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March 5, 2020

Submitted via CFTC Portal

Mr. Christopher J. Kirkpatrick Secretary of the Commission Office of the Secretariat Commodity Futures Trading Commission Three Lafayette Centre 1155 21st Street, N.W. Washington, D.C. 20581

Re: <u>tpSEF Inc. – Regulation 40.2 Certification of Deliverable Foreign Exchange Options</u> – CAD/SGD (tpSEF Submission #20-35P)

Dear Mr. Kirkpatrick:

tpSEF Inc. ("tpSEF") hereby notifies the Commodity Futures Trading Commission (the "Commission") of its intent to list Deliverable Foreign Exchange Options – CAD/SGD (the "Contracts") on its swap execution facility. tpSEF intends to list the Contracts on March 9, 2020.

Pursuant to Commission Regulation 40.2, this submission includes:

- i. The intended listing date March 9, 2020;
- ii. A certification by tpSEF that: (a) the Contracts comply with the Commodity Exchange Act, as amended, and the Commission regulations thereunder; and (b) concurrent with this submission, tpSEF posted on its website: (i) a notice of pending certification of the Contracts and (ii) a copy of this submission, attached as Exhibit A;
- iii. The terms and conditions of the Contracts, attached as Exhibit B; and
- iv. An explanation and analysis of the Contracts' compliance with applicable core principles and Commission regulations, attached as <u>Exhibit C</u>.

tpSEF is listing the Contracts by virtue of updating the terms and conditions of Deliverable Vanilla American or European Style Foreign Exchange Options submitted to the Commission for self-certification pursuant to Commission Regulation 40.2 on September 29, 2013. A copy of the terms and conditions marked to show changes from the version submitted on September 29, 2013 is attached as Exhibit D.



Please note that the terms and conditions attached as <u>Exhibit B</u> hereto update, consolidate and organize tpSEF's product listings for deliverable foreign exchange option contracts and supersede the following product listings previously filed with the Commission: (i) Deliverable Vanilla American or European Style Foreign Exchange Options, (ii) Deliverable Foreign Exchange Barrier Options and (iii) Digital Foreign Exchange Options.

tpSEF will be separately updating Appendix B to its Rulebook (tpSEF Inc. Swap Specifications) to reflect this change.

Questions regarding this submission should be directed to Brian D. Donnelly, Chief Compliance Officer, at (201) 984-6956 or by email at bddonnelly@tullettprebon.com.

Very truly yours,

tpSEF Inc.

By:

Name: Brian D. Donnelly

Title: Chief Compliance Officer

Date: March 5, 2020

Enclosures

cc: CFTC Division of Market Oversight (dmosubmissions@cftc.gov)
Nancy Markowitz, CFTC (nmarkowitz@cftc.gov)

EXHIBIT A

CERTIFICATIONS PURSUANT TO SECTION 5c OF THE COMMODITY EXCHANGE ACT, 7 U.S.C. §7A-2 AND COMMODITY FUTURES TRADING COMMISSION REGULATION 40.2, 17 C.F.R. §40.2

tpSEF Inc. ("tpSEF") hereby certifies that: (i) Deliverable Foreign Exchange Options – CAD/SGD (the "Contracts") comply with the Commodity Exchange Act, 7 U.S.C. §1 *et seq.* and Commodity Futures Trading Commission ("Commission") regulations thereunder; and (ii) concurrent with this submission, tpSEF posted on its website: (a) a notice of pending certification of the Contracts with the Commission and (b) a copy of this submission.

tpSEF Inc.

By:

Name: Brian D. Donnelly

Title: Chief Compliance Officer

Date: March 5, 2020

EXHIBIT B

Terms and Conditions

Summary:	This covers "Deliverable Foreign Exchange Options".
Incorporated Standards:	This contract description incorporates by reference the following industry standard documentation and standards:
	(a) the 1998 FX and Currency Option Definitions, as amended and supplemented from time to time, including the 2005 Barrier Option Supplement to the 1998 FX and Currency Option Definitions (the "1998 Definitions"); and
	(b) ISDA OTC Taxonomies.
Contract Types:	Each Deliverable Foreign Exchange Option traded is bespoke and the terms agreed between the Buyer and Seller. All option strategies result in call options and/or put options executed with the following strategies traded as agreed between the parties:
	Vanilla: Outright Call / Put, Straddle, Strangle, Butterfly, Risk Reversal, Calendar (tenor) spread, Cross Currency Spread, Condor, Call Spread, Put Spread, Live Trading with no delta hedge.
	Exotic: Barriers, Baskets, Digitals (or Binary), Knockins, Knockouts, Reverse Knockins/Kockouts, No Touch, Double No Touch, Average Price, Worst of Options, Compound Options; trades may be with or without delta hedges and some structures may also be bilaterally negotiated with additional options as part of the package to form a vega hedge.
Product Type/ISDA OTC Taxonomy:	
ISDA OTC Asset Class:	Foreign Exchange
ISDA OTC Base Product:	Vanilla Option, Simple Exotic or Complex Exotic
Terms:	
Trade Date:	The date the transaction is agreed between and becomes legally binding on the parties.
Commencement Date:	The Trade Date, unless otherwise specified by the parties. This applies only where the Currency Option Style is American.
Buyer:	As specified by the parties.
Seller:	As specified by the parties.
Currency Option Style:	As specified by the parties.
	(An American option can be exercised any time up to and including the Expiration Date; a European option can only be exercised on the Expiration Date.)

Currency Option Type:	A Call with respect to the Call Currency and a Put with respect to the Put Currency; Binary in the case of a binary or digital option.
Call Currency:	The currency as specified by the parties from among those included in the list of available Currency Pairs.
	The Put Currency and Call Currency must represent a traded pair included in the list of available Currency Pairs.
Call Currency Amount:	As specified by the parties or, if not so specified, derived from the Put Currency Amount and Strike Price.
Put Currency:	The currency as specified by the parties from among those included in the list of available Currency Pairs.
	The Put Currency and Call Currency must represent a traded pair included in the list of available Currency Pairs.
Put Currency Amount:	As specified by the parties or, if not so specified, derived from the Call Currency Amount and Strike Price.
Strike Price:	As specified by the parties (if only one of the Put Currency or Call Currency is specified).
	If no Strike Price is specified and Automatic Exercise is applicable, the Strike Price will be calculated using the Put Currency and Call Currency in order to determine if the option is to be automatically exercised.
Reference Currency:	As specified by the parties.
Settlement Currency:	As specified by the parties.
Settlement Rate:	As specified by the parties or otherwise per the 1998 Definitions.
Settlement Rate Option:	As specified by the parties.
Expiration Date:	As specified by the parties.
Expiration Time:	The time in the location specified by the parities.
Latest Exercise Time:	The Expiration Time, unless otherwise specified by the parties. This applies only where the Currency Option Style is American.
Automatic Exercise:	Applicable, unless otherwise specified by the parties.
Settlement:	Deliverable or Cash Settlement
Settlement Amount:	In the case of a digital or binary option, as specified by the parties.
Settlement Date:	As specified by the parties.
Valuation Date:	As specified by the parties.
Averaging Dates:	As specified by the parties.
Premium:	As specified by the parties.

Premium Payment Date:	As specified by the parties.
Barrier Event:	As specified by the parties.
Calculation Agent:	As specified by the parties.
Business Day:	As specified by the parties.
Business Day Convention:	As specified by the parties.
Disruption Events:	As specified by the parties.
Disruption Fallbacks:	As specified by the parties for each applicable Disruption Event or otherwise per the 1998 Definitions.

Deliverable Foreign Exchange Option Available Currency Pairs

AUD/CAD	CNH/AUD	EUR/SAR	JPY/CNH	THB/HKD
AUD/CHF	CNH/CAD	EUR/SEK	JPY/HKD	THB/JPY
AUD/CNH	CNH/EUR	EUR/SGD	JPY/SGD	THB/NZD
AUD/HKD	CNH/GBP	EUR/THB	JPY/THB	THB/SGD
AUD/JPY	CNH/HKD	EUR/TRY	MXN/JPY	TRY/JPY
AUD/MXN	CNH/JPY	EUR/USD	NOK/JPY	USD/AED
AUD/NOK	CNH/NZD	EUR/ZAR	NOK/SEK	USD/BHD
AUD/NZD	CNH/SGD	GBP/AUD	NZD/CAD	USD/CAD
AUD/SEK	CNH/THB	GBP/CAD	NZD/CHF	USD/CHF
AUD/SGD	EUR/AED	GBP/CHF	NZD/CNH	USD/CNH
AUD/THB	EUR/AUD	GBP/CNH	NZD/HKD	USD/CZK
AUD/USD	EUR/BHD	GBP/HKD	NZD/JPY	USD/DKK
AUD/ZAR	EUR/CAD	GBP/JPY	NZD/NOK	USD/HKD
CAD/CHF	EUR/CHF	GBP/MXN	NZD/SEK	USD/HUF
CAD/CNH	EUR/CNH	GBP/NOK	NZD/SGD	USD/ILS
CAD/HKD	EUR/CZK	GBP/NZD	NZD/THB	USD/ISK
CAD/JPY	EUR/DKK	GBP/SEK	NZD/USD	USD/JPY
CAD/MXN	EUR/GBP	GBP/SGD	SEK/JPY	USD/KWD
CAD/NOK	EUR/HKD	GBP/THB	SGD/AUD	USD/MXN
CAD/SEK	EUR/HUF	GBP/TRY	SGD/CAD	USD/NOK
CAD/SGD	EUR/ILS	GBP/USD	SGD/CNH	USD/OMR
CAD/THB	EUR/ISK	GBP/ZAR	SGD/EUR	USD/PLN
CHF/CNH	EUR/JPY	HKD/AUD	SGD/GBP	USD/QAR
CHF/HKD	EUR/KWD	HKD/CAD	SGD/HKD	USD/RON
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CHF/JPY	EUR/MXN	HKD/CHF	SGD/JPY	USD/RUB
CHF/MXN	EUR/NOK	HKD/CNH	SGD/NZD	USD/SAR
CHF/NOK	EUR/NZD	HKD/EUR	SGD/THB	USD/SEK
CHF/PLN	EUR/OMR	HKD/GBP	THB/AUD	USD/SGD
CHF/SEK	EUR/PLN	HKD/JPY	THB/CHF	USD/THB
CHF/SGD	EUR/QAR	HKD/NZD	THB/CNH	USD/TRY
CHF/THB	EUR/RON	HKD/SGD	THB/EUR	USD/ZAR
CHF/TRY	EUR/RUB	HKD/THB	THB/GBP	ZAR/JPY

EXHIBIT C

EXPLANATION AND ANALYSIS OF THE CONTRACTS' COMPLIANCE WITH APPLICABLE CORE PRINCIPLES AND COMMISSION REGULATIONS

As required by Commodity Futures Trading Commission ("Commission") Regulation 40.2(a), the following analysis, in narrative form, demonstrates that Deliverable Foreign Exchange Options (the "Contracts") are consistent with the requirements of the Commodity Exchange Act, as amended (the "Act"), and the Commission regulations and guidance thereunder (in particular, Appendix B to Part 37 and Appendix C to Part 38).

Appendix B to Part 37—Demonstration of Compliance That a Contract Is Not Readily Susceptible to Manipulation

CORE PRINCIPLE 3 OF SECTION 5H OF THE ACT—SWAPS NOT READILY SUSCEPTIBLE TO MANIPULATION

The swap execution facility shall permit trading only in swaps that are not readily susceptible to manipulation.

- (a) Guidance.
- (1) In general, a swap contract is an agreement to exchange a series of cash flows over a period of time based on some reference price, which could be a single price, such as an absolute level or a differential, or a price index calculated based on multiple observations. Moreover, such a reference price may be reported by the swap execution facility itself or by an independent third party. When listing a swap for trading, a swap execution facility shall ensure a swap's compliance with Core Principle 3, paying special attention to the reference price used to determine the cash flow exchanges. Specifically, Core Principle 3 requires that the reference price used by a swap not be readily susceptible to manipulation. As a result, when identifying a reference price, a swap execution facility should either: Calculate its own reference price using suitable and well-established acceptable methods or carefully select a reliable third-party index.
- (2) The importance of the reference price's suitability for a given swap is similar to that of the final settlement price for a cash-settled futures contract. If the final settlement price is manipulated, then the futures contract does not serve its intended price discovery and risk management functions. Similarly, inappropriate reference prices cause the cash flows between the buyer and seller to differ from the proper amounts, thus benefitting one party and disadvantaging the other. Thus, careful consideration should be given to the potential for manipulation or distortion of the reference price.

As is typical of deliverable foreign exchange ("FX") option contracts, the option buyer has the right, but not the obligation, to exchange money denominated in one currency into another currency at a pre-agreed exchange rate on a specified date or to make an equivalent cash payment. All of the terms (e.g., Strike Price, currency, Settlement Date) are agreed upon by the parties at the start of the Contract, and do not change throughout the life of the Contract. If the Contract is cash settled, the reference price is agreed by the parties at the outset from among the reference sources determined by ISDA and EMTA included in Annex A to the 1998 Definitions. These are broadly publicized and widely used rates.

(3) For swaps that are settled by physical delivery or by cash settlement refer to the guidance in Appendix C to Part 38 of this chapter—Demonstration of Compliance that a Contract is not Readily Susceptible to Manipulation, section b(2) and section c(4), respectively.

Please see below.

<u>Appendix C to Part 38 - Demonstration of Compliance That a Contract Is Not Readily</u> Susceptible to Manipulation

- (4) Options on Physicals Contracts.
- (i) Under the Commission's regulations, the term "option on physicals" refers to option contracts that do not provide for exercise into an underlying futures contract. Upon exercise, options on physicals can be settled via physical delivery of the underlying commodity or by a cash payment. Thus, options on physicals raise many of the same issues associated with trading in futures contracts regarding adequacy of deliverable supplies or acceptability of the cash settlement price series. In this regard, an option that is cash settled based on the settlement price of a futures contract would be considered an "option on physicals" and the futures settlement price would be considered the cash price series.
- (ii) In view of the above, acceptable practices for the terms and conditions of options on physicals contracts include, as appropriate, those practices set forth above for physical-delivery or cash-settled futures contracts plus the practices set forth for options on futures contracts.

As required by Appendix C, the following analysis with respect to the Contracts, which are options on physicals, sets forth those relevant sections of Appendix C that pertain to "physical delivery contracts", "cash settled contracts" and to "options on futures contracts."

Futures Contracts Settled by Physical Delivery

(b) Futures Contracts Settled by Physical Delivery. (1) For listed contracts that are settled by physical delivery, the terms and conditions of the contract should conform to the most common commercial practices and conditions in the cash market for the commodity underlying the futures contract. The terms and conditions should be designed to avoid any impediments to the delivery of the commodity so as to promote convergence between the price of the futures contract and the cash market value of the commodity at the expiration of a futures contract.

The terms and conditions of the Contracts match the terms of deliverable FX option contracts that are commonly offered in the market and are listed in Exhibit B.

As is common with deliverable FX option contracts, the Contracts have several flexible terms – for instance, counterparties are able to choose: (a) the Trade Date; (b) whether or not the option can be exercised at any time prior to the Expiration Date or only at the Expiration Date (i.e., American or European); (c) currency that will be used for the Premium and Put/Call Currency Amounts; and (d) the Strike Price. The trading hours, however, are fixed for each contract – trading is available twenty-three hours a day, from Sunday to Friday.

(i) Estimating Deliverable Supplies.

(A) General definition. The specified terms and conditions, considered as a whole, should result in a "deliverable supply" that is sufficient to ensure that the contract is not susceptible to price manipulation or distortion. In general, the term "deliverable supply" means the quantity of the commodity meeting the contract's delivery specifications that reasonably can be expected to be readily available to short traders and salable by long traders at its market value in normal cash marketing channels at the contract's delivery points during the specified delivery period, barring abnormal movement in interstate commerce. Typically, deliverable supply reflects the quantity of the commodity that potentially could be made available for sale on a spot basis at current prices at the contract's delivery points. For a non-financial physical-delivery commodity contract, this estimate might represent product which is in storage at the delivery point(s) specified in the futures contract or can be moved economically into or through such points consistent with the delivery procedures set forth in the contract and which is available for sale on a spot basis within the marketing channels that normally are tributary to the delivery point(s). Furthermore, an estimate of deliverable supply would not include supply that is committed for long-term agreements (i.e., the amount of deliverable supply that would not be available to fulfill the delivery obligations arising from current trading). The size of commodity supplies that are committed to long-term agreements may be estimated by consulting with market participants. However, if the estimated deliverable supply that is committed for long-term agreements, or significant portion thereof, can be demonstrated by the designated contract market to be consistently and regularly made available to the spot market for shorts to acquire at prevailing economic values, then those "available" supplies committed for long-term contracts may be included in the designated contract market's estimate of deliverable supply for that commodity. An adequate measure of deliverable supply would be an amount of the commodity that would meet the normal or expected range of delivery demand without causing futures prices to become distorted relative to cash market prices. Given the availability of acceptable data, deliverable supply should be estimated on a monthly basis for at least the most recent three years for which data are available. To the extent possible and that data resources permit, deliverable supply estimates should be constructed such that the data reflect, as close as possible, the market defined by the contract's terms and conditions, and should be formulated, whenever possible, with government or publicly available data. All deliverable supply estimates should be fully defined, have all underlying assumptions explicitly stated, and have documentation of all data/information sources in order to permit estimate replication by Commission staff.

Foreign currency is an extremely liquid market with massive volume, and there is a nearly inexhaustible supply of the foreign currencies applicable to the Contract. Information about spot FX rates is readily available from a variety of sources including central banks, the Emerging Markets Traders Association, Bloomberg and Reuters. The Strike Price is determined by the counterparties at the point of entering into a transaction and will not change due to fluctuations of the spot FX price. For this reason, even though observation of the spot FX price may inform a counterparty's decision to exercise the option, the spot FX price on the Exercise Date will not change the Strike Price. Accordingly, the Contracts are not readily susceptible to manipulation.

(B) Accounting for variations in deliverable supplies. To assure the availability of adequate deliverable supplies and acceptable levels of commercial risk management utility, contract terms and conditions should account for variations in the patterns of production, consumption and supply over a period of years of sufficient length to assess adequately the potential range of deliverable supplies. This assessment also should consider seasonality, growth, and market concentration in the production/consumption of the underlying cash commodity. Deliverable supply implications of

seasonal effects are more straightforwardly delineated when deliverable supply estimates are calculated on a monthly basis and when such monthly estimates are provided for at least the most recent three years for which data resources permit. In addition, consideration should be given to the relative roles of producers, merchants, and consumers in the production, distribution, and consumption of the cash commodity and whether the underlying commodity exhibits a domestic or international export focus. Careful consideration also should be given to the quality of the cash commodity and to the movement or flow of the cash commodity in normal commercial channels and whether there exist external factors or regulatory controls that could affect the price or supply of the cash commodity.

Foreign currencies are standard and readily available, and are not to subject to variations in the patterns of production, consumption or supply. Some of the currencies are, of course, less widely-traded than others.

(C) Calculation of deliverable supplies. Designated contract markets should derive a quantitative estimate of the deliverable supplies for the delivery period specified in the proposed contract. For commodities with seasonal supply or demand characteristics, the deliverable supply analysis should include that period when potential supplies typically are at their lowest levels. The estimate should be based on statistical data, when reasonably available, covering a period of time that is representative of the underlying commodity's actual patterns of production, patterns of consumption, and patterns of seasonal effects (if relevant). Often, such a relevant time period should include at least three years of monthly deliverable supply estimates permitted by available data resources. Deliverable supply estimates should also exclude the amount of the commodity that would not be otherwise deliverable on the futures contract. For example, deliverable supplies should exclude quantities that at current price levels are not economically obtainable or deliverable or were previously committed for long-term agreements.

Foreign currency is an extremely liquid market. Please see above regarding liquidity of underlying market and the voluminous deliverable supply of the applicable foreign currencies. Please note that the Strike Price (i.e., the exchange rate at which the option will be exercised if so elected by the buyer) of the option is agreed upon at the inception of the Contract and will not change based on fluctuations of the underlying currency.

- (2) Contract terms and conditions requirements for futures contracts settled by physical delivery.
- (i) For physical delivery contracts, an acceptable specification of terms and conditions would include, but may not be limited to, rules that address, as appropriate, the following criteria and comply with the associated standards:
- (A) Quality Standards. The terms and conditions of a commodity contract should describe or define all of the economically significant characteristics or attributes of the commodity underlying the contract. In particular, the quality standards should be described or defined so that such standards reflect those used in transactions in the commodity in normal cash marketing channels. Documentation establishing that the quality standards of the contract's underlying commodity comply with those accepted/established by the industry, by government regulations, and/or by relevant laws should also be submitted. For any particular commodity contract, the specific attributes that should be enumerated depend upon the individual characteristics of the underlying commodity. These may include, for example, the following items: grade, quality, purity, weight, class, origin, growth, issuer, originator, maturity window, coupon rate, source, hours of trading, etc. If the terms of the contract provide for the delivery of multiple qualities of a specific attribute of the commodity having different cash market values, then a "par" quality should be specified

with price differentials applicable to the "non-par" qualities that reflect discounts or premiums commonly observed or expected to occur in the cash market for that commodity.

The Contract's terms and conditions indicate the foreign currencies that underlay the Contract. Quality standards, such as purity, grade, etc. are not applicable to foreign currencies.

(B) Delivery Points and Facilities. Delivery point/area specifications should provide for futures delivery at a single location or at multiple locations where the underlying cash commodity is normally transacted or stored and where there exists a viable cash market(s). If multiple delivery points are specified and the value of the commodity differs between these locations, contract terms should include price differentials that reflect usual differences in value between the different delivery locations. If the price relationships among the delivery points are unstable and a designated contract market chooses to adopt fixed locational price differentials, such differentials should fall within the range of commonly observed or expected commercial price differences. In this regard, any price differentials should be supported with cash price data for the delivery location(s). The terms and conditions of the contracts also should specify, as appropriate, any conditions the delivery facilities and/or delivery facility operators should meet in order to be eligible for delivery. Specification of any requirements for delivery facilities also should consider the extent to which ownership of such facilities is concentrated and whether the level of concentration would be susceptible to manipulation of the futures contract's prices. Commodity contracts also should specify appropriately detailed delivery procedures that describe the responsibilities of deliverers, receivers and any required third parties in carrying out the delivery process. Such responsibilities could include allocation between buyer and seller of all associated costs such as load-out, document preparation, sampling, grading, weighing, storage, taxes, duties, fees, drayage, stevedoring, demurrage, dispatch, etc. Required accreditation for third-parties also should be detailed. These procedures should seek to minimize or eliminate any impediments to making or taking delivery by both deliverers and takers of delivery to help ensure convergence of cash and futures at the expiration of a futures delivery month.

Delivery points are not applicable to foreign currency, which can be transferred electronically to virtually any location.

(C) Delivery Period and Last Trading Day. An acceptable specification of the delivery period would allow for sufficient time for deliverers to acquire the deliverable commodity and make it available for delivery, considering any restrictions or requirements imposed by the designated contract market. Specification of the last trading day for expiring contracts should consider whether adequate time remains after the last trading day to allow for delivery on the contract.

The last trading day of the Contract is the Expiration Date, which is the last opportunity (and in the case of European options, the only opportunity) for the holder of the option to exercise it. The Settlement Date is set at an appropriate time to allow for the exchange of the currencies if the option has been exercised.

(D) Contract Size and Trading Unit. An acceptable specification of the delivery unit and/or trading unit would be a contract size that is consistent with customary transactions, transportation or storage amounts in the cash market (e.g., the contract size may be reflective of the amount of the commodity that represents a pipeline, truckload or railcar shipment). For purposes of increasing market liquidity, a designated contract market may elect to specify a contract size that is smaller than the typical commercial transaction size, storage unit or transportation size. In such cases, the commodity contract should include procedures that allow futures traders to easily take or make delivery on such a contract with a smaller size, or, alternatively, the designated contract market

may adopt special provisions requiring that delivery be made only in multiple contracts to accommodate reselling the commodity in the cash market. If the latter provision is adopted, contract terms should be adopted to minimize the potential for default in the delivery process by ensuring that all contracts remaining open at the close of trading in expiring delivery months can be combined to meet the required delivery unit size. Generally, contract sizes and trading units should be determined after a careful analysis of relevant cash market trading practices, conditions and deliverable supply estimates, so as to ensure that the underlying market commodity market and available supply sources are able to support the contract sizes and trading units at all times.

The contract size is the notional amount, which, as is customary in the market, is agreed upon by the counterparties at the start of the Contract.

(E) Delivery Pack. The term "delivery pack" refers to the packaging standards (e.g., product may be delivered in burlap or polyethylene bags stacked on wooden pallets) or non-quality related standards regarding the composition of commodity within a delivery unit (e.g., product must all be imported from the same country or origin). An acceptable specification of the delivery pack or composition of a contract's delivery unit should reflect, to the extent possible, specifications commonly applied to the commodity traded or transacted in the cash market.

Not applicable to foreign currencies.

(F) Delivery Instrument. An acceptable specification of the delivery instrument (e.g., warehouse receipt, depository certificate or receipt, shipping certificate, bill of lading, in-line transfer, book transfer of securities, etc.) would provide for its conversion into the cash commodity at a commercially-reasonable cost. Transportation terms (e.g., FOB, CIF, freight prepaid to destination) as well as any limits on storage or certificate daily premium fees should be specified. These terms should reflect cash market practices and the customary provision for allocating delivery costs between buyer and seller.

The settlement procedures for a particular Contract are determined by the counterparties. If the option is exercised, the parties exchange the applicable currencies.

(G) Inspection Provisions. Any inspection/certification procedures for verifying compliance with quality requirements or any other related delivery requirements (e.g., discounts relating to the age of the commodity, etc.) should be specified in the contract rules. An acceptable specification of inspection procedures would include the establishment of formal procedures that are consistent with procedures used in the cash market. To the extent that formal inspection procedures are not used in the cash market, an acceptable specification would contain provisions that assure accuracy in assessing the commodity, that are available at a low cost, that do not pose an obstacle to delivery on the contract and that are performed by a reputable, disinterested third party or by qualified designated contract market employees. Inspection terms also should detail which party pays for the service, particularly in light of the possibility of varying inspection results.

Not applicable to foreign currencies.

(H) Delivery (Trading) Months. Delivery months should be established based on the risk management needs of commercial entities as well as the availability of deliverable supplies in the specified months.

As noted above, an American option can be exercised any time up to and including the Expiration Date, while a European option can only be exercised on the Expiration Date.

(I) Minimum Price Fluctuation (Minimum Tick). The minimum price increment (tick) should be set at a level that is equal to, or less than, the minimum price increment commonly observed in cash market transactions for the underlying commodity. Specifying a futures' minimum tick that is greater than the minimum price increment in the cash market can undermine the risk management utility of the futures contract by preventing hedgers from efficiently establishing and liquidating futures positions that are used to hedge anticipated cash market transactions or cash market positions.

As agreed between the counterparties, the minimum price increment is consistent with customary transactions in the market.

(J) Maximum Price Fluctuation Limits. Designated contract markets may adopt price limits to: (1) Reduce or constrain price movements in a trading day that may not be reflective of true market conditions but might be caused by traders overreacting to news; (2) Allow additional time for the collection of margins in times of large price movements; and (3) Provide a "cooling-off" period for futures market participants to respond to bona fide changes in market supply and demand fundamentals that would lead to large cash and futures price changes. If price limit provisions are adopted, the limits should be set at levels that are not overly restrictive in relation to price movements in the cash market for the commodity underlying the futures contract.

As agreed between the counterparties.

(K) Speculative Limits. Specific information regarding the establishment of speculative position limits are set forth in part 150, and/or part 151, as applicable, of the Commission's regulations.

tpSEF will comply with Parts 150 and 151 of the Commission's regulations..

(L) Reportable Levels. Refer to § 15.03 of the Commission's regulations.

tpSEF will adhere to the applicable reporting levels set forth in § 15.03 of the Commission's regulations.

(M) Trading Hours. Should be set by the designated contract market to delineate each trading day.

The Contracts are traded twenty-three hours a day from Sunday to Friday. The Contracts are not traded between 5:30 p.m. and 6:30 p.m. Eastern Time.

Futures Contracts Settled by Cash Settlement

(c) Futures Contracts Settled by Cash Settlement. (1) Cash settlement is a method of settling certain futures or option contracts whereby, at contract expiration, the contract is settled by cash payment in lieu of physical delivery of the commodity or instrument underlying the contract. An acceptable specification of the cash settlement price for commodity futures and option contracts would include

rules that fully describe the essential economic characteristics of the underlying commodity (e.g., grade, quality, weight, class, growth, issuer, maturity, source, rating, description of the underlying index and index's calculation methodology, etc.), as well as how the final settlement price is calculated. In addition, the rules should clearly specify the trading months and hours of trading, the last trading day, contract size, minimum price change (tick size) and any limitations on price movements (e.g., price limits or trading halts).

Essential Economic Characteristics of the Contract Terms

The terms and conditions of the Contracts match the terms of cash-settled deliverable FX option contracts that are commonly offered in the market and are listed in Exhibit B.

As is common with deliverable FX option contracts, the Contracts have several flexible terms – for instance, counterparties are able to choose: (a) the Trade Date; (b) whether or not the option can be exercised at any time prior to the Expiration Date or only at the Expiration Date (i.e., American or European); (c) currency that will be used for the Premium, Put/Call Currency Amounts and Settlement Currency; and (d) the Strike Price. The trading hours, however, are fixed for each contract – trading is available twenty-three hours a day, from Sunday to Friday.

Contract Not Readily Susceptible to Manipulation

The Contracts are not susceptible to manipulation for a number of reasons. First, all of the essential terms of the Contract are agreed upon at the start of the Contract and remain static throughout the life of the Contract. Second, foreign currencies are standard and readily available, and are not to subject to variations in the patterns of production, consumption or supply. Finally, tpSEF Inc. ("tpSEF") has a robust market surveillance program that is effectively able to surveil this market, detect uncommon activity and investigate any such activity for signs of manipulation. tpSEF staff conduct real-time market surveillance and the National Futures Association ("NFA") provides regulatory services on a T+1 basis. NFA's services include comprehensive trade practice and market surveillance services (the scope of which can be found in the Regulatory Services Agreement between NFA and tpSEF submitted to the Commission as part of tpSEF's swap execution facility application) (note that the foregoing also demonstrates compliance with Core Principle 4).

Calculation of Cash Settlement Price

The cash settlement price will be based on the In-The-Money Amount, calculated as follows:

Where the Settlement Currency is the Call Currency:

Where the Settlement Currency is the Put Currency:

$$\frac{\text{Put Currency Amount} \times \frac{\text{Strike Price} - \text{Settlement Rate}}{\text{Settlement Rate}}}{\text{Settlement Rate}}$$

(in each case, the Strike Price and Settlement Rate are quoted on a unit of reference currency per one unit of Settlement Currency).

In the case of a digital or binary Contract, the In-The-Money Amount will be the Settlement Amount agreed by the parties.

This method of cash settlement is consistent with the customary practice of cash-settling deliverable FX option contracts in the market.

(2) Cash settled contracts may be susceptible to manipulation or price distortion. In evaluating the susceptibility of a cash-settled contract to manipulation, a designated contract market should consider the size and liquidity of the cash market that underlies the listed contract in a manner that follows the determination of deliverable supply as noted above in (b)(1). In particular, situations susceptible to manipulation include those in which the volume of cash market transactions and/or the number of participants contacted in determining the cash-settlement price are very low. Cashsettled contracts may create an incentive to manipulate or artificially influence the data from which the cash-settlement price is derived or to exert undue influence on the cash-settlement price's computation in order to profit on a futures position in that commodity. The utility of a cash-settled contract for risk management and price discovery would be significantly impaired if the cash settlement price is not a reliable or robust indicator of the value of the underlying commodity or instrument. Accordingly, careful consideration should be given to the potential for manipulation or distortion of the cash settlement price, as well as the reliability of that price as an indicator of cash market values. Appropriate consideration also should be given to the commercial acceptability, public availability, and timeliness of the price series that is used to calculate the cash settlement price. Documentation demonstrating that the settlement price index is a reliable indicator of market values and conditions and is commonly used as a reference index by industry/market agents should be provided. Such documentation may take on various forms, including carefully documented interview results with knowledgeable agents.

Foreign currency is an extremely liquid market with massive volume, and there is a nearly inexhaustible supply of the foreign currencies applicable to the Contract. Information about spot FX rates is readily available from a variety of sources including central banks, the Emerging Markets Traders Association, Bloomberg and Reuters. The Strike Price is determined by the counterparties at the point of entering into a transaction and will not change due to fluctuations of the spot FX price. Accordingly, the Contracts are not readily susceptible to manipulation.

- (3) Where an independent, private-sector third party calculates the cash settlement price series, a designated contract market should consider the need for a licensing agreement that will ensure the designated contract market's rights to the use of the price series to settle the listed contract.
- (i) Where an independent, private-sector third party calculates the cash settlement price series, the designated contract market should verify that the third party utilizes business practices that minimize the opportunity or incentive to manipulate the cash-settlement price series. Such safeguards may include lock-downs, prohibitions against derivatives trading by employees, or public dissemination of the names of sources and the price quotes they provide. Because a cash-settled contract may create an incentive to manipulate or artificially influence the underlying market from which the cash-settlement price is derived or to exert undue influence on the cash-settlement computation in order to profit on a futures position in that commodity, a designated contract market should, whenever practicable, enter into an information-sharing agreement with

the third-party provider which would enable the designated contract market to better detect and prevent manipulative behavior.

The rates used are broadly disseminated rates which have been used for many years. In many cases, the rates are published by governmental agencies rather than private-sector third parties.

(ii) Where a designated contract market itself generates the cash settlement price series, the designated contract market should establish calculation procedures that safeguard against potential attempts to artificially influence the price. For example, if the cash settlement price is derived by the designated contract market based on a survey of cash market sources, the designated contract market should maintain a list of such entities which all should be reputable sources with knowledge of the cash market. In addition, the sample of sources polled should be representative of the cash market, and the poll should be conducted at a time when trading in the cash market is active.

Please see above regarding the calculation of the cash settlement price.

(iii) The cash-settlement calculation should involve computational procedures that eliminate or reduce the impact of potentially unrepresentative data.

Please see above regarding the calculation of the cash settlement price.

(iv) The cash settlement price should be an accurate and reliable indicator of prices in the underlying cash market. The cash settlement price also should be acceptable to commercial users of the commodity contract. The registered entity should fully document that the settlement price is accurate, reliable, highly regarded by industry/market agents, and fully reflects the economic and commercial conditions of the relevant designated contract market.

Please see above regarding the calculation of the cash settlement price.

(v) To the extent possible, the cash settlement price should be based on cash price series that are publicly available and available on a timely basis for purposes of calculating the cash settlement price at the expiration of a commodity contract. A designated contract market should make the final cash settlement price and any other supporting information that is appropriate for release to the public, available to the public when cash settlement is accomplished by the derivatives clearing organization. If the cash settlement price is based on cash prices that are obtained from non-public sources (e.g., cash market surveys conducted by the designated contract market or by third parties on behalf of the designated contract market), a designated contract market should make available to the public as soon as possible after a contract month's expiration the final cash settlement price as well as any other supporting information that is appropriate or feasible to make available to the public.

Please see above regarding the calculation of the cash settlement price.

- (4) Contract terms and conditions requirements for futures contracts settled by cash settlement.
- (i) An acceptable specification of the terms and conditions of a cash-settled commodity contract will also set forth the trading months, last trading day, contract size, minimum price change (tick size) and daily price limits, if any.

Please see Exhibit B for the Contracts' terms and conditions. While there are common terms such as the trading hours, many of the terms are flexible. Nevertheless, the terms are all within commonly accepted market standards.

(A) Commodity Characteristics: The terms and conditions of a commodity contract should describe the commodity underlying the contract.

The terms and conditions of the Contracts specifically list the currencies on which counterparties can choose to base the Contracts.

(B) Contract Size and Trading Unit: An acceptable specification of the trading unit would be a contract size that is consistent with customary transactions in the cash market. A designated contract market may opt to set the contract size smaller than that of standard cash market transactions.

The contract size is the notional amount, which, as is customary in the market, is agreed upon by the counterparties at the start of the Contract.

(C) Cash Settlement Procedure: The cash settlement price should be reliable, acceptable, publicly available, and reported in a timely manner as described in paragraphs (c)(3)(iv) and (c)(3)(v) of this appendix C.

The settlement procedures for a particular Contract are determined by the counterparties. If the option is exercised, the option buyer receives the In-The-Money Amount of the Contract in the Settlement Currency agreed by the parties on the Settlement Date.

(D) *Pricing Basis and Minimum Price Fluctuation (Minimum Tick)*: The minimum price increment (tick) should be set a level that is equal to, or less than, the minimum price increment commonly observed in cash market transactions for the underlying commodity. Specifying a futures' minimum tick that is greater than the minimum price increment in the cash market can undermine the risk management utility of the futures contract by preventing hedgers from efficiently establishing and liquidating futures positions that are used to hedge anticipated cash market transactions or cash market positions.

As agreed between the counterparties.

(E) Maximum Price Fluctuation Limits: Designated contract markets may adopt price limits to: (1) Reduce or constrain price movements in a trading day that may not be reflective of true market conditions but might be caused by traders overreacting to news; (2) Allow additional time for the collection of margins in times of large price movements; and (3) Provide a "cooling-off" period for futures market participants to respond to bona fide changes in market supply and demand fundamentals that would lead to large cash and futures price changes. If price-limit provisions are adopted, the limits should be set at levels that are not overly restrictive in relation to price movements in the cash market for the commodity underlying the futures contract. For broad-based stock index futures contracts, rules should be adopted that coordinate with New York Stock Exchange ("NYSE") declared Circuit Breaker Trading Halts (or other market coordinated Circuit Breaker mechanism) and would recommence trading in the futures contract only after trading in the majority of the stocks underlying the index has recommenced.

As agreed between the counterparties.

(F) Last Trading Day: Specification of the last trading day for expiring contracts should be established such that it occurs before publication of the underlying third-party price index or determination of the final settlement price. If the designated contract market chooses to allow trading to occur through the determination of the final settlement price, then the designated contract market should show that futures trading would not distort the final settlement price calculation.

The last trading day of the Contract is the Expiration Date of the Contract, which is the last opportunity (and in the case of European options, the only opportunity) for the holder of the option to exercise it. The Settlement Date is set at an appropriate time to allow for the transfer of the In-The-Money Amount in the Settlement Currency if the option has been exercised.

(G) Trading Months: Trading months should be established based on the risk management needs of commercial entities as well as the availability of price and other data needed to calculate the cash settlement price in the specified months. Specification of the last trading day should take into consideration whether the volume of transactions underlying the cash settlement price would be unduly limited by occurrence of holidays or traditional holiday periods in the cash market. Moreover, a contract should not be listed past the date for which the designated contract market has access to use a proprietary price index for cash settlement.

As noted above, an American option can be exercised any time up to and including the Expiration Date, while a European option can only be exercised on the Expiration Date.

(H) Speculative Limits. Specific information regarding the establishment of speculative position limits are set forth in part 150, and/or part 151, as applicable, of the Commission's regulations.

tpSEF will comply with Parts 150 and 151 of the Commission's regulations.

(I) Reportable Levels. Refer to § 15.03 of the Commission's regulations.

tpSEF will adhere to the applicable reporting levels set forth in § 15.03 of the Commission's regulations.

(J) Trading Hours. Should be set by the designated contract market to delineate each trading day.

The Contracts are traded twenty-three hours a day from Sunday to Friday. The Contracts are not traded between 5:30 p.m. and 6:30 p.m. Eastern Time.

Options on a Futures Contract

- (d) Options on a Futures Contract. (1) The Commission's experience with the oversight of trading in futures option contracts indicates that most of the terms and conditions associated with such trading do not raise any regulatory concerns or issues. The Commission has found that the following terms do not affect an option contract's susceptible to manipulation or its utility for risk management. Thus, the Commission believes that, in most cases, any specification of the following terms would be acceptable; the only requirement is that such terms be specified in an automatic and objective manner in the option contract's rules:
 - Exercise method;

- Exercise procedure (if positions in the underlying futures contract are established via book entry):
- Strike price listing provisions, including provisions for listing strike prices on a discretionary basis;
- Strike price intervals;
- Automatic exercise provisions;
- Contract size (unless not set equal to the size of the underlying futures contract); and
- Option minimum tick should be equal to or smaller than that of the underlying futures contract.

As noted in the Contract's terms and conditions (see Exhibit B), the following terms are specified in an automatic and objective manner at the start of the Contract: (a) exercise method – the counterparties choose the Currency Option Style, whether American or European; (b) the Strike Price and the strike price intervals – these are as agreed by the counterparties, which is consistent with customary practice in the market; (c) whether Automatic Exercise is specified to be applicable; and (d) the contract size and minimum tick – these terms are also as agreed by the counterparties.

As is typical with FX options, on the Expiration Date / Time (or anytime up to and including the Expiration Date / Time, in the case of an American option), the owner of the option can choose to exercise it at the agreed upon Strike Price. The payments must be made on the Settlement Date, which is set by the counterparties at the start of the Contract.

If Automatic Exercise is specified (or deemed specified) to be applicable to a Contract and at the Expiration Time on the Expiration Date the Contract has not been exercised, then the Contract will be deemed exercised if the conditions set forth in Section 3.6(c) of the 1998 Definitions are met. Unless the counterparties specify otherwise, Automatic Exercise will be deemed to apply to the Contract.

(2) Option Expiration & Last Trading Day. For options on futures contracts, specification of expiration dates should consider the relationship of the option expiration date to the delivery period for the underlying futures contract. In particular, an assessment should be made of liquidity in the underlying futures market to assure that any futures contracts acquired through exercise can be liquidated without adversely affecting the orderly liquidation of futures positions or increasing the underlying futures contract's susceptibility to manipulation. When the underlying futures contract exhibits a very low trading activity during an expiring delivery month's final trading days or has a greater risk of price manipulation than other contracts, the last trading day and expiration day of the option should occur prior to the delivery period or the settlement date of the underlying future. For example, the last trading day and option expiration day might appropriately be established prior to first delivery notice day for option contracts with underlying futures contracts that have very limited deliverable supplies. Similarly, if the futures contract underlying an option contract is cash settled using cash prices from a very limited number of underlying cash market transactions, the last trading and option expiration days for the option contract might appropriately be established prior to the last trading day for the futures contract.

As noted above, the last trading day of the Contract is the Expiration Date, which is the last opportunity (and in the case of European options, the only opportunity) for the holder of the option to exercise it. As previously stated, foreign currency is an extremely liquid market with massive volume. Accordingly, the Contract is not readily susceptible to manipulation.

(3) Speculative Limits. In cases where the terms of an underlying futures contract specify a spotmonth speculative position limit and the option contract expires during, or at the close of, the futures contract's delivery period, the option contract should include a spot-month speculative position limit provision that requires traders to combine their futures and option position and be subject to the limit established for the futures contract. Specific rules and policies for speculative position limits are set forth in part 150 and/or part 151, as applicable, of the Commission's regulations.

None required.

EXHIBIT D

Terms and Conditions for Deliverable Foreign Exchange Options Marked Against September 29, 2013 Version

Summary:	This covers deliverable vanilla American or European
	style foreign exchange options.
Limitations on Available Selections and Default	This covers "Deliverable Foreign Exchange Options". The
SettingsSummary:	terms under which a Deliverable Vanilla American or
	European Style Foreign Exchange Option may be traded
	are as specified in these terms and conditions and in the
	attached tables.
	For amounts or rates, the relevant term cannot be less
	than the specified Minimum, must represent an even
	Increment and cannot exceed the Maximum; for a date,
	the date cannot be earlier than Earliest nor later than
	Latest.
	For Business Days, the defaults shall be the locations specified for the relevant currency, any additional locations specified for the relevant Floating Rate Options.
	The parties may add additional locations from the
	Available Locations and may eliminate some or all of the
	other locations, so long as there is at least one location in
	which payment may be made.
	For these purposes "TARGET"/EUTA is considered a location.
	In many cases there are normal "vanilla" terms on which the parties will transact. These are shown as "Default" and will apply unless the parties vary them.
	It should be noted that these contracts can be traded in a variety of currencies. Since each national market has its
	own peculiarities, the "Available Terms" and/or "Default
	Terms" may vary by currency.
	In some cases, the same contract might have different terms depending on the market in which it is traded (e.g., London versus NY). In that case the default settings may vary by market.
Incorporated Standards:	This contract description incorporates by reference the following industry standard documentation and standards:
	(a) the 1998 FX and Currency Option Definitions and
	2005 Amendment, as amended and supplemented from
	time to time, including the 2005 Barrier Option
	Supplement to the 1998 FX and Currency Option

	Definitions (the "1998 Definitions"); and
	(b) ISDA OTC Taxonomies
	<u>(c) FpML Location Codes</u>
	For convenience, certain terms are mapped to their FpML
	5.2.4 equivalent.
	For purposes of this description, the term COP means the lawful currency of the Republic of Columbia
	rawith currency of the Republic of Columbia
Contract Types:	Each Deliverable Foreign Exchange Option traded is bespoke and the terms agreed between the Buyer and Seller. All option strategies result in call options and/or put options executed with the following strategies traded as agreed between the parties: Vanilla: Outright Call / Put, Straddle, Strangle, Butterfly,
	Risk Reversal, Calendar (tenor) spread, Cross Currency Spread, Condor, Call Spread, Put Spread, Live Trading with no delta hedge.
	Exotic: Barriers, Baskets, Digitals (or Binary), Knockins, Knockouts, Reverse Knockins/Kockouts, No Touch, Double No Touch, Average Price, Worst of Options, Compound Options; trades may be with or without delta hedges and some structures may also be bilaterally negotiated with additional options as part of the package to form a vega hedge.
Product Type/ISDA OTC Taxonomy:	to form a vega neage.
ISDA OTC Asset Class:	Foreign Exchange
ISDA OTC Base Product:	Foreign Exchange Vanilla Option, Simple Exotic or Complex Exotic
ISDA OTC Sub Product:	Vanilla Option
ISDA OTC Sub Product Number:	8
Further Limitations:	None
FpML Schema:	"confirmation.fxOption"
Terms:	
Trade Date:	The date the transaction is agreed between and becomes legally binding on the parties.
Commencement Date ("americanExercise.commencementDate"):	As The Trade Date, unless otherwise specified by the parties. This applies only where the Currency Option Style is American.
Buyer-("buyerPartyReference"):	As specified by the parties.
Seller-("sellerPartyReference"):	As specified by the parties.
Currency Option Style:	As specified by the parties.
	(An American option can be exercised any time up to and including the Expiration Date; a European option can only be exercised on the Expiration Date.)
Currency Option Type:	A Call with respect to the Call Currency and a Put with respect to the Put Currency; Binary in the case of a binary

	or digital option.
Call Currency ("callCurrencyAmount"):	The currency and amount as specified by the parties, or, if not so specified, derived from the Put from among those included in the list of available Currency Amount and Strike Price Pairs.
	The Put Currency and Call Currency must represent a traded pair as shown onincluded in the attached list of currencies available Currency Pairs.
Call Currency Amount:	As specified by the parties or, if not so specified, derived from the Put Currency Amount and Strike Price.
Put Currency:	The currency as specified by the parties from among those included in the list of available Currency Pairs.
	The Put Currency and Call Currency must represent a traded pair included in the list of available Currency Pairs.
Put Currency ("putCurrencyAmount") Amount:	The currency and amount as As specified by the parties, or, if not so specified, derived from the Call Currency Amount and Strike Price.
Strike Price ("strikePrice"):	As specified by the parties (if only one of the Put Currency or Call Currency is specified).
	If no Strike Price is specified and Automatic Exercise is applicable, the Strike Price will be calculated using the Put Currency and Call Currency in order to determine if the Option option is to be automatically exercised.
Expiration Date ("expiryDate")Reference Currency:	As specified by the parties.
Settlement Currency:	As specified by the parties.
Settlement Rate:	As specified by the parties or otherwise per the 1998 Definitions.
Settlement Rate Option:	As specified by the parties.
Latest Exercise Time Expiration Date:	As specified by the parties. This applies only where the Option Style is American.
Expiration Time:	The time in the location specified by the parities.
Expiration Time ("americanExercise.expiryTime" or "europeanExercise.expiryTime")Latest Exercise Time:	The time in the location Expiration Time, unless otherwise specified by the parities parties. This applies only where the Currency Option Style is American.
Automatic Exercise:	As Applicable, unless otherwise specified by the parties.
Settlement-Date:	As specified by the parties Deliverable or Cash Settlement
Premium ("premium")Settlement Amount:	As In the case of a digital or binary option, as specified by the parties.
Premium Payment Settlement Date:	As specified by the parties.
Calculation Agent Valuation Date:	As specified by the parties.

<u>Dates</u> :	
Business Days for Settlement Date Premium:	As specified by the parties.
Business Days for Exercise Date	For American Options, as specified by the parties.
Business Days for Expiration Premium Payment Date:	As specified by the parties.
Business Days (General)Barrier Event:	As specified by the parties.
Business Day Convention for Premium Payment DateCalculation Agent:	As specified by the parties.
Business Day-Convention for Expiration Date:	As specified by the parties.
Business Day Convention-for Settlement Date:	As specified by the parties.
Event Currency:	As specified by the parties if any Disruption Events are applicable.
Disruption Events:	As specified by the parties.
Disruption Fallbacks:	As specified by the parties for each <u>applicable</u> Disruption Event <u>applicable</u> or otherwise per the 1998 Definitions.

FX Vanilla Deliverable Foreign Exchange Option Available Currencies and Principal Financial Centers Currency Pairs

Three Le	tter Currency Cod	le (ISDA/ISO)	Currency Name (ISDA) Principal Financia Centers for Currence (FpML Codes)							
AUD <u>/CAD</u>	Australian Dollar	AUM E and AUS ¥	<u>CNH/A</u> <u>D</u>	<u>VU</u>	EUR/SA R	<u>]I</u>	Y/CN	THB/HK D		
	BRL				Brazilian Rea	1	BRE	BRBR, BRRJ or BRSP		
CADAUD/C HF	Canadian Dollar	CAT O	<u>CNH/C</u> <u>D</u>	CA	EUR/SE K	<u>JI</u> <u>D</u>	PY/HK	$\frac{\text{THB/JP}}{\underline{Y}}$		
CHFAUD/C NH	Swiss Franc	CHZ U	<u>CNH/E</u> <u>R</u>	<u>EU</u>	EUR/SG D	<u>JPY/SG</u> <u>D</u>		<u>THB/NZ</u> <u>D</u>		
	CLP			Chilean Peso CLS			CLSA			
	COP							COBO		
CDD A LID /II	EUR	CDI	COMPLE	Euro			X / / / / / / / / / / / / / / / / / / /	EUTA		
GBPAUD/H KD	Sterling	GBL O	<u>CNH/C</u> <u>P</u>		EUR/TH B	<u> </u>	<u>PY/TH</u>	<u>THB/SG</u> <u>D</u>		
<u>AUD/</u> JPY	Japanese Yen	JPTO	<u>CNH/H</u> <u>D</u>	<u>IK</u>	EUR/TR Y	<u>M</u> <u>Y</u>	XN/JP	$\frac{\underline{TRY/JP}}{\underline{Y}}$		
<u>AUD/</u> MXN	Mexican Peso (New)	MXM C	<u>CNH/J</u> <u>Y</u>	<u>P</u>	EUR/US D	<u>N</u> <u>Y</u>	OK/JP	USD/AE D		
<u>AUD/</u> NOK	Norewegi an Krone	NOO S	<u>CNH/N</u> <u>D</u>	<u>VZ</u>	EUR/ZA R	<u>N</u> <u>K</u>	OK/SE	USD/BH D		
<u>AUD/</u> NZD	New	NZA	CNH/S	G	GBP/AU	<u>N</u>	ZD/CA	<u>USD/CA</u>		

	Zealand Dollar	U and NZW E	<u>D</u>	<u>D</u>	<u>D</u>	<u>D</u>
	SEK			Swedish Kron	SEST	
USDAUD/SE K	United States Dollar	USN ¥	<u>CNH/TH</u> <u>B</u>	<u>GBP/CA</u> <u>D</u>	NZD/CH <u>F</u>	USD/CH F

NOT ALL PAIRS OF CURRENCIES MAY BE AVAILABLE. PLEASE REVIEW AVAILABLE PAIRS TABLE

FX Vanilla Option Available Currency Pairs, Minimum and Increment

	CALL												
PU TA UD /SG D	AU DE UR (A ED	BR LG BP (C HE	CA DN ZD/ CN H	CH FU SD /C NH]	(1]	4 7 1	1 () 1	2]	Ī
AU D/2 <u>TH</u> <u>B</u>	<u>EU</u> <u>R/</u> <u>AU</u> <u>D</u>	<u>GB</u> <u>P/</u> <u>CN</u> <u>H</u>	¥ <u>N</u> ZD/ HK <u>D</u>	<u>US</u> <u>D/</u> <u>CZ</u> <u>K</u>			<u>.</u>				2		Ž
BRL	DU	CD	NZ	Heb	DVV		¥						¥
<u>AU</u> <u>D/</u> <u>US</u> <u>D</u>	EU R/ BH D	<u>GB</u> <u>P/</u> <u>H</u> <u>K</u> <u>D</u>	NZ D/J PY		<u>/DKK</u>								
CA DA UD ZZ AR	¥E UR (C AD	<u>GB</u> <u>P/J</u> <u>PY</u>	NZ D/ NO <u>K</u>	¥ <u>U</u> <u>SD</u> <u>/H</u> <u>KD</u>			3	2	<u> </u>				Ž
CA D/ CH F	EU RU EI FI	<u>GB</u> <u>P/</u> <u>M</u> X <u>N</u>	NZ D/S EK	<u>US</u> D/ HU F			2						1
<u>CA</u> <u>D/</u> <u>CN</u> <u>H</u>	EU R/ CN H	GB P/ N O K	NZ D/S GD	<u>USD</u>									
<u>CA</u> <u>D/</u> <u>HK</u> <u>D</u>	<u>EU</u> <u>R/</u> <u>CZ</u> <u>K</u>	<u>GB</u> <u>P/</u> <u>NZ</u> <u>D</u>	<u>NZ</u> <u>D/T</u> <u>HB</u>	<u>USD</u>	/ISK								
CL P <u>C</u>	<u>EU</u> <u>R/</u>	<u>GB</u> <u>P/S</u>	<u>NZ</u> <u>D/</u>	<u>US</u> <u>D/J</u>									7

<u>AD</u> / <u>JP</u> <u>Y</u>	<u>DK</u> <u>K</u>	<u>EK</u>	<u>US</u> <u>D</u>	<u>PY</u>										
<u>CA</u> <u>D/</u> <u>M</u> <u>XN</u>	EU R/ GB P	<u>GB</u> <u>P/S</u> <u>G</u> <u>D</u>	<u>SE</u> <u>K/J</u> <u>PY</u>	<u>USD</u>	/KWD	=								
<u>CA</u> <u>D/</u> <u>NO</u> <u>K</u>	<u>EU</u> R/ <u>HK</u> <u>D</u>	<u>GB</u> <u>P/</u> <u>TH</u> <u>B</u>	<u>SG</u> <u>D/</u> <u>AU</u> <u>D</u>		/MXN	=								
CO PC AD /SE K	<u>EU</u> <u>R/</u> <u>HU</u> <u>F</u>	<u>GB</u> <u>P</u> / <u>TR</u> <u>Y</u>	<u>SG</u> <u>D/</u> <u>CA</u> <u>D</u>	US D/ NO K										1
EUR	¥	¥	¥	¥				¥	¥	¥	¥	¥	¥	¥
<u>CA</u> <u>D/S</u> <u>GD</u>	<u>EU</u> <u>R/I</u> <u>LS</u>	<u>GB</u> <u>P/</u> <u>US</u> <u>D</u>	<u>SG</u> <u>D/</u> <u>CN</u> <u>H</u>		<u>/OMR</u>									
GB PC AD /T HB	¥ <u>E</u> UR /IS K	¥ GB P/ ZA R	SG D/E UR	¥ <u>US</u>	<u>D/PLN</u>	¥								
CH F/C NH	EU R/J PY	¥ <u>H</u> <u>K</u> <u>D/</u> <u>A</u> <u>U</u> <u>D</u>	SG D/ GB P	USD. ¥ ¥ ¥ ¥	<u>/QAR</u>	¥								
<u>CH</u> <u>F/H</u> <u>KD</u>	<u>EU</u> <u>R/</u> <u>K</u> <u>W</u> <u>D</u>	H K D/ CA D	<u>SG</u> <u>D/</u> <u>HK</u> <u>D</u>		/RON									
<u>CH</u> <u>E/</u> J PY	¥E UR /M XN	¥ <u>H</u> <u>K</u> <u>D/</u> <u>CH</u> <u>F</u>	¥ <u>§</u> GD /JP <u>Y</u>	<u>US</u> <u>D/</u> <u>RU</u> <u>B</u>			2	2				2		
CH E/ M XN	<u>EU</u> <u>R/</u> <u>NO</u> <u>K</u>	H K D/ CN H	<u>SG</u> <u>D/</u> <u>NZ</u> <u>D</u>	<u>US</u> <u>D/</u> <u>SA</u> <u>R</u>			Ŋ							-

<u>CH</u> <u>F/</u> N OK	EU R/ NZ D	<u>H</u> <u>K</u> <u>D</u> / <u>EU</u> <u>R</u>	SG D/T HB	US D/ SE K		<u>.</u>				<u>.</u>
NZ DC HF/ PL N	¥E UR © MR	H K D/ GB P	<u>TH</u> <u>B/</u> <u>AU</u> <u>D</u>	US D/ SG D						<u>.</u>
CH F/S EK	<u>EU</u> <u>R/P</u> <u>LN</u>	<u>H</u> <u>K</u> <u>D/J</u> <u>PY</u>	TH B/C HF	<u>US</u> <u>D/</u> <u>TH</u> <u>B</u>		Ž				
<u>CH</u> <u>F/S</u> <u>GD</u>	<u>EU</u> <u>R/</u> <u>QA</u> <u>R</u>	H K D/ NZ D	<u>TH</u> <u>B/C</u> <u>NH</u>	<u>USD/</u>	TRY					
US DC HF/ TH B	<u>EU</u> <u>R/</u> <u>RO</u> <u>N</u>	H K D/ SG D	TH B/E UR	<u>US</u> <u>D/</u> <u>ZA</u> <u>R</u>						
<u>CH</u> <u>F/T</u> <u>RY</u>	<u>EU</u> R/ <u>RU</u> B	H K D/ TH B	TH B/ GB P	ZAR/	<u>/JPY</u>					

The Minimum Amount for any currency pair is 5,000,000 of the Call Currency with an Increment of 5,000,000 of the Call Currency

FX Vanilla Option Requirements and Defaults

Variable	Requirement	Default
Commencement Date	American Style ONLY	Trade Date
Latest Exercise Time	American Style ONLY	Same as Expiration Time
Automatic Exercise		Applicable
Business Days for Premium	At least one of the specified	Principal Financial Center for
Payment Date	locations must be able to settle	Currency of Premium
	relevant Currency	
Business Days for Settlement Dates:	The specified locations must at least	Principal Financial Center for each
	be able to settle each Currency in the	Currency of the Currency Pair
	Currency Pair	
Business Days for Exercise Date	Location of Seller	Location of Seller
Business Days for Expiration Dates:	If Automatic Exercise does not	Location of Seller and trading day
	apply, location of Seller	for each Currency of Currency Pair
	If Automatic Exercise does apply,	
	trading day for each Currency of	
	Currency Pair	
Business Day Convention for	Cannot result in payment due prior	Following
Premium Payment Date:	to Trade Date	
Business Day Convention for		Following
Expiration Date:		
Business Day Convention for	Cannot result in payment due prior	Following
Settlement Date	to Exercise Date	
Disruption Events:		None
Disruption Fallbacks:	Required only if there are Disruption	None
	Events	

FX Vanilla Available Option Styles

Style	Description	Default
American	Can be exercised on any Exercise	Yes
	Business Day from and including the	
	Commencement Date to and	
	including the Expiration Date	
European	Can be exercised only on the	No
	Expiration Date	

FXO Available Business Day Conventions

ISDA Name
Following
Modified/Modified Following
Nearest
Preceding