Options Transactions Detailed Rules

Article 1 (Purpose)

1. These Rules shall, based on the provisions of Article 3.3 of the Market Rules, prescribe matters necessary for the handling of Options Transactions.

Article 2 (Strike Price Interval)

1. The strike price interval shall be as follows; provided, however, that the Exchange may change it where it is deemed necessary.

   Precious Metals Market (Gold): 50 yen

Article 3 (Method for Setting Up Strike Prices)

1. The "manner prescribed in the Options Transactions Detailed Rules" referred to in Article 13.3 of the Market Rules shall be as follows:
   (1) The Center Strike Price of options shall be determined, on each business day, to be the number that is nearest to the settlement price on the Clearing Period of Physically Delivered Futures Contract of gold with same contract month, provided that said number is an integral multiple of the strike price interval prescribed in the preceding paragraph (if there are two (2) numbers that equally satisfy the requirement, the higher of the two (2) shall be the Center Strike Price);
   (2) On the First Trading Day of a new Contract Month for each Options Contract, forty-one (41) strike prices shall be created such that there are twenty (20) strike prices below and above the Center Strike Price, arranged in an interval of the Strike Price Interval, and trading based on these strike prices shall start from the Day Session on said day; and
   (3) On each business day, forty-one (41) strike prices shall be calculated, twenty (20) strike prices below and above the Center Strike Price arranged in an interval of the Strike Price Interval, for each Contract Month. If, as a result, there are numbers other than existing strike prices, such numbers shall be created as additional strike prices, and trading based on these strike prices shall start from the following Day Session.

2. Notwithstanding the provisions of the preceding paragraph, where it is deemed necessary, the Exchange may change the number of the strike prices to be created, or create new strike prices with respect to all or some of the Contract Months.

Article 4 (Method for Determining Settlement Price)

1. A price obtained using a method as specified in the Options Transactions Detailed Rules referred to in Article 36.1.5 of the Market Rules shall be as follows:
   (1) The Execution Price at Closing Auction of Day session at one Clearing Period
   (2) If there are no Execution Price provided in previous item, the price shall be calculated in accordance with the calculation formula set forth below; provided, however, that any resulting fraction less than the Price Increment shall be rounded up and if it yields zero (0), the price shall be deemed to be the price Increment:

   $C = e^{-rt} [FN(d) – KN(d - \sigma\sqrt{t})]$

   $P = C – e^{-rt} (F – K)$

   where d is calculated in accordance with the following formula:

   $d = [\ln(F/K) + \sigma^2 t/2] / \sigma\sqrt{t}$

   (Note) The meaning of each of the symbols used in the above formula is as follows:

   C: Settlement Price of Call option
   P: Settlement Price of Put option
   F: Settlement Price of gold Futures Contracts with same contract month
   e: The base of natural logarithms
   t: The number of days until the next business day of Last Trading Day / 365

K: Strike price
σ: Volatility calculated in accordance with the following article for each Option Series divided by 100
r: Twelve Month Tokyo Inter Bank Offered Rate (TIBOR) (round off to forth decimal places) published by Japanese Bankers Association at six business day prior to the last business day of each month shall apply for from first business day to last business day of following month; provided, however, that if it is negative rate, zero (0) shall be applied.
N(x): Cumulative density of the normal distribution for a value x
ln: Natural logarithms

(3) If the price could not obtained using a method prescribed in previous items due to system trouble or others, the price shall be the settlement price of previous Clearing Period.

Article 5 (Volatility)

1. The volatility prescribed in the preceding article shall be the implied volatility (“IV”), calculated based on the last execution price or middle price of best bid and ask price (“BBO middle price”) of each Option Series which shall carry on to next clearing period and after. However, for Option Series with no last execution price nor BBO middle price, volatility shall be determined for each Contract Month in a manner prescribed in the following paragraph.

2. For Option Series for which the IV cannot be calculated, the volatility shall be calculated as follows:
   (1) The volatility of the Option Series for which the IV cannot be calculated, a weighted average (based on the trading volume of the Option Series) of IV of all Option Series of each Contract Month that the IV can be calculated (“AV”) shall be calculated; and
   (2) If, for each Contract Month, there are less than five (5) Option Series for which the IV can be calculated as a total of put options and call options, the AV for the day shall be the AV on the previous business day of said Contract Month; provided, however, that for a new Contract Month, the AV for the day shall be the AV of the nearest Contract Month of said day.

Article 6 (Book for Options Exercise, etc.)

1. Where it is deemed necessary, the Exchange may require Members and customers, etc. to submit books and other relevant documents or explanation with respect to exercise.

Article 7 (Execution Price Fraction Less than the Price Increment)

1. The case prescribed in the Options Transactions Detailed Rules referred to in Article 17.3 of the Market Rules shall be the case the execution price is less than Increment Price when Tailor Made Combination Order which specified “2” for its ratio provided in the System Transaction Detailed Rules executed.

Article 8 (Notice for Not Doing Exercise)

1. Members (meaning Members prescribed in Article 6.1 of Market Rules; the same shall apply hereinafter) who intends not to exercise the positions shall notify the Exchange such request with following information:
   (1) Type of Transaction;
   (2) Underlying Products;
   (3) Contract Month;
   (4) Exercise Price;
   (5) Number of lots; and

(6) Customer Type.

2. The Exchange shall notify Members the acceptance of such request provided in previous paragraph.

3. Members who receive the notice of acceptance from the Exchange shall immediately confirm the particulars of such notification.

Article 9 (Revision or Abolition)

1. Revision or abolition to these Rules shall be approved by the President & CEO.

Supplementary Provisions
These Rules shall be in effect as of December 1, 2008.

Supplementary Provisions
Revisions in Article 1 (Purpose), Article 3 (Method for Setting Up Strike Prices), and Article 4 (Method for Determining Settlement Price) as well as deletions of Article 4 (Deletions of Options Series), Article 7 (First Base Value of Newly Create Option Series), and Article 8 (Method for Allotment of Exercise) shall be in effect as of May 7, 2009.

Supplementary Provisions
The revision to Article 6 (Record of Investigation on Exercise) shall be in effect as of March 31, 2014.

Supplementary Provisions
Article 1
Revisions in Article 3 (Method for Setting Up Strike Prices), Article 4 (Method for Determining Settlement Price), Article 5 (Volatility), Article 6 (Record of Investigation on Exercise) and Article 7 (Revision or Abolition) shall be in effect as of September 20, 2016.
Article 2
Notwithstanding the provisions of preceding Article, in the event that there is operational trouble of the electronic trading system or other unavoidable reasons that it is deemed necessary by the Exchange, the effective date of preceding Article will be separately provided by the Exchange.

Supplementary Provisions
The revision to Article 6 (Books for Options Exercise, etc.) and Article 8 (Notice for Not Doing Exercise) shall be in effect as of October 31, 2016.

Supplementary Provisions
The revision to Article 3 (Method for Setting Up Strike Prices), Article 4 (Method for Determining Settlement Price) and Article 7 (Execution Price Fraction Less than the Price Increment) shall be in effect as of June 1, 2017.