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October 26, 2017

By CFTC Portal

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

Re: *tpSEF Inc. – Regulation 40.2 Certification of Non-Deliverable Swaps – THB-THBFIX-Reuters (tpSEF Submission #17-32P)*

Dear Mr. Kirkpatrick:

tpSEF Inc. (“tpSEF”) hereby notifies the Commodity Futures Trading Commission (the “Commission”) of its intent to list Non-Deliverable Swaps – THB-THBFIX-Reuters (the “Contracts”) on tpSEF’s swap execution facility. tpSEF intends to list the Contracts on October 30, 2017.

Pursuant to Commission Regulation 40.2, this submission includes:

- i. The intended listing date – October 30, 2017;
- 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 Exhibit C.

tpSEF is listing the Contracts by virtue of updating the terms and conditions of Non-Deliverable Swaps submitted to the Commission for self-certification pursuant to Commission Regulation 40.2 on July 31, 2015. A copy of the terms and conditions marked to show changes from the version submitted on July 31, 2015 is attached as Exhibit D.

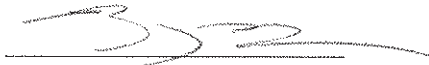
tpSEF will be separately updating Appendix B to its Rulebook (tpSEF Inc. Swap Specifications) to reflect this change.

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Questions regarding this submission should be directed to Brian 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: October 26, 2017

Enclosures

cc: CFTC Division of Market Oversight (dmosubmissions@cftc.gov)
Roger Smith, CFTC (rsmith@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) Non-Deliverable Swaps – THB-THBFIX-Reuters (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: October 26, 2017

EXHIBIT B

Terms and Conditions

Summary:	This covers non-deliverable single-currency swaps (“Non-Deliverable Single-Currency Swaps”) and non-deliverable cross-currency swaps (“Non-Deliverable Cross-Currency Swaps”) and, together with Non-Deliverable Single-Currency Swaps, “Non-Deliverable Swaps”).
Limitations on Available Selections and Default Settings:	<p>The terms under which Non-Deliverable Single-Currency Swaps and Non-Deliverable Cross-Currency Swaps may be traded are as specified in these terms and conditions or in the attached tables.</p> <p>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.</p> <p>For Business Days, the defaults shall be the locations specified.</p> <p>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” is considered a location.</p> <p>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.</p>
Incorporated Standards:	<p>This contract description incorporates by reference the following industry standard documentation and standards:</p> <ul style="list-style-type: none">(a) 2006 ISDA Definitions (including Supplement 31 thereto);(b) ISDA OTC Taxonomies;(c) FpML Location Codes;(d) the ISDA/EMTA 1998 FX and Currency Option Definitions (“1998 Definitions”);(e) the EMTA Non-Deliverable Forward Templates;(f) the EMTA-ISDA Market Practice for Non-Deliverable CLP “<i>Cámara</i>” (CLP TNA) Interest Rate Swap Transactions (“CLP TNA Best Practices”);(g) the Recommended EMTA-ISDA Market Practice for BRL CDI Non-Deliverable Interest Rate Swap Transactions (Amended March 13, 2009) (“BRL CDI Best Practices”);

	<p>(h) The current ISDA Revised Non-Deliverable Swap Transaction Standard Terms Supplement (“Asian STS”); and</p> <p>(i) The current ISDA Non-Deliverable Swap Transaction Fallback Matrix (the “Asian Matrix,” and, together with the Asian STS, the “Asian Terms”).</p> <p>For convenience, certain terms are mapped to their FpML 5.5 equivalent.</p>
Product Type/ISDA OTC Taxonomy:	
ISDA OTC Asset Class:	Interest Rate
ISDA OTC Base Product:	IR Swap
ISDA OTC Sub-Product:	Exotic
Further Limitations:	None
Terms:	
Settlement Currency:	<p>With respect to Non-Deliverable Single-Currency Swaps, USD.</p> <p>With respect to any Non-Deliverable Cross-Currency Swap, for any currency pair selected by the parties from among those specified in the list of Available Currency Pairs, the currency specified as such in that list.</p>
Index Currency:	<p>With respect to any Non-Deliverable Single-Currency Swaps, the currency elected by the parties from among those specified in the list of Available Single Currencies.</p> <p>With respect to any Non-Deliverable Cross-Currency Swaps, for any currency pair selected by the parties from among those specified in the list of Available Currency Pairs, the currency specified as such in that list.</p>
Effective Date (“effectiveDate”):	<p>The date specified by the parties, adjusted in accordance with any applicable Business Day Convention.</p> <p>The parties may express the unadjusted Effective Date as a number of Business Days or Banking Days from the Trade Date (“relativeEffectiveDate”).</p>
Effective Date Business Days:	As specified by the parties from among the Available Business Days.
Effective Date Business Day Convention:	As specified by the parties from among the Available Business Day Conventions.
Termination Date (“terminationDate”):	<p>The date specified by the parties, adjusted in accordance with any applicable Business Day Convention.</p> <p>The parties may express the unadjusted Termination Date as a number of days, months or years from the Effective Date (“relativeTerminationDate”).</p>
Termination Date Business Day Convention:	As specified by the parties from among the Available

	Business Day Conventions.
FX Rate:	<p>The amount of Index Currency corresponding to one unit of the Settlement Currency.</p> <p>The FX Rate will be determined on the date determined as specified for the relevant Available Single Currency or Available Currency Pair and in accordance:</p> <p>(a) in the case of Index Currencies not identified as subject to Asian Terms, with the specified NDF Template and Rate Sources and Fallback Rates, treating the scheduled date of determination of the FX Rate as the “Valuation Date” under the NDF Template; and</p> <p>(b) in the case of Index Currencies identified as subject to Asian Terms, in accordance with the Asian Terms.</p>
Fixed Amount:	
Fixed Rate Payer (“payerPartyReference”):	As specified by the parties.
Currency Amount (“notional”):	<p>For any Non-Deliverable Single-Currency Swap Transaction or for any Non-Deliverable Cross-Currency Swap Transaction involving ARS or PEN, an amount in the Index Currency agreed by the parties.</p> <p>For any other Non-Deliverable Cross-Currency Swap Transaction, an amount in the Index Currency or Settlement Currency agreed by the parties.</p>
Fixed Amount:	<p>If the Currency Amount is denominated in the Settlement Currency, an amount calculated in accordance with the 2006 ISDA Definitions.</p> <p>If the Currency Amount is not denominated in the Settlement Currency and the Index Currency is not identified as being subject to Asian Terms, then notwithstanding anything to the contrary contained in the 2006 ISDA Definitions, the Fixed Amount shall equal an amount in the Settlement Currency equal to:</p>
<i>FX Rate × Fixed Rate × Currency Amount × Day Count Fraction</i>	
	If the Currency Amount is not denominated in the Settlement Currency and the Index Currency is identified as being subject to Asian Terms, then the Fixed Amount shall be calculated in accordance with the Asian Terms.
Fixed Rate Period End Dates:	As specified by the parties, subject to adjustment in accordance with any Fixed Rate Payer Period End Date Business Day Convention.
Fixed Rate Payer Period End Date Business Days:	If a Fixed Rate Payer Period End Date Business Day Convention is applicable, as specified by the parties from among the Available Business Days.
Fixed Rate Payer Payment Date Day Convention:	As specified by the parties from among the Available Business Day Conventions. If “No Adjustment” is specified, then the Fixed Rate Payer Period End Dates

	will not be adjusted.
Fixed Rate Payment Dates:	As specified by the parties, subject to adjustment in accordance with the Fixed Rate Payer Payment Date Business Day Convention.
Fixed Rate Payer Payment Date Business Days:	As specified by the parties from among the Available Business Days.
Fixed Rate Payer Payment Date Day Convention:	As specified by the parties from among the Available Business Day Conventions.
Day Count Fraction:	As specified by the parties from among the Available Day Count Fractions.
Floating Amount:	
Floating Rate Payer (“payerPartyReference”):	As specified by the parties.
Currency Amount (“notional”):	<p>For any Non-Deliverable Single-Currency Swap Transaction, an amount in the Index Currency agreed by the parties.</p> <p>For any Non-Deliverable Cross-Currency Swap, an amount in the Settlement Currency agreed by the parties.</p> <p>For any other Non-Deliverable Cross-Currency Swap, an amount agreed by the parties in whichever of the Index Currency or Settlement Currency is not the currency in which the Fixed Rate Payer Currency Amount is denominated.</p>
Floating Amount:	<p>If the Currency Amount is denominated in the Settlement Currency, an amount calculated in accordance with the 2006 ISDA Definitions.</p> <p>If the Currency Amount is denominated in BRL, then notwithstanding anything to the contrary contained in the 2006 ISDA Definitions, the Floating Amount shall be calculated as set forth under Definition of BRL Floating Rate Option.</p> <p>If the Currency Amount is not denominated in the Settlement Currency or BRL and the Index Currency is not identified as being subject to Asian Terms, then notwithstanding anything to the contrary contained in the 2006 ISDA Definitions, the Floating Amount shall equal an amount in the Settlement Currency equal to:</p>
<i>FX Rate × Currency Amount × (Floating Rate + Spread) × Floating Rate Day Count Fraction</i>	
	If the Currency Amount is not denominated in the Settlement Currency and the Index Currency is identified as being subject to Asian Terms, then the Floating Amount shall be calculated in accordance with the Asian Terms.
Floating Rate Option:	For the relevant Currency, as selected by the parties from among the Available Floating Rate Options for such Currency.

Designated Maturity (“indexTenor”):	As specified by the parties from among the available tenors.
Spread:	As specified by the parties.
Reset Dates (“resetDate”):	As specified by the parties.
Reset Dates Business Days:	As specified by the parties from among the Available Business Days, subject to any Required Business Days.
Reset Dates Business Day Convention:	As specified by the parties from among the Available Business Day Conventions.
Floating Rate Period End Dates:	As specified by the parties, subject to adjustment in accordance with any Floating Rate Payer Period End Date Business Day Convention.
Floating Rate Payer Period End Date Business Days:	If a Floating Rate Payer Period End Date Business Day Convention is applicable, as specified by the parties from among the Available Business Days.
Floating Rate Payer Payment Date Day Convention:	As specified by the parties from among the Available Business Day Conventions. If “No Adjustment” is specified, then the Floating Rate Payer Period End Dates will not be adjusted.
Floating Rate Payment Dates:	As specified by the parties, subject to adjustment in accordance with the Floating Rate Payer Payment Date Business Day Convention.
Floating Rate Payer Payment Date Business Days:	As specified by the parties from among the Available Business Days.
Floating Rate Payer Payment Date Day Convention:	As specified by the parties from among the Available Business Day Conventions.
Day Count Fraction:	As specified by the parties from among the Available Day Count Fractions.
Compounding:	As specified by the parties.
Method of Averaging:	As specified by the parties.
Final Exchange:	
Final Exchange Date:	As specified by the parties.
Final Exchange Business Days:	As specified by the parties from among the Available Business Days.
Final Exchange Business Day Convention:	As specified by the parties from among the Available Business Day Conventions.
Fixed Rate Payer Final Exchange Amount:	<p>If the Fixed Rate Payer Final Exchange Amount is denominated in the Settlement Currency, the Fixed Rate Payer Final Exchange Amount.</p> <p>If the Fixed Rate Payer Final Exchange Amount is denominated in the Index Currency and the Index Currency is not identified as being subject to Asian Terms, an amount in the Settlement Currency equal to:</p>
<i>FX Rate × Currency Amount</i>	

	If the Fixed Rate Payer Final Exchange Amount is not denominated in the Settlement Currency and the Index Currency is identified as being subject to Asian Terms, then the Fixed Rate Payer Final Exchange Amount shall be calculated in accordance with the Asian Terms.
Floating Rate Payer Final Exchange Amount:	If the Floating Rate Payer Final Exchange Amount is denominated in the Settlement Currency, the Floating Rate Payer Final Exchange Amount. If the Floating Rate Payer Final Exchange Amount is denominated in the Index Currency and the Index Currency is not identified as being subject to Asian Terms an amount in the Settlement Currency equal to:
<i>FX Rate × Currency Amount</i>	
	If the Floating Rate Payer Final Exchange Amount is not denominated in the Settlement Currency and the Index Currency is identified as being subject to Asian Terms, then the Floating Rate Payer Final Exchange Amount shall be calculated in accordance with the Asian Terms.

Non-Deliverable Swap Settlement Currencies and Required Business Days

Three Letter Currency Code (ISDA/ISO)	Currency Name (ISDA)	Basic Business Day Locations For Currency (FpML Codes)
USD	United States Dollars	USNY

Non-Deliverable Cross-Currency Swap Available Currencies

Index Currency	NDF Template	Rate Source	Fallback Rate Source(s) (in order)	Determination Date	Business Days
INR	N/A	N/A	N/A	N/A	INMU
MYR	N/A	N/A	N/A	N/A	MYKL
THB	N/A	N/A	N/A	N/A	THBA

Non-Deliverable Cross-Currency Swap Available Currency Pairs

Index Currency	Settlement Currency	NDF Template	Rate Source	Fallback Rate Source(s) (in order)	Determination Date	Business Days
ARS	USD	17 May 06	ARS03	ARS04	Payment – 2 BD	ARBA USNY
BRL	USD	17 May 06	BRL09	BRL12, BRL13	Payment – 2 BD	USNY and any of BR {SP,RJ, BR}
CLP	USD	01 Aug 06	CLP10	CLP11	Payment – 2 BD	CLSA USNY
COP	USD	01 Aug 06	COP02	COP03	Payment – 2 BD	USNY COBO
PEN	USD	03 Dec 07	PEN05	PEN04	Payment – 2 BD	USNY PELI

Applicability of Asian Terms

Index Currency	Asian Terms
ARS	Not Applicable
BRL	Not Applicable
CLP	Not Applicable
COP	Not Applicable
INR	Applicable
MYR	Applicable
PEN	Not Applicable
THB	Applicable

Non-Deliverable Swap Floating Rate Options

Index Currency	Floating Rate Option	Defined In	Business Days
ARS	Not Applicable—Fixed Leg ONLY		ARBA USNY
BRL	BRL-CDI-CETIP	See below	USNY and any of BR {SP,RJ, BR}
CLP	<i>CLP-Indice Cámara Promedio (ICP)</i>	CLP TNA Best Practices	USNY CLSA
CLP	<i>CLP-Unidad de Fomentos (UF/CLF)</i>	See below	USNY CLSA
COP	COP-IBR-OIS-COMPOUND	ISDA 2006	USNY COBO
COP	<i>COP-Unidad de Valor Real (UVR)</i>	See below	USNY COBO
INR	INR-FBIL-MIBOR-OIS-COMPOUND	ISDA 2006	INMU
INR	INR-MITOR-OIS-COMPOUND	ISDA 2006	INMU
MYR	MYR-KLIBOR-BNM	ISDA 2006	MYKL
PEN	Not Applicable—Fixed Leg ONLY		USNY PELI
THB	THB-THBFIX-Reuters	ISDA 2006	THBA
USD	Any USD Floating Rate Option available under tpSEF's Fixed/Floating Swap Listing	See tpSEF's Fixed/Floating Swap Listing	See tpSEF's Fixed/Floating Swap Listing

Definition of BRL Floating Rate Option

Floating Amount:	Notwithstanding anything to the contrary
$FX \text{ Rate} \times \text{Currency Amount} \times \left[\prod_{j=1}^N \left(1 + \frac{\text{Relevant Rate}_j}{252} \right) - 1 \right]^{252/N}$	
	<p>Where:</p> <p><i>N</i>=number of Reset Dates in the Calculation Period</p> <p><i>j</i>=a particular Reset Date</p>

	<i>Relevant Rate</i> =the Relevant Rate for instance <i>j</i> of Reset Date
BRL-CDI-CETIP:	<p>For any Reset Date, the Overnight Brazilian Interbank Deposit Rate Annualized, known as the average (“Media”) of the DIOVER- EXTRA Group as published by CETIP (<i>Câmara de Custódia e Liquidação</i>) (the “Overnight CDI Rate”) for such date; provided that (i) such rate is published not later than 12:00 p.m. on the Brazil Business Day next following such Reset Date and (ii) any adjustments made by CETIP to such rate at any time later than the end of the business day on such Reset Date shall not be taken into account.</p> <p>If for any Reset Date there is no published Overnight CDI Rate (including as a result of the proviso above), CDI for the relevant Reset Date will be the overnight deposit rate published for such date by the BM&F in accordance with its rules (see http://www.bmf.com.br/portal/pages/boletim1/bd_manual/indicadoreFinanceiros1.asp, or any successor page). If the BM&F does not publish such a rate for such date, CDI for the relevant Reset Date shall be determined jointly by the parties. If the parties do not agree on a determination of such rate within one Brazil Business Day following the relevant Reset Date, CDI shall be determined through a CDI Reference Dealer Poll as described herein. If CDI for a Reset Date is not so determined by a CDI Reference Dealer Poll, BRL-CDI-Reference Dealers shall apply.</p>
BRL-CDI-Reference Dealers:	If applicable for a Reset Date as set forth above, the Calculation Agent shall conduct up to four dealer polls commencing on the Brazil Business Day following the relevant Reset Date, in each case by requesting each of the CDI Reference Dealers to provide a quotation of the CDI. If at least four such quotations are obtained from CDI Reference Dealers in any such poll, the highest and lowest quotations will be disregarded and CDI for the relevant Reset Date will equal the arithmetic mean of the remaining quotations. If fewer than four such quotations are obtained from a poll, the Calculation Agent shall conduct additional such polls until four such quotations are obtained in any poll; provided that the Calculation Agent shall not conduct more than four polls in the aggregate (with not more than two polls on any day and with such polls conducted over not more than two Brazil Business Days). If four quotations are not obtained from any of such four polls, CDI shall not be determined by a CDI Reference Dealer Poll.
CDI Reference Dealers:	At least six and not more than eight leading onshore dealers in the CDI market selected by the Calculation Agent.
Reset Dates (“resetDate”):	Each Scheduled Reset Date (as defined in the BRL CDI Best Practices).
Reset Dates Business Days:	As specified by the parties from among the Available BR Business Days.
Available BR Business Days:	Any of BR{SP,RJ, BR} and not otherwise declared a financial market holiday by the BM&F.

Definition of CLP-*Unidad de Fomento (UF/CLF)*

<p><u>CLP-<i>Unidad de Fomento (UF/CLF)</i></u>:</p>	<p>For any Reset Date, the difference between the value of the <i>unidad de fomento (UF/CLF)</i> as certified by the Chilean <i>Banco Central de Chile</i> for the calendar day preceding such Reset Date and the value of the <i>unidad de fomento (UF/CLF)</i> as certified by the Chilean <i>Banco Central de Chile</i> for such Reset Date.</p> <p>The Calculation Agent shall convert such difference to the appropriate annualized percentage based on the terms of the Floating Amount payable by reference to the CLP-<u><i>Unidad de Fomento (UF/CLF)</i></u>.</p> <p>If for any Reset Date there is no published value of the <i>unidad de fomento (UF/CLF)</i> as certified by the Chilean <i>Banco Central de Chile</i>, the Calculation Agent shall determine the CLP-<u><i>Unidad de Fomento (UF/CLF)</i></u> for such day.</p>
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Definition of COP-*Unidad de Valor Real (UVR)*

<p><u>COP-<i>Unidad de Valor Real (UVR)</i></u>:</p>	<p>For any Reset Date, the difference between the value of the <i>unidad de valor real (UVR)</i> as certified by the Colombian <i>Banco de Republica</i> for the calendar day preceding such Reset Date and the value of <i>unidad de valor real (UVR)</i> as certified by the Colombian <i>Banco de Republica</i> for such Reset Date.</p> <p>The Calculation Agent shall convert such difference to the appropriate annualized percentage based on the terms of the Floating Amount payable by reference to the COP-<u><i>Unidad de Valor Real (UVR)</i></u>.</p> <p>If for any Reset Date there is no published the difference between the value of the <i>unidad de valor real (UVR)</i> as certified by the Colombian <i>Banco de Republica</i>, the Calculation Agent shall determine the COP-<u><i>Unidad de Valor Real (UVR)</i></u> for such day.</p>
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Non-Deliverable Swap Available Day Count Fractions

ISDA Name
1/1
30/360, 360/360, Bond Basis
Actual/360
Actual/365 (Fixed), Act/365 (Fixed), A/365 (Fixed), A/365F
Actual/Actual, Actual/Actual (ISDA), Act/Act, Act/Act (ISDA)
Actual/Actual (ICMA), Act/Act, Act/Act (ICMA)

Non-Deliverable Swap Available Business Day Conventions

ISDA Name
Following
Modified/Modified Following
No Adjustment

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Preceding
FRN Convention/Eurodollar Convention

Non-Deliverable Single-Currency Swap Notional Amounts

Currency	Minimum	Increment
INR	5,000,000	100,000
MYR	5,000,000	100,000
RHB	5,000,000	100,000

Non-Deliverable Cross-Currency Swap Notional Amounts

Currency	Minimum	Increment
ARS	As implied by the USD minimum	As implied by the USD increment
BRL	As implied by the USD minimum	As implied by the USD increment
CLP	As implied by the USD minimum	As implied by the USD increment
COP	As implied by the USD minimum	As implied by the USD increment
PEN	As implied by the USD minimum	As implied by the USD increment
USD	1,000,000	100,000

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 Non-Deliverable Swaps (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

**CORE PRINCIPLE 3 OF SECTION 5H OF THE ACT—SWAPS NOT READILY SUSCEPTIBLE TO
MANIPULATION; CORE PRINCIPLE 4 OF SECTION 5H OF THE ACT—MONITORING OF TRADING AND
TRADE PROCESSING**

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.

The non-deliverable feature is a mechanism used to settle single or cross-currency swap transactions where currency restrictions make delivery of the underlying currencies difficult. It is similar to a non-deliverable forward (NDF) and is used for many of the same currencies. The FX reference price for these swaps uses the standard EMTA rates and fallbacks which are widely accepted in the NDF space. The floating rates are standard ISDA published rates which are also widely accepted. Where no such rate is available (e.g., CLP, COP, PEN), only fixed rates or rates published by official sources such as the relevant Central Bank are used for the leg denominated in that currency.

(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.

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

(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 non-deliverable swaps that are commonly offered in the market and are listed in Exhibit B.

As is common with non-deliverable swaps, the Contracts have several flexible terms – for instance, counterparties are able to choose: (a) the underlying index currency, (b) the maturity date and (c) in the case of cross-currency swaps, for most currencies whether the floating leg will be in the local currency or USD. 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, as described above, the FX rates and floating rate fixings are accepted in the marketplace as a reliable, unbiased source for foreign exchange and interest rate data. Second, the reference prices are readily available via a number of sources including, in the case of FX rates, the websites of the various central banks. 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 is paid in USD and is generally based on the same rate as is used for calculating a non-deliverable forward. This method of cash settlement is consistent with the customary practice of cash-settling non-deliverable swaps 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. Cash-settled 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 and the interest rates used are very standard benchmark rates in the relevant currency. Accordingly, the Contract is 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, many of which are published by governmental agencies rather than private actors.

(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.

(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 norms.

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

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

(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 size of the Contracts are consistent with customary transaction sizes in the market.

(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 cash settlement procedures and an explanation, in the context of these Contracts, that it is not readily susceptible to manipulation, is described above.

(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 will be the maturity date of each contract, which is set by the individual counterparties.

(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.

Payments are settled on the termination date agreed by the parties.

(H) Speculative Limits: 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.

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 Eastern Time. The Contracts are not traded between 5:30 p.m. and 6:30 p.m. Eastern Time.

EXHIBIT D

**Terms and Conditions
 (Marked against July 31, 2015 Version)**

Terms and Conditions

<p>Summary:</p>	<p>This covers non-deliverable single-currency swaps (“Non-Deliverable Single-Currency Swaps”) and non-deliverable cross-currency swaps (“Non-Deliverable Cross-Currency Swaps” and, together with Non-Deliverable Single-Currency Swaps, “Non-Deliverable Swaps”).</p>
<p>Limitations on Available Selections and Default Settings:</p>	<p>The terms under which Non-Deliverable Single-Currency Swaps and Non-Deliverable Cross-Currency Swaps may be traded are as specified in these terms and conditions or in the attached tables.</p> <p>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.</p> <p>For Business Days, the defaults shall be the locations specified.</p> <p>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.</p> <p>For these purposes “TARGET” is considered a location.</p> <p>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.</p>
<p>Incorporated Standards:</p>	<p>This contract description incorporates by reference the following industry standard documentation and standards:</p> <ul style="list-style-type: none"> (j) 2006 ISDA Definitions (including Supplement 31 thereto); (k) ISDA OTC Taxonomies; (l) FpML Location Codes; (m) the ISDA/EMTA 1998 FX and Currency Option Definitions (“1998 Definitions”); (n) the EMTA Non-Deliverable Forward Templates; (o) the EMTA-ISDA Market Practice for Non-Deliverable CLP “<i>Cámara</i>” (CLP TNA) Interest Rate Swap Transactions (“CLP TNA Best Practices”); and (p) the Recommended EMTA-ISDA Market Practice

	<p>for BRL CDI Non-Deliverable Interest Rate Swap Transactions (Amended March 13, 2009) (“BRL CDI Best Practices”);</p> <p>(q) The current ISDA Revised Non-Deliverable Swap Transaction Standard Terms Supplement (“Asian STS”); and</p> <p>(r) The current ISDA Non-Deliverable Swap Transaction Fallback Matrix (the “Asian Matrix,” and, together with the Asian STS, the “Asian Terms”).</p> <p>For convenience, certain terms are mapped to their FpML 5.5 equivalent.</p>
Product Type/ISDA OTC Taxonomy:	
ISDA OTC Asset Class:	Interest Rate
ISDA OTC Base Product:	IR Swap
ISDA OTC Sub-Product:	Exotic
Further Limitations:	None
Terms:	
Settlement Currency:	<p>With respect to Non-Deliverable Single-Currency Swaps, USD.</p> <p>For With respect to any Non-Deliverable Cross-Currency Swap, for any currency pair selected by the parties from among those specified in the list of Available Currency Pairs, the currency specified as such in that list.</p>
Index Currency:	<p>With respect to any Non-Deliverable Single-Currency Swaps, the currency elected by the parties from among those specified in the list of Available Single Currencies.</p> <p>For With respect to any Non-Deliverable Cross-Currency Swaps, for any currency pair selected by the parties from among those specified in the list of Available Currency Pairs, the currency specified as such in that list.</p>
Effective Date (“effectiveDate”):	<p>The date specified by the parties, adjusted in accordance with any applicable Business Day Convention.</p> <p>The parties may express the unadjusted Effective Date as a number of Business Days or Banking Days from the Trade Date (“relativeEffectiveDate”).</p>
Effective Date Business Days:	As specified by the parties from among the Available Business Days.
Effective Date Business Day Convention:	As specified by the parties from among the Available Business Day Conventions.
Termination Date (“terminationDate”):	<p>The date specified by the parties, adjusted in accordance with any applicable Business Day Convention.</p> <p>The parties may express the unadjusted Termination Date as a number of days, months or years from the</p>

	Effective Date (“relativeTerminationDate”).
Termination Date Business Day Convention:	As specified by the parties from among the Available Business Day Conventions.
FX Rate:	<p>For any currency pair selected by the parties from among those specified in the list of Available Currency Pairs, theThe amount of Index Currency corresponding to one unit of the Settlement Currency.</p> <p>The FX Rate will be determined on the date determined as specified for the relevant Available Single Currency or Available Currency Pair and in accordance:</p> <p>(a) in the case of Index Currencies not identified as subject to Asian Terms, with the specified NDF Template and Rate Sources and Fallback Rates, treating the scheduled date of determination of the FX Rate as the “Valuation Date” under the NDF Template; and</p> <p>(b) in the case of Index Currencies identified as subject to Asian Terms, in accordance with the Asian Terms.</p>
Fixed Amount:	
Fixed Rate Payer (“payerPartyReference”):	As specified by the parties.
Currency Amount (“notional”):	<p>In the case of aFor any Non-Deliverable Single-Currency Swap Transaction or for any Non-Deliverable Cross-Currency Swap Transaction involving ARS or PEN, an amount in the Index Currency agreed by the parties.</p> <p>InFor any other easeNon-Deliverable Cross-Currency Swap Transaction, an amount in the Index Currency or Settlement Currency agreed by the parties.</p>
Fixed Amount:	<p>If the Currency Amount is denominated in the Settlement Currency, an amount calculated in accordance with the 2006 ISDA Definitions.</p> <p>If the Currency Amount is not denominated in the Settlement Currency and the Index Currency is not identified as being subject to Asian Terms, then notwithstanding anything to the contrary contained in the 2006 ISDA Definitions, the Fixed Amount shall equal an amount in the Settlement Currency equal to:</p>
<i>FX Rate × Fixed Rate × Currency Amount × Day Count Fraction</i>	
	If the Currency Amount is not denominated in the Settlement Currency and the Index Currency is identified as being subject to Asian Terms, then the Fixed Amount shall be calculated in accordance with the Asian Terms.
Fixed Rate Period End Dates:	As specified by the parties, subject to adjustment in accordance with any Fixed Rate Payer Period End Date Business Day Convention.
Fixed Rate Payer Period End Date Business Days:	If a Fixed Rate Payer Period End Date Business Day

	Convention is applicable, as specified by the parties from among the Available Business Days.
Fixed Rate Payer Payment Date Day Convention:	As specified by the parties from among the Available Business Day Conventions. If “No Adjustment” is specified, then the Fixed Rate Payer Period End Dates will not be adjusted.
Fixed Rate Payment Dates:	As specified by the parties, subject to adjustment in accordance with the Fixed Rate Payer Payment Date Business Day Convention.
Fixed Rate Payer Payment Date Business Days:	As specified by the parties from among the Available Business Days.
Fixed Rate Payer Payment Date Day Convention:	As specified by the parties from among the Available Business Day Conventions.
Day Count Fraction:	As specified by the parties from among the Available Day Count Fractions.
Floating Amount:	
Floating Rate Payer (“payerPartyReference”):	As specified by the parties.
Currency Amount (“notional”):	<p>In the case of a <u>For any Non-Deliverable Single-Currency Swap</u> Transaction involving ARS or PEN, an amount in the Settlement<u>Index</u> Currency agreed by the parties.</p> <p>In <u>For any other case</u> <u>Non-Deliverable Cross-Currency Swap</u>, an amount in the Index Currency or Settlement Currency agreed by the parties.</p> <p><u>For any other Non-Deliverable Cross-Currency Swap, an amount agreed by the parties in whichever of the Index Currency or Settlement Currency is not the currency in which the Fixed Rate Payer Currency Amount is denominated.</u></p>
Floating Amount:	<p>If the Currency Amount is denominated in the Settlement Currency, an amount calculated in accordance with the 2006 ISDA Definitions.</p> <p>If the Currency Amount is denominated in BRL, then notwithstanding anything to the contrary contained in the 2006 ISDA Definitions, the Floating Amount shall be calculated as set forth under Definition of BRL Floating Rate Option.</p> <p>If the Currency Amount is not denominated in the Settlement Currency or BRL <u>and the Index Currency is not identified as being subject to Asian Terms</u>, then notwithstanding anything to the contrary contained in the 2006 ISDA Definitions, the Floating Amount shall equal an amount in the Settlement Currency equal to:</p>
<i>$FX\ Rate \times Currency\ Amount \times (Floating\ Rate + Spread) \times Floating\ Rate\ Day\ Count\ Fraction$</i>	
	<u>If the Currency Amount is not denominated in the Settlement Currency and the Index Currency is</u>

	<u>identified as being subject to Asian Terms, then the Floating Amount shall be calculated in accordance with the Asian Terms.</u>
Floating Rate Option:	For the relevant Currency, as selected by the parties from among the Available Floating Rate Options for such Currency.
Designated Maturity ("indexTenor"):	As specified by the parties from among the available tenors.
Spread:	Zero <u>As specified by the parties.</u>
Day Count Fraction:	1/1
Reset Dates ("resetDate"):	The second Business Day preceding the Floating Rate Payment Date <u>As specified by the parties.</u>
Reset Dates Business Days:	As specified by the parties from among the Available Business Days, subject to any Required Business Days.
Reset Dates Business Day Convention:	As specified by the parties from among the Available Business Day Conventions.
Floating Rate Period End Dates:	As specified by the parties, subject to adjustment in accordance with any Floating Rate Payer Period End Date Business Day Convention.
Floating Rate Payer Period End Date Business Days:	If a Floating Rate Payer Period End Date Business Day Convention is applicable, as specified by the parties from among the Available Business Days.
Floating Rate Payer Payment Date Day Convention:	As specified by the parties from among the Available Business Day Conventions. If "No Adjustment" is specified, then the Floating Rate Payer Period End Dates will not be adjusted.
Floating Rate Payment Dates:	As specified by the parties, subject to adjustment in accordance with the Floating Rate Payer Payment Date Business Day Convention.
Floating Rate Payer Payment Date Business Days:	As specified by the parties from among the Available Business Days.
Floating Rate Payer Payment Date Day Convention:	As specified by the parties from among the Available Business Day Conventions.
Day Count Fraction:	As specified by the parties from among the Available Day Count Fractions.
Compounding:	As specified by the parties.
Method of Averaging:	As specified by the parties.
Final Exchange:	
Final Exchange Date:	As specified by the parties.
Final Exchange Business Days:	As specified by the parties from among the Available Business Days.
Final Exchange Business Day Convention:	As specified by the parties from among the Available Business Day Conventions.

Fixed Rate Payer Final Exchange Amount:	<p>If the Fixed Rate Payer CurrencyFinal Exchange Amount is denominated in the Settlement Currency, the Fixed Rate Payer CurrencyFinal Exchange Amount.</p> <p>If the Fixed Rate Payer CurrencyFinal Exchange Amount is denominated in the Index Currency <u>and the Index Currency is not identified as being subject to Asian Terms</u>, an amount in the Settlement Currency equal to:</p>
<i>FX Rate × Currency Amount</i>	
	<u>If the Fixed Rate Payer Final Exchange Amount is not denominated in the Settlement Currency and the Index Currency is identified as being subject to Asian Terms, then the Fixed Rate Payer Final Exchange Amount shall be calculated in accordance with the Asian Terms.</u>
Floating Rate Payer Final Exchange Amount:	<p>If the Floating Rate Payer CurrencyFinal Exchange Amount is denominated in the Settlement Currency, the Floating Rate Payer CurrencyFinal Exchange Amount.</p> <p>If the Floating Rate Payer CurrencyFinal Exchange Amount is denominated in the Index Currency <u>and the Index Currency is not identified as being subject to Asian Terms</u> an amount in the Settlement Currency equal to:</p>
<i>FX Rate × Currency Amount</i>	
	<u>If the Floating Rate Payer Final Exchange Amount is not denominated in the Settlement Currency and the Index Currency is identified as being subject to Asian Terms, then the Floating Rate Payer Final Exchange Amount shall be calculated in accordance with the Asian Terms.</u>

Non-Deliverable ~~Cross-Currency~~ Swap Settlement Currencies and Required Business Days

Three Letter Currency Code (ISDA/ISO)	Currency Name (ISDA)	Basic Business Day Locations For Currency (FpML Codes)
USD	United States Dollars	USNY

Non-Deliverable Cross-Currency Swap Available Currencies

<u>Index Currency</u>	<u>NDF Template</u>	<u>Rate Source</u>	<u>Fallback Rate Source(s) (in order)</u>	<u>Determination Date</u>	<u>Business Days</u>
<u>INR</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>INMU</u>
<u>MYR</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>MYKL</u>
<u>THB</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>THBA</u>

Non-Deliverable Cross-Currency Swap Available Currency Pairs

Index Currency	Settlement Currency	NDF Template	Rate Source	Fallback Rate Source(s) (in order)	Determination Date	Business Days
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ARS	USD	17 May 06	ARS03	ARS04	Payment – 2 BD	ARBA USNY
BRL	USD	17 May 06	BRL09	BRL12, BRL13	Payment – 2 BD	USNY and any of BR {SP,RJ, BR}
CLP	USD	01 Aug 06	CLP10	CLP11	Payment – 2 BD	CLSA USNY
COP	USD	01 Aug 06	COP02	COP03	Payment – 2 BD	USNY COBO
PEN	USD	03 Dec 07	PEN05	PEN04	Payment – 2 BD	USNY PELI

Applicability of Asian Terms

<u>Index Currency</u>	<u>Asian Terms</u>
ARS	Not Applicable
BRL	Not Applicable
CLP	Not Applicable
COP	Not Applicable
INR	Applicable
MYR	Applicable
PEN	Not Applicable
THB	Applicable

Non-Deliverable ~~Cross-Currency~~ Swap Floating Rate Options

Index Currency	Floating Rate Option	Defined In	Business Days
ARS	Not Applicable—Fixed Leg ONLY		ARBA USNY
BRL	BRL-CDI-CETIP	See below	USNY and any of BR {SP,RJ, BR}
CLP	<i>CLP-Indice Cámara Promedio (ICP)</i>	CLP TNA Best Practices	USNY CLSA
CLP	<i>CLP-Unidad de Fomentos (UF/CLF)</i>	See below	USNY CLSA
COP	COP-IBR-OIS- COMPOUND	ISDA 2006 Supplement 31	USNY COBO
COP	<i>COP-Unidad de Valor Real (UVR)</i>	See below	USNY COBO
INR	INR-FBIL-MIBOR-OIS- COMPOUND	ISDA 2006	INMU
INR	INR-MITOR-OIS- COMPOUND	ISDA 2006	INMU
MYR	MYR-KLIBOR-BNM	ISDA 2006	MYKL
PEN	Not Applicable—Fixed Leg ONLY		USNY PELI
THB	THB-THBFIX-Reuters	ISDA 2006	THBA
USD	Any USD Floating Rate Option available under tpSEF's Fixed/Floating Swap Listing	See tpSEF's Fixed/Floating Swap Listing	See tpSEF's Fixed/Floating Swap Listing

Definition of BRL Floating Rate Option

Floating Amount:	Notwithstanding anything to the contrary
$FX \text{ Rate} \times \text{Currency Amount} \times \left[\prod_{j=1}^N \left(1 + \frac{\text{Relevant Rate}_j}{252} \right) - 1 \right]^{252/N}$	
	<p>Where:</p> <p>N=number of Reset Dates in the Calculation Period</p> <p>j=a particular Reset Date</p> <p><i>Relevant Rate</i>=the Relevant Rate for instance j of Reset Date</p>
BRL-CDI-CETIP:	<p>For any Reset Date, the Overnight Brazilian Interbank Deposit Rate Annualized, known as the average (“Media”) of the DIOVER- EXTRA Group as published by CETIP (<i>Câmara de Custódia e Liquidação</i>) (the “Overnight CDI Rate”) for such date; provided that (i) such rate is published not later than 12:00 p.m. on the Brazil Business Day next following such Reset Date and (ii) any adjustments made by CETIP to such rate at any time later than the end of the business day on such Reset Date shall not be taken into account.</p> <p>If for any Reset Date there is no published Overnight CDI Rate (including as a result of the proviso above), CDI for the relevant Reset Date will be the overnight deposit rate published for such date by the BM&F in accordance with its rules (see http://www.bmf.com.br/portal/pages/boletim1/bd_manual/indicadoreFinanceiros1.asp, or any successor page). If the BM&F does not publish such a rate for such date, CDI for the relevant Reset Date shall be determined jointly by the parties. If the parties do not agree on a determination of such rate within one Brazil Business Day following the relevant Reset Date, CDI shall be determined through a CDI Reference Dealer Poll as described herein. If CDI for a Reset Date is not so determined by a CDI Reference Dealer Poll, BRL-CDI-Reference Dealers shall apply.</p>
BRL-CDI-Reference Dealers:	<p>If applicable for a Reset Date as set forth above, the Calculation Agent shall conduct up to four dealer polls commencing on the Brazil Business Day following the relevant Reset Date, in each case by requesting each of the CDI Reference Dealers to provide a quotation of the CDI. If at least four such quotations are obtained from CDI Reference Dealers in any such poll, the highest and lowest quotations will be disregarded and CDI for the relevant Reset Date will equal the arithmetic mean of the remaining quotations. If fewer than four such quotations are obtained from a poll, the Calculation Agent shall conduct additional such polls until four such quotations are obtained in any poll; provided that the Calculation Agent shall not conduct more than four polls in the aggregate (with not more than two polls on any day and with such polls conducted over not more than two Brazil Business Days). If four quotations are not obtained from any of such four polls, CDI shall not be</p>

	determined by a CDI Reference Dealer Poll.
CDI Reference Dealers:	At least six and not more than eight leading onshore dealers in the CDI market selected by the Calculation Agent.
Reset Dates (“resetDate”):	Each Scheduled Reset Date (as defined in the BRL CDI Best Practices).
Reset Dates Business Days:	As specified by the parties from among the Available BR Business Days.
Available BR Business Days:	Any of BR {SP,RJ, BR} and not otherwise declared a financial market holiday by the BM&F.

Definition of CLP-*Unidad de Fomento (UF/CLF)*

<u>CLP-<i>Unidad de Fomento (UF/CLF)</i></u> :	<p>For any Reset Date, the difference between the value of the <i>unidad de fomento (UF/CLF)</i> as certified by the Chilean <i>Banco Central de Chile</i> for the calendar day preceding such Reset Date and the value of the <i>unidad de fomento (UF/CLF)</i> as certified by the Chilean <i>Banco Central de Chile</i> for such Reset Date.</p> <p>The Calculation Agent shall convert such difference to the appropriate annualized percentage based on the terms of the Floating Amount payable by reference to the CLP-<u><i>Unidad de Fomento (UF/CLF)</i></u>.</p> <p>If for any Reset Date there is no published value of the <i>unidad de fomento (UF/CLF)</i> as certified by the Chilean <i>Banco Central de Chile</i>, the Calculation Agent shall determine the CLP-<u><i>Unidad de Fomento (UF/CLF)</i></u> for such day.</p>
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Definition of COP-*Unidad de Valor Real (UVR)*

<u>COP-<i>Unidad de Valor Real (UVR)</i></u> :	<p>For any Reset Date, the difference between the value of the <i>unidad de valor real (UVR)</i> as certified by the Colombian <i>Banco de Republica</i> for the calendar day preceding such Reset Date and the value of <i>unidad de valor real (UVR)</i> as certified by the Colombian <i>Banco de Republica</i> for such Reset Date.</p> <p>The Calculation Agent shall convert such difference to the appropriate annualized percentage based on the terms of the Floating Amount payable by reference to the COP-<u><i>Unidad de Valor Real (UVR)</i></u>.</p> <p>If for any Reset Date there is no published the difference between the value of the <i>unidad de valor real (UVR)</i> as certified by the Colombian <i>Banco de Republica</i>, the Calculation Agent shall determine the COP-<u><i>Unidad de Valor Real (UVR)</i></u> for such day.</p>
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Non-Deliverable ~~Cross-Currency~~ Swap Available Day Count Fractions

ISDA Name
1/1

Mr. Christopher J. Kirkpatrick

October 26, 2017

Page 29

30/360, 360/360, Bond Basis
Actual/360
Actual/365 (Fixed), Act/365 (Fixed), A/365 (Fixed), A/365F
Actual/Actual, Actual/Actual (ISDA), Act/Act, Act/Act (ISDA)
Actual/Actual (ICMA), Act/Act, Act/Act (ICMA)

Non-Deliverable ~~Cross-Currency~~ Swap Available Business Day Conventions

ISDA Name
Following
Modified/Modified Following
No Adjustment
Preceding
FRN Convention/Eurodollar Convention

Non-Deliverable Single-Currency Swap Notional Amounts

<u>Currency</u>	<u>Minimum</u>	<u>Increment</u>
<u>INR</u>	<u>5,000,000</u>	<u>100,000</u>
<u>MYR</u>	<u>5,000,000</u>	<u>100,000</u>
<u>RHB</u>	<u>5,000,000</u>	<u>100,000</u>

Non-Deliverable Cross-Currency Swap Notional Amounts

Currency	Minimum	Increment
ARS	As implied by the USD minimum	As implied by the USD increment
BRL	As implied by the USD minimum	As implied by the USD increment
CLP	As implied by the USD minimum	As implied by the USD increment
COP	As implied by the USD minimum	As implied by the USD increment
PEN	As implied by the USD minimum	As implied by the USD increment
USD	1,000,000	100,000