Calculated by applying following figures to Black Scholes model

Underlying Asset Price : Underlying asset price reflecting price fluctuation rate obtained in Step 1

Volatility : In case of Rising Scenario / Decline Scenario, estimated IV value reflecting IV variation rate of the relevant day obtained in Step 1, in case of no-change scenario, IV value at the time of calculation

Net Position : Long Position – Short Position

- Total profit-loss amount in each stress scenario will be calculated by aggregating profit-loss amount of Futures Contract positions and profit-loss amount of Option positions, and, among the resulting figures, the amount of loss in the scenario in which the total loss becomes the largest will be the “Loss Amount at Stressed Conditions.”
- In addition, because the features of price fluctuation differ between Commodity Groups related to Index Futures, etc. Clearing Qualification and JGB Futures, etc. Clearing Qualification, the Loss Amount at Stressed Conditions will be calculated separately by Commodity Group related to each Clearing Qualification. Moreover, correlation between Commodities within the Commodity Group related to the same Clearing Qualification will be valued using β value.

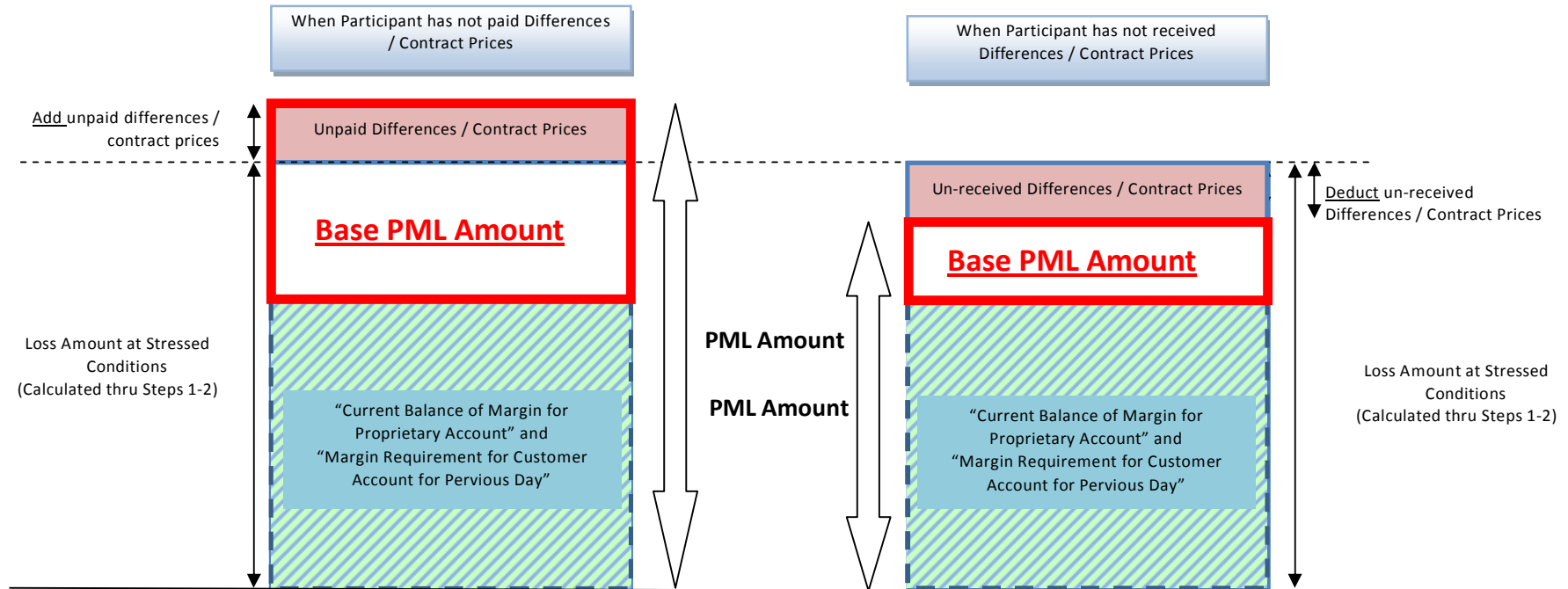
Step 3 : Calculation of Base PML Amount (Estimated Loss after Deduction of Margin)

- To mitigate non-payment risk of differences and contract prices (*), the estimated loss reflecting the amount of differences and contract prices to the Loss Amount at Stressed Conditions obtained through Steps 1 to 2 (such amount is referred to as “**PML Amount**”) will be calculated, and the estimated loss after deduction of margin (such amount is referred to as “**Base PML Amount**”) will be calculated by deducting the current balance of Margins for proprietary account and Margin Requirement for Customer Account for Previous Day from PML Amount.
- (*) Non-payment risk of differences and contract prices means a risk of failure to make payment that should have been made by the Defaulting Participant⁵.

$$\begin{aligned} \text{Base PML Amount} = & \underbrace{\text{Loss Amount at Stressed Conditions} \pm \text{Difference} / \text{Contract Price}}_{\text{(PML Amount)}} \\ & - \text{Margin Amount (Current Balance for Proprietary Account} + \text{Margin Requirement for Customer Account for Previous Day)} \end{aligned}$$

⁵ Because there exists one day time lag from the finalization of the amount to the payment in the settlement of MTM differences and Option Contract Prices in the listed derivatives contracts in Japan, there is a need to cover a risk of participant defaulting without paying differences or contract prices.

- Following chart shows the concept of “Loss Amount at Stressed Conditions,” “Differences / Contract Prices,” “Margin Amounts,” “PML Amount” and “Base PML Amount”:



- The amount of Margins to be deducted from PML Amount for each of Commodity Groups related to Index Futures, etc. Clearing Qualification and JGB Futures, etc. Clearing Qualification will be calculated by prorating the sum of the current balance of Margins for proprietary account and the Margin Requirement for customer account for previous day by the rate of PML Amount for each Commodity Group of each Participant on the relevant day⁶.

⁶ This prorating method will be adopted because it is operationally difficult for CCP to classify Customer Accounts' Margin Requirement and Balance of Margins by each Commodity Group under current Margin structure for Futures and Options Contracts.

Step 4 : Calculation of Clearing Funds Requirement (All Participants)

- For past 6 months period ending at the end of the previous month, Base PML Amount with respect to each Clearing Participant for respective Commodity Group in Index Futures, etc. Clearing Qualification and in JGB Futures, etc. Clearing Qualification will be calculated daily through Steps 1 to 3, and the sum of “the Base PML Amount of the Participant (including affiliate) whose Base PML Amount is the largest” and “the estimated losses of 5 Participants whose net assets ranked bottom 5⁷” will be obtained by each of such Commodity Group and by each stress scenario. Then, the largest of the said sum among those under stress scenarios will be adopted for the relevant business day.
- The largest amount among those adopted for each business day in the said 6 month period shall be the Clearing Funds Requirement (all Participants) with respect to each Clearing Qualification.

【Calculation Example】

On a certain business day, assuming that the estimated Profit-Loss Amount in each stress scenario by Commodity Group of Participant A was as shown below:

(Total Profit-Loss Amount of Participant A by stress scenario : Index Futures, etc. Commodity Group)

IV Variation Scenario Price Fluctuation Scenario	Rising	No-Change	Decline
Rising	-90	-100	-110
No-Change	-5	5	15
Decline	140	120	100

(+ represents loss, - represents profit)

(Total Profit-Loss Amount of Participant A by stress scenario : JGB Futures, etc. Commodity Group)

IV Variation Scenario Price Fluctuation Scenario	Rising	No-Change	Decline
Rising	160	180	200
No-Change	-8	0	8
Decline	-210	-200	-190

(+ represents loss, - represents profit)

The loss amount of “140” which is the largest will be the “Loss Amount at Stressed Conditions” of Participant A on the relevant day, and the Base PML Amount in Index Futures, etc. Clearing Qualification of Participant A on the relevant day will be obtained by reflecting the unpaid differences and contract prices (set as “50” in this example) to the resulting figure and deducting the amount of Margins (set as “70” in this example) therefrom ($140 + 50 - 70 = \underline{120}$).

In this calculation example, it is assumed that the Base PML Amount in Index Futures, etc. Clearing Qualification of Participant A constitutes the largest Base PML Amount among all Participants in the relevant stress scenario (Price Fluctuation : Decline Scenario, IV Variation: Rising Scenario).

Then, the sum of the Base PML Amount of Participant whose Base PML Amount is the largest in the relevant stress scenario (Participant A) and the estimated losses of 5 Participants whose net assets ranked bottom 5 will be obtained.

⁷ Estimated loss of 5 Participants whose net assets ranked bottom 5 will be calculated pursuant to the calculation method of Base PML Amount.

(Base PML Amount of Participant A and Estimated Losses of 5 Participants whose net assets ranked bottom 5 in Price Fluctuation : Decline Scenario, IV Variation : Rising Scenario)

Stress Scenario	Participant with Largest Base PML	Base PML Amount of Participant with Largest Base PML	Estimated Losses of 5 Participants whose net assets ranked bottom 5					Total
			V	W	X	Y	Z	
Price Fluctuation : Decline, IV : Rising	Participant A	120	1	3	1	3	2	130

As a result, the sum of “the Base PML Amount of Participant whose Base PML Amount is the largest” and “ the estimated losses of 5 Participants whose net assets ranked bottom 5” in the said scenario is “130.”

Likewise, the sum of “the Base PML Amount of Participant whose Base PML Amount is the largest” and “ the estimated losses of 5 Participants whose net assets ranked bottom 5” in all stress scenarios on the relevant business day will be obtained.

(Base PML Amount of Participant whose Base PML Amount is the largest and Estimated Losses of 5 Participants, whose net assets ranked bottom 5, in each stress scenario on the relevant business day)

Stress Scenario	Participant with Largest Base PML	Base PML Amount of Participant with Largest Base PML	Estimated Losses of 5 Participants whose net assets ranked bottom 5					Total
			V	W	X	Y	Z	
Price Fluctuation : Rising, IV : Rising	C	90	2	1	4	3	2	102
Price Fluctuation : Rising, IV : No-Change	D	100	2	3	1	4	2	112
Price Fluctuation : Rising, IV : Decline	•	•	•	•	•	•	•	•
Price Fluctuation : No-Change, IV : Rising	•	•	•	•	•	•	•	•
Price Fluctuation : No-Change, IV : No-Change	•	•	•	•	•	•	•	•
Price Fluctuation : No-Change, IV : Decline	•	•	•	•	•	•	•	•
Price Fluctuation : Decline, IV : Rising	A	120	1	3	1	3	2	130
Price Fluctuation : Decline, IV : No-Change	E	80	1	1	0	1	0	83
Price Fluctuation : Decline, IV : Decline	B	70	5	3	2	1	3	84

In this calculation example, the sum of “the Base PML Amount of Participant whose Base PML Amount is the largest” and “ the estimated losses of 5 Participants whose net assets ranked bottom 5” in Price Fluctuation: Decline Scenario, IV Variation: Rising Scenario is the largest, and then the relevant value of 130 will be adopted for the relevant day.

For each business day in the past 6 month period, the amount to be adopted as the sum of “the Base PML Amount of Participant whose Base PML Amount is the largest” and “ the estimated losses of 5 Participants whose net assets ranked bottom 5” will be obtained likewise.

Business Day	Adopted Amount
T—120 day	130
T—119 day	93
T—118 day	113
⋮	⋮
T—3 day	79
T—2 day	142
T—1 day	114

←Adopted amount in the above example

→Largest of daily value during past 6 months period ⇒**This amount will be the Clearing Funds Requirement (All Participants) for Index Futures, etc. Clearing Qualification**

The Clearing Funds Requirement (All Participants) for JGB Futures, etc. Clearing Qualification will be separately calculated in the same manner for JGB Futures, etc. Commodity Group.

Step 5 : Calculation of Clearing Funds Requirement (Each Participant)

- The Clearing Funds Requirement (All Participants) obtained in Step 4 will be prorated by monthly average of the amount equivalent to the Margin Requirement for Commodity Group(*) in each Clearing Qualification for the previous month for each Clearing Participants to obtain the Clearing Funds Requirement (Each Participant).

(*) The amount equivalent to the Margin Requirement for each Commodity Group will be obtained by prorating the Margin Requirement (sum of Proprietary and Customer) by ratio of daily PML Amount by each Commodity Group for each Participant.

【Calculation Example of for Each Participant’s Requirement】

- Assuming that the Clearing Funds Requirement (All Participants) for a certain Commodity Group is JPY14.2bn, the monthly average of the amount equivalent to the Margin Requirement for the relevant Commodity for Participant A is JPY10bn, the monthly average of the amount equivalent to the Margin Requirement for the relevant Commodity for Participant B is JPY8bn, and the aggregate of monthly average of the amount equivalent to the Margin Requirement for the relevant Commodity Group for all Clearing Participants is JPY100bn.

	Clearing funds Requirement (All Participants)	×	Margin (Each Participant)	/	Margin (All Participants))	=	Required Amount for Clearing Funds (Each Participant)
Participant A :	JPY14.2bn		JPY10bn		JPY100bn			JPY1.42bn
Participant B :	JPY14.2bn		JPY8bn		JPY100bn			JPY1.136bn
	⋮		⋮		⋮			⋮
	⋮		⋮		⋮			⋮
<hr/>								JPY14.2bn
Total of All Participants								JPY14.2bn

* The Clearing Funds Requirement (Each Participant) will be calculated for Commodity Groups related to Index Futures, etc. Clearing Qualification and JGB Futures, etc. Clearing Qualification respectively by using the said method.

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Structure of Clearing Fees, Etc.

1. Fee rates applicable to clearing fees for Listed Derivative Products (Futures, Options Contracts and Exchange-FX Contracts)

Listing Exchange	Listed Product	Classification	Rate	Remarks
Tokyo Stock Exchange	Security Options (Individual Options)	Standard Transaction	JPY10 per Trading Unit	Same as current clearing fee rates
		Option Exercise	JPY10 per Trading Unit	
	JGB Futures (Large-sized Transaction)	Standard Transaction	JPY49 per Trading Unit	
		Physical Settlement	JPY132 per Trading Unit	
	JGB Futures (Mini Transaction)	Standard Transaction	JPY 5 per Trading Unit	
		Final Settlement	JPY15 per Trading Unit	
	Option on JGB Futures	Standard Transaction	JPY10 per Trading Unit	
		Option Exercise	JPY10 per Trading Unit	
	Index Futures (TOPIX Large-sized Transaction, Sector Index Futures)	Standard Transaction	JPY20 per Trading Unit	
		Final Settlement	JPY57 per Trading Unit	
	Index Futures (TOPIX mini Transaction, S&P/TOPIX150 Futures, TOPIX Core30 Futures, TSE REIT Index Futures)	Standard Transaction	JPY 2 per Trading Unit	
		Final Settlement	JPY 6 per Trading Unit	
	Dividend Index Futures	Standard Transaction	JPY10 per Trading Unit	
		Final Settlement	JPY30 per Trading Unit	
	Index Options	Standard Transaction	JPY10 per Trading Unit	
		Final Settlement	JPY10 per Trading Unit	

Listing Exchange	Listed Products	Classification	Rate	Remarks
Osaka Securities Exchange	Nikkei 300 Futures	Standard Transaction	JPY 4 per Trading Unit	Same as current clearing fee rates at OSE. (*1) Capped at JPY35 per Trading Unit. (*2) Capped at JPY385 per Trading Unit.
		Final Settlement	JPY26 per Trading Unit	
	Nikkei Average Futures (excluding mini Transaction)	Standard Transaction	JPY20 per Trading Unit	
		Final Settlement	JPY130 per Trading Unit	
	Nikkei Average Futures (mini Transaction)	Standard Transaction	JPY 2 per Trading Unit	
		Final Settlement	JPY13 per Trading Unit	
	RN Prime Index Futures, Sector Index Futures, MSCI JAPAN Index Futures	Standard Transaction	JPY16 per Trading Unit	
		Final Settlement	JPY45 per Trading Unit	
	DJIA Futures	Standard Transaction	JPY 5 per Trading Unit	
		Final Settlement	JPY45 per Trading Unit	
	Nikkei 225 VI Futures	Standard Transaction	JPY20 per Trading Unit	
		Final Settlement	JPY100 per Trading Unit	
	Security Options	Standard Transaction	0.5/10,000 of Contract Price	
		Option Exercise	0.015/10,000 of total amount of prices of buy/sell resulting from option exercise	
	Nikkei 300 Options, Nikkei Average Options, Sector Index Options	Standard Transaction	0.5/10,000 of Contract Price (*1)	
		Option Exercise	5.5/10,000 of total amount to be paid/received upon option exercise/assignment(*2)	
Exchange-FX Contracts	Standard Transaction	JPY15 per Trading Unit		

2. Fixed Fee

- JGB Futures Clearing Qualification: JPY100,000 per month
(However, the above fee shall not apply to Participants whose clearing fees for products subject to the relevant Qualification (for a month) are JPY100,000 or less.)
- Index Futures, etc. Clearing Qualification: JPY120,000 per month
(However, the above fee shall not apply to Participants whose clearing fees for products subject to the relevant Qualification (for a month) are JPY100,000 or less.)
- FX Clearing Qualification: JPY20,000 per month

3. Fee for Position Transfer

- For Clearing Participants who accepts transfer of positions (in case of Non-Clearing Participant, Designated Clearing Participant for the relevant Non-Clearing Participant): The amount obtained by multiplying JPY5 to position transfer volume.

4. Clearing Qualification Acquisition Fee

- JPY1,000,000 per type of Clearing Qualification acquired. (When multiple Qualifications are to be acquired simultaneously, such fee shall be JPY1,000,000 regardless of number of Qualifications.)

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