Operational Procedures for Setting SPAN Parameters related to Commodity Derivatives

Items	Procedures	Remarks
I. Objectives	・ This document specifies the operational procedures to set parameters necessary for calculating margin related to Commodity Derivatives via Standard Portfolio Analysis of Risk (SPAN®) system[1] ("SPAN parameters").	
II. Regularly-reviewed SPAN parameters	・ JSCC sets the following SPAN parameters for each Combined Commodity. On the last business day of a week, JSCC reviews the SPAN parameters and notifies them to its Clearing Participants on the same day. All or part of the SPAN parameters may be modified and then applied on the next business day following the date of notification, if such modification is considered necessary. ・ However, when JSCC deems it necessary due to sudden changes in the financial markets, JSCC may modify all or part of the SPAN parameters.	・ SPAN parameters are not set for dormant commodities. ・ "Combined Commodity" refers to a group of Futures & Options that have the same underlying instrument.
1 Price Scan Range	・ Price Scan Range shall be determined in the following manner: ① GOLD Group, SILVER Group, PLATINUM Group, PALLADIUM Group, RSS3 RUBBER Group, TSR20 RUBBER Group, GASOLINE Group, KEROSENE Group, GAS OIL Group, CHUKYO-GASOLINE Groupand CHUKYO-KEROSENE Group. Obtain the products of the smallest value of the daily Price Fluctuation Ratio	

---

[1] SPAN® is a registered trademark of Chicago Mercantile Exchange Inc., used herein under license. Chicago Mercantile Exchange assumes no responsibility in connection with the use of SPAN® by any person or entity.

Items	Procedures	Remarks
	that exceeds the 99%[2] of such value for all trading days and all contract months (except 1st contract month) and each of the Period a. and b. and the maximum value of the settlement prices among all contract months (except 1st contract month) of the relevant Combined Commodity on the Reference Date[3]. Price Scan Range will be the value calculated by multiplying the larger product by "Contract Multiplier": Period a. 4 weeks up to the reference date Period b. 54 weeks up to the reference date ② GOLD ROLLING-SPOT Group and PLATINUM ROLLING-SPOT Group Obtain the products of the smallest value of the daily Price Fluctuation Ratio of Rolling-Spot contract that exceeds the 99%[4] of such value for each of the Period a. and b. and the settlement price of the relevant Combined Commodity on the Reference Date[5]. Price Scan Range will be the value calculated by multiplying the larger product by "Contract Multiplier": Period a. 4 weeks up to the reference date Period b. 54 weeks up to the reference date ③ PLATTS DUBAI CRUDE OIL Group Obtain the products of the average among the values that exceed the 97.5% of the daily Price Fluctuation Ratio for all trading days of the period of 5 years up to the Reference Date and stress days for all contract months (except 1st	· Price Fluctuation Ratio means a quotient of the absolute value of the difference between the settlement price on a business day and the previous business day and the settlement price on the previous business day. · Price Fluctuation Ratio of Rolling-Spot contract means a quotient of the absolute value of the difference between the closing price on a business day and the settlement price on the previous business day and the settlement price on the previous business day. · Price Fluctuation Ratio means a quotient of the absolute value of

---

[2] Calculated on a class value basis

[3] To be rounded up to the nearest integral multiple of 6 yen in case of Gold group, 12 yen in case of PLATINUM group and the nearest integral multiple of the quote unit used for auction trading of relevant Futures contract.

[4] Calculated on a class value basis

[5] To be rounded up to the nearest integral multiple of 6 yen.

DISCLAIMER: This is the reference translation of the original Japanese document. Japan Securities Clearing Corporation shall accept no responsibility or liability for damage or loss caused by any error, inaccuracy, or misunderstanding with regard to this translation. This document may not be reproduced or redistributed in whole or in part without the permission of Japan Securities Clearing Corporation.

Items	Procedures	Remarks
	contract month) ,and the maximum value of the settlement prices among all contract months (except 1st contract month) on the Reference Date[6] . Price Scan Range will be the value calculated by multiplying the product by "Contract Multiplier"	the difference between the settlement price on a business day and the previous business day and the settlement price on the previous business day.
		• "The daily Price Fluctuation Ratio for all trading days of the period of 5 years up to the Reference Date" shall be the value reflected on current market conditions by the volatilities calculated by JSCC based on EWMA Method (Exponentially Weighted Moving Average Method, same as below.) by the decay factor 0.985.
		• Stress days mean the days which record the largest and the second largest Price Fluctuation Ratios of the 6th contract month after 2001.
	④ CME Group Petroleum Index Group	
	Obtain the products of the larger value between (a) the absolute value of the average among the values that exceed the 97.5% from the top and (b) the absolute value of the average among the values that exceed the 97.5% from the bottom of the daily Price Fluctuation Ratio for all trading days of the period of 5 years up to the Reference Date and stress days for all contract months (except 1st contract month) ,and the maximum value of the settlement prices among all	• Price Fluctuation Ratio means a quotient of the value of the difference between the settlement price on a business day and two days before and the settlement price on two days before.

---

[6] To be rounded up to the integral multiple of the tick size for the auction trading of the futures contracts in the relevant Combined Commodity

Items	Procedures	Remarks
	contract months (except 1ˢᵗ contract month) on the Reference Date[7] . Price Scan Range will be the value calculated by multiplying the product by "Contract Multiplier"	· "The daily Price Fluctuation Ratio for all trading days of the period of 5 years up to the Reference Date" shall be the value reflected on current market conditions by the volatilities calculated by JSCC based on EWMA Method (Exponentially Weighted Moving Average Method) by the decay factor 0.985. · Stress days mean the days which record the largest and the second largest Price Fluctuation Ratios of the 6th contract month (Price Fluctuation Ratios of index as the back data before the listing of CME Group Petroleum Index Group) after 2008 for the calculation of (a) and the days which record the smallest and the second smallest Price Fluctuation Ratios of the 6th contract month (Price Fluctuation Ratios of index as the back data before the listing of CME Group Petroleum Index Group) after 2008 for the calculation of (b).
	⑤ EAST BASELOAD ELECTRICITY (January-December Contract Month) Each Group, WEST BASELOAD ELECTRICITY (January-December Contract Month) Each Group, EAST PEAKLOAD ELECTRICITY	

---

[7] To be rounded up to the integral multiple of the tick size for the auction trading of the futures contracts in the relevant Combined Commodity

Items	Procedures	Remarks
	(January-December Contract Month) Each Group, WEST PEAKLOAD ELECTRICITY (January-December Contract Month) Each Group, For Electricity Futures, the commodity group shall consist of the same "month" contract month for each instrument regardless of the "year". For the commodity group, the amount obtained by multiplying the maximum value among the values listed in a and b below by the X yen specified below. a. Obtain the products of the average among the values that exceed the 97.5% of the daily Price Fluctuation Ratio for all trading days of the period of 5 years up to the Reference Date and stress values for all contract months. (except those related to the period within 3 months from the last trading day) Price Scan Range will be the value calculated by multiplying the product by "Contract Multiplier". b. 10% of the maximum value of the settlement prices among all contract months (except those related to the period within 3 months from the last trading day) on the Reference Date. Price Scan Range will be the value calculated by multiplying the commodity group by "Contract Multiplier". ⑥Combined Commodities other than ① to ⑤ Price Scan Range shall be the product of Y% of the maximum value of the settlement prices among all contract months (except 1st contract month) in the Combined Commodity on the Reference Date[8] and X yen for the period	• Price Fluctuation Ratio means a quotient of the absolute value of the difference between the settlement price on a business day and the previous business day. • "The daily Price Fluctuation Ratio for all trading days of the period of 5 years up to the Reference Date" shall be the value reflected on current market conditions by the volatilities calculated by JSCC based on EWMA Method (Exponentially Weighted Moving Average Method) by the decay factor 0.985. • Stress days mean the days which record the largest and the second largest Price Fluctuation Ratios (except 3rd contract month from the last trading day) after the launch. • Assuming a case where the level of Price Scan Range is obviously low comparing to the price

---

[8] To be rounded up to the integral multiple of the tick size for the auction trading of the futures contracts in the relevant Combined Commodity

Items	Procedures	Remarks
	designed by JSCC at each occasion.	fluctuation of the underlying instrument.

(Continued)

<table>
<tr><td colspan="3"></td></tr>
</table>

	・ When JSCC deems it inappropriate to apply the value obtained in the above manner as Price Scan Range, in light of the market conditions, JSCC will set the Price Scan Range on a case-by case basis. ・ The above Contract Multiplier shall be set as follows.	・ Y% will be notified separately by "Operational Procedures for Setting SPAN Parameters related to Commodity Derivatives_Annex".

Combined commodity	Contract Multiplier
GOLD Group	1,000
GOLD ROLLING-SPOT Group	100
SILVER Group	10,000
PLATINUM Group	500
PLATINUM ROLLING-SPOT Group	100
PALLADIUM Group	500
RSS3 RUBBER Group	5,000
TSR20 RUBBER Group	5,000
CORN Group	50
SOYBEAN Group	25
AZUKI BEANS Group	80
CME Group Petroleum Index Group	10,000
GASOLINE Group	50
KEROSENE Group	50
PLATTS DUBAI CRUDE OIL Group	50
GAS OIL Group	50
CHUKYO-GASOLINE Group	10
CHUKYO-KEROSENE Group	10
EAST BASELOAD ELECTRICITY (January-December Contract Month)	74,400

6

Items	Procedures		Remarks
	Each Group		
	WEST BASELOAD ELECTRICITY (January-December Contract Month) Each Group	74,400	
	EAST PEAKLOAD ELECTRICITY (January-December Contract Month) Each Group	26,400	
	WEST PEAKLOAD ELECTRICITY (January-December Contract Month) Each Group	26,400	
	YELLOW CORN50 Group	50	
	US SOYBEANS Group	10	
	AZUKI BEANS Group	40	
	TOKYO RICE Group	200	
	NIIGATA KOSHIHIKARI Group	25	
	AKITA KOMACHI17 Group	17	
	MIYAGI HITOME18 Group	18	
	NIIGATA KOSHI EXW Group	50	
2　Delivery Month Charge	RAW SUGAR Group	10	

・ Obtain the values calculated the setting method of Price Scan Range by omitting the description of "except 1st contract month" should be read as "include 1st contract month". Outright Charge shall be the above values deducted Price Scan Range.

However, for electric power futures, obtain the values calculated the setting method of Price Scan Range by omitting the description "except those related to the period within 3 months from the last trading day" should be read as "include those related to the period within 3 months from the last trading day." Outright Charge shall be the above values deducted Price Scan Range.

Items	Procedures	Remarks
	・ Spread Charge shall be the same values as Outright Charge.	
3　Volatility Scan Range	・ Obtain the smallest values of daily change in base volatility of Gold Gropu that exceeds the 99% of such value for each of the Periods a. and b. Volatility Scan Range shall be the larger of the values. 　　　Period a.　4 weeks up to the reference date 　　　Period b.　54 weeks up to the reference date ・ When JSCC deems it inappropriate to apply the value obtained in the above manner as Volatility Scan Range, in light of the market conditions, JSCC will set the Volatility Scan Range on a case-by case basis. (Note)　Base volatility to calculate Volatility Scan Range shall be the historical volatility. If JSCC deems it inappropriate to adopt the volatilities, an applicable volatility shall be set by JSCC on a case-by-case basis.	
4　Intracommodity Spread (inter-month) Charge per Net Delta	・ Intracommodity Spread Charge per Net Delta shall be determined in the following manner: 　・　The smallest value of the price differential between contract months of	・ As for CME Group Petroleum Index Group, "The smallest value of the price differential between contract months of

8

Items	Procedures	Remarks
	Futures[9] that exceed 99% of such value for each of the Periods a. and b., multiplied by "Contract Multiplier". The larger of the values shall be applied. Period a. 4 weeks up to the reference date Period b. 54 weeks up to the reference date · When JSCC deems it inappropriate to apply the value obtained, in light of the market conditions, or when a new commodity is listed, JSCC will set the Intracommodity Spread Charge on a case-by case basis.	Futures that exceed 99%" shall be deemed to be replaced with "the larger value within the absolute value of the smallest value of the price differential between contract months of Futures that exceed 99% and the absolute value of the largest value of the price differential between contract months of Futures that exceed 99%"
5 Intercommodity Delta Per Spread Ratio	· Delta per Spread Ratio for calculating the Intercommodity Spread Credits, which are subtracted from the IM requirement, shall be set as follows: ① For the period of 54 weeks prior to the reference date, the daily settlement prices of the farthest contract month (the 6th contract month for RSS3 RUBBER Group, TSR20 RUBBER Group and PLATTS DUBAI CRUDE OIL Group) of the futures contract on one leg of the spread are multiplied by "Contract Multiplier". These are then divided by the daily settlement prices of the farthest contract month of the futures contract on the other leg of the spread multiplied by "Contract Multiplier";	

---

[9] "price differential between contract months of Futures" shall be the absolute value of the difference between the day on day change of the settlement price of the farthest contract month and the settlement price of the next to the farthest contract month. As for RSS3 RUBBER Group, TSR20 RUBBER Group and PLATTS DUBAI CRUDE OIL Group, "price differential between contract months of Futures" shall be the absolute value of the difference between the day on day change of the settlement price of the 5th contract month and the settlement price of the 6th contract month. As for CME Group Petroleum Index Group, "price differential between contract months of Futures" shall be the difference of two days-change of the settlement price of the farthest contract month and the settlement price of the next to the farthest contract month.

Items	Procedures	Remarks
6 Intercommodity Spread Credit Rate	② Taking the values calculated in ① into account, an applicable Delta per Spread Ratio is set. ・ When JSCC deems it inappropriate to apply the value obtained, in light of the market conditions, or when a new commodity is listed, JSCC will set the Intercommodity Delta per Spread Ratio on a case-by case basis. ・ The Intercommodity Spread Credit Rate, which is used for calculating Intercommodity Spread Credits that are subtracted from the IM requirement shall be set as follows: ① Calculate the absolute value of the daily Implicit Profit or Loss[10] for each Intercommodity Spread, over 5 4 weeks prior to the reference date. ② Taking the values calculated in ①, obtain the smallest value that exceeds 99% of all values for each of the Periods a. and b.: Period a. 4 weeks up to reference date Period b. 54 weeks up to reference date ③ The Intercommodity Spread Credit Rate applicable to the relevant Intercommodity Spread shall be calculated[11] by dividing the largest value obtained in ② by the sum of the Price Scan Range for each Combined Commodity, and then subtracting the quotient from 1.	・ "Implicit Profit or Loss" refers to the profit or loss resulting from a portfolio of one unit[12] of short position and one unit of long position for the farthest contract month (the 6th contract month for RSS3 RUBBER Group, TSR20 RUBBER Group and PLATTS DUBAI CRUDE OIL Group) on each side of the Intercommodity Spread.

---

[10] When calculating the Implicit Profit or Loss in the portfolio forming a:b (a < b) Intercommodity Spread, where the Delta per Spread Ratio is not 1:1, it shall be calculated assuming the long b/a unit of the underlying instrument of Combined Commodity on the leg with smaller Intercommodity Delta per Spread Ratio.

[11] When calculating the sum of Price Scan Range of portfolio forming the a:b (a < b) Intercommodity Spread, where the Delta per Spread Ratio is not 1:1, the Price Scan Range of Combined Commodity with smaller Delta per Spread Ratio shall be adjusted by b/a.

[12] For the Combined Commodity which has multiple contract size (i.e. large contract and mini contract), one unit means one unit of large contract.

For the Combined Commodity which does not have a futures contract listed, one unit means the closing value of the underlying instrument multiplied by "Contract Multiplier."

Items	Procedures	Remarks
7　Short Option Minimum Charge	・ When JSCC deems it inappropriate to apply the value obtained, in light of the market conditions, or when a new commodity is listed, JSCC will set the Intercommodity Spread Credit Rate on a case-by case basis. ・ Short Option Minimum Charge per position shall be 0.01% of the settlement price of the 6th contract month of Gold futures on the reference date, multiplied by "Contract Multiplier". ・ When JSCC deems it inappropriate to apply this value, in light of the market conditions, JSCC will set the Short Option Minimum Charge on a case-by-case basis.	
III. Other　　　SPAN parameters	・ Along with the parameters specified above, JSCC also sets other SPAN parameters, which are reviewed on ad-hoc basis. When JSCC deems it necessary to change SPAN parameters, JSCC may modify all or part of the SPAN parameters.	
1　Delta Weight[13]	・ For all Combined Commodities, Delta Weights shall be set as follows: 　1) 0.135 for Scenarios 1 and 2; 　2) 0.1085 for Scenarios 3, 4, 5 and 6; 　3) 0.0555 for Scenarios 7, 8, 9 and 10; and 　4) 0.0185 for Scenarios 11, 12, 13 and 14.	
2 Parameters for Scan Risk Scenarios 15 and 16	・ For Scenarios 15 and 16, the Risk Array Value shall be calculated by taking 35% of the expected profit or loss for shift to the underlying instrument price which is	

---

[13] Delta Weight is the probability of each scenario which is used for calculating Net Delta position.

Items	Procedures	Remarks
	twice as large as the base value of Price Scan Range (the value obtained by dividing the Price Scan Range by "Contract Multiplier", which is the same as below.) , with no volatility shift.	
3 Tier	・ No tiers are defined for any Combined Commodity.	
4 Delta per Spread Ratio (Intracommodity)	・ The Delta per Spread Ratio for the Intracommodity Spread shall be 1:1 for all instruments.	
5 Combination and order for calculating Intercommodity Spread Credits	・ Intercommodity Spread Credits shall be defined in the order detailed in the Annex[14].	
6 Delta Scaling Factor	・ Delta Scaling Factor shall be: - 0.1 for GOLD MINI contract and GOLD options contract - 0.2 for PLATINUM MINI - No. of Calendar days used in the calculation of contract unit for each contract month divided by 31 for BASELOAD ELECTRICITY - No. of Weekdays used in the calculation of contract unit for each contract month divided by 22 for PEAKLOAD ELECTRICITY - 1 for other products	
7 Initial to Maintenance Ratio	・ Initial to Maintenance Ratio shall be 1 for all commodities and account types (hedger, speculator, participant).	

[14] No Intercommodity Spread Credits are calculated for the TSE REIT Index group, TOPIX Dividend Index Group, TOPIX Core30 Dividend Index Group, Nikkei 225 Dividend Index group and Nikkei 225 VI group.

Items	Procedures	Remarks
8　Adjustment Factor for each account type	・ Adjustment Factor for each account type shall be set as 1.	

Items	Procedures	Remarks
IV Ad Hoc Modification of SPAN Parameters	・ If, on any day ("Trigger Date"), the value specified in the following items for each Combined Commodity exceeds 90% of the base value of Price Scan Range, SPAN parameters related to the Combined Commodity falling under the relevant judgment conditions will be recalculated as Trigger Date is deemed as the Reference Date, and if modification is considered to be necessary, all or a part of SPAN parameters will be modified on the next business day following the Judgment Date ① GOLD Group 　Rise/decline in the settlement price of Gold Leading Contract Month, compared to previous business day ② PLATTS DUBAI CRUDE OIL Group 　Rise/decline in the settlement price of PLATTS DUBAI CRUDE OIL Leading Contract Month compared to previous business day (absolute value of the difference)	・ Prior notice will be given to clearing participants at the time of any ad hoc modification. ・ Margins based on parameters after modification will be deposited on the second business day from the Judgment Date ・ Judgment of SPAN Parameters is not conducted on the last business day of a week. ・ For GOLD Group and GOLD ROLLING-SPOT, SPAN parameters for each Combined Commodity are to be modified if the conditions are met with respect to GOLD Group. ・ For PLATTS DUBAI CRUDE OIL Group, GASOLINE Group and KEROSENE Group, recalculation of SPAN parameters will also be conducted for each of the Combined Commodities if the conditions are met with respect of PLATTS DUBAI CRUDE OIL Group.

Items	Procedures	Remarks
1. Price Scan Range after Ad Hoc Modification	• To be calculated by using the same method as that used for regular update. • However, for any of the Combined Commodities, Price Scan Range will not be modified when the new Price Scan Range is smaller than the previous Price Scan Range, and if the relevant value is considered inappropriate in light of the market conditions, then the Price Scan Range shall be the value JSCC considers appropriate.	
2. Delivery Month Charge after Ad Hoc Modification	• To be calculated by using the same method as that used for regular update. • However, if the value is smaller than the previous value, then no modification shall be implemented, and if the relevant value is considered inappropriate in light of the market conditions, then the Delivery Month Charge shall be the value JSCC considers appropriate. •	
3. Volatility Scan Range after Ad Hoc Modification	• To be calculated by using the same method as that used for regular update. • However, if the value is smaller than the previous value, then no modification shall be implemented, and if the relevant value is considered inappropriate in light of the market conditions, then the Volatility Scan Range shall be the value JSCC considers appropriate.	
4. Intracommodity Spread (inter-month) Charge per Net Delta after Ad Hoc Modification	• To be calculated by using the same method as that used for regular update. • However, if the new value is smaller than the previous value, then no modification shall be implemented, and if the relevant value is considered inappropriate in light of the market conditions, then the Intracommodity Spread Charge per Net Delta shall be the value JSCC considers appropriate.	

Items	Procedures	Remarks
5. Short Option Minimum Charge after Ad Hoc Modification	・ To be calculated by using the same method as that used for regular update. ・ However, if the new value is smaller than the previous value, then no modification shall be implemented, and if the relevant value is considered inappropriate in light of the market conditions, then the Short Option Minimum Charge shall be the value JSCC considers appropriate.	
V Other Announcement of modification to SPAN parameters	・ When all, or part, of the SPAN parameters are modified, JSCC shall announce the detail of the modification before the modified parameters are applied.	・ Notification shall be posted on JSCC's website.

List of Order of Calculation related to Intercommodity Spread Credit

OSE

Precious Metal		
Order	Combination of Commodity Group	
1	GOLD Group	GOLD ROLLING-SPOT Group
2	PLATINUM Group	PLATINUM ROLLING-SPOT Group
3	GOLD Group	PLATINUM Group
4	GOLD ROLLING-SPOT Group	PLATINUM ROLLING-SPOT Group
5	GOLD Group	PLATINUM ROLLING-SPOT Group
6	PLATINUM Group	GOLD ROLLING-SPOT Group
7	PALLADIUM Group	PLATINUM Group

Rubber		
Order	Combination of Commodity Group	
1	RSS3 RUBBER Group	TSR20 RUBBER Group

TOCOM

Energy		
Order	Combination of Commodity Group	
1	GASOLINE Group	PLATTS DUBAI CRUDE OIL Group
2	KEROSENE Group	PLATTS DUBAI CRUDE OIL Group
3	KEROSENE Group	GASOLINE Group
4	KEROSENE Group	CHUKYO-KEROSENE Group
5	GASOLINE Group	CHUKYO-KEROSENE Group
6	PLATTS DUBAI CRUDE OIL Group	CHUKYO-KEROSENE Group

7	CHUKYO-KEROSENE Group	CHUKYO-KEROSENE Group
8	KEROSENE Group	CHUKYO-KEROSENE Group
9	PLATTS DUBAI CRUDE OIL Group	CHUKYO-KEROSENE Group
10	GASOLINE Group	CHUKYO-KEROSENE Group

ODEX

ODEX Agriculture		
Order	Combination of Commodity Group	
1	TOKYO RICE Group	NIIGATA KOSHIHIKARI Group

18