Annex dated
to Framework Agreement dated

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# Collateral Addendum to the Clearing Framework Agreement 2019 ("Framework Agreement")

The following is agreed:

between

Name and address of the Counterparty

(hereinafter referred to as "Counterparty")

and

Name and address of the Bank

(hereinafter referred to as "Bank")

(Bank and Counterparty jointly hereinafter referred to as "Parties")

# 1. Purpose and scope of the Addendum

In addition to the provisions of the Framework Agreement as well as the supplementary provisions contained in the applicable addenda for the respective central counterparties, the Parties undertake to provide the collateral they are required to post in accordance with Sections 2 and 3 of the Framework Agreement pursuant to the following provisions. The collateral provided on the basis of this Addendum serves to secure all existing, future, contingent and time-limited claims of the collateral receiver against the collateral provider arising from or in connection with the Agreement. Section 1 paragraph (5) and Section 6 of the Framework Agreement shall remain unaffected.

#### 2. Definitions

The following definitions apply within the scope of this Addendum:

- "Value" of cash and securities serving as collateral, to the extent that they correspond with the collateral permitted by the respective central counterparty, is the value determined by the Bank; the valuation method and rates used by this central counterparty may be taken into consideration; Cash Collateral must be valued at its nominal value and securities at their Market Value, multiplied in each case by the rates agreed in Section 12 paragraph (1); the same shall apply in the event that a central counterparty does not provide a value or a valuation method; if amounts not denominated in Euro are converted into Euro, this shall be done according to the reference rate.
- "Cash Collateral" means cash amounts in Euro or other eligible currencies pursuant to Section 12 paragraph (1);
- "Notification Day" means any Business Day;
- "Notification Time" means the point in time referred to as such in Section 12 paragraph (5);
- "Valuation Day" means any Business Day; where the central counterparty requests collateral more than once on a Business Day from the Bank in relation the relevant Contracts, or where on a Business Day the VM-Collateralisation Claim of the bank or the value of the IM-Collateral held by the Bank changes to the detriment of the collateral provider, each such request or change represents an independent Valuation Day, if the Bank determines this to be the case
- "Valuation Time" means the point in time the central counterparty has used as a basis for determining the collateral to be provided and, otherwise the time of banks operating in Frankfurt/Main close for business;
- "Offer Price" means the price for the sale of a security or a currency in each case quoted by leading market participants.

- "Received IM-Collateral" means IM-Collateral held by the Bank on the basis of this Addendum, including any IM-Collateral pledged to the Bank.
- "Bid Price" means the price for the purchase of a security or a currency in each case quoted by leading market participants.
- "IM Claim" means the total sum of all initial margin demanded by the central counterparty in relation to the Contracts concluded for the Counterparty;
- "IM-Cash-Collateral" means Cash Collateral provided as IM-Collateral;
- "IM Collateralisation Claim" of the Bank means the amount of its IM claim plus a possible Surcharge agreed for the benefit of the Bank; if this results in a negative amount, then the IM Collateralisation claim of the Bank shall be zero;
- "IM-Collateral" means the Collateral to be provided in accordance with Section 2 paragraph (1) of the Framework Agreement and posted in accordance with Section 8 paragraph (2);
- "IM-Securities-Collateral" means Securities Collateral provided as IM-Collateral;
- "IM Additional Collateral" means any collateral provided by the Counterparty to the Bank in accordance with Section 8 paragraph (2) as Initial Margin exceeding the IM-Collateralisation Claim at the time of the provision as collateral;
- "Market Value" of Securities Collateral means the Bid Price at the Valuation Time on the relevant Valuation Day; in the case of debt securities – depending on the terms agreed in Section 12 paragraph (1) – either including or excluding interest accrued by the end of such day;
- "Average Rate" means the arithmetic mean of the Bid and Offer Price;
- "Negative Interest Amount" means the absolute value of an Interest Amount lower than zero;
- "Reference Rate" is the average rate of a currency determined at the Valuation Time on the relevant Valuation Day;
- "Collateral" means Cash and Securities Collateral to be provided either as IM-Collateral or VM-Collateral;
  - "VM Collateralisation Claim" means the Collateral to be provided by the Counterparty in accordance with Section 3 paragraph (1) of the Framework Agreement in order to comply with the variation margin obligations and the amounts payable or to be credited by the Bank;

- "VM Collateral" means the collateral to be provided in accordance with Section 3 paragraph (1) of the Framework Agreement;
- "Securities Collateral" means the securities permitted as such under Section 12 paragraph (1);
- "Surcharge" means surcharges agreed in Section 12 paragraph (3) as Bank Margin for the benefit of the Bank and any surcharges imposed by any third parties involved;
- "Interest Amount" with reference to each calendar day on which a party holds Cash Collateral on the basis of this Addendum means the amount corresponding with the nominal amount of such Cash Collateral on this day multiplied by the reference interest rate agreed in Section 12 paragraph (6); a multiplication by the reference interest rate shall also made if it is lower than zero.

#### 3. Full title transfer or pledge

- (1) Title to any Collateral provided by way of a full title transfer shall pass to the collateral receiver or in the case of Cash Collateral it shall become part of the assets of the collateral receiver. If the transfer of securities is governed by foreign law, this can mean that a legal status other than title may be conferred, however, such other legal status being equivalent to title and customary under the relevant law. The collateral receiver is entitled to dispose of the Collateral without any restrictions whatsoever.
- (2) Where Collateral is provided by way of a pledge, the Counterparty shall - unless and to the extent agreed otherwise - effect the pledge in accordance with Section 14.

#### 4. IM-cover-shortfall and provision of IM Collateral

- (1) In the event of an IM-cover-shortfall on a Valuation Day, the Counterparty shall provide IM Collateral to the Bank with a Value which shall at least correspond with the amount of the IM-cover-shortfall.
- An IM-cover-shortfall exists where and as far as the IM Collateralisation Claim of the Bank exceeds the Value of the IM Collateral held by it. IM Collateral that the Bank has requested pursuant to paragraph (1) but which it has not yet received on the relevant Valuation Day shall be deemed to be held by it where that the claim for the provision of the IM Collateral is only due on or after such Valuation Day. Any IM Collateral which the Counterparty has requested to be transferred or returned in accordance with Section 5 paragraph (1) but which it has not yet received, shall be deemed to continue to be held by the Bank where for the claim for the provision of the IM Collateral has already been due before the relevant Valuation Day.
- (3) In the event the Counterparty receives the request for collateral pursuant to paragraph (1) prior to the Notification Time on a Notification Day, the IM Collateral shall be provided without undue delay on the same day; and, in the event the request for collateral is received after the Notification Time, without undue delay on the immediately following Bank Working or Business Day to the Bank. Unless and to the extent agreed otherwise, IM-Collateral is to be provided to the account or securities account of the Bank specified in Section 12 paragraph (2) or to the securities deposit or cash account pledged in accordance with Section 14. The time limit set in sentence 1 shall not apply, where the bank as set a different time limit - which may be measured in hours, or where the parties agreed on effecting the collateral transfer without undue delay following the request for collateral.

# 5. IM-cover-excess and release of IM Collateral

- (1) In the event of an IM-cover-excess on a Valuation Day, the Bank shall - in the case of a full title transfer- transfer upon request without undue delay an amount of money or securities equivalent to the Cash Collateral or Securities Collateral provided as IM Collateral by the Counterparty and with a Value not exceeding the amount of IM-cover-excess. In case of a pledge, Collateral is to be released upon request. "Equivalent" means, in the case of Cash Collateral, amounts in the same currency, and, in the case of Securities Collateral, securities of the same class. Securities Collateral which corresponds to the securities collateral transferred by the central counterparty to the Bank in accordance with its rules and regulations shall also be deemed to be equivalent.
- An IM-cover excess exists to the extent the Value of the IM Collateral held by the Bank exceeds the Bank's IM Collateralisation claim. Subject to the provisions of paragraph (1), Section 4 paragraph (2) sentences 2 and 3 shall apply correspondingly
- (3) The Bank is entitled to refuse a transfer or release according to paragraph (1) as long as a material reason exists which entitles it to terminate the Agreement according to Section 4 paragraph (1) of the Framework Agreement, unless it is no longer entitled to any claims (including future, contingent or time-limited claims) against the collateral provider under the Agreement on the relevant Valuation Day.

## 6. Requirements regarding Collateral

(1) Where the Parties elected "Requirement of the central counterparty" in Section 12 paragraph (4), Collateral has to be provided

- which at least corresponds in the amount, type and quality with the collateral required by the central counterparty in respect to the corresponding relevant contracts.
- In the event the Parties elected "Flexible requirement" in Section 12 paragraph (4), Collateral has to be provided at the choice of the Bank, however, the amount has at least to correspond with amount of collateral requested by the central counterparty in respect of the corresponding contracts.
- (3) Where the Collateral no longer meets the requirements regarding permitted Collateral in accordance with Section 12 paragraph (1) or - to the extent paragraph (1) "Requirements of the central counterparty has been elected - no longer meet the requirements of the central counterparty, paras. (1) and (2) and Section 4 paragraph (1) shall apply correspondingly. As of the point in time they fail to meet the requirements for acceptance, Collateral provided is to be attributed a value of zero for the purposes of calculating a cover shortfall. Where a value of zero is attributed, arrangements have to be made for an immediate replacement. The collateral provider is required to replace the Collateral provided by way of full title transfer - subject to the approval of collateral receiver - with other acceptable Cash or Securities Collateral a in an amount corresponding with or exceeding the Value. The collateral receiver will release any pledged Collateral at the request of the collateral provider which has been attributed a value of zero for the purpose of determining a cover shortfall. An obligation to release Collateral by the collateral receiver only exists if the collateral provider has fulfilled its obligations in accordance with Section 4 paragraph (1). Until the replacement has been effected, Collateral not meeting the requirements can nevertheless be realised as collateral in the event of a contractual default.

#### 7. Calculation Agent

- (1) The Bank shall be the Calculation Agent except in the event of a default of the Bank where the Counterparty shall be the Calculation Agent. The Calculation Agent determines the following for each Valuation Day in Euro or in the agreed currency:
  - The amount of the IM Collateralisation claim,
  - the Value of the Collateral held under this Addendum b)
  - a potential IM-cover-shortfall or IM-cover excess, as well as
  - the VM Collateralisation Claims or claims for the return of d) Variation Margin in accordance with Section 3 paragraph (1) of the Framework Agreement.
- (2) The Calculation Agent shall notify the other Party of the results of the calculations on the Notification Day no later than by the Notification Time agreed in Section 12 paragraph (5) by in text form or other form conforming to market practice. A notification is not required where and to the extent no changes have occurred since the last notification. Where a Party rejects the determinations made by the Calculation Agent without undue delay, and where in the case of a dispute over the amount of the exposure or the Value of Collateral no agreement can be reached by the end of the Banking Working Day on which rejection is received, the disputed Transactions or Collateral, as the case may be, shall be re-valued. The obligation to provide IM-Collateral in accordance with Section 4, or to transfer or return IM-Collateral in accordance with Section 5, in each case the amount of the undisputed portion of the IM-cover shortfall or IM-cover excess as determined by the Calculation Agent, shall remain unaffected. Sentence 4 shall apply correspondingly with regard to the provision of VM-Collateral in the amount of the undisputed portion of the VM-Collateralisation Claim as determined by the Calculation Agent and the claim for the return of variation margin in accordance with Section 3 paragraph (1) of the Framework Agreement. Valuations and determinations made by the central counterparties shall be deemed to be binding in this connection.

## Exchange of items of Collateral and IM-Additional Collateral

- (1) Upon request of the Bank, the Counterparty shall replace Collateral provided under this Addendum either in whole or in part with other permitted Collateral with at least the same Value. Subject to the Bank's prior consent, the Counterparty shall be entitled to substitute, in whole or in part, any permitted Collateral by other permitted Collateral with the same or a higher Value. The release or transfer of the permitted Collateral to be replaced shall be effected without undue delay from time to time after the Counterparty has provided the Collateral.
- (2) The Counterparty is entitled to post IM-Additional Collateral to the Bank on each Bank Working Day.

#### Interest amounts in case of Collateral provided by way of a full title transfer

With regard to IM-Cash Collateral provided by way of a full title transfer, interest shall be payable for the interest periods agreed in Section 12 paragraph (6) and at the reference interest rate agreed therein. The interest is to be credited to the account specified in Section 12 paragraph (2). In the case of IM-Cash Collateral, one of the two parties shall be entitled to an Interest Amount for each 2 calendar day as follows: if the Interest Amount for this calendar day exceeds zero, then the Bank shall pay this Interest Amount to the Counterparty, if the Interest Amount for this calendar day is lower than zero, then the Counterparty shall pay the relevant Negative Interest Amount to the Bank. If, with respect to an interest period, only one party is obligated to pay Interest Amounts to the other party, the total sum of such Interest Amounts for all calendar days of such interest period shall - unless agreed otherwise - become due two Bank Working Days following the expiration of the interest period. If, with respect to an interest period, both parties are obligated to pay Interest Amounts to the respective other party, the Party owing the higher amount shall pay the difference between the respective amounts owed; such difference amount shall - unless agreed otherwise - become due two Bank Working Days following the expiration of the interest period. If the Bank is obligated to transfer of all IM-Cash Collateral held by it, the Interest Amounts shall become due at the same point in time at which this transfer is due. The party that is required to pay a sum of Interest Amounts or a difference amount for an interest period to the respective other Party shall credit the relevant amount to the account of such other party specified in Section 12 paragraph (2). Where no interest period and reference interest rate have been agreed in Section 12 paragraph (6), the interest period and the reference interest rate provided under the rules and regulations of the relevant central counterparty shall be applicable.

(2) With regard to IM-Securities Collateral provided by way of full title transfer, the Counterparty shall be entitled to all interest payments and other earnings in respect of the securities in relation to the Bank, except in the case that they are added to the total amount of the IM-Securities Collateral posted for these transactions and insofar this is required under the rules and regulations in respect of the contracts underlying these transactions. The Bank shall forward the relevant amounts to the bank account specified in Section 12 paragraph (2). Where any interest payments on IM-Securities Collateral to the Bank are subject to withholding tax or result in a tax credit, the Bank shall owe the amount according to sentence 1 which the Counterparty would have received as owner of the relevant Securities Collateral on the basis of its tax reimbursement or credit claims previously notified to the Counterparty including (a) the withholding tax, to the extent that the Counterparty would be entitled to an exemption from such tax or to reimbursement, as well as (b) any tax credit payable to the Counterparty under these provisions.

- (3) The Bank is not required to pay out any interest earned where and to the extent this would result in an IM-cover shortfall. Interest Amounts not paid out in accordance with sentence 1 are to be taken into account as IM-Cash Collateral for the purposes of determining an IM-cover-shortfall or IM-cover-excess.
- (4) Section 9 paragraph (1) shall apply correspondingly, where and to the extent VM-Collateral is not provided in the form of daily debits or credit entries, and where the relevant central counterparties provide for interest to be paid for Cash Collateral provided as VM-Collateral.

#### 10. Failure to provide Collateral and termination

A material reason within the meaning of Section 4 paragraph (1) of the Framework Agreement shall also exist, if a performance owed and due in accordance with Section 4 of this Addendum or Section 3 paragraph (1) sentence 2 of the Framework Agreement is not effected within one Bank Working Day after the notification of the failure to perform.

#### 11. Right of the Bank to realise Collateral

- (1) The Bank shall be entitled to realise pledged assets where the Counterparty is in delay with payment obligations due on the claims secured in accordance with Section 1. The Bank will make use of this right only to the extent necessary for fulfilment of the payment obligations which are overdue.
- (2) The Bank shall issue an advance warning ("Androhung") to the Counterparty of any such realisation of the pledged assets by giving prior notice to the Counterparty in text form and setting a cure period. In the event that the conclusion of this Agreement constitutes a commercial business transaction ("Handelsgeschäft") for the Counterparty, the cure period shall at least be one week. In all other cases, the cure period shall be one month. In the notice, the Bank shall specify the amount in respect of which realisation shall be effected. An advance warning with the setting of a cure period shall not be required where the Counterparty has discontinued its payments or where an event of insolvency has occurred in accordance with Section 4 paragraph (2) of the Framework Agreement.
- (3) If the Counterparty is an undertaking, a legal entity under public law or a public-sector special fund, the Bank and the Counterparty hereby agree that the pledged assets shall be realised in accordance with Section 1259 of the German Civil Code (BGB) by way of a free market sale at current prices by the Bank or third parties. An advance warning of the realisation shall not be required.

### 12. Individual arrangements

(1) Permitted Collateral:

	Valuation Percentage ("Anrechnungssatz")
VM-Collateral	
Cash-Collateral:	
IM-Collateral	
Cash Collateral:	
Securities Collateral:	

Consideration of Interest accrued on the Market Value	
☐ Interest accrued by the end of this day shall be taken into account in the Market Value.	
☐ Interest accrued by the end of this day shall not be taken into account in the Market Value.	
, ,	
Additional agreements:	

(2) Unless agreed otherwise, VM Collateral and IM Collateral is to be provided by way of full title transfer (including VM-Collateral provide by daily debiting or crediting) and payments of interest and other earnings on such Collateral are to be made to the following accounts- and securities deposit accounts:

	T	
	Bank	Counterparty
Cash Collateral		
Securities Collateral		

(3)	Bank margin:		
(4)	Applicable requirements:		
	Transactions in terms of Section 1 paragraph (1) (b) and (c) of the Framework Agreement	Transactions in terms of Section 1 paragraph (1) (a) of the Framework Agreement	Transactions in terms of Section 1 paragraph (1) (d) of the Framework Agreement
	Central counterparty requirements	Central counterparty requirements	☐ Central counterparty requirements
	Flexible requirements	☐ Flexible requirements	Flexible requirements
(5)	Notification Time		
(6)	Interest period and reference rate Interest period		
	Reference rate  VM-Collateral		
	Ť		
	IM-Collateral		
(7)	Rounding		

(8)	Notifications in accordance with Counterparty:	n the Addendum sl	hall be directed to:	•	
	Bank:				
(9)	Other arrangements				
13.	Applicable account model in	relation to each	central counterpa	arty (CCP)	
C	CP	Account Model		IM-Collateral by way of	Other agreements
		OSA other	□ ISA	☐ Full Title Transfer ☐ Pledge	Settled-to-Market-Variation Margin
		OSA other	□ ISA	☐ Full Title Transfer ☐ Pledge	Settled-to-Market-Variation Margin
		OSA other	□ ISA	☐ Full Title Transfer ☐ Pledge	Settled-to-Market-Variation Margin
		□ OSA □ other	□ ISA	☐ Full Title Transfer ☐ Pledge	Settled-to-Market-Variation Margin
		☐ OSA ☐ other	☐ ISA	☐ Full Title Transfer ☐ Pledge	Settled-to-Market-Variation Margin

Spe	cial provisions regarding account models
_	cial provisions in case of application of Settled-to-Market Variation Margin
1116	e following additional provisions shall apply with regard to the application of Settled-to-Market-Variation Margin:
Pled	
	ging of securities deposit account  Counterparty hereby pledges to the Bank:
	The securities and other assets booked, at present and in future, to the securities deposit account listed below, including any interest dividend- and participation certificates together with renewal certificates as well as subscription rights relating to any shares, and bonushares:
	Designation of securities deposit account:
	The pledge does not cover securities located abroad as well as own shares, participation rights and profit-participation certificates of th Bank as well as securitised and non-securitised subordinated claims against the Bank.
	As regards securities located abroad, the Counterparty shall pledge to the Bank any claims – in particular any existing or future claim for delivery and return rights – it has in relation to securities located abroad but booked to the securities deposit account held with the
ı	Bank, including interest and participation certificates together with renewal certificates.
-	The Bank may realise such claims at the location of the securities by way of the sale of corresponding assets from its cover portfoli

("Deckungsbestand")

The Bank shall credit the equivalent values of the assets pledged (e.g. repayment of securities due) as well as other payments on the assets pledged (such as dividends and interest) to an account which the Bank shall open on behalf of the Counterparty for this purpose. The

Counterparty hereby confers a right of pledge to the Bank in relation to the relevant credit balances in such accounts for the purpose to secure the claims addressed in Section 1. The equivalent values of the assets pledged and other payments thereon may also be credited to the pledged account indicated below. The Bank will allow the Counterparty to invest said credit balances in securities which fulfil the requirements for permitted securities collateral and which are to be booked to the above-mentioned securities deposit account.

Any disposal over assets pledged, as well as the cancellation of and transfer of rights to the securities deposit account shall – in order to become effective – require the prior approval of the Bank. The Counterparty is not entitled to require the Bank to hand over any interest and participation certificates relating to the pledged securities.

The Bank is hereby authorised to notify the pledge for and on behalf of the Counterparty and to obtain any consent required for the realisation of the pledged assets.

(2)	Pledging of cash account
	The Counterparty hereby pledges to the Bank its existing and future claims against the Bank arising from the account(s) held with the Bank specified hereinafter, including any interest.
	Designation of the account:
	Any disposals over credit balances pledged, as well as the cancellation and transfer of rights to the account, shall – in order to become effective – require the prior approval of the Bank.
` '	Separate pledge agreement (securities custodians/accounts with third parties)
	The Counterparty hereby pledges to the Bank its securities booked, at present an in the future, to the securities deposit account specified below, including any interest, dividend and participation certificates together with renewal certificates, as well as subscription rights and bonus shares. The pledge does not cover securities located abroad as well as own shares, profit rights and profit participation certificates of the Bank as well as securitised and non-securitised subordinated claims against the Bank. The transfer of the securities pledged is in this case substituted by an assignment of the Counterparty's claims against the custodian to the Bank.
	Designation of securities deposit account:
	Design of the control from book
	Designation of the custodian bank:
	As regards securities located abroad, the Counterparty shall pledge to the Bank any claims – in particular any existing or future claims for delivery and return rights – it has in relation to securities located abroad and booked to the above-mentioned securities deposit account, including interest and participation certificates together with renewal certificates.
	The Counterparty is not entitled to require the Bank to hand over any interest and participation certificates relating to the pledged securities.
	The Counterparty hereby instructs the custodian bank to credit the equivalent values of pledged assets upon maturity to an account to be opened for the Counterparty for this purpose and to be assigned to the relevant securities deposit account, as the case may be.
	The Counterparty hereby confers a right of pledge to the Bank in relation to the relevant credit balances in such accounts for the purpose to secure the claims addressed in Section 1. The equivalent values of the pledged assets and other payments thereon may also be credited to the pledged account indicated below.
	The Bank will allow the Counterparty to invest said credit balances in securities which fulfil the requirements for permitted securities collateral and which are to be booked to the above-mentioned securities deposit account held with the Custodian Bank.
	The Counterparty hereby pledges to the Bank its respective credit balance on the following account, including any interest:
	Designation of the account:
	Designation of the account-holding bank:
	Bank is hereby authorised to notify the pledge for and on behalf of the Counterparty to the custodian bank/account-keeping bank, and to
	ain any consent required for the realisation of the pledged assets. e Counterparty hereby authorises the custodian bank/account-keeping bank to provide the Bank at any time with information on the securities
acc	count portfolio as well as on the credit balances pledged. The Contacting Partner instructs the custodian bank to provide the Bank with duplies of all securities accounts statements.
An	y disposals over assets/credit balances pledged, as well as the cancellation and transfer of rights to the securities deposit account/cash ac- unt, shall – in order to become effective – require the prior approval of the Bank.
Si	gnature(s)
	the Counterparty
Si	gnature(s)
	the Bank